

PROPOSED

Pennsylvania Department of Environmental Protection 2010 Ambient Air Monitoring Network Description

May 1, 2009

Commonwealth of Pennsylvania Department of Environmental Protection

Edward G. Rendell, Governor Commonwealth of Pennsylvania

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www.depweb.state.pa.us

Introduction

In 1970, Congress passed the Clean Air Act 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 ambient air quality standards were set according to criteria designed to protect public health, including an adequate margin of safety to protect sensitive populations such as children and asthmatics. Secondary ambient air quality standards were set according to criteria designed to protect public welfare (decreased visibility, damage to crops, vegetation, and buildings, etc.).

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

Requirements for Monitoring Network Descriptions

In October 2006, the EPA issued final regulations concerning state and local agency ambient air monitoring networks. In addition, EPA Region III provided guidance in what was to be submitted with the each Network Description. For this description, Region III requested information described in 40 CFR Part 58 §58.10 (a). The Pennsylvania Department of Environmental Protection, Bureau of Air Quality has gone beyond this minimum requested information and has also provided a substantial portion of the information requested in §58.10 (b). The requirements of these two sections are listed as follow:

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

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

Likewise §58.10 (b) requires:

- (1) The Air Quality System (AQS) site identification number.
- (2) The location, including street address and geographical coordinates.
- (3) The sampling and analysis method(s) for each measured parameter.
- (4) The operating schedules for each monitor.
- (5) Any proposals to remove or move a monitoring station within a period of 18 months following plan submittal.

- (6) The monitoring objective and spatial scale of representativeness for each monitor.
- (7) The identification of any sites that are suitable and sites that are not suitable for comparison against the annual PM_{2.5} NAAQS as described in §58.30.
- (8) The Metropolitan Statistical Area (MSA), Core Based Statistical Area (CBSA), Combined Statistical Area (CSA) or other area represented by the monitor.

Commonwealth of Pennsylvania Air Monitoring Network

The Commonwealth of Pennsylvania has established an air monitoring network to determine the ambient levels of the pollutants for which NAAQS have been established (criteria pollutants) and to measure air toxics (metals and volatile organic compounds). The 2009 Pennsylvania Air Monitoring Network consists of the sites and monitors listed in Exhibit A. This network is maintained and operated by the Department of Environmental Protection, Bureau of Air Quality, Division of Air Quality Monitoring.

Exhibit A is the heart of the Network Description. As presented, it is also a snapshot of a Microsoft ACCESS™ database that contains blocks or files of information related to the location of the site, monitoring parameters at the site, and details about the monitors themselves. It is from these blocks that the requirements of Section 58.10 (a) and (b) noted earlier are fulfilled.

Exhibit A Description

The first block, the Site Information Block, contains information identifying the site by both address and latitude and longitude. This block also contains information regarding inclusion of the monitoring site in any metropolitan statistical area.

Following the Site Information Block, a series of one or more Sensor Information Block(s), containing information for each monitor at the site is provided. 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 multi-pollutant monitoring station. (There are currently no NCore sites planned for PA DEP; Allegheny County Health Department and Philadelphia air Management Services are being funded for one NCore station, each)
 - PAMS Photochemical Assessment Monitoring Station
 - SLAMS State or Local Ambient Monitoring Station
 - STN PM_{2.5} Speciation Trends Network
 - SPM Special Purpose Monitor
- Sensor Purpose Description

 The purpose of the sensor:

- Population Exposure, such as the Air Quality Index
- Regulatory compliance with Federal or State regulation
- o 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.
- 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.
- 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.

On Exhibit A, the above descriptors are combined into the following groupings.

- Automated Reference Method,
- Manual Reference Method,
- Automated Equivalent Method.
- Manual Equivalent Method, or
- o NONE appears where there is no reference or equivalent method.
- 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
- o SO₂- UV Fluorescence
- o CO Non-dispersive Infrared (IR)
- o NO₂ or NOx Chemiluminescence
- PM_{2.5}, PM₁₀ Gravimetric (or gravimetric by TEOM (tapered element micro balance)), or Beta attenuation
- PAMS Auto GC (Gas Chromatograph), Dual FID (flame ionization detector)
- 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.
- Appendix D Scale The specific "spatial scales of representation" describes the physical dimensions of the air parcel around the monitoring station throughout which actual pollutant concentrations are reasonably similar.
 - o Microscale Areas ranging from several meters to about 100 meters,
 - Middle scale Areas ranging from 100 meters to 0.5 kilometers,
 - o Neighborhood 0.5 to 4.0 kilometers, and uniform land use,
 - Urban scale 4 to 50 kilometers, and
 - Regional ten to hundreds of kilometers.
- Appendix D Objective Describes the purpose/objective for monitoring at a site.
 - o Extreme downwind
 - General/Background concentration
 - Highest concentration
 - Maximum ozone concentration
 - Population exposure
 - Regional transport
 - Source oriented
- Appendix E Siting Criteria Describes certain criteria applicable to ambient air quality sampling probes and monitoring paths, such as distances from trees, obstructions, traffic lanes, etc. A "YES" indicates that the sensor at the given site meets or exceeds the requirements of 40 CFR Part 58 Appendix E.
- Comments Each monitor has a comments section. Appropriate comments, as necessary, are found in this area.

Changes to Monitoring Sites and Samplers

PM_{2.5} Changes: As required by federal regulations in 40 CFR Part 58.12(d), sites that have a design value (3-year period covered from 2006-2008) within plus or minus 5 percent of the daily PM_{2.5} NAAQS must have a Federal Reference Method (FRM) or Federal Equivalent Method (FEM) sampler operate on a daily (everyday) schedule instead of a once-every-three day (1-in-3) schedule. Since this requirement would have left very few PM_{2.5} samplers operating on a 1-in-3 schedule, a request was approved by EPA to have all PM_{2.5} samplers operate on an everyday (1-in-1) schedule in 2009. This sampling frequency standardization produced resource efficiencies in filter collection and preparation.

In April 2009, DEP completed upgrades of several existing continuous PM_{2.5} monitors to meet the requirements of a FEM monitor. The upgraded monitors, Met One Beta-Attenuation (BAM) Model 1020, were installed in Chester, Scranton, Carlisle, Harrisburg, Johnstown, and Charleroi. Continuous monitors that report an ambient concentration every hour are considered to meet the everyday (1-in-1) sampling frequency requirements and will provide a resource savings over the manual FRM samplers. The hourly concentrations are averaged to produce a daily mean for comparison to the PM_{2.5} NAAQS. With the addition of these continuous (automated) PM_{2.5} samplers, the FRM manual samplers at Chester, Scranton, Harrisburg, and Charleroi were approved by EPA to be discontinued. The manual FRM samplers at Carlisle and Johnstown will continue to be operated as the primary monitor for compliance and to provide a comparison to the continuous FEM BAM monitors.

<u>Holbrook</u>, Greene County: At the end of the ozone season, October 2008, DEP moved the Holbrook site approximately 1.1 miles to the southeast due to the loss of the lease agreement. Since the monitoring scale, land use, and general purpose of the monitor to study ozone transport has not changed, DEP considers the data that will be produced by the new site location to be fundamentally the same as the previous site. Therefore, DEP will not be creating a new site record in the EPA Air Quality System (AQS) database. The AQS site identification code will remain as 42-059-0002.

Site and Monitor Activity Anticipated within the Next 18 Months

<u>Air Toxics</u>: As indicated in the 2009 DEP monitoring plan, DEP will continue its plan to provide a better understanding of Volatile Organic Compounds (VOC) air toxics across the Commonwealth. DEP will be moving air toxics sampling equipment to the following sites in 2010: Norristown (Montgomery County), Freemansburg (Northampton County), Scranton (Lackawanna County), Harrisburg (Dauphin County), Altoona (Blair County), Beaver Falls (Beaver County), and Greensburg (Westmoreland County). When the data from the 2009 and 2010 initial characterization is done, a more defined monitoring plan will be proposed for 2011.

<u>PM_{2.5} Changes</u>: By January 2010, DEP will install the FEM version of the Met One BAM Model 1020 continuous PM_{2.5} particulate at the following sites to replace the current continuous PM_{2.5} Thermo-Fisher TEOM monitor since the data cannot be used for attainment compliance decisions: Freemansburg (Northampton County), Arendtsville (Adams County), Kittanning (Armstrong County). With the installation of the continuous BAM monitors, the manual FRM samplers for PM_{2.5} will be discontinued at Freemansburg and Arendtsville. Kittanning currently has no FRM sampler.

Additional FEM continuous PM_{2.5} monitors will be installed at the following sites by January 2010 to replace some of the manual FRM samplers to save filter collection and preparation resources, such as manpower and cost: Erie (Erie County), New Garden (Chester County), Florence (Beaver County), and Greensburg (Westmoreland County).

DEP intends to purchase five additional FEM versions of the Met One BAM Model 1020 continuous PM_{2.5} monitors for installation in 2010. The monitors will be located at existing sites in Bristol (Bucks County), State College (Centre County), and Altoona (Blair County). The addition of these sites will provide real-time data that will be used in forecasting and the reporting of the Air Quality Index (AQI) to the public. DEP will discontinue the use of the manual FRM samplers at Bristol and State College to provide continued resource savings. The Altoona site currently has no FRM sampler.

DEP plans on looking at installing FEM PM_{2.5} samplers at new sites in Lebanon County and Monroe County during 2010. Lebanon, which was once part of the Harrisburg-Carlisle Metropolitan Statistical Area (MSA), is now considered a separate MSA with a population of over 125,000 based on 2007 census estimates. The East Stroudsburg area (Monroe County) is a large Micropolitan Statistical Area with a population of 165,000 based on 2007 census estimates.

Based on the minimum monitoring requirements in 40 CFR Part 58, Appendix D, Table D-5, the Allentown-Bethlehem-Eastern Metropolitan Statistical Area (MSA), is now required to have at least two sites since the current design value based on 2006-2008 data is greater than 85% of the 24-hour PM_{2.5} National Ambient Air Quality Standard (NAAQS). Monitoring regulations indicate that for areas when more than one monitoring station is required, a monitoring station should be located in an area of poor air quality. DEP is looking to install this second PM_{2.5} monitoring site, using a FRM manual sampler operating everyday, adjacent to the Lehigh Valley Hospital – Muhlenberg (Lehigh County). This site should be influenced by mobile sources (Rt. 22 and Rt. 378), airport emissions (Lehigh Valley International Airport), and is upwind of a population area. The other existing PM_{2.5} monitoring site in Freemansburg (Northampton County) is located 5 miles southeast of this proposed location.

