



*Commonwealth of Pennsylvania  
Department of Environmental Protection  
Proposed Ambient Air Monitoring  
Network Plan –2013*

**June 30, 2012**

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Commonwealth of Pennsylvania**

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## Acronyms

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

## **Introduction**

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

The EPA has promulgated NAAQS for the following pollutants: ozone (O<sub>3</sub>), carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), nitrogen dioxide (NO<sub>2</sub>), particulate matter less than 10 microns (PM<sub>10</sub>), particulate matter less than 2.5 microns (PM<sub>2.5</sub>), and lead (Pb). These are commonly called the “criteria” pollutants. When air quality in a geographical area, meets the NAAQS, EPA designates the area as “attainment” in accordance with Section 107 of the CAA, 42 U.S.C. section 7407. When an area does not meet the NAAQS, the area is designated by EPA as a “nonattainment” area. Certain areas are designated “unclassifiable” if sufficient information is not available to determine if the area should be designated attainment or nonattainment.

Table 1 on the following page lists all of the NAAQS for the criteria pollutants and is available at <http://www.epa.gov/air/criteria.html>.

**Table 1. National Ambient Air Quality Standards.**

<b>Pollutant</b> <i>[final rule cite]</i>	<b>Primary/ Secondary</b>	<b>Averaging Time</b>	<b>Level</b>	<b>Form</b>	
<b>Carbon Monoxide</b> <i>[76 FR 54294, Aug 31, 2011]</i>	primary	8-hour	9 ppm	Not to be exceeded more than once per year	
		1-hour	35 ppm		
<b>Lead</b> <i>[73 FR 66964, Nov 12, 2008]</i>	primary and secondary	Rolling 3 month average	<u>0.15 µg/m<sup>3</sup> (1)</u>	Not to be exceeded	
<b>Nitrogen Dioxide</b> <i>[75 FR 6474, Feb 9, 2010]</i> <i>[61 FR 52852, Oct 8, 1996]</i>	primary	1-hour	100 ppb	98th percentile, averaged over 3 years	
	primary and secondary	Annual	<u>53 ppb (2)</u>	Annual Mean	
<b>Ozone</b> <i>[73 FR 16436, Mar 27, 2008]</i>	primary and secondary	8-hour	<u>0.075 ppm (3)</u>	Annual fourth-highest daily maximum 8-hr concentration, averaged over 3 years	
<b>Particle Pollution</b> <i>[71 FR 61144, Oct 17, 2006]</i>	<b>PM<sub>2.5</sub></b>	primary and secondary	Annual	15 µg/m <sup>3</sup>	annual mean, averaged over 3 years
		secondary	24-hour	35 µg/m <sup>3</sup>	98th percentile, averaged over 3 years
	<b>PM<sub>10</sub></b>	primary and secondary	24-hour	150 µg/m <sup>3</sup>	Not to be exceeded more than once per year on average over 3 years
<b>Sulfur Dioxide</b> <i>[75 FR 35520, Jun 22, 2010]</i> <i>[38 FR 25678, Sept 14, 1973]</i>	primary	1-hour	<u>75 ppb (4)</u>	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years	
	secondary	3-hour	0.5 ppm	Not to be exceeded more than once per year	

(1) Final rule signed October 15, 2008. The 1978 lead standard (1.5 µg/m<sup>3</sup> as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

(2) The official level of the annual NO<sub>2</sub> standard is 0.053 ppm, equal to 53 ppb, which is shown here for the purpose of clearer comparison to the 1-hour standard.

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

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

## **Requirements for Ambient Air Monitoring Network Descriptions**

On October 17, 2006, EPA promulgated a final rule entitled “Revisions to Ambient Air Monitoring Regulations” for criteria pollutants (71 FR 61236). EPA stated in the Preamble that “[t]he purpose of the amendments is to enhance ambient air quality monitoring to better serve current and future air quality.” The October 2006 rule also includes provisions concerning state and local agency ambient air monitoring networks. In addition to establishing limited air quality monitoring requirements for thoracic coarse particles in the size range of PM<sub>10-2.5</sub>, EPA also modified the general monitoring network design requirements for ambient air monitoring networks operated and maintained by state and local agencies. The minimum requirements for the number of monitors for PM<sub>2.5</sub> and ozone monitoring networks were also amended. Pursuant to 40 CFR sections 58.10(a) and 58.10(b), network plans must include the following for existing and proposed monitoring sites:

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



# Commonwealth of Pennsylvania Air Monitoring Network

## Program History

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

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

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

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

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

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

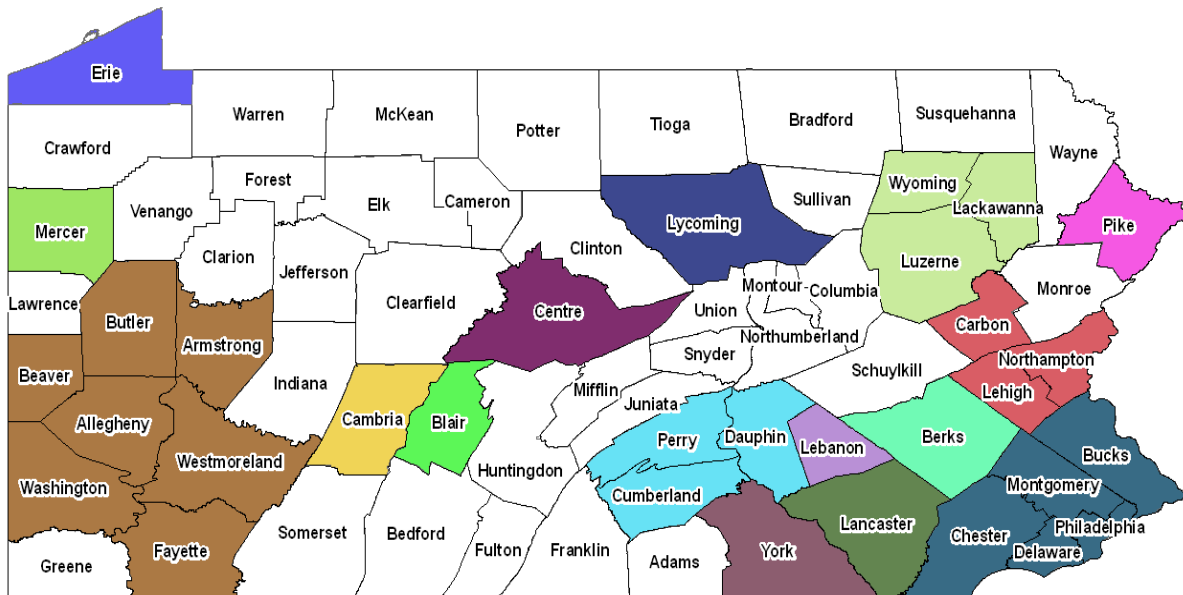
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<sup>1</sup> [http://www.epa.gov/air/caa/caa\\_history.html](http://www.epa.gov/air/caa/caa_history.html)

## Ambient Monitoring Network Overview

The Department’s monitoring strategy requires the installation of monitors in areas having high population density and/or high levels of contaminants, based on EPA guidance and population information from the U.S. Office of Management and Budget (OMB). The OMB defines urbanized areas of concentrated population of 50,000 or greater as Metropolitan Statistical Areas (MSA). The Commonwealth of Pennsylvania encompasses 16 MSAs, either wholly or in part. Figure 2-1 displays the geographical boundaries of MSA regions and population estimates for 2010 available at <http://www.census.gov>. The Code of Federal Regulations (CFR) sets forth minimum monitoring requirements based at least in part on population statistics for ozone, sulfur dioxide, nitrogen dioxide and particulate matter (PM) monitoring networks. PA DEP conducts air monitoring surveillance in both MSA and non-MSA regions.

**Figure 2-1. Map of Metropolitan Statistical Areas (MSA) in Pennsylvania.**

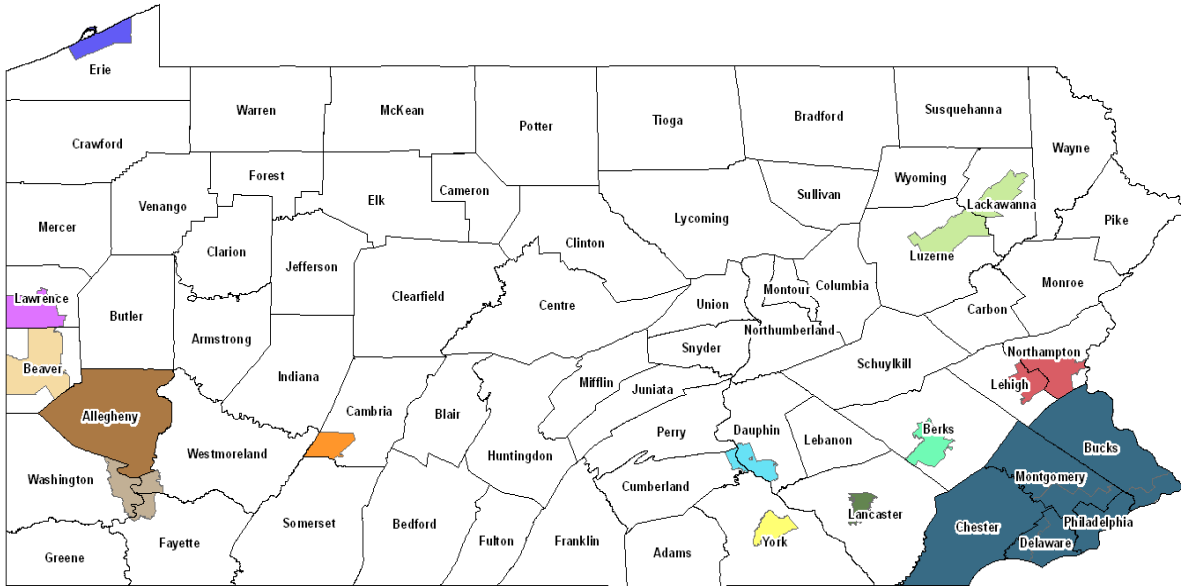


**LEGEND:**

	Metropolitan Statistical Area	Population		Metropolitan Statistical Area	Population
	Allentown-Bethlehem-Easton, PA-NJ	821,173		Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	5,965,343
	Altoona, PA	127,089		Pittsburgh, PA	2,356,285
	Erie, PA	280,566		Reading, PA	411,442
	Harrisburg-Carlisle, PA	549,475		Scranton-Wilkes-Barre, PA	563,631
	Johnstown, PA	143,679		State College, PA	153,990
	Lancaster, PA	519,445		Williamsport, PA	116,111
	Lebanon, PA	133,568		York-Hanover, PA	434,972
	New York-Northern New Jersey-Long Island, NY-NJ-PA	18,897,109		Youngstown-Warren-Boardman, OH-PA	565,773

In addition to MSA monitoring, over half of PA DEP air monitoring stations are located in the “air basins” of the Commonwealth. Air basins as defined in 25 Pa. Code § 121.1 consist of 13 geographical areas. Figure 2-2 displays the geographical boundaries of these areas. PA DEP conducts air monitoring surveillance in both air basin and non-air basin regions.

**Figure 2-2. Map of Pennsylvania Air Basins.**



**LEGEND:**

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

PA DEP also maintains a cooperative agreement with Pennsylvania State University’s (PSU) Department of Plant Pathology for ozone monitoring in three remote areas of the state: Centre County (near State College), Clearfield County (near Moshannon), and Tioga County (near Gleason). PSU uses ozone data collected from this cooperative monitoring effort to determine detrimental effects to Pennsylvania’s forests and crops, and to assess ozone transport in rural Pennsylvania.

## **Description of PA DEP Ambient Air Monitoring Network**

PA DEP operates the Commonwealth of Pennsylvania Air Monitoring System (COPAMS) as its air monitoring network for criteria pollutants. The COPAMS network consists of 64 stations, located in 35 out of 67 Pennsylvania counties, and encompasses both continuous and discrete methods of pollutant sampling. The continuous portion of the COPAMS network utilizes a totally automatic, microprocessor-controlled system of remote stations throughout the Commonwealth. Continuous methods employ specialized instruments designed to continuously sample and analyze ambient air *in situ*. The output of these devices is hourly pollutant concentrations. These concentrations are the raw data used to calculate the various pollutant averages needed for NAAQS comparisons. A centralized computer system operated by the Bureau of Air Quality collects the raw data on an hourly basis, enabling real-time monitoring. PA DEP utilizes continuous methods for the following pollutants: ozone, sulfur dioxide, nitrogen dioxide, oxides of nitrogen, carbon monoxide, hydrogen sulfide, PM<sub>2.5</sub>, and PM<sub>10</sub>. Various meteorological data from many of the COPAMS stations are measured using continuous methods as well, including wind speed, wind direction (vector averaged and sigma theta), ambient temperature, and solar radiation.

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

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

## **Description of Local Networks**

### **Allegheny County Health Department**

The Allegheny County Health Department (ACHD) operates a network of 20 ambient air monitoring stations, including one multi-pollutant NCore site, throughout Allegheny County. In addition to criteria pollutant monitoring, ACHD also conducts monitoring for air toxics and chemical speciation of PM<sub>2.5</sub> at selected sites. PA DEP maintains one Special Purpose Monitoring (SPM) site in Allegheny County at the Carnegie Science Center in Pittsburgh, as part of an air quality exhibit.

### **Philadelphia Air Management Services**

The City of Philadelphia Health Department’s Air Management Services (AMS) operates a network of 11 air monitoring sites, including one multi-pollutant NCore site, located throughout Philadelphia

County. In addition to criteria pollutant monitoring, AMS also conducts monitoring for air toxics and chemical speciation of PM<sub>2.5</sub> at selected sites.

This document does not provide detailed descriptions of the monitoring networks operated by the local air pollution control programs in Philadelphia and Allegheny Counties. Detailed descriptions of local networks will be submitted to EPA by the Allegheny County Health Department and the City of Philadelphia Department of Public Health Air Management Services, respectively. Contact information for ACHD and AMS is located on page 26 of this plan.

### **Description of Appendix A**

The 2012 Pennsylvania Air Monitoring Network consists of the sites and monitors listed in Appendix A, “Monitoring Sites, Equipment, Maps, and Addresses.” This appendix details site information, pollutants monitored at each site, and detailed maps of sampling sites, organized into MSA and non-MSA regions.

### **Description of Appendix B**

Appendix B, relating to the “Pennsylvania Monitoring Network Description,” provides a detailed description of the existing monitoring network. This appendix includes information related to the location of the site, monitoring parameters at the site, and details about the monitors themselves in order to meet the requirements of 40 CFR Part 58.10 (a) and (b).

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

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

- Sensor Type – The name of the pollutant measured by the sampler.
- Sensor Network Designation – The name of the designated network
  - NCore – National Core Multipollutant Monitoring Station
  - PAMS – Photochemical Assessment Monitoring Station
  - SLAMS – State or Local Ambient Monitoring Station
  - STN – PM<sub>2.5</sub> Speciation Trends Network
  - SPM – Special Purpose Monitor
- Sensor Purpose Description – The purpose of the sensor
  - Population Exposure, such as the Air Quality Index
  - Regulatory compliance with Federal or State regulation
  - Research/Scientific Monitoring
  - Specific location characterization
- Sample Frequency – Specifies how often a sample is taken

- Continuous - operates 24/7; applies predominately to gaseous analyzers, although some particulate samplers (TEOM/FDMS and BAMs) operate continuously.
  - Daily – a discrete sample is taken every day; applies to manual method particulate samplers.
  - Every Third Day - Manual method particulate samplers that run every third day.
  - Every Sixth Day – Manual method particulate samplers that run every sixth day.
- 40 CFR Part 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 Part 58 Appendix C Monitoring Classification – Each ambient air monitor is classified using the EPA “List of Designated Reference and Equivalent Methods” (see EPA Transfer Technology Network web page – link below).
    - Reference or Federal Reference Method (FRM) – a method of sampling that is specified in CFR Part 50.
    - Equivalent or Federal Equivalent Method (FEM) – a method that is designated as equivalent to the reference method, in accordance with 40 CFR Part 53.
    - Automated – after sampling, the analysis results are available immediately.
    - Manual – after sampling, a separate analysis at a laboratory is necessary.

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

- Automated Reference Method,
  - Manual Reference Method,
  - Automated Equivalent Method,
  - Manual Equivalent Method, or
  - NONE – appears where there is no reference or equivalent method.
- 40 CFR Part 58 Appendix C Monitoring Method – Each ambient air monitor is classified by a specific “method number.” These numbers can be found in the EPA “List of Designated Reference and Equivalent Methods” (see EPA Transfer Technology Network Web page at <http://www.epa.gov/ttn/amtic/files/ambient/criteria/reference-equivalent-methods-list.pdf>).
  - Monitoring Method Description – Each individual ambient air monitor type has a specific method of pollutant detection. Common examples are:
    - Ozone monitors – Ultraviolet (UV) Absorption
    - SO<sub>2</sub> – UV Fluorescence
    - CO - Non-dispersive Infrared (IR)
    - NO<sub>2</sub> or NO<sub>x</sub> – Chemiluminescence
    - Lead-Inductively Coupled Argon Plasma–Optical Emissions Spectrometry
    - PM<sub>2.5</sub>, PM<sub>10</sub> – Gravimetric (or gravimetric by TEOM (Tapered Element Oscillating Microbalance), or BAM (Beta Attenuation Mass)
    - PAMS – Auto GC (Gas Chromatograph), Dual FID (Flame Ionization Detector)
  - 40 CFR Part 58 Appendix D Design Criteria – Appendix D requires a certain number of monitoring samplers per geographic area. A “**YES**” indicates that the number of monitors in that particular area meets or exceeds the requirement of 40 CFR Part 58 Appendix D.

- 40 CFR Part 58 Appendix D Scale – The specific “spatial scales of representation” describes the physical dimensions of the air parcel around the monitoring station throughout which actual pollutant concentrations are reasonably similar.
  - Microscale - Areas ranging from several meters to about 100 meters,
  - Middle scale - Areas ranging from 100 meters to 0.5 kilometers,
  - Neighborhood - 0.5 to 4.0 kilometers, and uniform land use,
  - Urban scale - 4 to 50 kilometers, and
  - Regional - ten to hundreds of kilometers.
- 40 CFR Part 58 Appendix D Objective – Describes the purpose/objective for monitoring at a site.
  - Extreme downwind
  - General/Background concentration
  - Highest concentration
  - Maximum ozone concentration
  - Population exposure
  - Regional transport
  - Source oriented
- 40 CFR Part 58 Appendix E Siting Criteria – Describes certain criteria applicable to ambient air quality sampling probes and monitoring paths, such as distances from trees, obstructions, traffic lanes, etc. A “**YES**” indicates that the sensor at the given site meets or exceeds the requirements of 40 CFR Part 58 Appendix E.
- Start Date – Displays the sampling start date
- Comments – The database contains a comments section for each monitor. Appropriate comments, as necessary, are found in this area.

### **Description of Appendix C**

Appendix C provides information pertaining to the manufacturers, models and analysis methods used in the monitoring network operated and maintained by the Department’s Air Quality Monitoring Division.

## Changes to Monitoring Sites and Samplers in 2011-2012

Table 2. Summary of Changes to the PA DEP Air Monitoring Network in 2011-2012.