Other Changes: No other monitor additions or deletions to the routine surveillance ambient monitoring network are being considered for 2010, with the exception of lead monitoring as described below.

<u>Lead Particulate Monitoring</u>: On November 12, 2008 EPA substantially strengthened the national ambient air quality standards (NAAQS) for lead. EPA revised the level of the primary (health-based) standard from 1.5 micrograms per cubic meter (µg/m3) to

 $0.15~\mu g/m3$, measured as total suspended particles (TSP) and revised the secondary (welfare-based) standard to be identical in all respects to the primary standard. In conjunction with strengthening the lead NAAQS, EPA identified the need for states to improve existing lead monitoring networks by requiring monitors to be placed in areas with sources that emit one ton or more per year (tpy) of lead and in urban areas with more than 500,000 people.

Dispersion modeling will be used to determine the area of the maximum running 3-month average concentration for lead around each facility that emits at least one ton per year. The exact location of the TSP/Lead samplers are not available at this time until DEP staff have had time to complete the complex task of dispersion modeling and conduct site surveys to determine availability of land and electrical power based on the modeled concentrations. Consideration will also be given to population exposure in the direction of the modeled maximum concentration. The following is a list of facilities around which source-oriented lead monitoring is anticipated:

- 1. Exelon Generation Company Eddystone (Delaware County)
- 2. Schott North America Inc Duyea (Luzerne County)
- 3. East Penn Manufacturing Company Lyons (Berks County)
- 4. Exide Technologies Laureldale (Berks County)
- 5. US Dept of Defense Letterkenny Army Depot (Franklin County)
- 6. Horsehead Corporation Monaca (Beaver County)
- 7. FirstEnergy Generation Corp Bruce Mansfield Plant (Beaver County)
- 8. Reliant Energy Northeast Conemaugh (Indiana County)
- 9. Reliant Energy Northeast Keystone Power Plant (Armstrong County)
- 10. Inmetco Ellwood City (Lawrence County)

In the event that dispersion modeling shows that the maximum running 3-month average concentration is less than 50% of the NAAQS, DEP may request a waiver from source-oriented monitoring around the modeled facility.

In addition to the source-oriented monitoring sites, DEP is required under the provisions of 40 CFR Part 58, Appendix D, to monitor in four MSAs with populations greater than 500,000 people. These areas are: Harrisburg-Carlisle MSA, Scranton-Wilkes Barre MSA, Lancaster MSA, and the Allentown-Bethlehem-Easton MSA. With the exception of the Allentown-Bethlehem-Easton MSA, DEP plans on deploying the remaining population-oriented sites by the January 1, 2011, required federal regulation start date.

For the Allentown-Bethlehem-Easton MSA, DEP will install a lead monitor at the same site as was described above for the PM_{2.5} FRM sampler. The same emission influences would apply for lead particulate as described.

DEP is proposing the following deletions to the current lead monitoring network:

Monessen (Westmoreland County) – there are no lead sources in the area with the potential to cause an exceedance of the lead NAAQS. The current design value (running 3-month average) is $0.07~\mu\text{g/m}^3$ for the period of 2006-2008, which is half the revised NAAQS.

East Conemaugh (Cambria County) - there are no lead sources in the area with the potential to cause an exceedance of the lead NAAQS. The current design value is 0.07 µg/m³ for the period of 2006-2008, which is half the revised NAAQS.

General Description of Criteria Pollutants

Ozone (O₃)

Ground-level ozone, or photochemical smog, is not emitted into the atmosphere as ozone, but rather is formed by the reactions of other pollutants. The primary pollutants entering into this reaction, VOCs and oxides of nitrogen (NOx), create ozone in the presence of sunlight. Ozone is a strong irritant to the upper respiratory system and also causes damage to crops. Ozone is measured by ultraviolet absorption photometry. Air is drawn through a sample cell where ultraviolet light (254 nm wavelength) passes through it. Any light that is not absorbed by the ozone is then converted into an electrical signal proportional to the ozone concentration.

Sulfur Dioxide (SO₂)

Sulfur dioxide is a gaseous pollutant that is emitted primarily by industrial furnaces or power plants burning coal or oil containing sulfur. At high concentrations, breathing can be impaired. Damage to vegetation can also result. Sulfur dioxide is measured with a fluorescence analyzer. Air is drawn through a sample cell where it is then subjected to high intensity ultraviolet light. This causes the sulfur dioxide molecules in the air to fluoresce and release light. The fluorescence is detected with a photomultiplier tube and converted to an electrical signal proportional to the SO₂ concentration.

Carbon Monoxide (CO)

Carbon monoxide is a poisonous gas that, when introduced into the bloodstream, inhibits the delivery of oxygen to body tissue. The health risk is greatest for individuals with cardiovascular disease. Carbon monoxide is measured by infrared absorption photometry. A continuous flow of air is drawn through a sample cell where infrared light passes through it. The carbon monoxide molecules absorb a portion of the infrared light. This reduces the amount of light getting to the sensor. The light is then converted into an electrical signal related to the concentration of carbon monoxide in the sample cell.

Lead (Pb)

Lead is a metal that is highly toxic when ingested or inhaled. It is a suspected carcinogen of the lungs and kidneys and has adverse effects on cardiovascular, nervous and renal systems. Lead is emitted into the atmosphere by industrial processes. The amount of lead in ambient air is measured by laboratory analysis of TSP filters by Inductively Coupled Argon Plasma-Optical Emission Spectrometry.

Nitrogen Dioxide (NO₂)

Nitrogen dioxide is a highly toxic, reddish brown gas that is created primarily from fuel combustion in industrial sources and vehicles. It creates an odorous haze that causes eye and sinus irritation, blocks natural sunlight and reduces visibility. Nitrogen oxides are measured using the chemiluminescence reaction of nitric oxide with ozone (O_3) . 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_2 . Light from this reaction is detected with a photomultiplier tube and converted to an electrical signal proportional to the nitric oxide concentration. Total nitrogen oxides (NO_x) are measured by passing the air through a converter where any NO_2 in the air is reduced to nitric oxide before the air is passed to the reaction chamber. By alternately passing the air directly to the reaction chamber, and through the converter before the reaction chamber, the analyzer alternately measures nitric oxide and NO_x . Nitrogen dioxide (NO_2) is measured indirectly by a subtraction of the NO_x and nitric oxide concentrations.

Fine Particulate Matter (PM_{2.5})

Fine particulate matter with a diameter of 2.5 microns or less is created primarily from industrial processes and fuel combustion. These particles are breathed deeply into the lungs. Exposure to particle pollution is linked to a variety of significant health problems ranging from aggravated asthma to premature death in people with heart and lung disease. PM_{2.5} is sampled by drawing air through a specially designed inlet that excludes particles larger than 2.5 microns in diameter. The particles are collected on a TeflonTM Microfiber filter that is weighed to determine the particulate mass. The normal sampling schedule varies, as determined by the regulations: some sites sample every day, others sample every 3rd day. In addition, DEP has 12 monitors that record PM_{2.5} data continuously (TEOM/FDMS and BAM).

Particulate Matter (PM₁₀)

Particulate matter with a mean diameter of 10 microns or less is emitted from transportation and industrial sources. Exposure to particle pollution is linked to a variety of significant health problems ranging from aggravated asthma to premature death in people with heart and lung disease. PM₁₀ is sampled continuously using a tapered element oscillating microbalance (TEOM). Air is drawn through a specially designed inlet that excludes particles larger than 10 microns in diameter. Particle accumulation causes changes in the microbalance oscillation that are recorded by the instrument (TEOM).

Acronyms

AQS Air Quality System

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

CO Carbon Monoxide

PA DEP Pennsylvania Department of Environmental Protection

EPA U. S. Environmental Protection Agency

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

GC Gas Chromatograph
IR Infrared (radiation)
H₂S Hydrogen Sulfide

MSA Metropolitan Statistical Area

NAAQS National Ambient Air Quality Standards

NCore National Core multi-pollutant monitoring stations

nm nanometers

NO₂ The gaseous pollutant Nitrogen Dioxide

NOx Oxides of Nitrogen

O₃ The gaseous pollutant Ozone

PAMS Photochemical Assessment Monitoring Station

Pb Lead

PM_{2.5} Particulate matter with an aerodynamic diameter less than or equal

to a nominal 2.5 micrometers

PM₁₀ Particulate matter with an aerodynamic diameter less than or equal

to a nominal 10 micrometers

QA Quality Assurance

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

SPM Special Purpose Monitor

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

TTN* EPA's Technology Transfer Network

TEOM Tapered Element Oscillating Microbalance

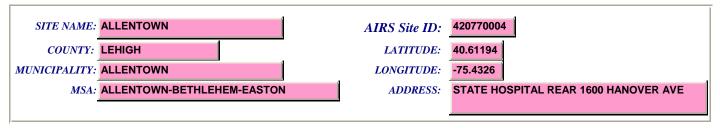
UV Ultraviolet

VOCs Volatile Organic Compounds

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

Exhibit A

Pennsylvania Monitoring Network Plan



Sensor Type: Ozone

Sensor Network Designation: SLAMS

Sensor Purpose Designation: Regulatory Compliance

Sample Frequency: Continuous

Appendix A QA Assessment*: Yes

Appendix C Monitoring Classification: Automated Equivalent Method

Appendix C Monitoring Method: EQOA-0992-087

Monitoring Method Description: UV Absorption

Appendix D Design Criteria*:

Appendix D Scale: Neighborhood

Yes

Appendix D Objectives: Population Exposure

Appendix E Siting Criteria*: Yes

Comments:

Sensor Type:	Particulate Matter	PM10	Appendix C Monitoring Method:	EQPM-1090-0	79
Sensor Network Designation:	SLAMS		Monitoring Method Description:	TEOM Gravim	netric
Sensor Purpose Designation:	Regulatory Complia	nce			
•			Appendix D Design Criteria*:	Yes	
Sample Frequency:	Continuous		Appendix D Scale:	Neighborhood	
Amoudin A OA Assessment*.	Yes		Appendix D Scale.	ricigilborriood	
Appendix A QA Assessment*:	162		Appendix D Objectives:	Population Ex	posure
Appendix C Monitoring Classification:	TEOM Automated E	quivalent	Appendix E Siting Criteria*:	Yes	

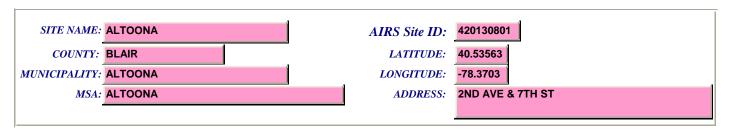
Comments:

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

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

Comments:

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

Comments:

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

Comments:

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

Comments:

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

Comments:

Sensor Type:	Nitrogen Dioxide		Appendix C Monitoring Method:	RFNA-1194-0	099
Sensor Network Designation:	SPM		Monitoring Method Description:	Chemilumines	scence
Sensor Purpose Designation:	Regulatory Compliance	е	Appendix D Design Criteria*:	V	
Sample Frequency:	Continuous			Yes	
Appendix A OA Assessment*:	Yes		Appendix D Scale:	Urban Scale	
Appenuix A QA Assessment.	163		Appendix D Objectives:	General/Back	ground
Appendix C Monitoring Classification:	Automated Reference	Method	Appendix E Siting Criteria*:	Yes	

Comments:

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Sensor Type:	PAMS	Appendix C Monitoring Method:	
Sensor Network Designation:	PAMS	Monitoring Method Description:	Perkin Elmer Gas Chromatograph
Sensor Purpose Designation:	Air Toxics	Appendix D Design Criteria*:	No
Sample Frequency:	Continuous	Appendix D Scale:	
Appendix A QA Assessment*:	No	Appendix D Objectives:	
Appendix C Monitoring Classification:		Appendix E Siting Criteria*:	No

Comments:

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

Comments:

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

Comments:

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

Comments:

Sensor Type:	Volatile Organic Co	mpound	Appendix C Monitoring Method:		
Sensor Network Designation:	Other	M	Monitoring Method Description:	Canister (24 H	lour)
Sensor Purpose Designation:	Air Toxics		Appendix D Design Criteria*:	No	
Sample Frequency:	1 in 6		Appendix D Scale:	140	
Appendix A QA Assessment*:	No		Appendix D Objectives:		
Appendix C Monitoring Classification:			Appendix E Siting Criteria*:	No	

Comments:

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Sensor Type: Nitrogen Dioxide Appl Sensor Network Designation: SLAMS Mo Sensor Purpose Designation: Regulatory Compliance

Sample Frequency: Continuous

Appendix A QA Assessment*: Yes

Appendix C Monitoring Classification: Automated Reference Method

Appendix C Monitoring Method: RFNA-1194-099

Monitoring Method Description: Chemiluminescence

Appendix D Design Criteria*: Yes

Appendix D Scale: Urban Scale

Appendix D Objectives: Population Exposure

Appendix E Siting Criteria*: Yes

Comments:

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

Comments:

Sensor Type:	Particulate Matter PM10		Appendix C Monitoring Method:	EQPM-1090-0	079
Sensor Network Designation:	SLAMS		Monitoring Method Description:	TEOM Gravin	netric
Sensor Purpose Designation:	Regulatory Compliance				
2			Appendix D Design Criteria*:	Yes	
Sample Frequency:	Continuous			. 00	
Sumple Prequency.	Continuous		Appendix D Scale:	Urban Scale	
Appendix A OA Assessment*:	Yes				
FF 2			Appendix D Objectives:	Population Ex	posure
Appendix C Monitoring Classification:	TEOM Automated Equiva	lent	Appendix E Siting Criteria*:	Yes	

Comments:

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

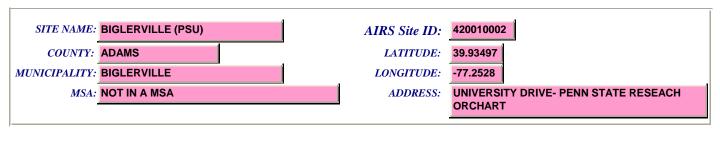
Sensor Type: **Particulate Matter PM2.5** Appendix C Monitoring Method: None Sensor Network Designation: **SLAMS** Monitoring Method Description: Gravimetric Sensor Purpose Designation: Population Exposure Appendix D Design Criteria*: Sample Frequency: Continuous Urban Scale Appendix D Scale: Appendix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

Comments:

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

Comments:

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Sensor Type:

Sensor Network Designation:

Sensor Purpose Designation:

Sample Frequency:

Appendix A QA Assessment*:

Appendix C Monitoring Classification:

Ozone

SPM

Continuous

Yes

Automated Equivalent Method

Appendix C Monitoring Method: EQOA-0992-087

Monitoring Method Description: UV Absorption

Appendix D Design Criteria*: Yes

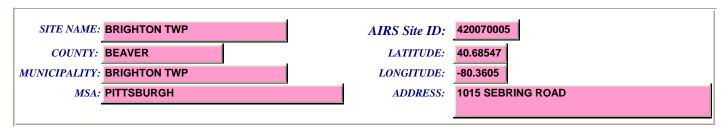
Appendix D Scale: Regional Scale

Appendix D Objectives: General/Background

Appendix E Siting Criteria*: Yes

Comments:

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Sensor Type: Ozone
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Continuous

Appendix C Monitoring Classification:

Automated Equivalent Method

Appendix C Monitoring Method: EQOA-0992-087

Monitoring Method Description: UV Absorption

Appendix D Design Criteria*: Yes

Appendix D Scale: Neighborhood

Appendix D Objectives: Population Exposure

Appendix E Siting Criteria*:

Comments:

Appendix A QA Assessment*:

Sensor Type: Sulfur Dioxide Appendix C M
Sensor Network Designation: SLAMS Monitoring M
Sensor Purpose Designation: Regulatory Compliance Appendix
Sample Frequency: Continuous
Appendix A QA Assessment*: Yes Appendix C Monitoring Classification: Automated Equivalent Method Appendix

Appendix C Monitoring Method: EQSA-0495-100

Monitoring Method Description: UV Fluorescence

Appendix D Design Criteria*: Yes

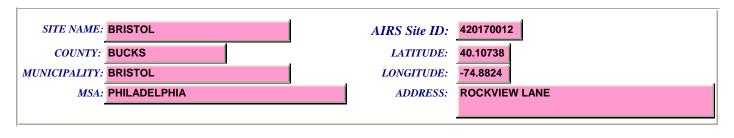
Appendix D Scale: Neighborhood

Appendix D Objectives: Population Exposure

Appendix E Siting Criteria*: Yes

Comments:

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



Sensor Type: Carbon Monoxide

Sensor Network Designation: SLAMS

Sensor Purpose Designation: Regulatory Compliance

Sample Frequency: Continuous

Appendix A QA Assessment*: Yes

Appendix C Monitoring Classification: Automated Reference Method

Appendix C Monitoring Method: RFCA-1093-093

Monitoring Method Description: Non-dispersive Infrared

Appendix D Design Criteria*: Yes

Appendix D Scale: Neighborhood

Appendix D Objectives: Population Exposure

Appendix E Siting Criteria*: Yes

Comments:

Sensor Type: Nitrogen Dioxide Appendix
Sensor Network Designation: SLAMS Monitorin
Sensor Purpose Designation: Regulatory Compliance Appendix
Sample Frequency: Continuous
Appendix A QA Assessment*: Yes
Appendix C Monitoring Classification: Automated Reference Method Appendix

Appendix C Monitoring Method:

Monitoring Method Description:

Chemiluminescence

Yes

Appendix D Design Criteria*:

Appendix D Scale:

Appendix D Objectives:

Appendix E Siting Criteria*:

Yes

Comments:

Sensor Type:	Ozone
Sensor Network Designation:	SLAMS
Sensor Purpose Designation:	Regulatory Compliance
Sample Frequency:	Continuous
Appendix A QA Assessment*:	Yes
Appendix C Monitoring Classification:	Automated Equivalent Method

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

Comments:

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

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

Comments:

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

Comments:

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



Sensor Type: Particulate Matter PM2.5

Sensor Network Designation: SLAMS

Sensor Purpose Designation: Population Exposure

Sample Frequency: Continuous

Appendix A QA Assessment*: Yes

Appendix C Monitoring Classification: BAM

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

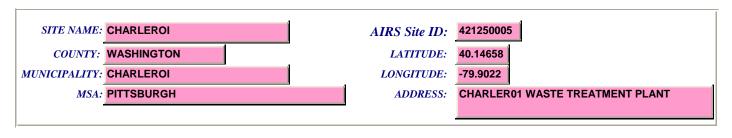
Appendix E Siting Criteria*: Yes

Comments:

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

Comments:

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



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

Comments:

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

Comments:

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

Comments:

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

Particulate Matter PM10 Sensor Type: Appendix C Monitoring Method: RFPS-1287-063 Sensor Network Designation: **SLAMS Monitoring Method Description:** Gravimetric Regulatory Compliance Sensor Purpose Designation: Appendix D Design Criteria*: Sample Frequency: Every 6th day Appendix D Scale: Middle Scale Appendix A QA Assessment*: Appendix D Objectives: Source Oriented Appendix C Monitoring Classification: Manual Reference Method Appendix E Siting Criteria*:

Comments:

Sensor Type: **Particulate Matter PM2.5** Appendix C Monitoring Method: EQPM-0308-170 Sensor Network Designation: **SLAMS** Monitoring Method Description: **Beta Attenuation** Sensor Purpose Designation: Population Exposure Appendix D Design Criteria*: Yes Sample Frequency: Continuous Appendix D Scale: Neighborhood Appendix A QA Assessment*: Appendix D Objectives: Population Exposure Appendix C Monitoring Classification: **BAM** Appendix E Siting Criteria*: Yes

Comments:

Sensor Type:	Sulfur Dioxide		Appendix C Monitoring Method:	EQSA-0495-1	00
Sensor Network Designation:	SLAMS		Monitoring Method Description:	UV Fluoresce	nce
Sensor Purpose Designation:	Regulatory Complia	ance	Appendix D Design Criteria*:	Yes	
Sample Frequency:	Continuous		Appendix D Scale:	Neighborhood	I
Appendix A QA Assessment*:	Yes		Appendix D Objectives:	Population Ex	
Appendix C Monitoring Classification:	Automated Equival	ent Method	Appendix E Siting Criteria*:	Yes	