Pollutant Network	Changes
Multiple Pollutants- Harrisburg Site Relocation	<ul style="list-style-type: none"> <li>• Continuous Ozone, CO, NO<sub>2</sub> and PM<sub>2.5</sub> monitoring temporarily suspended.</li> <li>• Continuous PM<sub>10</sub> sampling established in Hershey (Dauphin County).</li> <li>• Discrete PM<sub>2.5</sub>, PM<sub>2.5</sub> speciation, and PM<sub>10</sub> sampling continues at a temporary site in Harrisburg (Dauphin County)</li> </ul>
Multiple Pollutants- Warren East Site	<ul style="list-style-type: none"> <li>• Establishment of the Warren East site (Warren County) to monitor SO<sub>2</sub> and hydrogen sulfide (H<sub>2</sub>S) concentrations.</li> </ul>
Ozone (O <sub>3</sub> )	<ul style="list-style-type: none"> <li>• Year-round ozone monitoring at all multi-pollutant monitoring sites in the network</li> <li>• Amended DEP/PSU agreement to include year-round ozone monitoring, NO<sub>x</sub> monitoring, and a fourth rural site in Bradford County</li> </ul>
PM <sub>2.5</sub>	<ul style="list-style-type: none"> <li>• One manual FRM unit removed from Johnstown (Cambria County)</li> <li>• One collocated BAM installed at Greensburg (Westmoreland County) for QA purposes</li> </ul>
Pb	<ul style="list-style-type: none"> <li>• Two sites added to network in Mt Joy (Lancaster County) and Palmerton (Carbon County)</li> <li>• 8 Hi-Q monitors replaced with Tisch Environmental monitors</li> </ul>
Air Toxics	<ul style="list-style-type: none"> <li>• One TSP/Metals site started in Beaver Valley (Beaver County)</li> <li>• One VOC collocated site relocated from York (York County) to Charleroi (Washington County)</li> </ul>

**Harrisburg Site:** PA DEP was notified of the property owner's intent to sell the property where the Harrisburg site had been located since 1985 and thus was terminating the lease. The "old" Harrisburg site was shut down in December 2011. All monitoring equipment and shelter was removed by the following month. A "temporary" Harrisburg site was established approximately 600 feet away where the Department monitors discrete particulate matter including PM<sub>2.5</sub>, PM<sub>2.5</sub> speciation and PM<sub>10</sub>. Monitoring for Ozone, CO, NO<sub>2</sub> and continuous PM<sub>2.5</sub> was temporarily suspended until a permanent location could be secured for a "new" Harrisburg site because the temporary operation of these monitors is not feasible. Currently, PA DEP is meeting minimum monitoring requirements for PM<sub>2.5</sub>, PM<sub>2.5</sub> speciation and PM<sub>10</sub> by operating discrete monitors at the temporary site in Harrisburg and by monitoring for ozone at the Hershey site, which historically has measured higher values. With the exception of the NO<sub>2</sub> near-road monitoring requirements currently undergoing implementation revisions by EPA, the Harrisburg MSA does not have minimum monitoring requirements for CO and NO<sub>2</sub>. The "new" Harrisburg site under development is a distance of approximately 800 feet from the location of the "old" site. EPA has approved the proposed new Harrisburg site and has also determined that it was unlikely that the "old" and "new" sites would be impacted differently by sources located in the surrounding area, and the change in location would not affect the monitoring objective or scale of the pollutants monitored at the station.



**Warren East Site:** In response to a request by the Northwest Regional Air Quality Office to address health and odor concerns, a second monitoring site is being installed in Warren, PA downwind of the United Refinery Company. The site will continuously monitor sulfur-containing compounds SO<sub>2</sub> and hydrogen sulfide (H<sub>2</sub>S). The site is expected to be operational by spring 2012.

**Ozone:** On November 1, 2011, PA DEP implemented year-round ozone monitoring at all multi-pollutant sites in the state-wide network. The year-round ozone monitoring program was implemented to obtain background information and to determine if unconventional shale gas activities impacted wintertime ozone levels, as has been documented in other shale gas regions such as the Upper Green River Basin in Wyoming.

On July 1, 2011, the PA DEP/PSU cooperative agreement for rural ozone monitoring at three sites (Centre, Clearfield and Tioga Counties) was renewed for an additional three-year period ending on June 30, 2014. With the renewal, the PA DEP/PSU ozone monitor in Adams County (near Biglerville, ID # 42-001-0002) was shut down in July of 2011 at the completion of a project studying ozone effects on grape leaves. Other changes to the contract include year-round ozone monitoring, the addition of a fourth rural ozone monitoring site in Bradford County (near Towanda), and the addition of NO<sub>x</sub> sampling at the Tioga and Bradford sites.

**PM<sub>2.5</sub>:** In 2011, a FEM BAM unit was installed at Greensburg for collocation and QA purposes. 40 CFR Part 58, Appendix A requires collocated monitoring at 15% of PM<sub>2.5</sub> monitoring sites. PA DEP's PM<sub>2.5</sub> monitoring network consists of 26 SLAMS monitoring sites, requiring four QA collocated monitors. Prior to the installation of the Greensburg collocated monitor, PA DEP operated three QA collocated monitors.

**Lead (Pb):** Effective January 26, 2011, lead monitoring requirements were amended to source-oriented monitors for sources that emit lead concentrations of 0.5 tons/year or more. Based on the Department's emissions inventory, the revised monitoring requirements would have added eight new lead monitoring sites in Pennsylvania starting on January 1, 2012 (in addition to the 14 existing sites).

The owners and operators of two sources met the lead requirement for monitoring – Mt. Joy Wire (Lancaster County) and Horsehead/Palmerton (Carbon County). The Mt. Joy Wire site in Lancaster County was installed and operational in December 2011. The Horsehead/Palmerton site in Carbon County was delayed by PA DEP efforts to site the sampler as close to the facility as possible on non-company property. A suitable sampling site has been identified and approved by EPA. This source-oriented lead monitoring site should be operational by the end of April 2012. Two facilities in Butler County, the AK steel plant in Butler, PA and the Armstrong Cement and Supply Co, in Cabot, PA, were excluded, as lead emissions at these facilities were below the 0.5 tons/year monitoring threshold. Four other potential source-oriented lead sites received EPA waivers for monitoring. Allegheny Ludlum/Latrobe, which is located in Westmoreland County, received a waiver based on the Department's recommendation to EPA REG III that all modeled impacts over ½ the NAAQS level of 0.15 µg/m<sup>3</sup> would fall within a heavily wooded and unpopulated area next to the facility. The three other waived source-oriented lead monitoring sites were: Allegheny Energy Supply/Hatfield's Ferry (Greene County), EME/Homer City (Indiana County) and PPL/Montour (Montour County). These sites received waivers because the modeled ambient air lead concentrations near the facilities are less than ½ the NAAQS for lead.

**Air Toxics:** In 2010, PA DEP conducted three short-term air sampling studies of activities related to Marcellus Shale gas extraction in areas of the state in the southwest, northeast and northcentral PA regions most heavily impacted by these operations. PA DEP conducted a five-week short-term, screening-level air quality sampling initiative in the southwest region, beginning in April 2010 and completed in August 2010. The short-term sampling study in the northeast region was conducted from August through September 2010, and the northcentral region study was conducted from August to December 2010. The sampling was in response to public concern about the impact of the industry on air quality, especially for nearby residents. The results of these short-term studies did not identify concentrations of any pollutants that would likely trigger immediate air-related health issues. As a follow-up to the short-term studies, PA DEP plans to conduct a year-long air sampling study to continue its assessment of air quality impacts and any potential chronic risk from natural gas operations in Pennsylvania.

### Site and Monitoring Activity Anticipated within the Next 18 Months

Table 3. Summary of Proposed Changes to the PA DEP Air Monitoring Network within the Next 18 Months.

Pollutant Network	Proposed Changes
Multiple Pollutants – Bradford County Site	<ul style="list-style-type: none"> <li>PA DEP intends to install O<sub>3</sub> and NO<sub>x</sub> samplers and will begin monitoring by late summer of 2012.</li> </ul>
NO <sub>2</sub>	<ul style="list-style-type: none"> <li>PA DEP intends to install a total of four (4) near-road NO<sub>2</sub> monitors. These will be located in Harrisburg (Dauphin County), Lancaster (Lancaster County), Allentown (Lehigh County) and Wilkes-Barre (Luzerne County). These near-road NO<sub>2</sub> monitors are to be installed in areas with high average annual daily traffic (AADT) as well as high levels of heavy duty truck traffic. These monitors are to be installed by January of 2013. EPA intends to extend the required operational date later in 2012.</li> </ul>
PM <sub>2.5</sub>	<ul style="list-style-type: none"> <li>Continue correlation study of FEM vs. FRM monitors</li> </ul>
Lead (Pb)	<ul style="list-style-type: none"> <li>Relocation of the QA collocated monitor from Lyons Park (Berks County) to Beaver Valley (Beaver County).</li> <li>Possible new sites based on reported emission inventories and the results of modeling.</li> <li>Replacement of Hi-Q monitors with Tisch Environmental monitors</li> </ul>
Air Toxics	<ul style="list-style-type: none"> <li>Four special-purpose VOC monitoring stations will be installed in 2012. These sites will be located in Washington County near permanent natural gas processing facilities.</li> <li>One additional carbonyl monitor will be installed in 2012. This carbonyl monitor will be sited at one of the four locations in Washington County for the proposed long-term VOC monitoring sites.</li> </ul>

**Bradford County:** In light of increased natural gas extraction activities in the northcentral region of the Commonwealth, a new ozone and NO<sub>x</sub> monitoring site will be established in Bradford County. The new site will be to the west of Towanda but downwind of substantial Marcellus Shale gas extraction drilling sites and gas-processing facilities.

**Oxides of Nitrogen (NO<sub>2</sub>):** On February 9, 2010, EPA promulgated new NO<sub>2</sub> monitoring criteria, which requires near-road monitoring is to be conducted in areas of high traffic density in MSAs of over 500,000 persons. PA DEP has evaluated traffic data for MSAs with populations greater than 500,000 by calculating the Fleet Equivalent Annual Average Daily Traffic (FE-AADT) for high density traffic road segments within the MSA. Based upon this evaluation, the Department has identified four candidate NO<sub>2</sub> sites to fulfill the new NAAQS requirements. These sites are located near the cities of Harrisburg (Dauphin County), Lancaster (Lancaster County), Allentown (Lehigh County), and Wilkes-Barre (Luzerne County). Table 4 displays traffic data in MSAs where PA DEP plans to place monitors, and are ranked from highest to lowest FE-AADT.

Table 4. Fleet Equivalent Annual Average Daily Traffic (FE-AADT) by MSA.

FE-AADT <sup>1</sup>	County	Route	Road Segment	AADT	Truck Count
<b>Scranton-Wilkes-Barre MSA</b>					
195477	Luzerne/ Lackawanna	I-81	PA 315 interchange to US 11 interchange	63672	14645
175150	Lackawanna	I-81	Davis St interchange to PA 307 interchange	75592	11062
175048	Lackawanna	I-81	PA 307 interchange to Drinker St interchange	64312	12304
165451	Luzerne	I-81	PA 315 interchange	58162	11921
160732	Luzerne	I-81	PA 115 interchange to PA 315 interchange	57403	11481
<b>Harrisburg-Carlisle MSA</b>					
328892	Dauphin	I-81	Progress Av interchange to I-83 interchange	114188	23856
309918	Dauphin	I-81	Cameron St interchange to Progress Av. interchange	107490	22492
280813	Dauphin	I-81	Front St interchange to Cameron St. interchange	86404	21601
257673	Dauphin	I-81	I-83 interchange to Paxtonia interchange	77664	20001
222563	Cumberland	I-81	US 11/15 interchange to PA 581 interchange	72497	16674
<b>Lancaster MSA</b>					
235134	Lancaster	US 30	York Rd exit to US 222 exit	108432	14078
201205	Lancaster	US 30	Fruitville Pike exit to York Rd exit	105895	10590
140936	Lancaster	US 30	US 222 exit to the Greenfield Rd exit	86459	6053
121451	Lancaster	US 30	Greenfield Rd exit to PA 340 exit	58388	7007
112280	Lancaster	US 30	Greenfield Rd exit to PA 462 exit	42143	7793
<b>Allentown-Bethlehem-Easton MSA</b>					
222483	Lehigh	I-78	PA 309 interchange to Cedar Crest Blvd interchange	82263	15580
208618	Lehigh	I-78	Cedar Crest Blvd Interchange to PA 309 interchange	87622	13444
205881	Lehigh/ Northampton	I-78	PA 309 interchange to PA 33 interchange	59262	16291
185576	Northampton	I-78	PA 33 interchange to Philadelphia Rd interchange	53429	14683
156435	Lehigh	US 22	Airport Rd exit to PA 378 exit	90879	7284

<sup>1</sup> FE-AADT is calculated as follows: FE-AADT= (AADT – Truck Count) + ((multiplier)\*Truck Count). The multiplier is a constant that represents the heavy-duty to light-duty NOx emission ratio for a particular road segment. EPA recommends using a value of 10 for the multiplier.

EPA's near-road siting criteria recommended a target distance for the placement of near-road NO<sub>2</sub> monitor probes to be within 20 meters from the outer edge of the traffic lanes, when possible. The monitors should have a horizontal placement in accordance with 40 CFR Part 58, Appendix E. Based on siting criteria and FE-AADT data in Table 4 above, PA DEP is proposing the following recommendations for the siting of near-road NO<sub>2</sub> monitors:

- Harrisburg-Carlisle MSA--- A near-road NO<sub>2</sub> monitor will be installed outside of the southbound lanes of I-81 along a segment between the I-83 interchange and the US 322 interchange. This potential location is fenced from the highway, and is located in a parking lot.
- Lancaster MSA--- A near-road NO<sub>2</sub> monitor will be installed off either the eastbound or westbound lanes of US 30 in the vicinity of the Fruitville Pike exit. This location is in the zone of maximum AADT for this MSA, and there are many on and off ramps as well. Nearby properties under consideration for this project are well fenced in and provide an adequate margin of safety for maintenance personnel.
- Scranton-Wilkes-Barre MSA--- A near-road NO<sub>2</sub> monitor will be installed along I-81, 20 meters from the northbound lanes on the end of Plane Street, which would be close to mile markers 178-180. This road segment has the highest AADT and truck traffic in this MSA. There is a safety fence near this site as well.
- Allentown-Bethlehem-Easton MSA--- A near-road NO<sub>2</sub> monitor will be installed approximately 20 meters off the eastbound lanes of I-78 at a landscaping and stone business on the end of Cedarbrook Road. This is in the vicinity of the segment of I-78 between PA 309 and the Cedar Crest Boulevard exit. The potential site is well protected by a chain link fence.

The PA DEP is currently seeking approval from EPA for the proposed sites and will subsequently negotiate leases with the respective property owners for these potential near-road NO<sub>2</sub> monitor sites. Site construction can commence as soon as EPA approval is obtained.

As of the date of publication of this document, EPA has committed to submit a rule change proposal to extend the deadline for installation of the near-road NO<sub>2</sub> monitors. The proposed rulemaking should extend the deadline for installation to 2017 for monitors required in MSAs with populations not exceeding 1,000,000, nor containing road segments with traffic counts over 250,000. All four of the above near-road monitoring sites proposed by PA DEP meet these criteria. Pending the final details of EPA's rule change proposal, PA DEP will delay installation to comply with the revised deadline.

There are four additional MSAs comprised of Pennsylvania and neighboring states with populations greater than 500,000. However, PA DEP shares these MSAs with monitoring agencies in other local and state jurisdictions including Philadelphia and Pittsburgh, PA and New Jersey and Ohio. At this time, PA DEP is not proposing to install near-road NO<sub>2</sub> monitors in these MSAs, in areas under PA DEP jurisdiction, for the following reasons:

- New York-Pennsylvania-New Jersey-Long Island MSA--- The only part of this MSA in PA DEP's area of responsibility is Pike County. Though Pike County has experienced substantial growth in the past decade according to U.S. census figures, it still represents only 0.5 percent of the total population of the MSA, and average daily traffic counts are too low to warrant placing

a near-road NO<sub>2</sub> monitor in this area. The New Jersey DEP will install a monitor on the New Jersey side of the George Washington Bridge.

- Philadelphia-Camden-Wilmington MSA--- Philadelphia Air Management Services is placing a NO<sub>2</sub> near-road monitor in Philadelphia County on the Delaware expressway between Exit 25 (Allegheny Ave/Castor Ave) & I-95 North –Trenton. This near-road NO<sub>2</sub> monitor will fulfill the monitoring requirements of the Philadelphia-Camden-Wilmington MSA.
- Pittsburgh MSA--- The Allegheny County Health Department will install one NO<sub>2</sub> near-road monitor in Allegheny County, along Interstate 376 near the Fort Pitt Tunnel. At this point average daily traffic counts in PA DEP's portion of the Pittsburgh MSA (counties of Washington, Fayette, Westmoreland, Beaver, Butler, and Armstrong) are too low to justify PA DEP adding a second monitor in this MSA. In addition, the total population of this MSA is 2,354,957, which falls short of the 2,500,000 threshold required for the siting of a second monitor. Furthermore, there are no AADT values in this MSA of 250,000 or greater. Therefore, PA DEP will not install a near-road NO<sub>2</sub> monitor in this MSA.
- Youngstown-Warren-Boardman MSA--- Based on conversations between PA DEP and the Ohio EPA staff, the Ohio EPA will install a monitor in their portion of this MSA in the vicinity of the City of Youngstown. This decision is supported by an examination of the AADT for this MSA and the siting criteria for near-road NO<sub>2</sub> sites.

**PM<sub>2.5</sub>:** The continuous Beta-Attenuation Mass (BAM) PM<sub>2.5</sub> sensor was approved as an FEM method in March 2008. However, since the deployment of these sensors into the Department's monitoring network over the past few years, PA DEP has found that the BAM sensors commonly record PM<sub>2.5</sub> concentration measurements approximately 10% higher than measurements obtained by gravimetric FRM monitors. During several recent EPA conference calls, it was noted that several other state agencies across the nation have seen similar results with the correlation between BAM and FRM monitors. In response to this concern, a study will be conducted by PA DEP at the Washington, Farrell, Bristol, State College, Beaver Falls, Norristown, Reading Airport and Carlisle sites to evaluate the correlation between the Beta-Attenuation FEM and the R&P 2025 FRM monitors.

**Lead:** PA DEP will relocate the quality assured collocated lead monitor from Lyons Park to Beaver Valley. Pursuant to 40 CFR Part 58, Appendix A, collocated monitors must be operated at 15% of the lead monitoring sites. The first co-located monitor must be installed at the site measuring the highest Pb concentrations in the network. Currently, PA DEP has the required two quality-assured collocated monitors operating in Berks County at the Laureldale North and Lyons Park sites. After reviewing both 2010 and 2011 monitoring data, PA DEP has determined that the collocated monitor from the lower value monitor in Lyons Park (Berks County) will be relocated to the Beaver Valley (Beaver County) site, which is the site measuring the highest Pb concentrations in the Department's lead monitoring network.

The Hi-Q lead samplers initially purchased for Pennsylvania's expanded lead monitoring network performed poorly and required high maintenance. Replacement of the samplers with Tisch brand samplers is being done in two phases. The samplers located at higher priority sites were replaced during the first phase, which was completed in February 2012. The second phase of this initiative will be completed during the FY 2012/2013 fiscal year.

PA DEP will install additional lead samplers and conduct lead sampling downwind of any new sites determined through emission inventory reporting to have emissions greater than 0.5 ton per year of lead.

**Air Toxics:** In 2010, PA DEP conducted three short-term air sampling studies of activities related to Marcellus Shale gas extraction. The sampling was in response to public concern about the impact of the industry on air quality, especially for nearby residents. The results of these short-term studies did not identify concentrations of any pollutants that would likely trigger immediate air-related health issues. As a follow-up to the short-term studies, PA DEP plans to conduct a year-long air sampling study to continue its assessment of air quality impacts and any potential chronic risk from natural gas operations in Pennsylvania. PA DEP will add four VOC monitoring sites in Washington County. In addition, PA DEP will also install a carbonyl monitor at one of these sites. The Department will also locate, install and operate the main monitoring station near a large compressor and gas processing facility in an area of maximum impact. The main station will house a full array of monitors including a VOC/carbonyl sampler and will operate on the standard EPA 1-in-6 day schedule with monthly random samples. Because natural gas exploration and development operations in the region are widespread, variable and expanding, two other sources will be monitored during the study. PA DEP will also locate, install and operate “satellite” monitoring sites near other large compressor or gas processing facilities. The satellite sites will be smaller in scale than the main site but will sample for the same toxic pollutants on the same sampling schedule. A fourth VOC monitoring site will be located, installed and will operate as a background site. Site locations are currently being finalized and monitors are scheduled to be installed and operational this summer.

The Department has expanded its air toxics monitoring network and partners with Millersville University, Gannon University, Bucknell University, Ursinus University, Slippery Rock University, and the Pennsylvania State University during the collection of samples across the Commonwealth. PA DEP continues to work with these University partners.

## **General Description of Criteria Pollutants**

### **Carbon Monoxide (CO)**

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

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

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

### **Fine Particulate Matter (PM<sub>2.5</sub>)**

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

Fine particles can accumulate in the respiratory system and are associated with numerous adverse health effects, including decreased lung function and increased respiratory symptoms and disease. Sensitive groups that appear to be at greatest risk include the elderly, individuals with cardiopulmonary disease such as asthma, and children. PM<sub>2.5</sub> is the major cause of reduced visibility in parts of the United States. Other environmental impacts occur when particles deposit onto soil, plants, water, or man-made materials such as monuments or statues.

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

### **Lead (Pb)**

Lead is emitted to the atmosphere by vehicles burning leaded fuel and from certain industrial processes, primarily battery manufacturers and lead smelters. As a result of the reduction in lead in gasoline, metal processing is now the major source of lead emissions.