Comments:

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



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

Comments:

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

Comments:

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

Comments:

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

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

Comments:

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

Comments:

Particulate Matter	M2.5 Appendix C Monitoring Method.	EQPM-0308-170
SLAMS	Monitoring Method Description	Beta Attenuation
Population Exposur	Appendix D Design Criteria*	: Yes
Continuous	Appendix D Scale	
Yes	**	
BAM	Appendix E Siting Criteria*	Yes
	SLAMS Population Exposure Continuous Yes	Population Exposure Appendix D Design Criteria*. Continuous Appendix D Scale Appendix D Objectives

Comments:

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

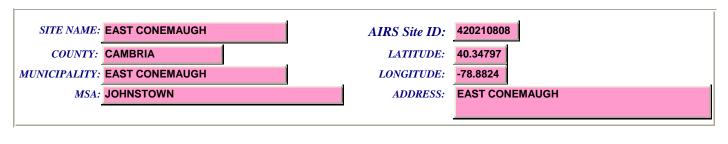
Sensor Type:	Sulfur Dioxide	Appendix C Monitoring Method:	EQSA-0495-100
Sensor Network Designation:	SLAMS	Monitoring Method Description:	UV Fluorescence
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Continuous	•	
Appendix A QA Assessment*:	Yes	Appendix D Scale:	Urban Scale
Appenuix A QA Assessment .	163	Appendix D Objectives:	Population Exposure
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes

Comments:

Sensor Type:	Volatile Organic Co	mpound Appendix C M	onitoring Method:		
Sensor Network Designation:	Other	Monitoring M	ethod Description:	Canister (24 H	Hour)
Sensor Purpose Designation:	Air Toxics	Appendix L	Design Criteria*:	No	
Sample Frequency:	1 in 6		Appendix D Scale:	140	
Appendix A QA Assessment*:	No		endix D Objectives:		
Appendix C Monitoring Classification:		Appendix	E Siting Criteria*:	No	

Comments:

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



EQL-0592-086

Gravimetric

Neighborhood

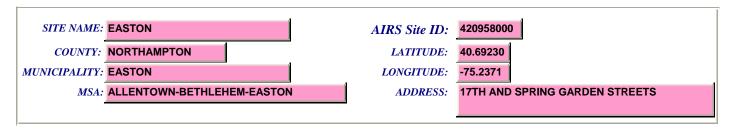
Source Oriented

Yes

Sensor Type: Lead/TSP Appendix C Monitoring Method: **SLAMS** Sensor Network Designation: **Monitoring Method Description:** Specific Location Characterization Sensor Purpose Designation: Appendix D Design Criteria*: Every 6th day Sample Frequency: Appendix D Scale: Appendix A QA Assessment*: Appendix D Objectives: Manual Equivalent Method Appendix C Monitoring Classification: Appendix E Siting Criteria*:

Comments:

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



Sensor Type: Hydrogen Sulfide

Sensor Network Designation: SPM

Sensor Purpose Designation: Specific Location Characterization

Sample Frequency: Continuous

Appendix A QA Assessment*: Yes

Appendix C Monitoring Classification: Automated Method

Appendix C Monitoring Method:

Monitoring Method Description:

UV Fluorescence

Appendix D Design Criteria*:

Appendix D Scale:

Appendix D Objectives:

Appendix E Siting Criteria*:

Yes

Comments:

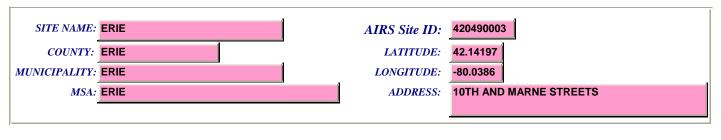
Sensor Type:	Ozone	Appendix C Monitoring Method:	EQOA-0992-087
Sensor Network Designation:	SLAMS	Monitoring Method Description:	UV Absorption
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency: Appendix A QA Assessment*:	Continuous Yes	Appendix D Scale: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

Comments:

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

Comments:

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



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

Comments:

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

Comments:

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

Comments:

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

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

Comments:

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

Comments:

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

Comments:

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

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

Comments:

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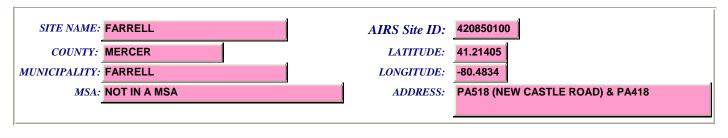
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^{*}The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance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

			-
SITE NAME: ERIE (Toxics Sit	te)	AIRS Site ID:	
COUNTY: ERIE		<i>LATITUDE:</i> 42.1620	
MUNICIPALITY:		<i>LONGITUDE:</i> -80.1133	
MSA:		ADDRESS: EAST FISHER	DR.
1			
Sensor Type:	Metals/TSP	Appendix C Monitoring Method:	
Sensor Network Designation:	Other	Monitoring Method Description:	High Volume Sampler with Quartz Filter
Sensor Purpose Designation:	Air Toxics	Appendix D Design Criteria*:	(24 Hour)
Sample Frequency:	1 in 6		No
Appendix A QA Assessment*:	No	Appendix D Scale:	
Appendix C Monitoring Classification:		Appendix D Objectives:	
Appendix C Mondoring Classification.		Appendix E Siting Criteria*:	No
Comments:			
Sensor Type:	Volatile Organic Compound	Appendix C Monitoring Method:	
Sensor Network Designation:	Other	Monitoring Method Description:	Canister (24 Hour)
Sensor Purpose Designation:	Air Toxics	Appendix D Design Criteria*:	
Sample Frequency:	1 in 6		No
Appendix A QA Assessment*:	No	Appendix D Scale:	
~		Appendix D Objectives:	
Appendix C Monitoring Classification:		Appendix E Siting Criteria*:	No

Comments:

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



Sensor Type: **Ozone** Sensor Network Designation: **SLAMS** Regulatory Compliance Sensor Purpose Designation: Sample Frequency: Continuous

Appendix A QA Assessment*:

Appendix C Monitoring Classification: Automated Equivalent Method Appendix C Monitoring Method: EQOA-0992-087

UV Absorption **Monitoring Method Description:**

Appendix D Design Criteria*: Yes

> **Urban Scale** Appendix D Scale:

Highest Concentration Appendix D Objectives:

Appendix E Siting Criteria*:

Comments:

Particulate Matter PM2.5 Sensor Type:

Sensor Network Designation: **SLAMS**

Regulatory Compliance Sensor Purpose Designation:

Sample Frequency:

Appendix A QA Assessment*:

Appendix C Monitoring Classification:

Daily

Yes

Manual Equivalent Method

Appendix C Monitoring Method: EQPM-0202-145

Monitoring Method Description:

Appendix D Design Criteria*:

Appendix D Scale: **Urban Scale**

Appendix D Objectives: **Highest Concentration**

Appendix E Siting Criteria*:

Yes

Yes

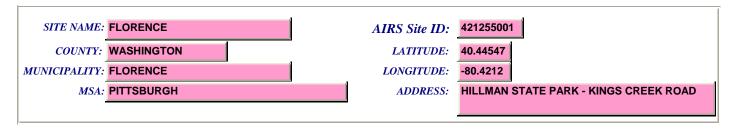
Gravimetric

Comments:

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



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

Comments:

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

Comments:

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

Comments:

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

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

Comments:

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



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

Comments:

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

Comments:

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

Comments:

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

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

Comments:

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

Comments:

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

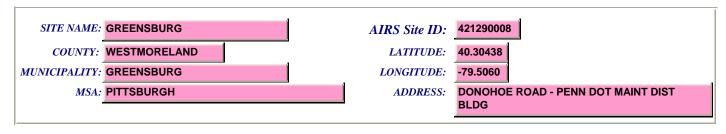
Comments:

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



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

Comments:

Sensor Type:	Particulate Matter	PM2.5	Appendix C Monitoring Method:	EQPM-0202-1	145
Sensor Network Designation:	SLAMS		Monitoring Method Description:	Gravimetric	
	0 , ,	ince	Appendix D Design Criteria*:	Yes	
Sample Frequency:	Daily		Appendix D Scale:	Urban Scale	
Appendix A QA Assessment*:	Yes		Appendix D Objectives:	Population Ex	posure
Appendix C Monitoring Classification:	Manual Equivalent	Method	Appendix E Siting Criteria*:	Yes	

Comments:

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

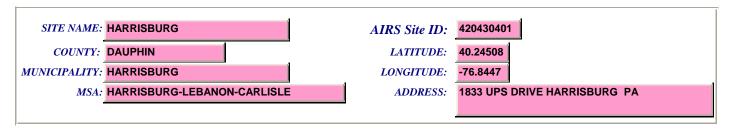
Comments:

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



Sensor Type: Carbon Monoxide

Sensor Network Designation: SLAMS

Sensor Purpose Designation: Regulatory Compliance

Sample Frequency: Continuous

Appendix A QA Assessment*: Yes

Appendix C Monitoring Classification: Automated Reference Method

Appendix C Monitoring Method: RFCA-1093-093

Monitoring Method Description: Non-dispersive Infrared

Appendix D Design Criteria*: Yes

Appendix D Scale: Neighborhood

Appendix D Objectives: Population Exposure

Appendix E Siting Criteria*: Yes

Comments:

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

Comments:

Sensor Type:	Ozone	Appendix C Monitoring Method:	EQOA-0992-087
Sensor Network Designation:	SLAMS	Monitoring Method Description:	UV Absorption
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Continuous	Appendix D Scale:	Neighborhood
Appendix A QA Assessment*:	Yes	11	- J
		Appendix D Objectives:	Population Exposure
Appendix C Monitoring Classification:	Automated Equivalent Method	Appendix E Siting Criteria*:	Yes

Comments:

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

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

Comments:

Sensor Type: **Particulate Matter PM2.5** Appendix C Monitoring Method: EQPM-0308-170 Sensor Network Designation: **SLAMS** Monitoring Method Description: **Beta Attenuation** Sensor Purpose Designation: Population Exposure Appendix D Design Criteria*: Yes Sample Frequency: Continuous Appendix D Scale: Neighborhood Appendix A QA Assessment*: Appendix D Objectives: Population Exposure Appendix C Monitoring Classification: **BAM** Appendix E Siting Criteria*: Yes