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

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



### **Nitrogen Dioxide (NO<sub>2</sub>)**

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 brown haze that causes eye and sinus irritation, blocks natural sunlight and reduces visibility. It can severely irritate the respiratory system and has been associated with acute effects in individuals diagnosed with respiratory disease. Nitrogen dioxide contributes to the creation of acid rain and plays a key role in nitrogen loading, adversely impacting forests and other ecosystems.

Nitrogen oxides are measured using the chemiluminescence reaction of nitric oxide (NO) with ozone (O<sub>3</sub>). Air is drawn into a reaction chamber where it is mixed with a high concentration of ozone from an internal ozone generator. Any nitric oxide mixes with ozone to produce NO<sub>2</sub>. Light from this reaction is detected with a photomultiplier tube and converted to an electrical signal proportional to the nitric oxide concentration. Total nitrogen oxides (NO<sub>x</sub>) are measured by passing the air through a converter where any NO<sub>2</sub> in the air is reduced to nitric oxide before the air is passed to the reaction chamber. By alternately passing the air directly to the reaction chamber and through the converter before the reaction chamber, the analyzer alternately measures nitric oxide and NO<sub>x</sub>. Nitrogen dioxide (NO<sub>2</sub>) is measured indirectly by a subtraction of the NO<sub>x</sub> and NO<sub>2</sub> concentrations.

### **Ozone (O<sub>3</sub>)**

Ground-level ozone, or photochemical smog, is a secondary pollutant. Ozone is generally not emitted directly into the atmosphere as ozone, but rather is formed by chemical reactions between other air pollutants. The primary pollutants involved in these reactions – volatile organic compounds (VOCs) and oxides of nitrogen (NO<sub>x</sub>) – form ozone in the presence of sunlight and warm temperatures. Thus, sources that emit these ozone precursors are sources of ozone. Nitrogen oxides result from fossil fuel combustion. Sources of NO<sub>x</sub> commonly include power plants, industrial boilers and motor vehicles. VOCs are emitted from a variety of sources, including motor vehicles, chemical plants, refineries and even natural (biogenic) sources. Ozone and the precursor pollutants that cause ozone also can be transported into an area from pollution sources located hundreds of miles away. Because the formation of ozone is boosted by increasing sunlight and temperatures, changing weather patterns contribute to yearly differences in ozone concentrations, with peak concentrations occurring during the summer months.

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

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

### **Particulate Matter (PM<sub>10</sub>)**

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

Sources of coarse particles may include dust-producing processes, such as crushing or grinding operations, as well as dust stirred up by vehicles traveling on roads. While they are not as much of a health concern as are fine particles, they can aggravate respiratory conditions and irritate the linings of the eyes, nose, throat and lungs. In the environment, PM<sub>10</sub> contributes to reduced visibility and degradation of man-made materials.

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

### **Sulfur Dioxide (SO<sub>2</sub>)**

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

Sulfur dioxide is measured with a fluorescence analyzer. Air is drawn through a sample cell where it is then subjected to high intensity ultraviolet light. This causes the sulfur dioxide molecules in the air to fluoresce and release light. The fluorescence is detected with a photomultiplier tube and converted to an electrical signal proportional to the SO<sub>2</sub> concentration.

## Ambient Air Quality Monitoring Organizations and Network Summary Tables

**Table 5. Air Pollution Control Agencies in the Commonwealth of Pennsylvania.**

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

**Table 6. Summary of Criteria Pollutant Air Monitoring Sites.**

	Criteria Pollutants													
	Ozone		Sulfur Dioxide		Nitrogen Dioxide		Carbon Monoxide		Particulate Matter		Particulate Matter		Lead	
	(O <sub>3</sub> )		(SO <sub>2</sub> )		(NO <sub>2</sub> )		(CO)		(PM <sub>2.5</sub> )		(PM <sub>10</sub> )		(Pb)	
MSA or non-MSA Region	SLAMS	SPM	SLAMS	SPM	SLAMS	SPM	SLAMS	SPM	SLAMS	SPM	SLAMS	SPM	SLAMS	SPM
Philadelphia-Camden-Wilmington MSA <sup>1</sup>	4		3		2		1		4		1		2	
Allentown-Bethlehem-Easton MSA	3		1		1		1		2		1	1		
Scranton-Wilkes-Barre MSA	4		1		1		1		1		1		1	
New York-Northern NJ-Long Island MSA														
Northeast Region - Non-MSA	1								1					
Altoona MSA	1		1						1		1			
Harrisburg-Carlisle MSA	3		1		2		1		2		1			
Lancaster MSA	2				1				1		1		1	
Lebanon MSA	1								1					
Reading MSA	2		1		1		1		1		1		4	
York-Hanover MSA	2		1		1		1		1		1			
Southcentral Region - Non-MSA	1					1		1	1				1	
State College MSA	1		1		1				1					
Williamsport MSA	1										1			
Northcentral Region - Non-MSA	2													
Johnstown MSA	1		1		1		1		1		1			
Pittsburgh MSA <sup>2</sup>	9	1	4	1	2	1	1	1	6		2		4	
Southwest Region - Non-MSA	2		1	1									1	
Erie MSA	1		1		1		1		1		1			
Youngstown-Warren-Boardman MSA	1								1					
Northwest Region - Non-MSA	1		3				1				1		1	
<b>Totals</b>	<b>43</b>	<b>1</b>	<b>20</b>	<b>2</b>	<b>14</b>	<b>2</b>	<b>10</b>	<b>2</b>	<b>26</b>	<b>0</b>	<b>14</b>	<b>1</b>	<b>15</b>	<b>0</b>

<sup>1</sup>Philadelphia AMS operates the following number of criteria pollutant monitoring sites: O<sub>3</sub>-3; SO<sub>2</sub>-3; NO<sub>2</sub>-2; CO-2; PM<sub>2.5</sub>-5; PM<sub>10</sub>-4; Pb-1

<sup>2</sup>Allegheny County HD operates the following number of criteria pollutant monitoring sites: O<sub>3</sub>-3; SO<sub>2</sub>-5; NO<sub>2</sub>-2; CO-3; PM<sub>2.5</sub>-4; PM<sub>10</sub>-12; Pb-5

**Table 7. Summary of Other Monitoring Sites.**

	Air Toxics				Other Monitoring	
	Carbonyls (Car)	Mercury (Hg)	Total Suspended Particulates and Metals (TSP) & Metals	Volatile Organic Compounds (VOC)	Hydrogen Sulfide (H <sub>2</sub> S)	PM <sub>2.5</sub> Speciation (Sp)
<b>MSA or non-MSA Region</b>						
Philadelphia-Camden-Wilmington MSA <sup>1</sup>			3	5		1
Allentown-Bethlehem-Easton MSA				1	1	1
Scranton-Wilkes-Barre MSA				1		1
New York-Northern NJ-Long Island MSA						
Northeast Region - Non-MSA						
Altoona MSA						
Harrisburg-Carlisle MSA						1
Lancaster MSA	1	1	1	1		1
Lebanon MSA						
Reading MSA			1	1		1
York-Hanover MSA				1		1
Southcentral Region - Non-MSA	1			1		1
State College MSA						1
Williamsport MSA						
Northcentral Region - Non-MSA	1		1	1		
Johnstown MSA						1
Pittsburgh MSA <sup>2</sup>			3	3		2
Southwest Region - Non-MSA						
Erie MSA			1	1		1
Youngstown-Warren-Boardman MSA						
Northwest Region - Non-MSA					1	
<b>Totals</b>	<b>3</b>	<b>1</b>	<b>10</b>	<b>16</b>	<b>2</b>	<b>13</b>
<sup>1</sup> Philadelphia AMS operates the following number of other pollutant monitoring sites: Car-5; TSP&Metals-5; VOC-1; Sp-3						
<sup>2</sup> Allegheny County HD operates the following number of other pollutant monitoring sites: Car-1; TSP&Metals-1; H <sub>2</sub> S-3; Sp-2						

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

**Table A-1. DEP Ambient Air Monitoring Site Locations.**

## Southeast Region

*Includes Bucks, Chester, Delaware, Montgomery and Philadelphia Counties*

<b>Philadelphia-Camden-Wilmington MSA</b>					
<b>AQS Code</b>	<b>Site Name</b>	<b>County</b>	<b>Street Address</b>	<b>Latitude Longitude</b>	<b>Air Basin (AB)</b>
420170012	BRISTOL	BUCKS	ROCKVIEW DRIVE	40.10738 -74.8824	Southeast Pennsylvania AB
420290100	NEW GARDEN	CHESTER	NEW GARDEN AIRPORT - TOUGHKENAMON	39.83458 -75.7680	Southeast Pennsylvania AB
420450002	CHESTER	DELAWARE	FRONT ST & NORRIS ST	39.83519 -75.3721	Southeast Pennsylvania AB
420450003	SWARTHMORE	DELAWARE	500 COLLEGE AVE.	39.8969 -75.3539	Southeast Pennsylvania AB
420450004	RIDLEY PARK	DELAWARE	INDUSTRIAL HIGHWAY (RT291)	39.86292 -75.3256	Southeast Pennsylvania AB
420450109	MARCUS HOOK	DELAWARE	EAST 8TH AVE & CHURCH ST.	39.8178 -75.4142	Southeast Pennsylvania AB
420910005	COLLEGEVILLE	MONTGOMERY	URSINUS COLLEGE	40.1925 -75.4575	Southeast Pennsylvania AB
420910013	NORRISTOWN	MONTGOMERY	STATE ARMORY - 1046 BELVOIR RD	40.11327 -75.3086	Southeast Pennsylvania AB
420910016	EVANSBURG UNITED METHODIST	MONTGOMERY	3871 GERMANTOWN PIKE	40.18305 -75.4341	Southeast Pennsylvania AB

## Northeast Region

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

<b>Allentown-Bethlehem-Easton MSA</b>					
<b>AQS Code</b>	<b>Site Name</b>	<b>County</b>	<b>Street Address</b>	<b>Latitude Longitude</b>	<b>Air Basin (AB)</b>
420770004	ALLENTOWN	LEHIGH	STATE HOSPITAL REAR 1600 HANOVER AVE	40.61194 -75.4326	Allentown-Bethlehem-Easton AB
420950025	FREEMANSBURG	NORTHAMPTON	WASHINGTON & CAMBRIA STS. FREEMANSBURG	40.62847 -75.3415	Allentown-Bethlehem-Easton AB
420950027	LEHIGH VALLEY	NORTHAMPTON	2604 Schoenersville Road	40.64586 -75.4043	Allentown-Bethlehem-Easton AB
420951000	NAZARETH	NORTHAMPTON	SOUTH GREEN & DELAWARE	40.73473 -75.3131	Allentown-Bethlehem-Easton AB
420958000	EASTON	NORTHAMPTON	17TH AND SPRING GARDEN STREETS	40.69230 -75.2371	Allentown-Bethlehem-Easton AB

<b>Scranton-Wilkes-Barre MSA</b>					
<b>AQS Code</b>	<b>Site Name</b>	<b>County</b>	<b>Street Address</b>	<b>Latitude Longitude</b>	<b>Air Basin (AB)</b>
420690101	PECKVILLE	LACKAWANNA	WILSON FIRE CO. ERIE & PLEASANT	41.47908 -75.5781	Scranton-Wilkes-Barre AB
420692006	SCRANTON	LACKAWANNA	GEORGE ST TROOP AND CITY OF SCRANTON	41.44286 -75.623	Scranton-Wilkes-Barre AB
420790036	DURYEA	LUZERNE	401 YORK AVE	41.34886 -75.7473	Scranton-Wilkes-Barre AB
420791100	NANTICOKE	LUZERNE	255 LOWER BROADWAY(NEXT TO LEON&EDDY'S)	41.20919 -76.0035	Scranton-Wilkes-Barre AB

420791101	WILKES BARRE	LUZERNE	CHILWICK & WASHINGTON STS	41.26597 -75.8463	Scranton-Wilkes-Barre AB
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#### Northeast Region - Non-MSA

AQS Code	Site Name	County	Street Address	Latitude Longitude	Air Basin (AB)
420890002	POCONO	MONROE	DEP/DCNR Pocono District Office	41.08306 -75.3232	

## Southcentral Region

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

#### Altoona MSA

AQS Code	Site Name	County	Street Address	Latitude Longitude	Air Basin (AB)
420130801	ALTOONA	BLAIR	2ND AVE & 7TH ST	40.53563 -78.3703	

#### Harrisburg-Carlisle MSA

AQS Code	Site Name	County	Street Address	Latitude Longitude	Air Basin (AB)
420410101	CARLISLE	CUMBERLAND	IMPERIAL COURT	40.24661 -77.1837	
420430401	HARRISBURG	DAUPHIN	1833 UPS DRIVE HARRISBURG PA	40.24508 -76.8447	Harrisburg AB
420431100	HERSHEY	DAUPHIN	SIPE AVE & MAE STREET	40.27241 -76.6814	
420990301	PERRY COUNTY	PERRY	720 GILL HILL ROAD, LITTLE BUFFALO STATE PARK	40.46 -77.1687	

#### Lancaster MSA

AQS Code	Site Name	County	Street Address	Latitude Longitude	Air Basin (AB)
420710007	LANCASTER	LANCASTER	ABRAHAM LINCOLN JR HIGH GROFFTOWN RD	40.04686 -76.2834	Lancaster AB
420710009	MT JOY	LANCASTER	1088 EAST MAIN STREET	40.10894 -76.4722	
420710012	LANCASTER DOWNWIND	LANCASTER	3445 W. NEWPORT ROAD	40.04383 -76.1124	

#### Lebanon MSA

AQS Code	Site Name	County	Street Address	Latitude Longitude	Air Basin (AB)
420750100	LEBANON	LEBANON	1275 BIRCH RD	40.33732 -76.3834	

#### Reading MSA

AQS Code	Site Name	County	Street Address	Latitude Longitude	Air Basin (AB)
420110006	KUTZTOWN	BERKS	KUTZTOWN UNIVERSITY CAMPUS	40.51408 -75.7897	
420110011	READING AIRPORT	BERKS	1059 ARNOLD ROAD	40.38335 -75.9686	Reading AB
420110020	LAURELDALE NORTH	BERKS	3139 KUTZTOWN ROAD	40.38598 -75.9128	Reading AB
420110021	LYONS BORO	BERKS	KEMP ST.	40.47707 -75.7569	
420110022	LYONS PARK	BERKS	PARK AVE.	40.47831 -75.7539	

420111717	LAURELDALE SOUTH	BERKS	SPRING VALLEY ROAD	40.37730	Reading AB	-75.9145
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**York-Hanover MSA**

AQS Code	Site Name	County	Street Address	Latitude	Longitude	Air Basin (AB)
421330008	YORK	YORK	HILL ST.	39.96552		York AB
					-76.6995	
421330011	YORK DOWNWIND	YORK	2632 DELTA ROAD	39.86097		
					-76.4620	

**Southcentral Region - Non-MSA**

AQS Code	Site Name	County	Street Address	Latitude	Longitude	Air Basin (AB)
420010001	ARENDSVILLE	ADAMS	NARSTO SITE - ARENDSVILLE	39.92330		
					-77.3081	
420550001	METHODIST HILL	FRANKLIN	FOREST ROAD - METHODIST HILL	39.96072		
					-77.4755	
420550002	UPPER STRASBURG	FRANKLIN	9716 UPPER STRASBURG RD	40.05982		
					-77.7106	

**Northcentral Region**

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

**State College MSA**

AQS Code	Site Name	County	Street Address	Latitude	Longitude	Air Basin (AB)
420270100	STATE COLLEGE	CENTRE	PENN STATE UNIVERSITY - ARBORETUM SITE	40.81116		
					-77.8772	

**Williamsport MSA**

AQS Code	Site Name	County	Street Address	Latitude	Longitude	Air Basin (AB)
420810100	MONTOURSVILLE	LYCOMING	899 CHERRY STREET	41.25019		
					-76.9134	

**Northcentral Region - Non-MSA**

AQS Code	Site Name	County	Street Address	Latitude	Longitude	Air Basin (AB)
420334000	MOSHANNON	CLEARFIELD	LOCATED NEAR S.B. ELLIOTT STATE PARK	41.1175		
					-78.5261	
421174000	TIOGA COUNTY	TIOGA	TIOGA	41.64558		
					-76.9379	
421190001	LEWISBURG	UNION	701 MOORE AVE	40.9552		
					-76.8819	

**Southwest Region**

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

**Johnstown MSA**

AQS Code	Site Name	County	Street Address	Latitude	Longitude	Air Basin (AB)
420210011	JOHNSTOWN	CAMBRIA	MILLER AUTO SHOP 1 MESSENGER ST	40.30994		Johnstown AB
					-78.9154	

**Pittsburgh MSA**

AQS Code	Site Name	County	Street Address	Latitude	Longitude	Air Basin (AB)
420030010	PITTSBURGH	ALLEGHENY	CARNEGIE SCIENCE CENTER - 1 ALLEGHENY AVE	40.44591		Allegheny County AB
					-80.0186	



420050001	KITTANNING	ARMSTRONG	GLADE DR. & NOLTE RD. KITTANNING	40.814 -79.5646	
420070002	HOOKSTOWN	BEAVER	ROUTE 168 & TOMLINSON ROAD	40.56305 -80.5044	Lower Beaver Valley AB
420070005	BRIGHTON TWP	BEAVER	1015 SEBRING ROAD	40.68547 -80.3605	Lower Beaver Valley AB
420070006	POTTER TOWNSHIP	BEAVER	206 MOWRY RD	40.63893 -80.3656	Lower Beaver Valley AB
420070007	BEAVER VALLEY	BEAVER	760 BEAVER VALLEY MALL	40.67365 -80.3177	Lower Beaver Valley AB
420070014	BEAVER FALLS	BEAVER	EIGHTH STREET AND RIVER ALLEY	40.74780 -80.3157	Lower Beaver Valley AB
420070505	VANPORT	BEAVER	TAMAQUI DR	40.68486 -80.3229	Lower Beaver Valley AB
421250005	CHARLEROI	WASHINGTON	CHARLER01 WASTE TREATMENT PLANT	40.14658 -79.9022	Monongahela Valley AB
421250200	WASHINGTON	WASHINGTON	MCCARRELL AND FAYETTE STS	40.17063 -80.2617	
421255001	FLORENCE	WASHINGTON	HILLMAN STATE PARK - KINGS CREEK ROAD	40.44547 -80.4212	
421290006	MURRYSVILLE	WESTMORELAND	OLD WILLIAM PENN HWY & SARDIS RD	40.42902 -79.6972	
421290008	GREENSBURG	WESTMORELAND	DONOHUE ROAD - PENN DOT MAINT DIST BLDG	40.30438 -79.5060	
421290009	CONEMAUGH	WESTMORELAND	SUGAR RUN - RT 711	40.39292 -79.0244	

**Southwest Region - Non-MSA**

AQS Code	Site Name	County	Street Address	Latitude Longitude	Air Basin (AB)
420590002	HOLBROOK	GREENE	4.8 KM SE OF HOLBROOK	39.81602 -80.2848	
420630004	STRONGSTOWN	INDIANA	PA. DEPT. OF TRANSPORTATION - RT.403	40.5633 -78.9199	
420630005	SHELOCTA	INDIANA	182 SOUTH RIDGE RD	40.65251 -79.2927	

**Northwest Region**

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

**Pittsburgh MSA**

AQS Code	Site Name	County	Street Address	Latitude Longitude	Air Basin (AB)
420190020	SLIPPERY ROCK	BUTLER	1 MORROW WAY	41.06305 -80.0308	

**Erie MSA**

AQS Code	Site Name	County	Street Address	Latitude Longitude	Air Basin (AB)
420490003	ERIE	ERIE	10TH AND MARNE STREETS	42.14197 -80.0386	Erie AB
420490004	PRESQUE ISLE	ERIE	EAST FISHER DR.	42.1620 -80.1133	Erie AB

**Youngstown-Warren-Boardman MSA**

AQS Code	Site Name	County	Street Address	Latitude Longitude	Air Basin (AB)
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420850100	FARRELL	MERCER	PA518 (NEW CASTLE ROAD) & PA418	41.21405 -80.4834
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**Northwest Region - Non-MSA**

<b>AQS Code</b>	<b>Site Name</b>	<b>County</b>	<b>Street Address</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Air Basin (AB)</b>
420730011	ELLWOOD CITY	LAWRENCE	CLYDE STREET	40.86003	-80.2790	Upper Beaver Valley AB
420730015	NEW CASTLE	LAWRENCE	S CROTON AVE & JEFFERSON ST.	40.99605	-80.3465	Upper Beaver Valley AB
421230004	WARREN OVERLOOK	WARREN	OVERLOOK SITE - NEAR STONE HILL ROAD	41.84372	-79.1728	
421230005	WARREN EAST	WARREN	2044 PENNSYLVANIA AVE EAST	41.82570	-79.1199	

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

## Southeast Region

*Includes Bucks, Chester, Delaware, Montgomery and Philadelphia Counties*

### Philadelphia-Camden-Wilmington MSA

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

## Northeast Region

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

### Allentown-Bethlehem-Easton MSA

AQS Code	Site Name	O3	SO2	NO2	CO	PM2.5	Spec	PM10	Pb	Car	Hg	Metals	VOC
420770004	ALLENTOWN	X						X					
420950025	FREEMANSBURG	X		X	X	X	X						
420950027	LEHIGH VALLEY					X							
420951000	NAZARETH							X					
420958000	EASTON	X	X										

### Scranton-Wilkes-Barre MSA

AQS Code	Site Name	O3	SO2	NO2	CO	PM2.5	Spec	PM10	Pb	Car	Hg	Metals	VOC
420690101	PECKVILLE	X											
420692006	SCRANTON	X		X	X	X	X						
420790036	DURYEA								X				
420791100	NANTICOKE	X											
420791101	WILKES BARRE	X	X					X					

### Northeast Region - Non-MSA

AQS Code	Site Name	O3	SO2	NO2	CO	PM2.5	Spec	PM10	Pb	Car	Hg	Metals	VOC
420890002	POCONO	X				X							

## Southcentral Region

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

### Altoona MSA

AQS Code	Site Name	O3	SO2	NO2	CO	PM2.5	Spec	PM10	Pb	Car	Hg	Metals	VOC
420130801	ALTOONA	X	X			X		X					

### Harrisburg-Carlisle MSA

AQS Code	Site Name	O3	SO2	NO2	CO	PM2.5	Spec	PM10	Pb	Car	Hg	Metals	VOC
420410101	CARLISLE					X							
420430401	HARRISBURG	X		X	X	X	X						

#### Pollutants

O3: Ozone

SO2: Sulfur dioxide

NO2: Nitrogen dioxide

CO: Carbon monoxide

PM2.5: Particulate matter <2.5 micrometers

Spec: Pm2.5 speciation

PM10: Particulate matter <10 micrometers

Pb: Lead

Car: Carbonyls

Hg: Mercury

Metals: Total suspended particulates and selected metals

VOC: Volatile organic compounds

420431100	HERSHEY	X						X						
420990301	PERRY COUNTY	X	X	X										

**Lancaster MSA**

AQS Code	Site Name	O3	SO2	NO2	CO	PM2.5	Spec	PM10	Pb	Car	Hg	Metals	VOC
420710007	LANCASTER	X		X		X	X	X		X	X	X	
420710009	MT JOY								X				
420710012	LANCASTER DOWNWIND	X											

**Lebanon MSA**

AQS Code	Site Name	O3	SO2	NO2	CO	PM2.5	Spec	PM10	Pb	Car	Hg	Metals	VOC
420750100	LEBANON	X				X							

**Reading MSA**

AQS Code	Site Name	O3	SO2	NO2	CO	PM2.5	Spec	PM10	Pb	Car	Hg	Metals	VOC
420110006	KUTZTOWN	X											
420110011	READING AIRPORT	X	X	X	X	X	X	X				X	
420110020	LAURELDALE NORTH								X				
420110021	LYONS BORO								X				
420110022	LYONS PARK								X				
420111717	LAURELDALE SOUTH								X				

**York-Hanover MSA**

AQS Code	Site Name	O3	SO2	NO2	CO	PM2.5	Spec	PM10	Pb	Car	Hg	Metals	VOC
421330008	YORK	X	X	X	X	X	X	X					
421330011	YORK DOWNWIND	X											

**Southcentral Region - Non-MSA**

AQS Code	Site Name	O3	SO2	NO2	CO	PM2.5	Spec	PM10	Pb	Car	Hg	Metals	VOC
420010001	ARENDSVILLE			X	X	X	X			X			
420550001	METHODIST HILL	X											
420550002	UPPER STRASBURG								X				

**Northcentral Region**

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

**State College MSA**

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

**Williamsport MSA**

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

**Northcentral Region - Non-MSA**

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

**Southwest Region**

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

Pollutants

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

**Johnstown MSA**

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

**Pittsburgh MSA**

AQS Code	Site Name	O3	SO2	NO2	CO	PM2.5	Spec	PM10	Pb	Car	Hg	Metals	VOC
420030010	PITTSBURGH	X	X	X	X								
420050001	KITTANNING	X				X							
420070002	HOOKSTOWN	X	X										
420070005	BRIGHTON TWP	X	X										
420070006	POTTER TOWNSHIP								X				
420070007	BEAVER VALLEY								X			X	
420070014	BEAVER FALLS	X		X		X		X					
420070505	VANPORT								X				
421250005	CHARLEROI	X	X	X	X	X		X					
421250200	WASHINGTON	X				X							
421255001	FLORENCE	X	X			X	X						
421290006	MURRYSVILLE	X											
421290008	GREENSBURG	X				X	X						
421290009	CONEMAUGH								X				

**Southwest Region - Non-MSA**

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

**Northwest Region**

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

**Pittsburgh MSA**

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

**Erie MSA**

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

**Youngstown-Warren-Boardman MSA**

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

**Northwest Region - Non-MSA**

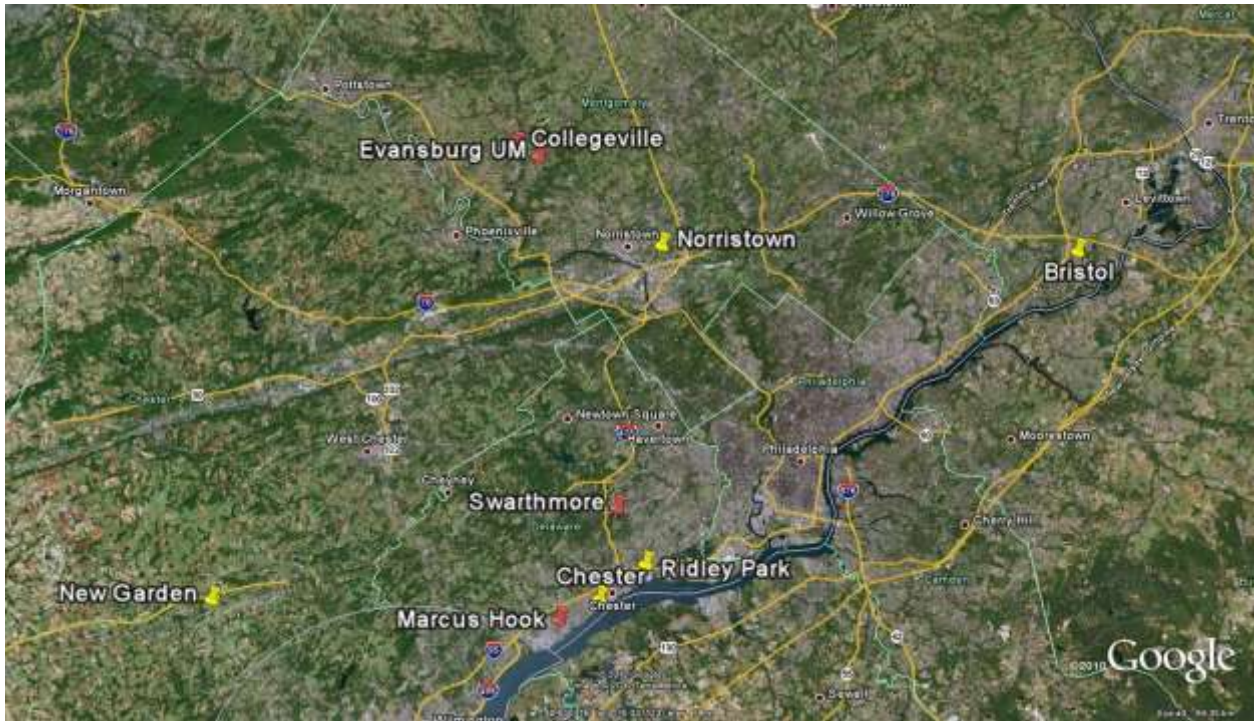
AQS Code	Site Name	O3	SO2	NO2	CO	PM2.5	Spec	PM10	Pb	Car	Hg	Metals	VOC
420730011	ELLWOOD CITY								X				
420730015	NEW CASTLE	X	X		X			X					
421230004	WARREN OVERLOOK		X										
421230005	WARREN EAST		X										

Pollutants

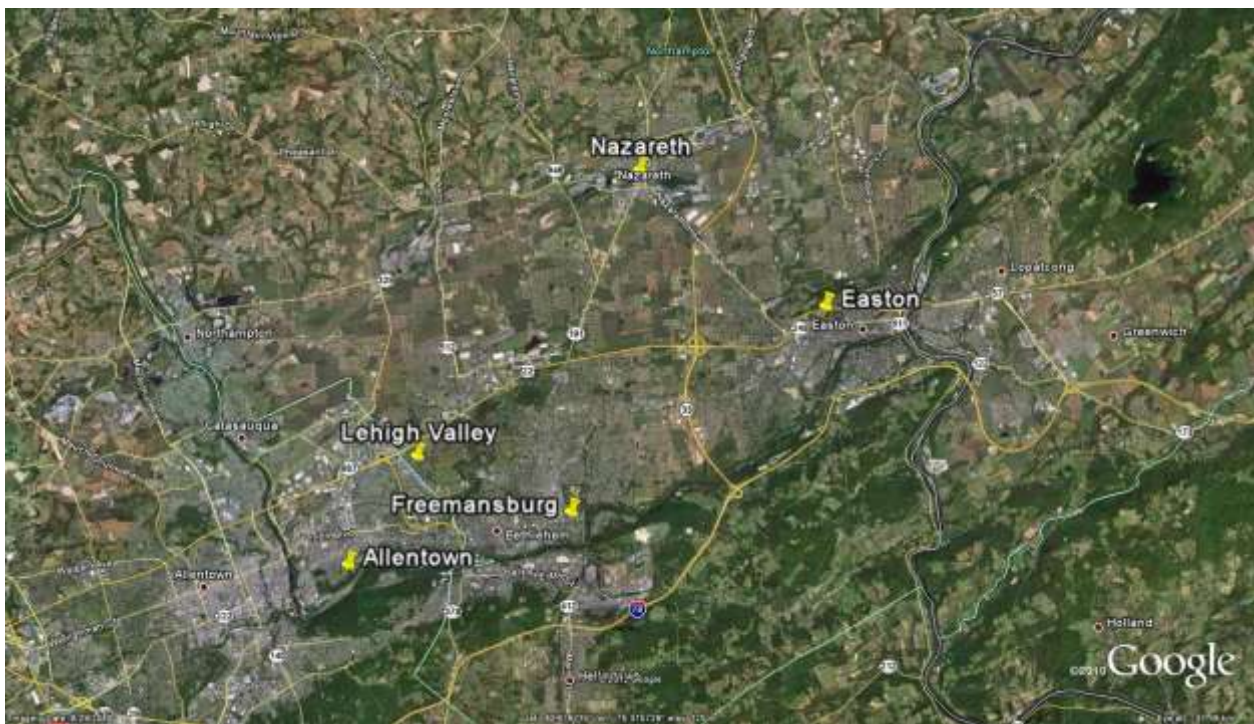
- O3: Ozone
- SO2: Sulfur dioxide
- NO2: Nitrogen dioxide
- CO: Carbon monoxide
- PM2.5: Particulate matter <2.5 micrometers
- Spec: Pm2.5 speciation
- PM10: Particulate matter <10 micrometers
- Pb: Lead
- Car: Carbonyls
- Hg: Mercury
- Metals: Total suspended particulates and selected metals
- VOC: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