Comments:

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

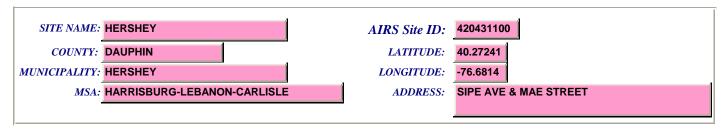
Comments:

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



Sensor Type: Ozone

Sensor Network Designation: SLAMS

Sensor Purpose Designation: Regulatory Compliance

Sample Frequency: Continuous

Appendix A QA Assessment*: Yes

Appendix C Monitoring Classification: Automated Equivalent Method

Appendix C Monitoring Method: EQOA-0992-087

Monitoring Method Description: UV Absorption

Appendix D Design Criteria*: Yes

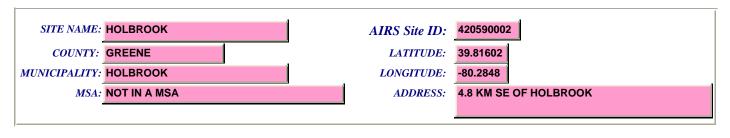
Appendix D Scale: Urban Scale

Appendix D Objectives: Max Ozone Concentration

Appendix E Siting Criteria*: Yes

Comments:

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



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

Appendix C Monitoring Classification: Automated Equivalent Method Appendix C Monitoring Method: EQOA-0992-087

Monitoring Method Description: UV Absorption

Appendix D Design Criteria*: Yes

> Regional Scale Appendix D Scale: Regional Transport Appendix D Objectives:

Appendix E Siting Criteria*:

Comments:

Sulfur Dioxide Sensor Type: Sensor Network Designation: SPM Specific Location Characterization Sensor Purpose Designation: Sample Frequency: Continuous Appendix A QA Assessment*: Yes

Automated Equivalent Method Appendix C Monitoring Classification:

Appendix C Monitoring Method: EQSA-0495-100

Monitoring Method Description: **UV Fluorescence**

Appendix D Design Criteria*: Yes

> Regional Scale Appendix D Scale:

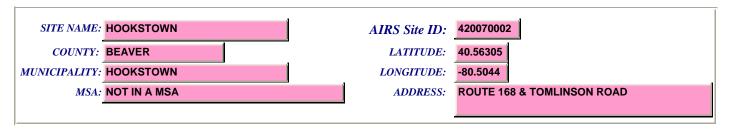
Regional Transport Appendix D Objectives:

Appendix E Siting Criteria*:

Yes

Comments:

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



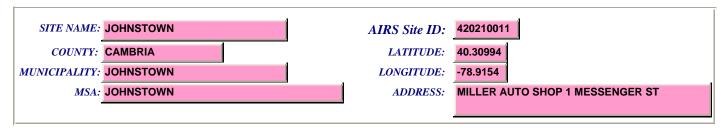
Sensor Type: **Ozone** Appendix C Monitoring Method: EQOA-0992-087 SPM Sensor Network Designation: **UV** Absorption **Monitoring Method Description:** Specific Location Characterization Sensor Purpose Designation: Appendix D Design Criteria*: Yes Continuous Sample Frequency: Regional Scale Appendix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

Comments:

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

Comments:

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



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

Comments:

Sensor Type:	Nitrogen Dioxide	Appendix C Monitoring Method:	RFNA-1194-09	9
Sensor Network Designation:	SLAMS	Monitoring Method Description:	Chemilumineso	cence
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes	
Sample Frequency:	Continuous	Appendix D Scale:	Neighborhood	
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	Population Exp	osure
Appendix C Monitoring Classification:	Automated Reference N	ethod Appendix E Siting Criteria*:	Yes	

Comments:

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

Comments:

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

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

Appendix E Siting Criteria*:

Appendix C Monitoring Classification: TEOM Automated Equivalent

Comments:

Sensor Type: **Particulate Matter PM2.5** Appendix C Monitoring Method: EQPM-0308-170 **SLAMS** Sensor Network Designation: Monitoring Method Description: **Beta Attenuation** Sensor Purpose Designation: Population Exposure Appendix D Design Criteria*: Yes Continuous Sample Frequency: Appendix D Scale: Neighborhood Appendix A QA Assessment*: Appendix D Objectives: Population Exposure Appendix C Monitoring Classification: **BAM** Appendix E Siting Criteria*:

Comments:

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

Comments:

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

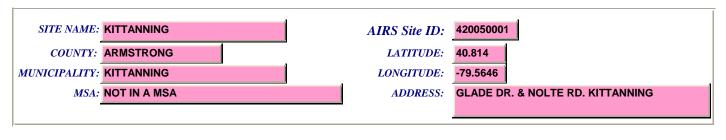
PM2.5 Speciation Sensor Type: Appendix C Monitoring Method: None Sensor Network Designation: STN **Monitoring Method Description:** Gravimetric Research/Scientific Monitoring Sensor Purpose Designation: Appendix D Design Criteria*: Sample Frequency: Every 6th day Appendix D Scale: Neighborhood Appendix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

Comments:

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

Comments:

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



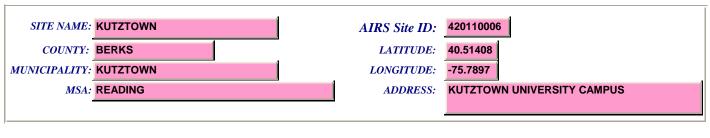
Sensor Type: **Ozone** Appendix C Monitoring Method: EQOA-0992-087 **SLAMS** Sensor Network Designation: **UV** Absorption **Monitoring Method Description:** Regulatory Compliance Sensor Purpose Designation: Appendix D Design Criteria*: Yes Continuous Sample Frequency: **Urban Scale** Appendix D Scale: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

Comments:

Sensor Type:	Particulate Matter PN	2.5 Appendix C Monitoring Method:	None
Sensor Network Designation:	SLAMS	Monitoring Method Description:	Gravimetric
Sensor Purpose Designation:	Population Exposure	Appendix D Design Criteria*:	Yes
Sample Frequency:	Continuous	Appendix D Scale:	
Appendix A QA Assessment*:	Yes	Appendix D Objectives:	
Appendix C Monitoring Classification:	TEOM	Appendix E Siting Criteria*:	Yes

Comments:

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Sensor Type: Ozone

Sensor Network Designation: SLAMS

Sensor Purpose Designation: Regulatory Compliance

Sample Frequency: Continuous

Appendix A QA Assessment*: Yes

Appendix C Monitoring Classification: Automated Equivalent Method

Appendix C Monitoring Method: EQOA-0992-087

Monitoring Method Description: UV Absorption

Appendix D Design Criteria*: Yes

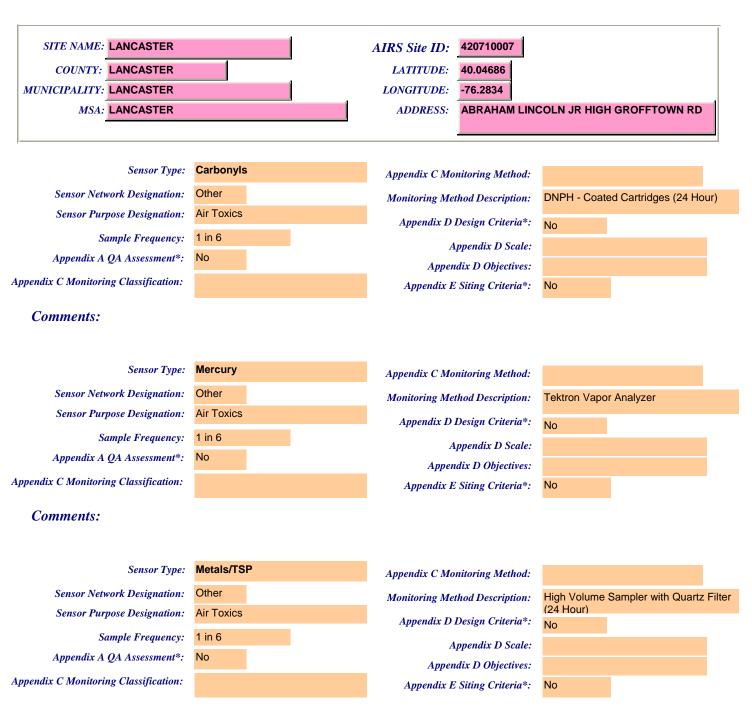
Appendix D Scale: Urban Scale

Appendix D Objectives: Extreme Downwind

Appendix E Siting Criteria*: Yes

Comments:

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Comments:

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

Appendix E Siting Criteria*:

Comments:

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

Comments:

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

Comments:

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

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

Comments:

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

Comments:

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

Comments:

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

Sensor Type:	Volatile Organic C	ompound	Appendix C Monitoring Method:		
Sensor Network Designation:	Other		Monitoring Method Description:	Canister (24 H	lour)
Sensor Purpose Designation:	Air Toxics		Appendix D Design Criteria*:		
Sample Frequency:	1 in 6		Appendix D Scale:	No	
Appendix A QA Assessment*:	No		Appendix D Objectives:		
Appendix C Monitoring Classification:			Appendix E Siting Criteria*:	No	

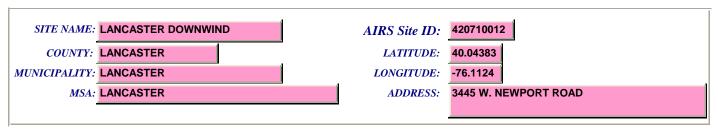
Comments:

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Sensor Type:

Sensor Network Designation:
Sensor Purpose Designation:
Regulatory Compliance

Sample Frequency:
Continuous

Appendix A QA Assessment*:

Appendix C Monitoring Classification:
Automated Equivalent Method

Appendix C Monitoring Method: EQOA-0992-087

Monitoring Method Description: UV Absorption

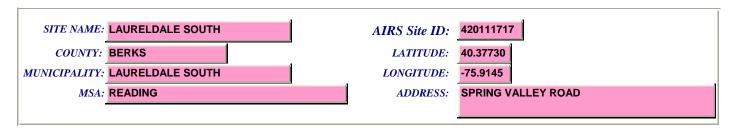
Appendix D Design Criteria*: Yes

Appendix D Scale: Extreme Downwind

Appendix E Siting Criteria*: Yes

Comments:

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EQL-0592-086

Gravimetric

Middle Scale

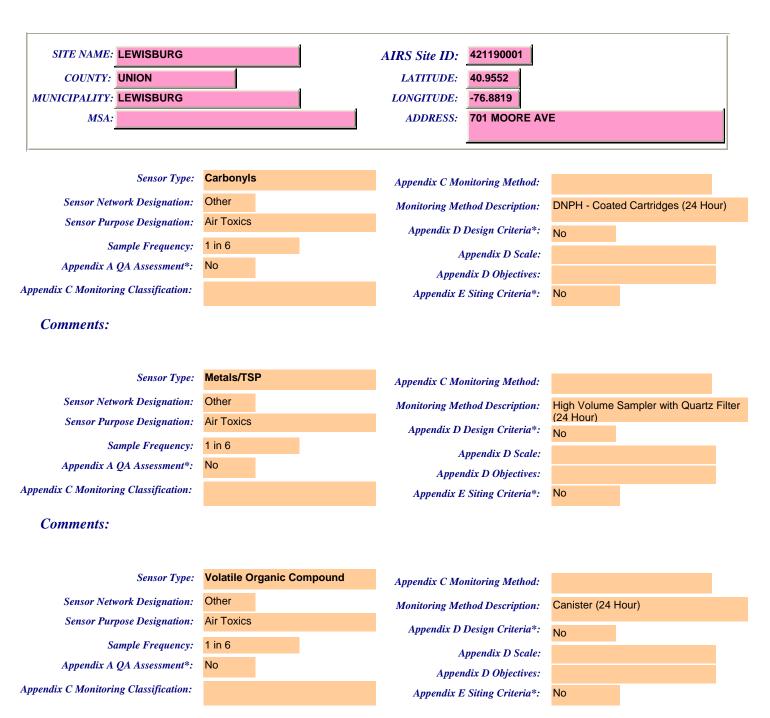
Source Oriented

Yes

Sensor Type: Lead/TSP Appendix C Monitoring Method: SPM Sensor Network Designation: **Monitoring Method Description:** Specific Location Characterization Sensor Purpose Designation: Appendix D Design Criteria*: Every 6th day Sample Frequency: Appendix D Scale: Appendix A QA Assessment*: Appendix D Objectives: Manual Equivalent Method Appendix C Monitoring Classification: Appendix E Siting Criteria*:

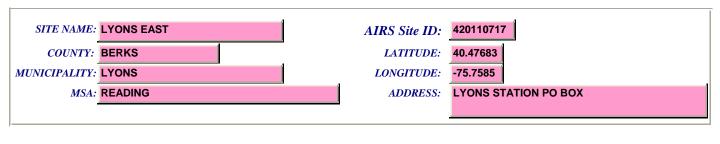
Comments:

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Comments:

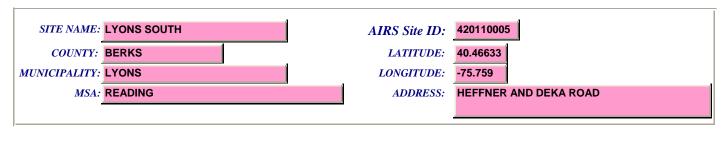
^{*}The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates it sites to meet all requirements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



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

Comments:

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

Comments:

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SITE NAME: MARCUS HOOK		AIRS Site ID:	420450109			
COUNTY: DELAWARE		LATITUDE:	39.8178			
MUNICIPALITY: MARCUS HOOK		LONGITUDE:	-754142			
MSA:		ADDRESS:	EAST 8TH AVE	& CHURCH ST	Г.	
						_
Sensor Type:	Metals/TSP	Appendix C Mo	onitoring Method:			
Sensor Network Designation:	Other	Monitoring Me	thod Description:	0	Sampler with Quartz	Filter
Sensor Purpose Designation:	Air Toxics	Annendiy D	Design Criteria*:	(24 Hour) No		
Sample Frequency:	1 in 6	••		INO		
Appendix A QA Assessment*:	No		Appendix D Scale:			
~		Appen	idix D Objectives:			
Appendix C Monitoring Classification:		Appendix E	E Siting Criteria*:	No		
Comments:						
Sensor Type:	Volatile Organic Compound	Appendix C Mo	onitoring Method:			
Sensor Network Designation:	Other	Monitoring Me	thod Description:	Canister (24 H	lour)	
Sensor Purpose Designation:	Air Toxics	Appendix D	Design Criteria*:	No		

Appendix D Scale:

Appendix D Objectives:

Appendix E Siting Criteria*:

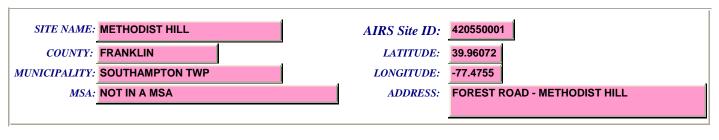
Comments:

Sample Frequency: 1 in 6

Appendix A QA Assessment*:

Appendix C Monitoring Classification:

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



Sensor Type: Ozone

Sensor Network Designation: SPM
Sensor Purpose Designation: Regulatory Compliance

Sample Frequency: Continuous
Appendix A QA Assessment*: Yes

Appendix C Monitoring Classification: Automated Equivalent Method

Appendix C Monitoring Method: EQOA-0992-087

Monitoring Method Description: UV Absorption

Appendix D Design Criteria*: Yes

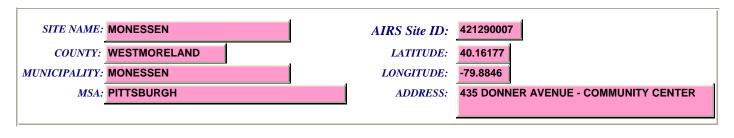
Appendix D Scale: Regional Scale

Appendix D Objectives: Regional Transport

Appendix E Siting Criteria*: Yes

Comments:

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



Sensor Type: Lead/TSP

Sensor Network Designation: SPM

Sensor Purpose Designation: Specific Location Characterization

Sample Frequency: Every 6th day

Appendix A QA Assessment*: Yes

Appendix C Monitoring Classification: Manual Equivalent Method

Appendix C Monitoring Method: EQL-0592-086

Monitoring Method Description: Gravimetric

Appendix D Design Criteria*: Yes

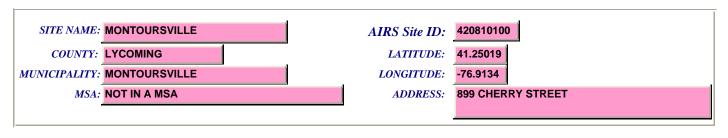
Appendix D Scale: Middle Scale

Appendix D Objectives: Source Oriented

Appendix E Siting Criteria*: Yes

Comments:

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



Sensor Type: **Ozone** Sensor Network Designation: **SLAMS** Regulatory Compliance Sensor Purpose Designation:

> Sample Frequency: Continuous

Appendix A QA Assessment*:

Appendix C Monitoring Classification: Automated Equivalent Method Appendix C Monitoring Method: EQOA-0992-087

Monitoring Method Description: UV Absorption

Appendix D Design Criteria*: Yes

> **Urban Scale** Appendix D Scale:

Max Ozone Concentration Appendix D Objectives:

Appendix E Siting Criteria*:

Comments:

Particulate Matter PM10 Sensor Type: Sensor Network Designation: **SLAMS** Monitoring Method Description: Regulatory Compliance Sensor Purpose Designation: Sample Frequency: Every 6th day Appendix A QA Assessment*: Yes Manual Reference Method Appendix C Monitoring Classification:

Appendix C Monitoring Method: RFPS-1287-063

Gravimetric

Appendix D Design Criteria*: Yes

> Appendix D Scale: **Urban Scale**

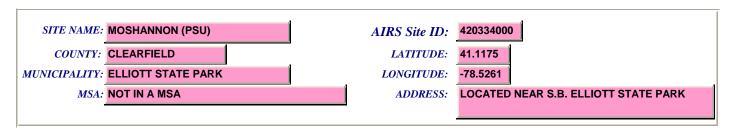
Appendix D Objectives: Population Exposure

Appendix E Siting Criteria*:

Yes

Comments:

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



Appendix C Monitoring Method:

Monitoring Method Description:

Appendix D Design Criteria*:

Appendix D Scale:

EQOA-0992-087

UV Absorption

Regional Scale

General/Background

Yes

Sensor Type: Ozone

Sensor Network Designation: SPM

Sensor Purpose Designation: Specific Location Characterization

Sample Frequency: Continuous

Appendix A QA Assessment*: Yes

Appendix D Objectives:

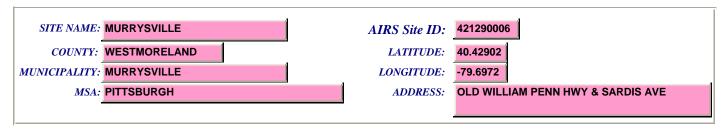
Automated Equivalent Method

Appendix E Siting Criteria*:

Comments:

Appendix C Monitoring Classification:

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



Sensor Type: Ozone

Sensor Network Designation: SLAMS

Sensor Purpose Designation: Regulatory Compliance

Sample Frequency: Continuous

Appendix A QA Assessment*: Yes

Appendix C Monitoring Classification: Automated Equivalent Method

Appendix C Monitoring Method: EQOA-0992-087

Monitoring Method Description: UV Absorption

Appendix D Design Criteria*: Yes

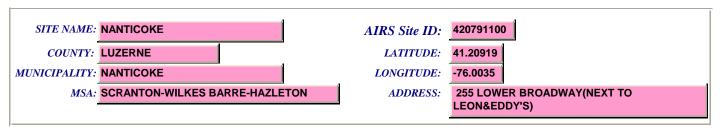
Appendix D Scale: Urban Scale

Appendix D Objectives: Max Ozone Concentration

Appendix E Siting Criteria*:

Comments:

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



Sensor Type: Ozone

Sensor Network Designation: SLAMS

Sensor Purpose Designation: Regulatory Compliance

Sample Frequency: Continuous

Appendix A QA Assessment*: Yes

Automated Equivalent Method

Appendix C Monitoring Method: EQOA-0992-087

Monitoring Method Description: UV Absorption

Appendix D Design Criteria*: Yes

Appendix D Scale: Urban Scale

Appendix D Objectives: General/Background

Appendix E Siting Criteria*: Yes

Comments:

Appendix C Monitoring Classification:

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



Sensor Type: Particulate Matter PM10

Sensor Network Designation: SPM

Sensor Purpose Designation: Specific Location Characterization

Sample Frequency: Continuous

Appendix A QA Assessment*: Yes

Appendix C Monitoring Classification: TEOM Automated Equivalent

Appendix C Monitoring Method: EQPM-1090-079

Monitoring Method Description: TEOM Gravimetric

Appendix D Design Criteria*: Yes

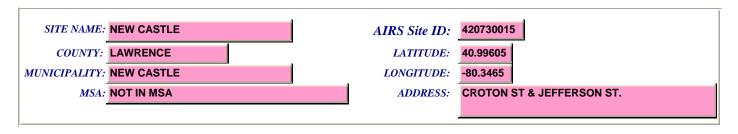
Appendix D Scale: Neighborhood

Appendix D Objectives: Source Oriented

Appendix E Siting Criteria*: Yes

Comments:

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



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

Comments:

Sensor Type:	Ozone		Appendix C Monitoring Method:	EQOA-0992-0	087
Sensor Network Designation:	SLAMS		Monitoring Method Description:	UV Absorption	n
Sensor Purpose Designation:	Regulatory Compliand	ce	Appendix D Design Criteria*:	Yes	
Sample Frequency:	Continuous		Appendix D Scale:	Urban Scale	
Appendix A QA Assessment*:	Yes		Appendix D Objectives:	Population Ex	posure
Appendix C Monitoring Classification:	Automated Equivalen	nt Method	Appendix E Siting Criteria*:	Yes	,

Comments:

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

Comments:

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

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

Comments:

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



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

Comments:

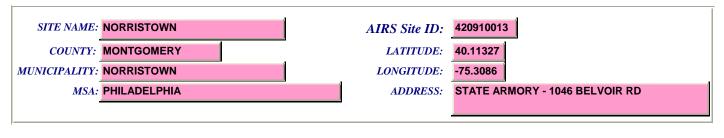
Sensor Type:	Particulate Matter PM2.5	Appendix C Monitoring Method:	EQPM-0202-145
Sensor Network Designation:	SPM	Monitoring Method Description:	Gravimetric
Sensor Purpose Designation:	Regulatory Compliance	Appendix D Design Criteria*:	Yes
Sample Frequency:	Daily	Appendix D Scale:	Regional Scale
Appendix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

Comments:

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

Comments:

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



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

Comments:

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

Comments:

Sensor Type:	Particulate Matter PM2.5		Appendix C Monitoring Method:	None	
Sensor Network Designation:	SLAMS		Monitoring Method Description:	Gravimetric	
Sensor Purpose Designation:	Population Exposure		4		
G . I . F	0		Appendix D Design Criteria*:	Yes	
Sample Frequency:	Continuous		Appendix D Scale:	Neighborhood	
Appendix A QA Assessment*:	Yes				
~			Appendix D Objectives:	Population Ex	posure
Appendix C Monitoring Classification:	FDMS		Appendix E Siting Criteria*:	Yes	

Comments:

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

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

Comments:

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



Sensor Type: Ozone

Sensor Network Designation: SLAMS

Sensor Purpose Designation: Regulatory Compliance

Sample Frequency: Continuous

Appendix A QA Assessment*: Yes

Appendix C Monitoring Classification: Automated Equivalent Method

Appendix C Monitoring Method: EQOA-0992-087

Monitoring Method Description: UV Absorption

Appendix D Design Criteria*: Yes

Appendix D Scale: Urban Scale

Appendix D Objectives: Max Ozone Concentration

Appendix E Siting Criteria*: Yes

Comments:

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



Nitrogen Dioxide Sensor Type: Sensor Network Designation: **SLAMS** Regulatory Compliance Sensor Purpose Designation:

> Continuous Sample Frequency:

Appendix A QA Assessment*:

Automated Reference Method Appendix C Monitoring Classification:

Appendix C Monitoring Method: RFNA-1194-099

Monitoring Method Description: Chemiluminescence

Appendix D Design Criteria*:

Regional Scale Appendix D Scale:

General/Background Appendix D Objectives:

Appendix E Siting Criteria*:

Comments:

Sensor Type: Ozone Sensor Network Designation: **SLAMS** Sensor Purpose Designation: Regulatory Compliance Sample Frequency: Continuous Appendix A QA Assessment*: Yes **Automated Equivalent Method** Appendix C Monitoring Classification:

Appendix C Monitoring Method: EQOA-0992-087 **UV** Absorption

Monitoring Method Description:

Appendix D Design Criteria*: Yes

Appendix D Scale: Regional Scale

Appendix D Objectives: General/Background

Appendix E Siting Criteria*: Yes

Comments:

Sulfur Dioxide Sensor Type: **SLAMS** Sensor Network Designation: Sensor Purpose Designation: Regulatory Compliance Continuous Sample Frequency: Appendix A QA Assessment*: Yes Appendix C Monitoring Classification: **Automated Equivalent Method**

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

> Appendix D Objectives: General/Background

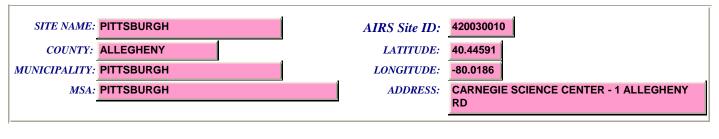
Appendix E Siting Criteria*: Yes

Comments:

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



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

Comments:

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

Comments:

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

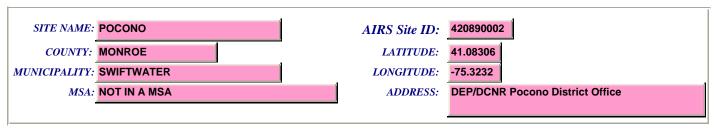
Comments:

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

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

Comments:

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



Sensor Type: Ozone

Sensor Network Designation: SLAMS

Sensor Purpose Designation: Regulatory Compliance

Sample Frequency: Continuous

Appendix A QA Assessment*: Yes

Appendix C Monitoring Classification: Automated Equivalent Method

Appendix C Monitoring Method: EQOA-0992-087

Monitoring Method Description: UV Absorption

Appendix D Design Criteria*: Yes

Appendix D Scale: Urban Scale

Appendix D Objectives: Population Exposure

Appendix E Siting Criteria*: Yes

Comments:

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



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

Comments:

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

Comments:

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

Comments:

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

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

Comments:

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

Comments:

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

Comments:

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

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

Comments:

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

Comments:

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

Comments:

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

Sensor Type:	Volatile Organic C	ompound	Appendix C Monitoring Method:		
Sensor Network Designation:	Other		Monitoring Method Description:	Canister (24 H	lour)
Sensor Purpose Designation:	Air Toxics		Annondix D. Dosign Critoria*.		
Sample Frequency:	1 in 6		Appendix D Design Criteria*: Appendix D Scale:	No	
Appendix A QA Assessment*:	No		Appendix D Objectives:		
Appendix C Monitoring Classification:			Appendix E Siting Criteria*:	No	

Comments:

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



Sensor Type: Carbon Monoxide

Sensor Network Designation: SLAMS

Sensor Purpose Designation: Regulatory Compliance

Sample Frequency: Continuous

Appendix A QA Assessment*: Yes

Appendix C Monitoring Classification: Automated Reference Method

Appendix C Monitoring Method: RFCA-1093-093

Monitoring Method Description: Non-dispersive Infrared

Appendix D Design Criteria*: Yes

Appendix D Scale: Neighborhood

Appendix D Objectives: Population Exposure

Appendix E Siting Criteria*: Yes

Comments:

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

Comments:

Sensor Type:	Ozone		Appendix C Monitoring Method:	EQOA-0992-0)87
Sensor Network Designation:	SLAMS		Monitoring Method Description:	UV Absorption	า
Sensor Purpose Designation:	Regulatory Complia	ince	Appendix D Design Criteria*:	Yes	
Sample Frequency:	Continuous		Appendix D Scale:	Neighborhood	l
Appendix A QA Assessment*:	Yes		Appendix D Objectives:	Population Ex	
Appendix C Monitoring Classification:	Automated Equivale	ent Method	Appendix E Siting Criteria*:	Yes	

Comments:

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

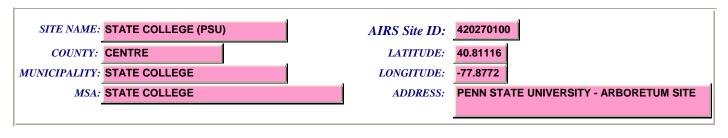
Sensor Type: **Particulate Matter PM2.5** Appendix C Monitoring Method: EQPM-0308-170 Sensor Network Designation: **SLAMS** Monitoring Method Description: **Beta Attenuation** Sensor Purpose Designation: Population Exposure Appendix D Design Criteria*: Sample Frequency: Continuous Appendix D Scale: **Urban Scale** Appendix A QA Assessment*: Yes Appendix D Objectives: Population Exposure Appendix C Monitoring Classification: **BAM** Appendix E Siting Criteria*:

Comments:

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

Comments:

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



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

Comments:

Sensor Type:	Ozone		Appendix C Monitoring Method:	EQOA-0992-0)87
Sensor Network Designation:	SPM		Monitoring Method Description:	UV Absorption	า
Sensor Purpose Designation:	Regulatory Complia	nce	Appendix D Design Criteria*:	Yes	
Sample Frequency:	Continuous		Appendix D Scale:	Neighborhood	l
Appendix A QA Assessment*:	Yes		Appendix D Objectives:	Population Ex	
Appendix C Monitoring Classification:	Automated Equivale	ent Method	Appendix E Siting Criteria*:	Yes	p = 0 = 0 = 0
					•

Comments:

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

Comments:

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

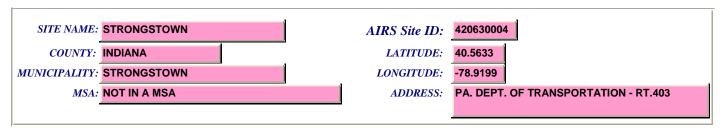
Sensor Type: PM2.5 Speciation Appendix C Monitoring Method: None Sensor Network Designation: STN Monitoring Method Description: Gravimetric Sensor Purpose Designation: Research/Scientific Monitoring Appendix D Design Criteria*: Sample Frequency: Every 6th day Appendix D Scale: Neighborhood Appendix A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

Comments:

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

Comments:

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Sensor Type: Ozone

Sensor Network Designation: SLAMS

Sensor Purpose Designation: Regulatory Compliance

Sample Frequency: Continuous

Appendix A QA Assessment*: Yes

Appendix C Monitoring Classification: Automated Equivalent Method

Appendix C Monitoring Method: EQOA-0992-087

Monitoring Method Description: UV Absorption

Appendix D Design Criteria*: Yes

Appendix D Scale: Regional Scale

Appendix D Objectives: Population Exposure

Appendix E Siting Criteria*: Yes

Comments:

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

Comments:

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SITE NAME:	SWARTHMORE			AIRS Site ID:	420450003	
COUNTY:	DELAWARE		•	LATITUDE:	39.8969	
MUNICIPALITY:	SWARTHMORE			LONGITUDE:	-75.3539	
MSA:				ADDRESS:	500 COLLEGE	AVE.
			_			
,						
	Sensor Type:	Metals/TSP		Appendix C Mo	nitoring Method:	
Sensor Net	work Designation:	Other		Monitoring Ma	thad Description:	High Volume Sampler with Quartz Fi

Sensor Type:	Metals/TSP	Appendix C Monitoria	ng Method:			
Sensor Network Designation:	Other	Monitoring Method L	Description:	High Volume (24 Hour)	Sampler with Quart	z Filter
Sensor Purpose Designation:	Air Toxics	Appendix D Design	n Criteria*:	No		
Sample Frequency: Appendix A QA Assessment*:	1 in 6 No	Appena	dix D Scale:			
Appendix C Monitoring Classification:		Appendix D Appendix E Siting	•	No		
		Appenux E Sun	g Cruerui.	140		

Comments:

Sensor Type:	Volatile Organic Co	ompound	Appendix C Monitoring Method:			
Sensor Network Designation:	Other		Monitoring Method Description:	Canister (24 H	Hour)	
Sensor Purpose Designation:	Air Toxics		Appendix D Design Criteria*:	No		
Sample Frequency:	1 in 6		Appendix D Scale:	NO		
Appendix A QA Assessment*:	No		Appendix D Objectives:			
Appendix C Monitoring Classification:			Appendix E Siting Criteria*:	No		

Comments:

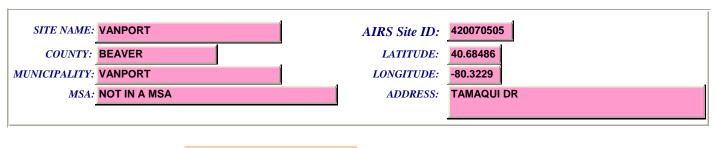
^{*}The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates it sites to meet all requirements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



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

Comments:

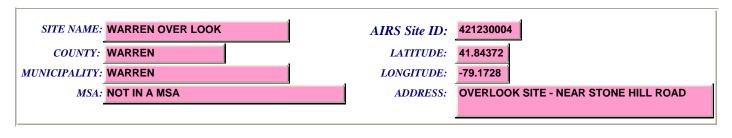
^{*}The Pennsylvania Department of Environmental Protection, Bureau of Air Quality, maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with Appendix D, and locates it sites to meet all requirements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



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

Comments:

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Sensor Type: Sulfur Dioxide

Sensor Network Designation: SLAMS

Sensor Purpose Designation: Regulatory Compliance

Sample Frequency: Continuous

Appendix A QA Assessment*: Yes

Appendix C Monitoring Classification: Automated Equivalent Method

Appendix C Monitoring Method: EQSA-0495-100

Monitoring Method Description: UV Fluorescence

Appendix D Design Criteria*: Yes

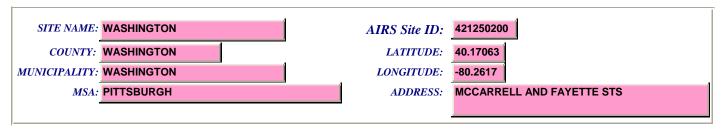
Appendix D Scale: Neighborhood

Appendix D Objectives: Highest Concentration

Appendix E Siting Criteria*: Yes

Comments:

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Sensor Type: **Ozone** Sensor Network Designation: **SLAMS** Regulatory Compliance Sensor Purpose Designation:

> Sample Frequency: Continuous

Appendix A QA Assessment*:

Appendix C Monitoring Classification: Automated Equivalent Method Appendix C Monitoring Method: EQOA-0992-087

Monitoring Method Description: UV Absorption

Appendix D Design Criteria*: Yes

> Neighborhood Appendix D Scale:

Population Exposure Appendix D Objectives:

Appendix E Siting Criteria*:

Comments:

Particulate Matter PM2.5 Sensor Type: Sensor Network Designation: **SLAMS** Regulatory Compliance Sensor Purpose Designation: Sample Frequency: Daily Appendix A QA Assessment*: Yes Manual Equivalent Method Appendix C Monitoring Classification:

Appendix C Monitoring Method: EQPM-0202-145

Monitoring Method Description: Gravimetric

Appendix D Design Criteria*: Yes

> Appendix D Scale: Neighborhood

Appendix D Objectives: Population Exposure

Appendix E Siting Criteria*:

Yes

Comments:

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

Sample Frequency: Continuous

Appendix A QA Assessment*: Yes

Appendix C Monitoring Classification: Automated Equivalent Method

Appendix C Monitoring Method: EQOA-0992-087

Monitoring Method Description: UV Absorption

Appendix D Design Criteria*: Yes

Appendix D Scale: Neighborhood

Appendix D Objectives: Population Exposure

Appendix E Siting Criteria*: Yes

Comments:

Sensor Type: Particulate Matter PM10
Sensor Network Designation: SLAMS
Sensor Purpose Designation: Regulatory Compliance
Sample Frequency: Continuous
Appendix A QA Assessment*: Yes

Appendix C Monitoring Classification: TEOM Automated Equivalent

Appendix C Monitoring Method: EQPM-1090-079

Monitoring Method Description: TEOM Gravimetric

Appendix D Design Criteria*: Yes

Appendix D Scale: Neighborhood

Appendix D Objectives: Population Exposure

Appendix E Siting Criteria*: Yes

Comments:

Sensor Type:	Sulfur Diox	ide		
Sensor Network Designation:	SLAMS			
Sensor Purpose Designation:	Regulatory (Compliar	nce	
Sample Frequency:	Continuous			
Appendix A QA Assessment*:	Yes			
Appendix C Monitoring Classification:	Automated I	Equivale	nt Method	

Appendix C Monitoring Method:	EQSA-0495-1	00
Monitoring Method Description:	UV Fluoresce	nce
Appendix D Design Criteria*:	Yes	
Appendix D Scale:	Neighborhood	l
Appendix D Objectives:	Population Ex	posure
Appendix E Siting Criteria*:	Yes	

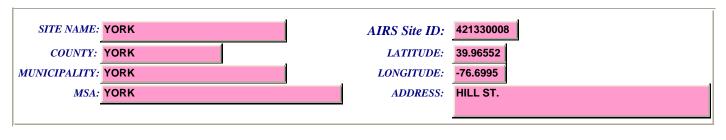
Comments:

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Sensor Type: Carbon Monoxide

Sensor Network Designation: SLAMS

Sensor Purpose Designation: Regulatory Compliance

Sample Frequency: Continuous

Appendix A QA Assessment*: Yes

Appendix C Monitoring Classification: Automated Reference Method

Appendix C Monitoring Method: RFCA-1093-093

Monitoring Method Description: Non-dispersive Infrared

Appendix D Design Criteria*: Yes

Appendix D Scale: Urban Scale

Appendix D Objectives: Population Exposure

Appendix E Siting Criteria*: Yes

Comments:

	NII. B. 11				
Sensor Type:	Nitrogen Dioxide		Appendix C Monitoring Method:	RFNA-1194-0	99
Sensor Network Designation:	SLAMS		Monitoring Method Description:	Chemilumines	cence
Sensor Purpose Designation:	Regulatory Compliand	ce	Appendix D Design Criteria*:	Yes	
Sample Frequency:	Continuous		Appendix D Scale:	Urban Scale	
Appendix A QA Assessment*:	Yes		Appendix D Objectives:	Population Ex	posure
Appendix C Monitoring Classification:	Automated Reference	e Method	Appendix E Siting Criteria*:	Yes	

Comments:

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

Comments:

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

Comments:

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

Comments:

Sensor Type:	Particulate Matt	er PM2.5	Appendix C Monitoring Method:	None	
Sensor Network Designation:	SLAMS		Monitoring Method Description:	Gravimetric	
Sensor Purpose Designation:	Population Expos	sure	Appendix D Design Criteria*:	Yes	
Sample Frequency:	Continuous		Appendix D Scale:	Urban Scale	
Appendix A QA Assessment*:	Yes		Appendix D Objectives:	Population Ex	posure
Appendix C Monitoring Classification:	FDMS		Appendix E Siting Criteria*:	Yes	

Comments:

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

Comments:

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

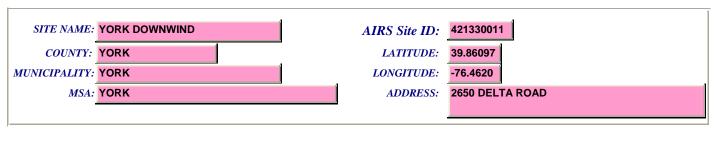
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Sensor Type:

Sensor Network Designation:
Sensor Purpose Designation:
Regulatory Compliance

Sample Frequency:
Continuous

Appendix A QA Assessment*:

Appendix C Monitoring Classification:
Automated Equivalent Method

Appendix C Monitoring Method: EQOA-0992-087

Monitoring Method Description: UV Absorption

Appendix D Design Criteria*: Yes

Appendix D Scale: Urban Scale

Appendix D Objectives: Extreme Downwind

Appendix E Siting Criteria*: Yes

Comments:

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