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

Philadelphia-Camden-Wilmington MSA



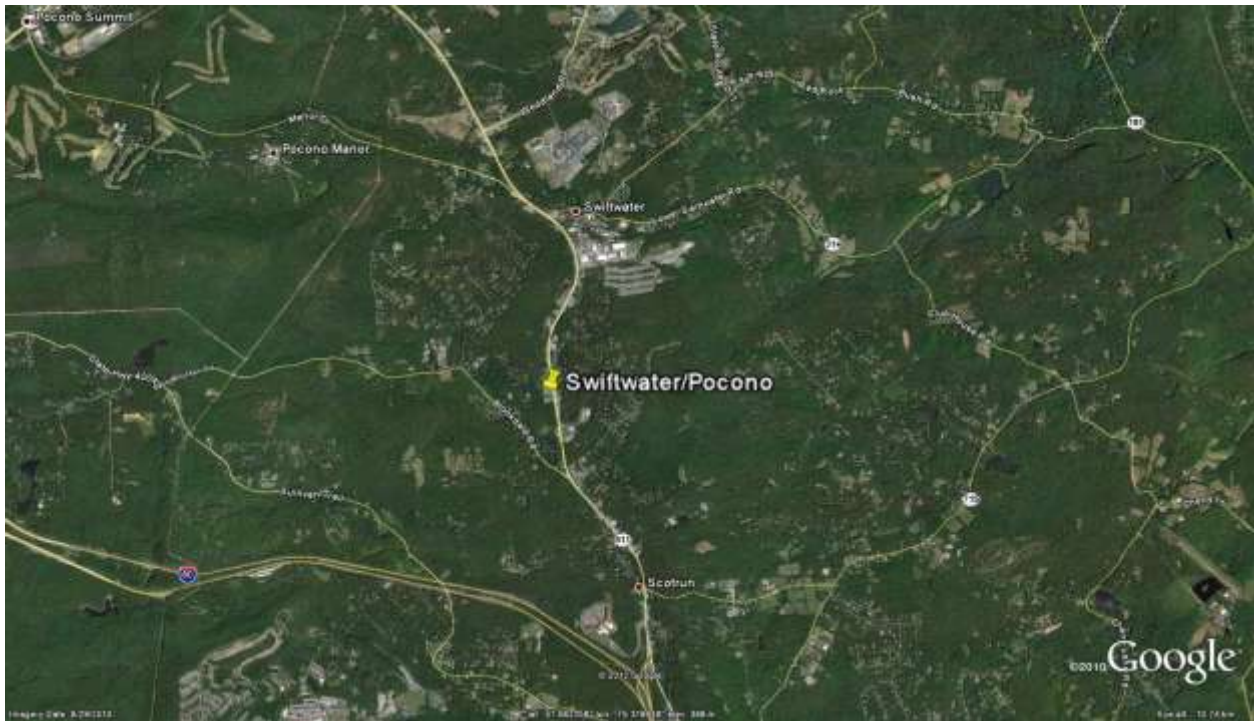
Allentown-Bethlehem-Easton MSA



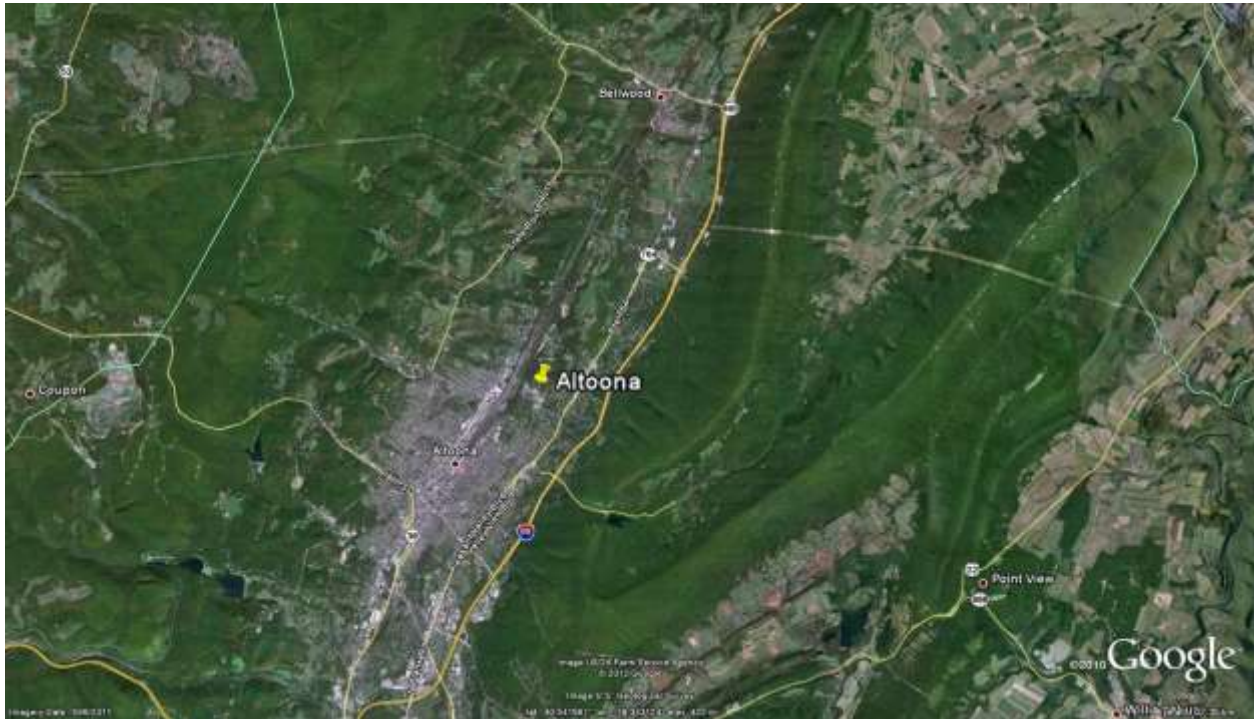
**Scranton-Wilkes-Barre MSA**



**Northeast Region - Non-MSA**



**Altoona MSA**



**Harrisburg-Carlisle MSA**





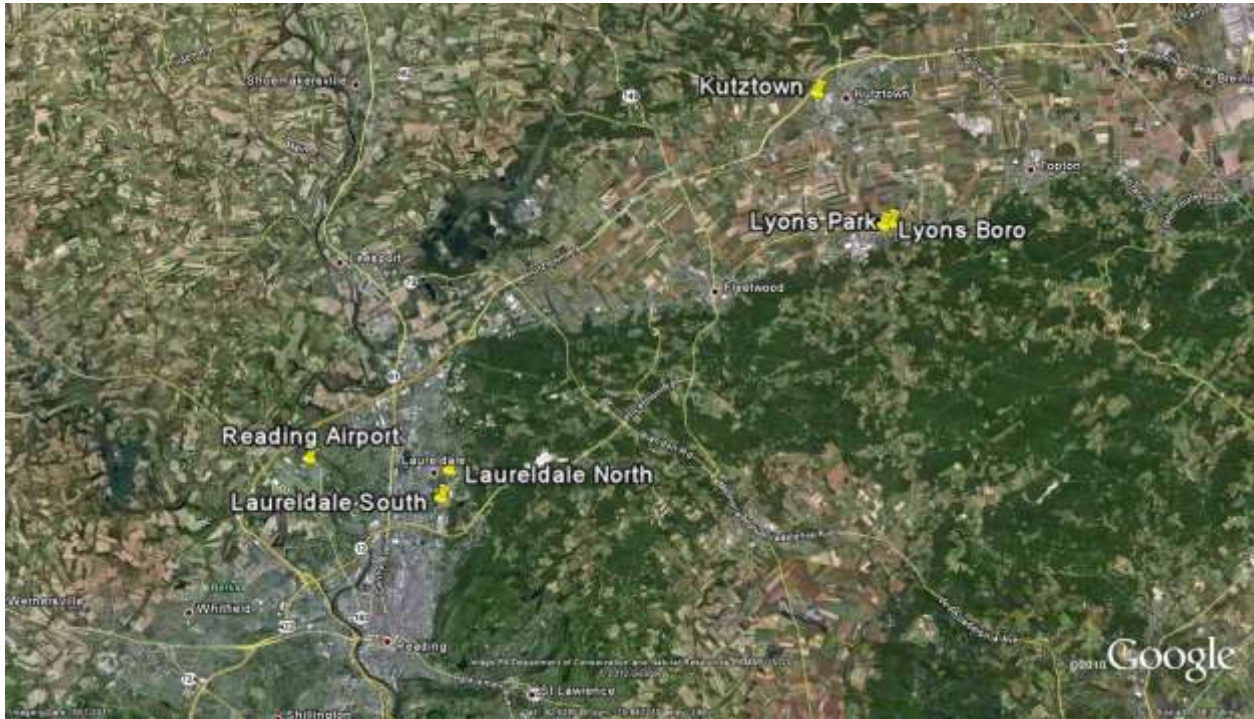
**Lancaster MSA**



**Lebanon MSA**



Reading MSA



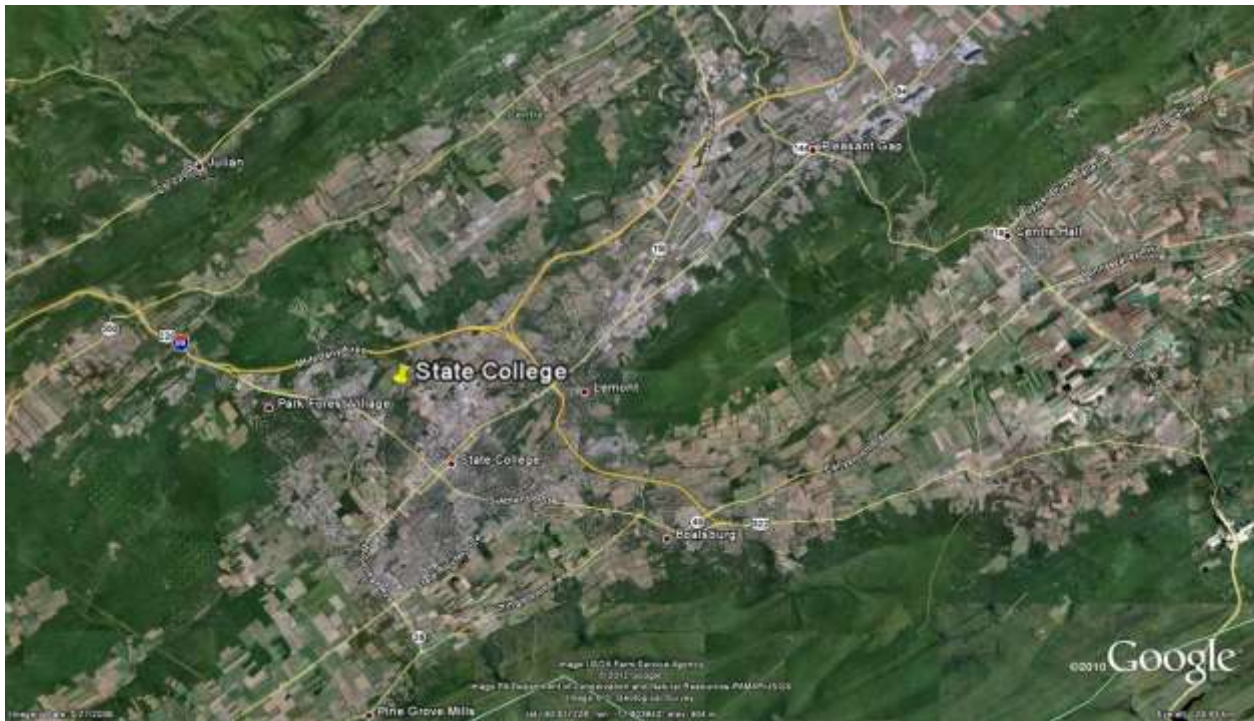
York-Hanover MSA



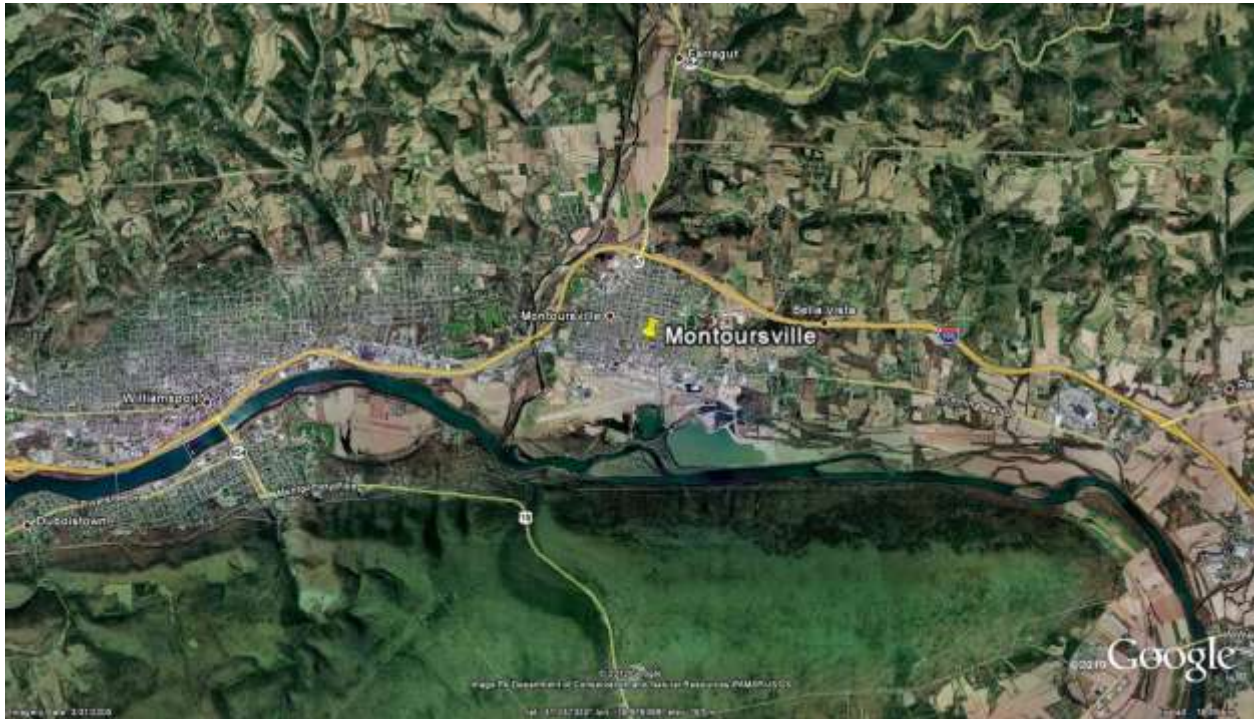
Southcentral Region - Non-MSA



State College MSA



**Williamsport MSA**



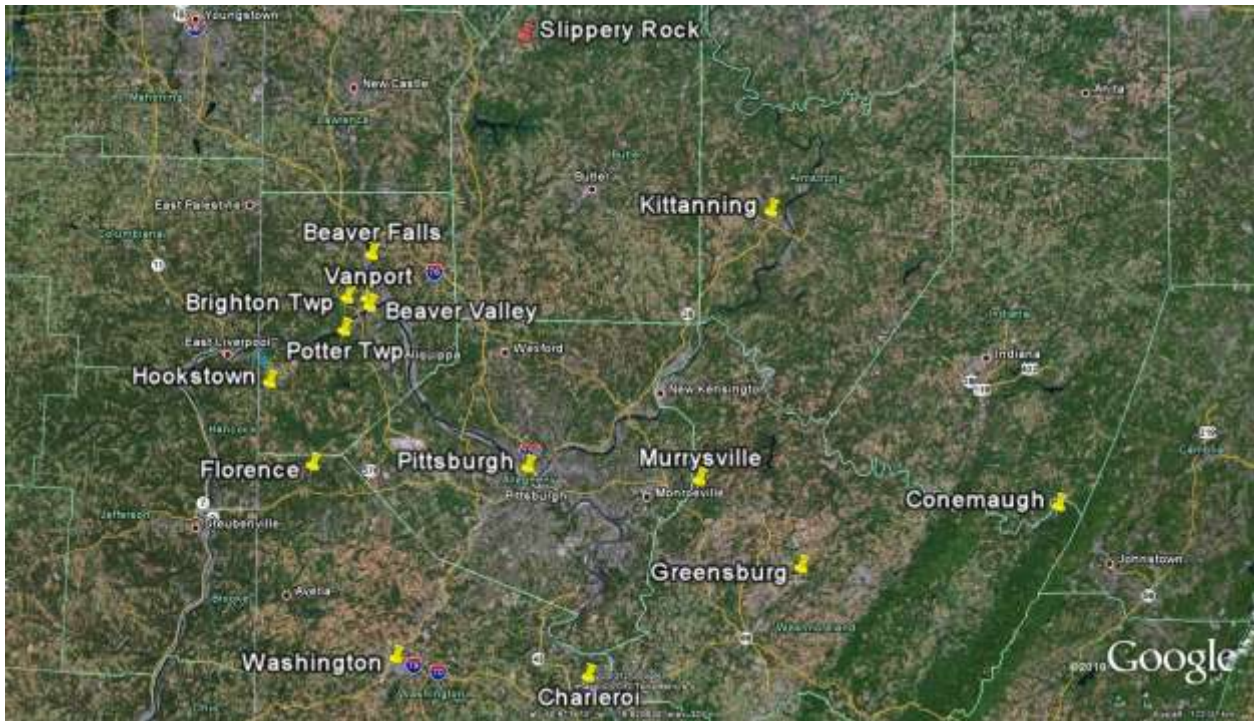
**Northcentral Region - Non-MSA**



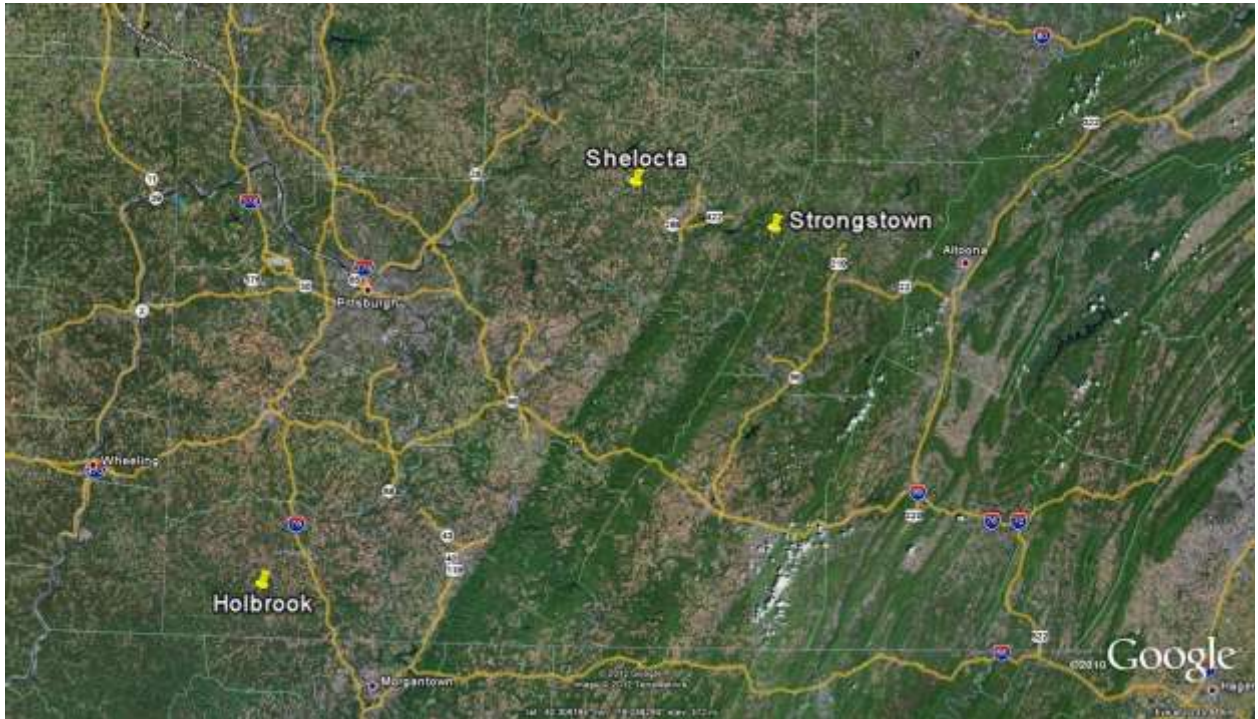
**Johnstown MSA**



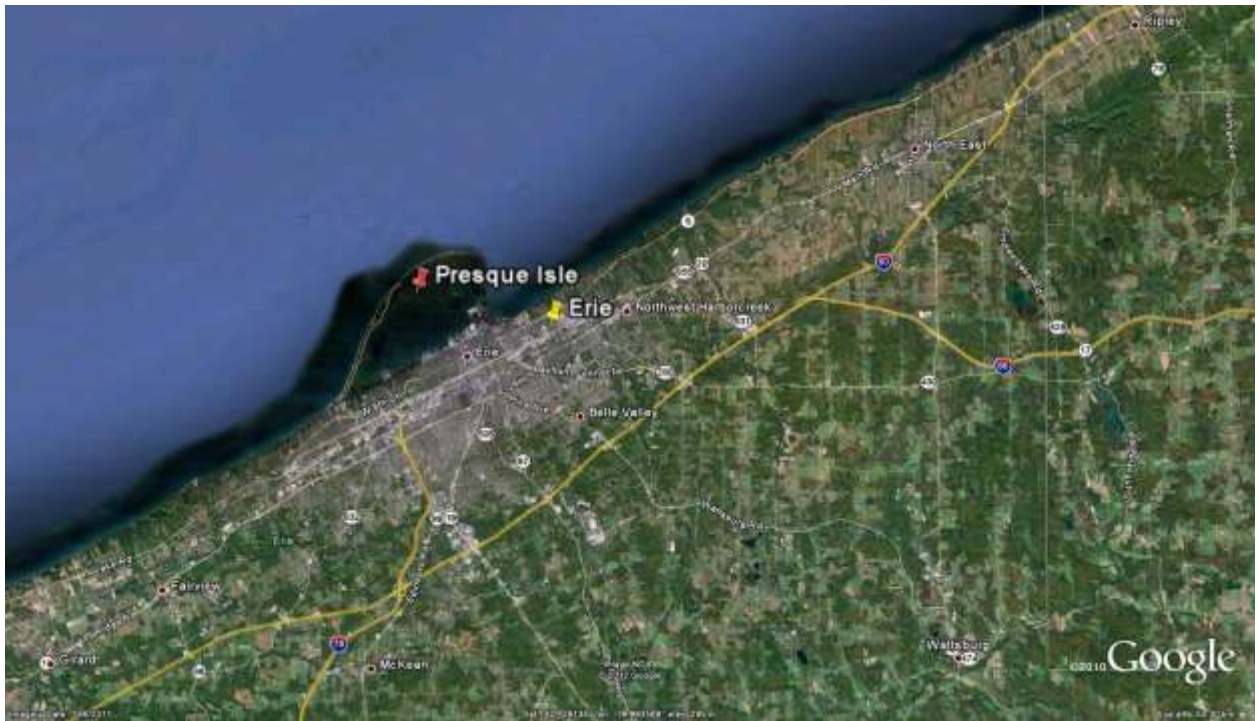
**Pittsburgh MSA**



Southwest Region - Non-MSA



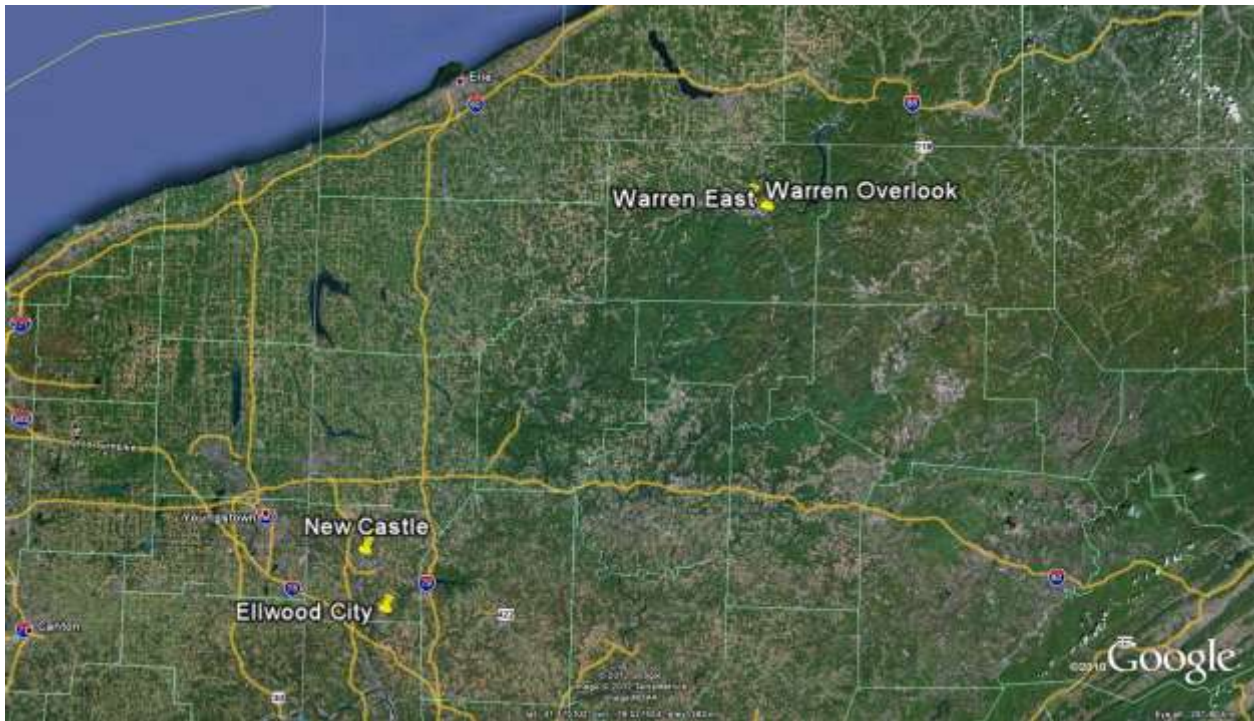
Erie MSA



**Youngstown-Warren-Boardman MSA**



**Northwest Region - Non-MSA**



## **Appendix B — PA DEP Ambient Air Monitoring Network Description**



# Pennsylvania Monitoring Network Description

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

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

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

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

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

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

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

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

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

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

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

<b>SITE NAME:</b> ARENDSVILLE	<b>AQS SITE ID</b> 420010001
<b>COUNTY:</b> ADAMS	<b>LATITUDE:</b> 39.923305556
<b>MUNICIPALITY:</b> ARENDSVILLE	<b>LONGITUDE:</b> -77.308166667
<b>MSA:</b> Southcentral Region - Non-MSA	<b>ADDRESS:</b> NARSTO SITE - ARENDSVILLE

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

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

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

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

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

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

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

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

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

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

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

**Appendix C Monitoring Method:**  
**Monitoring Method Description:** PAMS GC (Ozone Season Only)  
**Appendix D Design Criteria\*:** No  
**Appendix D Scale:**  
**Appendix D Objectives:**  
**Appendix E Siting Criteria\*:** No

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

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

<b>SITE NAME:</b> BEAVER FALLS	<b>AQS SITE ID</b> 420070014
<b>COUNTY:</b> BEAVER	<b>LATITUDE:</b> 40.747805556
<b>MUNICIPALITY:</b> BEAVER FALLS	<b>LONGITUDE:</b> -80.31575
<b>MSA:</b> Pittsburgh MSA	<b>ADDRESS:</b> EIGHTH STREET AND RIVER ALLEY

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

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

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

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

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

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

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

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

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

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

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

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

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

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

**Appendix C Monitoring Method:** EQL-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

**Sensor Type:** Metals/TSP  
**Sensor Network Designation:** Other  
**Sensor Purpose Designation:** Air Toxic  
**Sample Frequency:** 1 in 6  
**Appendix A QA Assessment\*:** No  
**Appendix C Monitoring Classification:**  
**Start Date:** 2/20/2011 **Comments:**

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

<b>SITE NAME:</b>	<b>BRIGHTON TWP</b>	<b>AQS SITE ID</b>	<b>420070005</b>
<b>COUNTY:</b>	<b>BEAVER</b>	<b>LATITUDE:</b>	<b>40.685472222</b>
<b>MUNICIPALITY:</b>	<b>BRIGHTON TWP</b>	<b>LONGITUDE:</b>	<b>-80.3605</b>
<b>MSA:</b>	<b>Pittsburgh MSA</b>	<b>ADDRESS1:</b>	<b>1015 SEBRING ROAD</b>

**Sensor Type:** Ozone  
**Sensor Network Designation:** SLAMS  
**Sensor Purpose Designation:** Regulatory Compliance  
**Sample Frequency:** Cont.  
**Appendix A QA Assessment\*:** Yes  
**Appendix C Monitoring Classification:** Automated Equivalent Method  
**Start Date:** 4/20/1994 **Comments:**

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

**Sensor Type:** Sulfur Dioxide  
**Sensor Network Designation:** SLAMS  
**Sensor Purpose Designation:** Regulatory Compliance  
**Sample Frequency:** Cont.  
**Appendix A QA Assessment\*:** Yes  
**Appendix C Monitoring Classification:** Automated Equivalent Method  
**Start Date:** 4/20/1994 **Comments:**

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

<b>SITE NAME:</b>	<b>BRISTOL</b>	<b>AQS SITE ID</b>	<b>420170012</b>
<b>COUNTY:</b>	<b>BUCKS</b>	<b>LATITUDE:</b>	<b>40.107388889</b>
<b>MUNICIPALITY:</b>	<b>BRISTOL</b>	<b>LONGITUDE:</b>	<b>-74.882472222</b>
<b>MSA:</b>	<b>Philadelphia-Camden-Wilmington MSA</b>	<b>ADDRESS1:</b>	<b>ROCKVIEW DRIVE</b>

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**Sensor Type:** Carbon Monoxide  
**Sensor Network Designation:** SLAMS  
**Sensor Purpose Designation:** Regulatory Compliance  
**Sample Frequency:** Cont.  
**Appendix A QA Assessment\*:** Yes  
**Appendix C Monitoring Classification:** Automated Reference Method  
**Start Date:** 3/1/1975 **Comments:**

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

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

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

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

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

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

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

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

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

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

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

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<b>SITE NAME:</b>	<b>CARLISLE</b>	<b>AQS SITE ID</b>	<b>420410101</b>
<b>COUNTY:</b>	<b>CUMBERLAND</b>	<b>LATITUDE:</b>	<b>40.246611111</b>
<b>MUNICIPALITY:</b>	<b>CARLISLE</b>	<b>LONGITUDE:</b>	<b>-77.183722222</b>
<b>MSA:</b>	<b>Harrisburg-Carlisle MSA</b>	<b>ADDRESS1:</b>	<b>IMPERIAL COURT</b>

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

<b>Sensor Type:</b>	<b>Particulate Matter PM2.5</b>	<b>Appendix C Monitoring Method:</b>	<b>RFPS-0498-118</b>
<b>Sensor Network Designation:</b>	<b>SLAMS</b>	<b>Monitoring Method Description:</b>	<b>Gravimetric</b>
<b>Sensor Purpose Designation:</b>	<b>Regulatory Compliance</b>	<b>Appendix D Design Criteria*:</b>	<b>Yes</b>
<b>Sample Frequency:</b>	<b>Daily</b>	<b>Appendix D Scale:</b>	<b>Urban Scale</b>
<b>Appendix A QA Assessment*:</b>	<b>Yes</b>	<b>Appendix D Objectives:</b>	<b>Population Exposure</b>
<b>Appendix C Monitoring Classification:</b>	<b>Manual Reference Method</b>	<b>Appendix E Siting Criteria*:</b>	<b>Yes</b>
<b>Start Date:</b>	<b>3/29/2001</b>	<b>Comments:</b>	

<b>SITE NAME:</b>	<b>CHARLEROI</b>	<b>AQS SITE ID</b>	<b>421250005</b>
<b>COUNTY:</b>	<b>WASHINGTON</b>	<b>LATITUDE:</b>	<b>40.146583333</b>
<b>MUNICIPALITY:</b>	<b>CHARLEROI</b>	<b>LONGITUDE:</b>	<b>-79.902222222</b>
<b>MSA:</b>	<b>Pittsburgh MSA</b>	<b>ADDRESS1:</b>	<b>CHARLER01 WASTE TREATMENT PLANT</b>

<b>Sensor Type:</b>	<b>Carbon Monoxide</b>	<b>Appendix C Monitoring Method:</b>	<b>RFCA-1093-093</b>
<b>Sensor Network Designation:</b>	<b>SLAMS</b>	<b>Monitoring Method Description:</b>	<b>Non-dispersive Infrared</b>
<b>Sensor Purpose Designation:</b>	<b>Regulatory Compliance</b>	<b>Appendix D Design Criteria*:</b>	<b>Yes</b>
<b>Sample Frequency:</b>	<b>Cont.</b>	<b>Appendix D Scale:</b>	<b>Neighborhood</b>
<b>Appendix A QA Assessment*:</b>	<b>Yes</b>	<b>Appendix D Objectives:</b>	<b>Population Exposure</b>
<b>Appendix C Monitoring Classification:</b>	<b>Automated Reference Method</b>	<b>Appendix E Siting Criteria*:</b>	<b>Yes</b>
<b>Start Date:</b>	<b>1/1/1982</b>	<b>Comments:</b>	

<b>Sensor Type:</b>	<b>Nitrogen Dioxide</b>	<b>Appendix C Monitoring Method:</b>	<b>RFNA-1194-099</b>
<b>Sensor Network Designation:</b>	<b>SLAMS</b>	<b>Monitoring Method Description:</b>	<b>Chemiluminescence</b>
<b>Sensor Purpose Designation:</b>	<b>Population Exposure</b>	<b>Appendix D Design Criteria*:</b>	<b>Yes</b>
<b>Sample Frequency:</b>	<b>Cont.</b>	<b>Appendix D Scale:</b>	<b>Neighborhood</b>
<b>Appendix A QA Assessment*:</b>	<b>Yes</b>	<b>Appendix D Objectives:</b>	<b>Population Exposure</b>
<b>Appendix C Monitoring Classification:</b>	<b>Automated Reference Method</b>	<b>Appendix E Siting Criteria*:</b>	<b>Yes</b>
<b>Start Date:</b>	<b>1/1/1974</b>	<b>Comments:</b>	

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

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

**Sensor Type:** Particulate Matter PM10  
**Sensor Network Designation:** SLAMS  
**Sensor Purpose Designation:** Regulatory Compliance  
**Sample Frequency:** 1 in 6  
**Appendix A QA Assessment\*:** Yes  
**Appendix C Monitoring Classification:** Manual Reference Method  
**Start Date:** 6/21/1995 **Comments:** cont 1995-2008, manual 2009-current

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

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

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

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

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

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

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

<b>SITE NAME:</b>	<b>CHESTER</b>	<b>AQS SITE ID</b>	<b>420450002</b>
<b>COUNTY:</b>	<b>DELAWARE</b>	<b>LATITUDE:</b>	<b>39.835194445</b>
<b>MUNICIPALITY:</b>	<b>CHESTER</b>	<b>LONGITUDE:</b>	<b>-75.372111111</b>
<b>MSA:</b>	<b>Philadelphia-Camden-Wilmington MSA</b>	<b>ADDRESS1:</b>	<b>FRONT ST &amp; NORRIS ST</b>

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

**Appendix C Monitoring Method:** EQL-0592-086  
**Monitoring Method Description:** Gravimetric  
**Appendix D Design Criteria\*:** Yes  
**Appendix D Scale:** Neighborhood  
**Appendix D Objectives:** Population Exposure  
**Appendix E Siting Criteria\*:** Yes

**Sensor Type:** Metals/TSP  
**Sensor Network Designation:** Other  
**Sensor Purpose Designation:** Air Toxicics  
**Sample Frequency:** 1 in 6  
**Appendix A QA Assessment\*:** No  
**Appendix C Monitoring Classification:**  
**Start Date:** 1/10/1995 **Comments:**

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

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

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

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

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

**Sensor Type:** Particulate Matter PM10  
**Sensor Network Designation:** SLAMS  
**Sensor Purpose Designation:** Regulatory Compliance  
**Sample Frequency:** Cont.  
**Appendix A QA Assessment\*:** Yes  
**Appendix C Monitoring Classification:** Automated Equivalent Method  
**Start Date:** 3/3/1995 **Comments:**

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

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

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

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<b>Sensor Type:</b>	Sulfur Dioxide	<b>Appendix C Monitoring Method:</b>	EQSA-0495-100
<b>Sensor Network Designation:</b>	SLAMS	<b>Monitoring Method Description:</b>	UV Fluorescence
<b>Sensor Purpose Designation:</b>	Regulatory Compliance	<b>Appendix D Design Criteria*:</b>	Yes
<b>Sample Frequency:</b>	Cont.	<b>Appendix D Scale:</b>	Urban Scale
<b>Appendix A QA Assessment*:</b>	Yes	<b>Appendix D Objectives:</b>	Population Exposure
<b>Appendix C Monitoring Classification:</b>	Automated Equivalent Method	<b>Appendix E Siting Criteria*:</b>	Yes
<b>Start Date:</b>	4/1/1974	<b>Comments:</b>	

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

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

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

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

<b>Sensor Type:</b>	Lead (TSP-based)	<b>Appendix C Monitoring Method:</b>	EQL-0592-086
<b>Sensor Network Designation:</b>	SLAMS	<b>Monitoring Method Description:</b>	Gravimetric
<b>Sensor Purpose Designation:</b>	Regulatory Compliance	<b>Appendix D Design Criteria*:</b>	Yes
<b>Sample Frequency:</b>	1 in 6	<b>Appendix D Scale:</b>	Middle Scale
<b>Appendix A QA Assessment*:</b>	Yes	<b>Appendix D Objectives:</b>	Source Oriented
<b>Appendix C Monitoring Classification:</b>	Manual Equivalent Method	<b>Appendix E Siting Criteria*:</b>	Yes
<b>Start Date:</b>	1/1/2010	<b>Comments:</b>	

<b>SITE NAME:</b>	DURYEA	<b>AQS SITE ID</b>	420790036
<b>COUNTY:</b>	LUZERNE	<b>LATITUDE:</b>	41.348869
<b>MUNICIPALITY:</b>	DURYEA TWP	<b>LONGITUDE:</b>	-75.747322
<b>MSA:</b>	Scranton-Wilkes-Barre MSA	<b>ADDRESS:</b>	401 YORK AVE

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

**Appendix C Monitoring Method:** EQL-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

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

**Sensor Type:** Hydrogen Sulfide  
**Sensor Network Designation:** SPM  
**Sensor Purpose Designation:** Specific Location Characterization  
**Sample Frequency:** Cont.  
**Appendix A QA Assessment\*:** Yes  
**Appendix C Monitoring Classification:** Automated Method  
**Start Date:** 1/1/1986 **Comments:**

**Appendix C Monitoring Method:** NONE  
**Monitoring Method Description:** UV Fluorescence  
**Appendix D Design Criteria\*:** Yes  
**Appendix D Scale:** Neighborhood  
**Appendix D Objectives:** Population Exposure  
**Appendix E Siting Criteria\*:** Yes

**Sensor Type:** Ozone  
**Sensor Network Designation:** SLAMS  
**Sensor Purpose Designation:** Regulatory Compliance  
**Sample Frequency:** Cont.  
**Appendix A QA Assessment\*:** Yes  
**Appendix C Monitoring Classification:** Automated Equivalent Method  
**Start Date:** 10/20/1999 **Comments:**

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

**Sensor Type:** Sulfur Dioxide  
**Sensor Network Designation:** SLAMS  
**Sensor Purpose Designation:** Regulatory Compliance  
**Sample Frequency:** Cont.  
**Appendix A QA Assessment\*:** Yes  
**Appendix C Monitoring Classification:** Automated Equivalent Method  
**Start Date:** 10/20/1999 **Comments:**

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

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

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

**Appendix C Monitoring Method:** EQL-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

<b>SITE NAME:</b> ERIE	<b>AQS SITE ID:</b> 420490003
<b>COUNTY:</b> ERIE	<b>LATITUDE:</b> 42.14197222
<b>MUNICIPALITY:</b> ERIE	<b>LONGITUDE:</b> -80.03869444
<b>MSA:</b> Erie MSA	<b>ADDRESS:</b> 10TH AND MARNE STREETS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

<b>SITE NAME:</b> EVANSBURG UNITED METHODIST	<b>AQS SITE ID</b> 420910016
<b>COUNTY:</b> MONTGOMERY	<b>LATITUDE:</b> 40.183056
<b>MUNICIPALITY:</b>	<b>LONGITUDE:</b> -75.434167
<b>MSA:</b> Philadelphia-Camden-Wilmington MSA	<b>ADDRESS:</b> 3871 GERMANTOWN PIKE

**Sensor Type:** Volatile Organic Compound  
**Sensor Network Designation:** Other  
**Sensor Purpose Designation:** Air Toxics  
**Sample Frequency:** 1 in 6  
**Appendix A QA Assessment\*:** No  
**Appendix C Monitoring Classification:**  
**Start Date:** 2/18/2009 **Comments:**

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

<b>SITE NAME:</b> FARRELL	<b>AQS SITE ID</b> 420850100
<b>COUNTY:</b> MERCER	<b>LATITUDE:</b> 41.21405556
<b>MUNICIPALITY:</b> FARRELL	<b>LONGITUDE:</b> -80.48347222
<b>MSA:</b> Youngstown-Warren-Boardman MSA	<b>ADDRESS:</b> PA518 (NEW CASTLE ROAD) & PA418

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**Sensor Type:** Ozone  
**Sensor Network Designation:** SLAMS  
**Sensor Purpose Designation:** Regulatory Compliance  
**Sample Frequency:** Cont.  
**Appendix A QA Assessment\*:** Yes  
**Appendix C Monitoring Classification:** Automated Equivalent Method  
**Start Date:** 9/1/1980 **Comments:**

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

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

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

**Sensor Type:** Particulate Matter PM2.5  
**Sensor Network Designation:** SLAMS  
**Sensor Purpose Designation:** Regulatory Compliance  
**Sample Frequency:** Daily  
**Appendix A QA Assessment\*:** Yes  
**Appendix C Monitoring Classification:** Manual Reference Method  
**Start Date:** 2/1/2000 **Comments:**

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

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

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

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

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

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

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

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

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

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

<b>SITE NAME:</b> FREEMANSBURG	<b>AQS SITE ID</b> 420950025
<b>COUNTY:</b> NORTHAMPTON	<b>LATITUDE:</b> 40.628472222
<b>MUNICIPALITY:</b> FREEMANSBURG	<b>LONGITUDE:</b> -75.341583333
<b>MSA:</b> Allentown-Bethlehem-Easton MSA	<b>ADDRESS:</b> WASHINGTON & CAMBRIA STS. FREEMANSBURG

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

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

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

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

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

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

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

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

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

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

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

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

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

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

<b>SITE NAME:</b> GREENSBURG	<b>AQS SITE ID</b> 421290008
<b>COUNTY:</b> WESTMORELAND	<b>LATITUDE:</b> 40.304388889
<b>MUNICIPALITY:</b> GREENSBURG	<b>LONGITUDE:</b> -79.506055556
<b>MSA:</b> Pittsburgh MSA	<b>ADDRESS:</b> DONOHOE ROAD - PENN DOT MAINT DIST BLDG

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

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

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

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

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

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

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

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

<b>SITE NAME:</b> HARRISBURG	<b>AQS SITE ID:</b> 420430401
<b>COUNTY:</b> DAUPHIN	<b>LATITUDE:</b> 40.245083333
<b>MUNICIPALITY:</b> HARRISBURG	<b>LONGITUDE:</b> -76.844722222
<b>MSA:</b> Harrisburg-Carlisle MSA	<b>ADDRESS1:</b> 1833 UPS DRIVE HARRISBURG PA

**Sensor Type:** Carbon Monoxide  
**Sensor Network Designation:** SLAMS  
**Sensor Purpose Designation:** Regulatory Compliance  
**Sample Frequency:** Cont.  
**Appendix A QA Assessment\*:** Yes  
**Appendix C Monitoring Classification:** Automated Reference Method  
**Start Date:** 3/1/2006 **Comments:**

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

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

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

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**Sensor Type:** Ozone  
**Sensor Network Designation:** SLAMS  
**Sensor Purpose Designation:** Regulatory Compliance  
**Sample Frequency:** Cont.  
**Appendix A QA Assessment\*:** Yes  
**Appendix C Monitoring Classification:** Automated Equivalent Method  
**Start Date:** 6/1/1978 **Comments:**

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

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

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

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

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

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

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

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

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

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

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<b>SITE NAME:</b>	<b>HOLBROOK</b>	<b>AQS SITE ID</b>	<b>420590002</b>
<b>COUNTY:</b>	<b>GREENE</b>	<b>LATITUDE:</b>	<b>39.816027778</b>
<b>MUNICIPALITY:</b>	<b>HOLBROOK</b>	<b>LONGITUDE:</b>	<b>-80.284805556</b>
<b>MSA:</b>	<b>Southwest Region - Non-MSA</b>	<b>ADDRESS1:</b>	<b>4.8 KM SE OF HOLBROOK</b>

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

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

<b>SITE NAME:</b>	<b>HOOKSTOWN</b>	<b>AQS SITE ID</b>	<b>420070002</b>
<b>COUNTY:</b>	<b>BEAVER</b>	<b>LATITUDE:</b>	<b>40.563055556</b>
<b>MUNICIPALITY:</b>	<b>HOOKSTOWN</b>	<b>LONGITUDE:</b>	<b>-80.504444445</b>
<b>MSA:</b>	<b>Pittsburgh MSA</b>	<b>ADDRESS1:</b>	<b>ROUTE 168 &amp; TOMLINSON ROAD</b>

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

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

<b>SITE NAME:</b>	<b>JOHNSTOWN</b>	<b>AQS SITE ID</b>	<b>420210011</b>
<b>COUNTY:</b>	<b>CAMBRIA</b>	<b>LATITUDE:</b>	<b>40.309944445</b>
<b>MUNICIPALITY:</b>	<b>JOHNSTOWN</b>	<b>LONGITUDE:</b>	<b>-78.915444445</b>
<b>MSA:</b>	<b>Johnstown MSA</b>	<b>ADDRESS1:</b>	<b>MILLER AUTO SHOP 1 MESSENGER ST</b>

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

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

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

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

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

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

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

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

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

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

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

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

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

<b>SITE NAME:</b>	KITTANNING	<b>AQS SITE ID</b>	420050001
<b>COUNTY:</b>	ARMSTRONG	<b>LATITUDE:</b>	40.814
<b>MUNICIPALITY:</b>	KITTANNING	<b>LONGITUDE:</b>	-79.564694445
<b>MSA:</b>	Pittsburgh MSA	<b>ADDRESS1:</b>	GLADE DR. & NOLTE RD. KITTANNING

<b>Sensor Type:</b>	Ozone	<b>Appendix C Monitoring Method:</b>	EQOA-0992-087
<b>Sensor Network Designation:</b>	SLAMS	<b>Monitoring Method Description:</b>	UV Absorption
<b>Sensor Purpose Designation:</b>	Regulatory Compliance	<b>Appendix D Design Criteria*:</b>	Yes
<b>Sample Frequency:</b>	Cont.	<b>Appendix D Scale:</b>	Urban Scale
<b>Appendix A QA Assessment*:</b>	Yes	<b>Appendix D Objectives:</b>	Extreme Downwind
<b>Appendix C Monitoring Classification:</b>	Automated Equivalent Method	<b>Appendix E Siting Criteria*:</b>	Yes
<b>Start Date:</b>	8/14/1997	<b>Comments:</b>	

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

<b>SITE NAME:</b>	KUTZTOWN	<b>AQS SITE ID</b>	420110006
<b>COUNTY:</b>	BERKS	<b>LATITUDE:</b>	40.51408
<b>MUNICIPALITY:</b>	KUTZTOWN	<b>LONGITUDE:</b>	-75.78972
<b>MSA:</b>	Reading MSA	<b>ADDRESS1:</b>	KUTZTOWN UNIVERSITY CAMPUS

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

<b>SITE NAME:</b>	LANCASTER	<b>AQS SITE ID</b>	420710007
<b>COUNTY:</b>	LANCASTER	<b>LATITUDE:</b>	40.046861111
<b>MUNICIPALITY:</b>	LANCASTER	<b>LONGITUDE:</b>	-76.283416667
<b>MSA:</b>	Lancaster MSA	<b>ADDRESS1:</b>	ABRAHAM LINCOLN JR HIGH GROFFTOWN RD

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

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

<b>Sensor Type:</b>	<b>Metals/TSP</b>	<b>Appendix C Monitoring Method:</b>	
<b>Sensor Network Designation:</b>	Other	<b>Monitoring Method Description:</b>	High Volume Sampler with Quartz Filter (24 Hour)
<b>Sensor Purpose Designation:</b>	Air Toxics	<b>Appendix D Design Criteria*:</b>	No
<b>Sample Frequency:</b>	1 in 6	<b>Appendix D Scale:</b>	
<b>Appendix A QA Assessment*:</b>	No	<b>Appendix D Objectives:</b>	
<b>Appendix C Monitoring Classification:</b>		<b>Appendix E Siting Criteria*:</b>	No
<b>Start Date:</b>	5/24/1999	<b>Comments:</b>	

<b>Sensor Type:</b>	<b>Nitrogen Dioxide</b>	<b>Appendix C Monitoring Method:</b>	RFNA-1194-099
<b>Sensor Network Designation:</b>	SLAMS	<b>Monitoring Method Description:</b>	Chemiluminescence
<b>Sensor Purpose Designation:</b>	Regulatory Compliance	<b>Appendix D Design Criteria*:</b>	Yes
<b>Sample Frequency:</b>	Cont.	<b>Appendix D Scale:</b>	Neighborhood
<b>Appendix A QA Assessment*:</b>	Yes	<b>Appendix D Objectives:</b>	Population Exposure
<b>Appendix C Monitoring Classification:</b>	Automated Reference Method	<b>Appendix E Siting Criteria*:</b>	Yes
<b>Start Date:</b>	1/1/1974	<b>Comments:</b>	

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

<b>Sensor Type:</b>	<b>Particulate Matter PM10</b>	<b>Appendix C Monitoring Method:</b>	EQPM-1090-079
<b>Sensor Network Designation:</b>	SLAMS	<b>Monitoring Method Description:</b>	TEOM Gravimetric
<b>Sensor Purpose Designation:</b>	Regulatory Compliance	<b>Appendix D Design Criteria*:</b>	Yes
<b>Sample Frequency:</b>	Cont.	<b>Appendix D Scale:</b>	Neighborhood
<b>Appendix A QA Assessment*:</b>	Yes	<b>Appendix D Objectives:</b>	Population Exposure
<b>Appendix C Monitoring Classification:</b>	Automated Equivalent Method	<b>Appendix E Siting Criteria*:</b>	Yes
<b>Start Date:</b>	3/22/1995	<b>Comments:</b>	

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**Sensor Type:** Particulate Matter PM2.5  
**Sensor Network Designation:** SLAMS  
**Sensor Purpose Designation:** Population Exposure  
**Sample Frequency:** Cont.  
**Appendix A QA Assessment\*:** Yes  
**Appendix C Monitoring Classification:** Automated Equivalent Method  
**Start Date:** 11/1/2003 **Comments:**

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

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

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

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

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

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

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

<b>SITE NAME:</b> LANCASTER DOWNWIND	<b>AQS SITE ID</b> 420710012
<b>COUNTY:</b> LANCASTER	<b>LATITUDE:</b> 40.043833
<b>MUNICIPALITY:</b> LANCASTER	<b>LONGITUDE:</b> -76.1124
<b>MSA:</b> Lancaster MSA	<b>ADDRESS:</b> 3445 W. NEWPORT ROAD

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

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

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<b>SITE NAME:</b>	LAURELDALE NORTH	<b>AQS SITE ID</b>	420110020
<b>COUNTY:</b>	BERKS	<b>LATITUDE:</b>	40.385981
<b>MUNICIPALITY:</b>	MUHLENBERG TWP	<b>LONGITUDE:</b>	-75.912856
<b>MSA:</b>	Reading MSA	<b>ADDRESS1:</b>	3139 KUTZTOWN ROAD

<b>Sensor Type:</b>	Lead (TSP-based)	<b>Appendix C Monitoring Method:</b>	EQL-0592-086
<b>Sensor Network Designation:</b>	SLAMS	<b>Monitoring Method Description:</b>	Gravimetric
<b>Sensor Purpose Designation:</b>	Regulatory Compliance	<b>Appendix D Design Criteria*:</b>	Yes
<b>Sample Frequency:</b>	1 in 6	<b>Appendix D Scale:</b>	Middle Scale
<b>Appendix A QA Assessment*:</b>	Yes	<b>Appendix D Objectives:</b>	Source Oriented
<b>Appendix C Monitoring Classification:</b>	Manual Equivalent Method	<b>Appendix E Siting Criteria*:</b>	Yes
<b>Start Date:</b>	1/1/2010	<b>Comments:</b>	

<b>SITE NAME:</b>	LAURELDALE SOUTH	<b>AQS SITE ID</b>	420111717
<b>COUNTY:</b>	BERKS	<b>LATITUDE:</b>	40.377305556
<b>MUNICIPALITY:</b>	LAURELDALE SOUTH	<b>LONGITUDE:</b>	-75.914583333
<b>MSA:</b>	Reading MSA	<b>ADDRESS1:</b>	SPRING VALLEY ROAD

<b>Sensor Type:</b>	Lead (TSP-based)	<b>Appendix C Monitoring Method:</b>	EQL-0592-086
<b>Sensor Network Designation:</b>	SLAMS	<b>Monitoring Method Description:</b>	Gravimetric
<b>Sensor Purpose Designation:</b>	Regulatory Compliance	<b>Appendix D Design Criteria*:</b>	Yes
<b>Sample Frequency:</b>	1 in 6	<b>Appendix D Scale:</b>	Neighborhood
<b>Appendix A QA Assessment*:</b>	Yes	<b>Appendix D Objectives:</b>	Population Exposure
<b>Appendix C Monitoring Classification:</b>	Manual Equivalent Method	<b>Appendix E Siting Criteria*:</b>	Yes
<b>Start Date:</b>	1/1/1976	<b>Comments:</b>	

<b>SITE NAME:</b>	LEBANON	<b>AQS SITE ID</b>	420750100
<b>COUNTY:</b>	LEBANON	<b>LATITUDE:</b>	40.337328
<b>MUNICIPALITY:</b>	SOUTH LEBANON	<b>LONGITUDE:</b>	-76.383447
<b>MSA:</b>	Lebanon MSA	<b>ADDRESS1:</b>	1275 BIRCH RD

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

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

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<b>SITE NAME:</b>	LEHIGH VALLEY	<b>AQS SITE ID</b>	420950027
<b>COUNTY:</b>	NORTHAMPTON	<b>LATITUDE:</b>	40.645864
<b>MUNICIPALITY:</b>	BETHLEHEM	<b>LONGITUDE:</b>	-75.404356
<b>MSA:</b>	Allentown-Bethlehem-Easton MSA	<b>ADDRESS1:</b>	2604 Schoenersville Road

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

<b>SITE NAME:</b>	LEWISBURG	<b>AQS SITE ID</b>	421190001
<b>COUNTY:</b>	UNION	<b>LATITUDE:</b>	40.9552
<b>MUNICIPALITY:</b>	LEWISBURG	<b>LONGITUDE:</b>	-76.8819
<b>MSA:</b>	Northcentral Region - Non-MSA	<b>ADDRESS1:</b>	701 MOORE AVE

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

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

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

<b>SITE NAME:</b>	LYONS BORO	<b>AQS SITE ID</b>	420110021
<b>COUNTY:</b>	BERKS	<b>LATITUDE:</b>	40.477075
<b>MUNICIPALITY:</b>	LYONS BORO	<b>LONGITUDE:</b>	-75.756919
<b>MSA:</b>	Reading MSA	<b>ADDRESS1:</b>	KEMP ST.

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<i>Sensor Type:</i>	Lead (TSP-based)	<i>Appendix C Monitoring Method:</i>	EQL-0592-086
<i>Sensor Network Designation:</i>	SLAMS	<i>Monitoring Method Description:</i>	Gravimetric
<i>Sensor Purpose Designation:</i>	Regulatory Compliance	<i>Appendix D Design Criteria*:</i>	Yes
<i>Sample Frequency:</i>	1 in 6	<i>Appendix D Scale:</i>	Middle Scale
<i>Appendix A QA Assessment*:</i>	Yes	<i>Appendix D Objectives:</i>	Source Oriented
<i>Appendix C Monitoring Classification:</i>	Manual Equivalent Method	<i>Appendix E Siting Criteria*:</i>	Yes
<i>Start Date:</i>	1/1/2010	<i>Comments:</i>	

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

<i>Sensor Type:</i>	Lead (TSP-based)	<i>Appendix C Monitoring Method:</i>	EQL-0592-086
<i>Sensor Network Designation:</i>	SLAMS	<i>Monitoring Method Description:</i>	Gravimetric
<i>Sensor Purpose Designation:</i>	Regulatory Compliance	<i>Appendix D Design Criteria*:</i>	Yes
<i>Sample Frequency:</i>	1 in 6	<i>Appendix D Scale:</i>	Middle Scale
<i>Appendix A QA Assessment*:</i>	Yes	<i>Appendix D Objectives:</i>	Source Oriented
<i>Appendix C Monitoring Classification:</i>	Manual Equivalent Method	<i>Appendix E Siting Criteria*:</i>	Yes
<i>Start Date:</i>	1/1/2010	<i>Comments:</i>	

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

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

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

<i>SITE NAME:</i>	METHODIST HILL	<i>AQS SITE ID</i>	420550001
<i>COUNTY:</i>	FRANKLIN	<i>LATITUDE:</i>	39.96072222
<i>MUNICIPALITY:</i>	SOUTHAMPTON TWP	<i>LONGITUDE:</i>	-77.47552778
<i>MSA:</i>	Southcentral Region - Non-MSA	<i>ADDRESS:</i>	FOREST ROAD - METHODIST HILL

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**Sensor Type:** Ozone  
**Sensor Network Designation:** SLAMS  
**Sensor Purpose Designation:** Regulatory Compliance  
**Sample Frequency:** Cont.  
**Appendix A QA Assessment\*:** Yes  
**Appendix C Monitoring Classification:** Automated Equivalent Method  
**Start Date:** 6/26/1996 **Comments:**

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

<b>SITE NAME:</b>	MONTOURSVILLE	<b>AQS SITE ID</b>	420810100
<b>COUNTY:</b>	LYCOMING	<b>LATITUDE:</b>	41.250194445
<b>MUNICIPALITY:</b>	MONTOURSVILLE	<b>LONGITUDE:</b>	-76.913444445
<b>MSA:</b>	Williamsport MSA	<b>ADDRESS1:</b>	899 CHERRY STREET

**Sensor Type:** Ozone  
**Sensor Network Designation:** SLAMS  
**Sensor Purpose Designation:** Regulatory Compliance  
**Sample Frequency:** Cont.  
**Appendix A QA Assessment\*:** Yes  
**Appendix C Monitoring Classification:** Automated Equivalent Method  
**Start Date:** 11/20/2001 **Comments:**

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

**Sensor Type:** Particulate Matter PM10  
**Sensor Network Designation:** SLAMS  
**Sensor Purpose Designation:** Regulatory Compliance  
**Sample Frequency:** 1 in 6  
**Appendix A QA Assessment\*:** Yes  
**Appendix C Monitoring Classification:** Manual Reference Method  
**Start Date:** 12/3/2001 **Comments:**

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

<b>SITE NAME:</b>	MOSHANNON	<b>AQS SITE ID</b>	420334000
<b>COUNTY:</b>	CLEARFIELD	<b>LATITUDE:</b>	41.1175
<b>MUNICIPALITY:</b>	ELLIOTT STATE PARK	<b>LONGITUDE:</b>	-78.526194445
<b>MSA:</b>	Northcentral Region - Non-MSA	<b>ADDRESS1:</b>	LOCATED NEAR S.B. ELLIOTT STATE PARK

**Sensor Type:** Ozone  
**Sensor Network Designation:** SLAMS  
**Sensor Purpose Designation:** Specific Location Characterization  
**Sample Frequency:** Cont.  
**Appendix A QA Assessment\*:** Yes  
**Appendix C Monitoring Classification:** Automated Equivalent Method  
**Start Date:** 4/1/1996 **Comments:**

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

<b>SITE NAME:</b>	MT JOY	<b>AQS SITE ID</b>	420710009
<b>COUNTY:</b>	LANCASTER	<b>LATITUDE:</b>	40.108944
<b>MUNICIPALITY:</b>	RAPHO TWP	<b>LONGITUDE:</b>	-76.472235
<b>MSA:</b>	Lancaster MSA	<b>ADDRESS1:</b>	1088 EAST MAIN STREET

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<b>Sensor Type:</b>	Lead (TSP-based)	<b>Appendix C Monitoring Method:</b>	EQL-0592-086
<b>Sensor Network Designation:</b>	SLAMS	<b>Monitoring Method Description:</b>	Gravimetric
<b>Sensor Purpose Designation:</b>	Regulatory Compliance	<b>Appendix D Design Criteria*:</b>	Yes
<b>Sample Frequency:</b>	1 in 6	<b>Appendix D Scale:</b>	Middle Scale
<b>Appendix A QA Assessment*:</b>	Yes	<b>Appendix D Objectives:</b>	Source Oriented
<b>Appendix C Monitoring Classification:</b>	Manual Equivalent Method	<b>Appendix E Siting Criteria*:</b>	Yes
<b>Start Date:</b>	1/1/2012	<b>Comments:</b>	

<b>SITE NAME:</b>	MURRYSVILLE	<b>AQS SITE ID</b>	421290006
<b>COUNTY:</b>	WESTMORELAND	<b>LATITUDE:</b>	40.429027778
<b>MUNICIPALITY:</b>	MURRYSVILLE	<b>LONGITUDE:</b>	-79.697277778
<b>MSA:</b>	Pittsburgh MSA	<b>ADDRESS1:</b>	OLD WILLIAM PENN HWY & SARDIS RD

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

<b>SITE NAME:</b>	NANTICOKE	<b>AQS SITE ID</b>	420791100
<b>COUNTY:</b>	LUZERNE	<b>LATITUDE:</b>	41.209194445
<b>MUNICIPALITY:</b>	NANTICOKE	<b>LONGITUDE:</b>	-76.003527778
<b>MSA:</b>	Scranton-Wilkes-Barre MSA	<b>ADDRESS1:</b>	255 LOWER BROADWAY(NEXT TO LEON&EDDY'S)

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

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

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

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<b>SITE NAME:</b>	<b>NEW CASTLE</b>	<b>AQS SITE ID</b>	<b>420730015</b>
<b>COUNTY:</b>	<b>LAWRENCE</b>	<b>LATITUDE:</b>	<b>40.996055556</b>
<b>MUNICIPALITY:</b>	<b>NEW CASTLE</b>	<b>LONGITUDE:</b>	<b>-80.346527778</b>
<b>MSA:</b>	<b>Northwest Region - Non-MSA</b>	<b>ADDRESS:</b>	<b>S CROTON AVE &amp; JEFFERSON ST.</b>

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

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

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

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

<b>SITE NAME:</b>	<b>NEW GARDEN</b>	<b>AQS SITE ID</b>	<b>420290100</b>
<b>COUNTY:</b>	<b>CHESTER</b>	<b>LATITUDE:</b>	<b>39.834583333</b>
<b>MUNICIPALITY:</b>	<b>NEW GARDEN</b>	<b>LONGITUDE:</b>	<b>-75.768055556</b>
<b>MSA:</b>	<b>Philadelphia-Camden-Wilmington MSA</b>	<b>ADDRESS:</b>	<b>NEW GARDEN AIRPORT - TOUGHKENAMON</b>

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

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

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

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

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

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

<b>SITE NAME:</b> NORRISTOWN	<b>AQS SITE ID</b> 420910013
<b>COUNTY:</b> MONTGOMERY	<b>LATITUDE:</b> 40.113277778
<b>MUNICIPALITY:</b> NORRISTOWN	<b>LONGITUDE:</b> -75.308694445
<b>MSA:</b> Philadelphia-Camden-Wilmington MSA	<b>ADDRESS:</b> STATE ARMORY - 1046 BELVOIR RD

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

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

**Sensor Type:** Particulate Matter PM2.5  
**Sensor Network Designation:** SLAMS  
**Sensor Purpose Designation:** Regulatory Compliance  
**Sample Frequency:** Daily  
**Appendix A QA Assessment\*:** Yes  
**Appendix C Monitoring Classification:** Manual Reference Method  
**Start Date:** 2/14/1999 **Comments:**

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

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**Sensor Type:** Particulate Matter PM2.5  
**Sensor Network Designation:** SLAMS  
**Sensor Purpose Designation:** Population Exposure  
**Sample Frequency:** Cont.  
**Appendix A QA Assessment\*:** Yes  
**Appendix C Monitoring Classification:** Automated Equivalent Method  
**Start Date:** 10/30/2003 **Comments:**

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

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

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

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

**Sensor Type:** Ozone  
**Sensor Network Designation:** SLAMS  
**Sensor Purpose Designation:** Regulatory Compliance  
**Sample Frequency:** Cont.  
**Appendix A QA Assessment\*:** Yes  
**Appendix C Monitoring Classification:** Automated Equivalent Method  
**Start Date:** 4/1/1991 **Comments:**

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

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

**Sensor Type:** Nitrogen Dioxide  
**Sensor Network Designation:** SLAMS  
**Sensor Purpose Designation:** Regulatory Compliance  
**Sample Frequency:** Cont.  
**Appendix A QA Assessment\*:** Yes  
**Appendix C Monitoring Classification:** Automated Reference Method  
**Start Date:** 5/25/1982 **Comments:**

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

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**Sensor Type:** Ozone  
**Sensor Network Designation:** SLAMS  
**Sensor Purpose Designation:** Regulatory Compliance  
**Sample Frequency:** Cont.  
**Appendix A QA Assessment\*:** Yes  
**Appendix C Monitoring Classification:** Automated Equivalent Method  
**Start Date:** 1/1/1980 **Comments:**

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

**Sensor Type:** Sulfur Dioxide  
**Sensor Network Designation:** SLAMS  
**Sensor Purpose Designation:** Regulatory Compliance  
**Sample Frequency:** Cont.  
**Appendix A QA Assessment\*:** Yes  
**Appendix C Monitoring Classification:** Automated Equivalent Method  
**Start Date:** 1/2/1980 **Comments:**

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

<b>SITE NAME:</b>	PITTSBURGH	<b>AQS SITE ID</b>	420030010
<b>COUNTY:</b>	ALLEGHENY	<b>LATITUDE:</b>	40.445916667
<b>MUNICIPALITY:</b>	PITTSBURGH	<b>LONGITUDE:</b>	-80.018694444
<b>MSA:</b>	Pittsburgh MSA	<b>ADDRESS:</b>	CARNEGIE SCIENCE CENTER - 1 ALLEGHENY AVE

**Sensor Type:** Carbon Monoxide  
**Sensor Network Designation:** SPM  
**Sensor Purpose Designation:** Population Exposure  
**Sample Frequency:** Cont.  
**Appendix A QA Assessment\*:** Yes  
**Appendix C Monitoring Classification:** Automated Reference Method  
**Start Date:** 11/25/1997 **Comments:**

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

**Sensor Type:** Nitrogen Dioxide  
**Sensor Network Designation:** SPM  
**Sensor Purpose Designation:** Population Exposure  
**Sample Frequency:** Cont.  
**Appendix A QA Assessment\*:** Yes  
**Appendix C Monitoring Classification:** Automated Reference Method  
**Start Date:** 11/25/1997 **Comments:**

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

**Sensor Type:** Ozone  
**Sensor Network Designation:** SPM  
**Sensor Purpose Designation:** Population Exposure  
**Sample Frequency:** Cont.  
**Appendix A QA Assessment\*:** Yes  
**Appendix C Monitoring Classification:** Automated Equivalent Method  
**Start Date:** 11/25/1997 **Comments:**

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

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<b>Sensor Type:</b>	Sulfur Dioxide	<b>Appendix C Monitoring Method:</b>	EQSA-0495-100
<b>Sensor Network Designation:</b>	SPM	<b>Monitoring Method Description:</b>	UV Fluorescence
<b>Sensor Purpose Designation:</b>	Population Exposure	<b>Appendix D Design Criteria*:</b>	Yes
<b>Sample Frequency:</b>	Cont.	<b>Appendix D Scale:</b>	Neighborhood
<b>Appendix A QA Assessment*:</b>	Yes	<b>Appendix D Objectives:</b>	Population Exposure
<b>Appendix C Monitoring Classification:</b>	Automated Equivalent Method	<b>Appendix E Siting Criteria*:</b>	Yes
<b>Start Date:</b>	11/25/1997	<b>Comments:</b>	

<b>SITE NAME:</b>	POCONO	<b>AQS SITE ID</b>	420890002
<b>COUNTY:</b>	MONROE	<b>LATITUDE:</b>	41.08306
<b>MUNICIPALITY:</b>	SWIFTWATER	<b>LONGITUDE:</b>	-75.32328
<b>MSA:</b>	Northeast Region - Non-MSA	<b>ADDRESS:</b>	DEP/DCNR Pocono District Office

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

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

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

<b>Sensor Type:</b>	Lead (TSP-based)	<b>Appendix C Monitoring Method:</b>	EQL-0592-086
<b>Sensor Network Designation:</b>	SLAMS	<b>Monitoring Method Description:</b>	Gravimetric
<b>Sensor Purpose Designation:</b>	Regulatory Compliance	<b>Appendix D Design Criteria*:</b>	Yes
<b>Sample Frequency:</b>	1 in 6	<b>Appendix D Scale:</b>	Middle Scale
<b>Appendix A QA Assessment*:</b>	Yes	<b>Appendix D Objectives:</b>	Source Oriented
<b>Appendix C Monitoring Classification:</b>	Manual Equivalent Method	<b>Appendix E Siting Criteria*:</b>	Yes
<b>Start Date:</b>	1/1/2010	<b>Comments:</b>	

<b>SITE NAME:</b>	PRESQUE ISLE	<b>AQS SITE ID</b>	420490004
<b>COUNTY:</b>	ERIE	<b>LATITUDE:</b>	42.1620
<b>MUNICIPALITY:</b>		<b>LONGITUDE:</b>	-80.1133
<b>MSA:</b>	Erie MSA	<b>ADDRESS:</b>	EAST FISHER DR.

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**Sensor Type:** Metals/TSP  
**Sensor Network Designation:** Other  
**Sensor Purpose Designation:** Air Toxicus  
**Sample Frequency:** 1 in 6  
**Appendix A QA Assessment\*:** No  
**Appendix C Monitoring Classification:**  
**Start Date:** 6/8/2000 **Comments:**

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

**Sensor Type:** Volatile Organic Compound  
**Sensor Network Designation:** Other  
**Sensor Purpose Designation:** Air Toxicus  
**Sample Frequency:** 1 in 6  
**Appendix A QA Assessment\*:** No  
**Appendix C Monitoring Classification:**  
**Start Date:** 6/8/2000 **Comments:**

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

<b>SITE NAME:</b>	READING AIRPORT	<b>AQS SITE ID</b>	420110011
<b>COUNTY:</b>	BERKS	<b>LATITUDE:</b>	40.38335
<b>MUNICIPALITY:</b>	READING	<b>LONGITUDE:</b>	-75.9686
<b>MSA:</b>	Reading MSA	<b>ADDRESS1:</b>	1059 ARNOLD ROAD

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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<b>Sensor Type:</b>	Volatile Organic Compound	<b>Appendix C Monitoring Method:</b>	
<b>Sensor Network Designation:</b>	Other	<b>Monitoring Method Description:</b>	Canister (24 Hour)
<b>Sensor Purpose Designation:</b>	Air Toxics	<b>Appendix D Design Criteria*:</b>	No
<b>Sample Frequency:</b>	1 in 6	<b>Appendix D Scale:</b>	
<b>Appendix A QA Assessment*:</b>	No	<b>Appendix D Objectives:</b>	
<b>Appendix C Monitoring Classification:</b>		<b>Appendix E Siting Criteria*:</b>	No
<b>Start Date:</b>	6/17/2007	<b>Comments:</b>	

<b>SITE NAME:</b>	RIDLEY PARK	<b>AQS SITE ID</b>	420450004
<b>COUNTY:</b>	DELAWARE	<b>LATITUDE:</b>	39.862928
<b>MUNICIPALITY:</b>		<b>LONGITUDE:</b>	-75.325689
<b>MSA:</b>	Philadelphia-Camden-Wilmington MSA	<b>ADDRESS1:</b>	INDUSTRIAL HIGHWAY (RT291)

<b>Sensor Type:</b>	Lead (TSP-based)	<b>Appendix C Monitoring Method:</b>	EQL-0592-086
<b>Sensor Network Designation:</b>	SLAMS	<b>Monitoring Method Description:</b>	Gravimetric
<b>Sensor Purpose Designation:</b>	Regulatory Compliance	<b>Appendix D Design Criteria*:</b>	Yes
<b>Sample Frequency:</b>	1 in 6	<b>Appendix D Scale:</b>	Middle Scale
<b>Appendix A QA Assessment*:</b>	Yes	<b>Appendix D Objectives:</b>	Source Oriented
<b>Appendix C Monitoring Classification:</b>	Manual Equivalent Method	<b>Appendix E Siting Criteria*:</b>	Yes
<b>Start Date:</b>	1/1/2010	<b>Comments:</b>	

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

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

<b>Sensor Type:</b>	Nitrogen Dioxide	<b>Appendix C Monitoring Method:</b>	RFNA-1194-099
<b>Sensor Network Designation:</b>	SLAMS	<b>Monitoring Method Description:</b>	Chemiluminescence
<b>Sensor Purpose Designation:</b>	Regulatory Compliance	<b>Appendix D Design Criteria*:</b>	Yes
<b>Sample Frequency:</b>	Cont.	<b>Appendix D Scale:</b>	Neighborhood
<b>Appendix A QA Assessment*:</b>	Yes	<b>Appendix D Objectives:</b>	Population Exposure
<b>Appendix C Monitoring Classification:</b>	Automated Reference Method	<b>Appendix E Siting Criteria*:</b>	Yes
<b>Start Date:</b>	1/1/1974	<b>Comments:</b>	

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

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

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

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

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

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

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

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

**Appendix C Monitoring Method:** EQL-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

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

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

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

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

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

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

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

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**Sensor Type:** Particulate Matter PM2.5  
**Sensor Network Designation:** SLAMS  
**Sensor Purpose Designation:** Regulatory Compliance  
**Sample Frequency:** Daily  
**Appendix A QA Assessment\*:** Yes  
**Appendix C Monitoring Classification:** Manual Reference Method  
**Start Date:** 2/1/2000 **Comments:**

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

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

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

**Sensor Type:** Sulfur Dioxide  
**Sensor Network Designation:** SLAMS  
**Sensor Purpose Designation:** Regulatory Compliance  
**Sample Frequency:** Cont.  
**Appendix A QA Assessment\*:** Yes  
**Appendix C Monitoring Classification:** Automated Equivalent Method  
**Start Date:** 3/8/2002 **Comments:**

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

<b>SITE NAME:</b> STRONGSTOWN	<b>AQS SITE ID:</b> 420630004
<b>COUNTY:</b> INDIANA	<b>LATITUDE:</b> 40.5633
<b>MUNICIPALITY:</b> STRONGSTOWN	<b>LONGITUDE:</b> -78.91997
<b>MSA:</b> Southwest Region - Non-MSA	<b>ADDRESS1:</b> PA. DEPT. OF TRANSPORTATION - RT.403

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

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

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

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

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<b>SITE NAME:</b>	SWARTHMORE	<b>AQS SITE ID</b>	420450003
<b>COUNTY:</b>	DELAWARE	<b>LATITUDE:</b>	39.8969
<b>MUNICIPALITY:</b>	SWARTHMORE	<b>LONGITUDE:</b>	-75.3539
<b>MSA:</b>	Philadelphia-Camden-Wilmington MSA	<b>ADDRESS1:</b>	500 COLLEGE AVE.

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

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

<b>SITE NAME:</b>	TIOGA COUNTY	<b>AQS SITE ID</b>	421174000
<b>COUNTY:</b>	TIOGA	<b>LATITUDE:</b>	41.645583333
<b>MUNICIPALITY:</b>	GLEASON	<b>LONGITUDE:</b>	-76.937972222
<b>MSA:</b>	Northcentral Region - Non-MSA	<b>ADDRESS1:</b>	TIOGA

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

<b>SITE NAME:</b>	UPPER STRASBURG	<b>AQS SITE ID</b>	420550002
<b>COUNTY:</b>	FRANKLIN	<b>LATITUDE:</b>	40.059828
<b>MUNICIPALITY:</b>	LETTERKENNY TWP	<b>LONGITUDE:</b>	-77.710608
<b>MSA:</b>	Southcentral Region - Non-MSA	<b>ADDRESS1:</b>	9716 UPPER STRASBURG RD

<b>Sensor Type:</b>	Lead (TSP-based)	<b>Appendix C Monitoring Method:</b>	EQL-0592-086
<b>Sensor Network Designation:</b>	SLAMS	<b>Monitoring Method Description:</b>	Gravimetric
<b>Sensor Purpose Designation:</b>	Regulatory Compliance	<b>Appendix D Design Criteria*:</b>	Yes
<b>Sample Frequency:</b>	1 in 6	<b>Appendix D Scale:</b>	Middle Scale
<b>Appendix A QA Assessment*:</b>	Yes	<b>Appendix D Objectives:</b>	Source Oriented
<b>Appendix C Monitoring Classification:</b>	Manual Equivalent Method	<b>Appendix E Siting Criteria*:</b>	Yes
<b>Start Date:</b>	1/1/2010	<b>Comments:</b>	

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<b>SITE NAME:</b>	VANPORT	<b>AQS SITE ID</b>	420070505
<b>COUNTY:</b>	BEAVER	<b>LATITUDE:</b>	40.684861111
<b>MUNICIPALITY:</b>	VANPORT	<b>LONGITUDE:</b>	-80.322916667
<b>MSA:</b>	Pittsburgh MSA	<b>ADDRESS1:</b>	TAMAQUI DR

<b>Sensor Type:</b>	Lead (TSP-based)	<b>Appendix C Monitoring Method:</b>	EQL-0592-086
<b>Sensor Network Designation:</b>	SLAMS	<b>Monitoring Method Description:</b>	Gravimetric
<b>Sensor Purpose Designation:</b>	Regulatory Compliance	<b>Appendix D Design Criteria*:</b>	Yes
<b>Sample Frequency:</b>	1 in 6	<b>Appendix D Scale:</b>	Neighborhood
<b>Appendix A QA Assessment*:</b>	Yes	<b>Appendix D Objectives:</b>	Population Exposure
<b>Appendix C Monitoring Classification:</b>	Manual Equivalent Method	<b>Appendix E Siting Criteria*:</b>	Yes
<b>Start Date:</b>	3/1/1971	<b>Comments:</b>	

<b>SITE NAME:</b>	WARREN EAST	<b>AQS SITE ID</b>	421230005
<b>COUNTY:</b>	WARREN	<b>LATITUDE:</b>	41.825708
<b>MUNICIPALITY:</b>	WARREN	<b>LONGITUDE:</b>	-79.119952
<b>MSA:</b>	Northwest Region - Non-MSA	<b>ADDRESS1:</b>	2044 PENNSYLVANIA AVE EAST

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

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

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

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

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<b>SITE NAME:</b>	WASHINGTON	<b>AQS SITE ID</b>	421250200
<b>COUNTY:</b>	WASHINGTON	<b>LATITUDE:</b>	40.170638889
<b>MUNICIPALITY:</b>	WASHINGTON	<b>LONGITUDE:</b>	-80.261722222
<b>MSA:</b>	Pittsburgh MSA	<b>ADDRESS1:</b>	MCCARRELL AND FAYETTE STS

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

<b>Sensor Type:</b>	Particulate Matter PM2.5	<b>Appendix C Monitoring Method:</b>	RFPS-0498-118
<b>Sensor Network Designation:</b>	SLAMS	<b>Monitoring Method Description:</b>	Gravimetric
<b>Sensor Purpose Designation:</b>	Regulatory Compliance	<b>Appendix D Design Criteria*:</b>	Yes
<b>Sample Frequency:</b>	Daily	<b>Appendix D Scale:</b>	Neighborhood
<b>Appendix A QA Assessment*:</b>	Yes	<b>Appendix D Objectives:</b>	Population Exposure
<b>Appendix C Monitoring Classification:</b>	Manual Reference Method	<b>Appendix E Siting Criteria*:</b>	Yes
<b>Start Date:</b>	1/1/1999	<b>Comments:</b>	

<b>Sensor Type:</b>	Particulate Matter PM2.5	<b>Appendix C Monitoring Method:</b>	EQPM-0308-170
<b>Sensor Network Designation:</b>	SLAMS	<b>Monitoring Method Description:</b>	Beta Attenuation
<b>Sensor Purpose Designation:</b>	Regulatory Compliance	<b>Appendix D Design Criteria*:</b>	Yes
<b>Sample Frequency:</b>	Cont.	<b>Appendix D Scale:</b>	Neighborhood
<b>Appendix A QA Assessment*:</b>	Yes	<b>Appendix D Objectives:</b>	Population Exposure
<b>Appendix C Monitoring Classification:</b>	Automated Equivalent Method	<b>Appendix E Siting Criteria*:</b>	Yes
<b>Start Date:</b>	11/10/2010	<b>Comments:</b>	

<b>SITE NAME:</b>	WILKES BARRE	<b>AQS SITE ID</b>	420791101
<b>COUNTY:</b>	LUZERNE	<b>LATITUDE:</b>	41.265972222
<b>MUNICIPALITY:</b>	WILKES BARRE	<b>LONGITUDE:</b>	-75.846361111
<b>MSA:</b>	Scranton-Wilkes-Barre MSA	<b>ADDRESS1:</b>	CHILWICK & WASHINGTON STS

<b>Sensor Type:</b>	Ozone	<b>Appendix C Monitoring Method:</b>	EQOA-0992-087
<b>Sensor Network Designation:</b>	SLAMS	<b>Monitoring Method Description:</b>	UV Absorption
<b>Sensor Purpose Designation:</b>	Regulatory Compliance	<b>Appendix D Design Criteria*:</b>	Yes
<b>Sample Frequency:</b>	Cont.	<b>Appendix D Scale:</b>	Neighborhood
<b>Appendix A QA Assessment*:</b>	Yes	<b>Appendix D Objectives:</b>	Population Exposure
<b>Appendix C Monitoring Classification:</b>	Automated Equivalent Method	<b>Appendix E Siting Criteria*:</b>	Yes
<b>Start Date:</b>	5/28/1982	<b>Comments:</b>	

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

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

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

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

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

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

<b>SITE NAME:</b> YORK	<b>AQS SITE ID</b> 421330008
<b>COUNTY:</b> YORK	<b>LATITUDE:</b> 39.965527778
<b>MUNICIPALITY:</b> YORK	<b>LONGITUDE:</b> -76.699583333
<b>MSA:</b> York-Hanover MSA	<b>ADDRESS:</b> HILL ST.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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<b>Sensor Type:</b>	Volatile Organic Compound	<b>Appendix C Monitoring Method:</b>	
<b>Sensor Network Designation:</b>	Other	<b>Monitoring Method Description:</b>	Canister (24 Hour)
<b>Sensor Purpose Designation:</b>	Air Toxics	<b>Appendix D Design Criteria*:</b>	No
<b>Sample Frequency:</b>	1 in 6	<b>Appendix D Scale:</b>	
<b>Appendix A QA Assessment*:</b>	No	<b>Appendix D Objectives:</b>	
<b>Appendix C Monitoring Classification:</b>		<b>Appendix E Siting Criteria*:</b>	No
<b>Start Date:</b>	1/15/2011	<b>Comments:</b>	

<b>SITE NAME:</b>	YORK DOWNWIND	<b>AQS SITE ID</b>	421330011
<b>COUNTY:</b>	YORK	<b>LATITUDE:</b>	39.860972
<b>MUNICIPALITY:</b>	YORK	<b>LONGITUDE:</b>	-76.462055
<b>MSA:</b>	York-Hanover MSA	<b>ADDRESS1:</b>	2632 DELTA ROAD

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

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## **Appendix C — PA DEP Ambient Air Monitoring Methods**

## Ambient Air Monitoring Equipment and Methodology

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

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

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

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

**Table C-1. Ambient Air Monitoring Equipment and Methods.**

PARAMETER	MANUFACTURER/INSTRUMENT/MODEL	EPA METHOD DESIGNATION
<b>Continuous Gaseous Sampling</b>		
<b>O<sub>3</sub></b>	Teledyne Advanced Pollution Instrumentation Model 400 Photometric Ozone Analyzer <a href="http://www.teledyne-api.com/products/400e.asp">http://www.teledyne-api.com/products/400e.asp</a>	Automated Equivalent Method: EQOA-0992-087 57 FR 44565, 9/28/92 63 FR 31992, 6/11/98 67 FR 57811, 9/12/02
<b>SO<sub>2</sub></b>	Teledyne Advanced Pollution Instrumentation Model 100A UV Fluorescence SO <sub>2</sub> Analyzer <a href="http://www.teledyne-api.com/products/100e.asp">http://www.teledyne-api.com/products/100e.asp</a>	Automated Equivalent Method: EQSA-0495-100 60 FR 17061, 4/4/95
<b>NO/NO<sub>2</sub>/NO<sub>x</sub></b>	Teledyne Advanced Pollution Instrumentation Model 200A Chemiluminescence Nitrogen Oxides Analyzer for Ambient Concentrations <a href="http://www.teledyne-api.com/products/200e.asp">http://www.teledyne-api.com/products/200e.asp</a>	Automated Reference Method: RFNA-1194-099 59 FR 61892, 12/2/94
<b>CO</b>	Teledyne Advanced Pollution Instrumentation Model 300 CO Gas Filter Correlation Analyzer <a href="http://www.teledyne-api.com/products/300e.asp">http://www.teledyne-api.com/products/300e.asp</a>	Automated Reference Method: RFCA-1093-093 58 FR 58166, 10/29/93
<b>Particulate Sampling</b>		
<b>PM<sub>2.5</sub></b>		
<i>Discrete</i>	R&P Partisol-Plus Model 2025 Sequential Air Sampler w/WINS and R&P Partisol-Plus Model 2025 Sequential Air Sampler w/VSCC <a href="http://www.thermoscientific.com/wps/portal/ts/products/detail?navigationId=L10405&amp;categoryId=89579&amp;productId=11960559.htm">http://www.thermoscientific.com/wps/portal/ts/products/detail?navigationId=L10405&amp;categoryId=89579&amp;productId=11960559.htm</a>	Manual Reference Method: RFPS-0498-118 63 FR 18911, 4/16/98 67 FR 15567, 4/2/02 (EQPM-0202-145 redesignated as manual reference method 12/18/06)

PARAMETER	MANUFACTURER/INSTRUMENT/MODEL	EPA METHOD DESIGNATION
<i>Continuous</i>	Met One Instruments Beta-Attenuation Mass (BAM) Model 1020 <a href="http://www.metone.com/documents/BAM-1020_6-08.pdf">http://www.metone.com/documents/BAM-1020_6-08.pdf</a>	Automated Equivalent Method EQPM-0308-170 73 FR 13224, 3/12/08 73 FR 22362, 4/25/08
	R&P TEOM Series 8500a Filter Dynamics Measurement System (FDMS) and TEOM Series 1400ab <a href="http://www.thermoscientific.com/wps/portal/ts/products/detail?productId=11960562&amp;groupType=PRODUCT&amp;searchType=0">http://www.thermoscientific.com/wps/portal/ts/products/detail?productId=11960562&amp;groupType=PRODUCT&amp;searchType=0</a>	Automated Equivalent Method EQPM-0609-181 74 FR 28697, 6/17/2009
<b>PM<sub>2.5</sub> SPECIATION</b>	Met One Instruments SASS PM <sub>2.5</sub> Ambient Chemical Speciation Air Sampler <a href="http://www.metone.com/documents/SASS0301Particulate.pdf">http://www.metone.com/documents/SASS0301Particulate.pdf</a>	None
<b>PM<sub>10</sub></b>		
<i>Discrete</i>	Thermo GMW PM <sub>10</sub> High-Volume Air Sampler - Volumetric <a href="http://www.thermo.com/com/cda/product/detail/1,1055,23297,00.html">http://www.thermo.com/com/cda/product/detail/1,1055,23297,00.html</a>	Manual Reference Method: RFPS-1287-063 52 FR 45684, 12/01/87 53FR 1062, 1/15/88
<i>Continuous</i>	Rupprecht & Patashnick (R&P) Tapered Element Oscillating Microbalance (TEOM) Series 1400 Ambient Particulate Monitor <a href="http://www.thermoscientific.com/wps/portal/ts/products/detail?navigationId=L10405&amp;categoryId=89579&amp;productId=11960558">http://www.thermoscientific.com/wps/portal/ts/products/detail?navigationId=L10405&amp;categoryId=89579&amp;productId=11960558</a>	Automated Equivalent Method: EQPM-1090-079 55 FR 43406, 10/29/90
<b>LEAD</b>	Hi-Q HVP-4300AFC Tisch TE-5170 VFC+ Inductively Coupled Plasma - Mass Spectrometry	Manual Equivalent Method EQL-0710-192 75 FR 45627, 8/3/10
<b>Toxic Sampling</b>		
<b>VOC</b>	ATEC Model 2200-12 <a href="http://www.atec-online.com/canister.htm">http://www.atec-online.com/canister.htm</a>	EPA Compendium Method TO-15
<b>Carbonyl</b>	Xontech Model 925 Automated Carbonyl Sampler	EPA Compendium Method TO-11A
<b>MERCURY</b>	Tekran Mercury Vapor Analyzer Model 2537A Cold Vapor Atomic Fluorescence Spectrometer (CVAFS) <a href="http://www.tekran.com/products/ambient-air/tekran-model-2537-cvafs-automated-mercury-analyzer/">http://www.tekran.com/products/ambient-air/tekran-model-2537-cvafs-automated-mercury-analyzer/</a>	EPA Compendium Method IO-5
<b>TSP/Metals</b>	Thermo GMW TSP High-Volume Air Sampler - Volumetric Flow Controlled <a href="http://www.thermoscientific.com/ecom/servlet/productsdetail_11152_L11350_89579_11960634_-1">http://www.thermoscientific.com/ecom/servlet/productsdetail_11152_L11350_89579_11960634_-1</a> Inductively Coupled Plasma - Mass Spectrometry (Metals)	Manual Reference Method Method Code 802 47 FR 54912, 12/6/82 48 FR 17355 4/22/83 EPA Compendium Method IO-3.5



This and related environmental information are available electronically via the Internet. For more information, visit us through the PA DEP web site at <http://www.depweb.state.pa.us/> (Choose “Air,” from the left menu).