DIVISION FOR AIR QUALITY

Kentucky Annual Ambient Air Monitoring Network Plan 2007

KENTUCKY DIVISION FOR AIR QUALITY

Commonwealth of Kentucky Environmental & Public Protection Cabinet
Department for Environmental Protection
Division for Air Quality
803 Schenkel Lane, Frankfort, Kentucky 40601

Kentucky UNBRIDLED SPIRIT

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CERTIFICATION

By the signatures below, the Kentucky Division for Air Quality certifies that the information contained in this Surveillance Network document for sampling year 2007 is complete and accurate at the time of submittal to EPA Region 4. However, due to circumstances that may arise during the sampling year, some network information may change. A notification of change and a request for approval will be submitted to EPA Region 4 at that time.

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ACRONYMS

AEM – Automated Equivalent Method

AQI – Air Quality Index

AQS – Air Quality System

CBSA – Core-Based Statistical Area

CSA – Combined Statistical Area

FAM – Federal Alternate Method

FEM – Federal Equivalent Method

FRM – Federal Reference Method

KYDAQ – Kentucky Division for Air Quality

LMAPCD – Louisville Metro Air Pollution Control District

MSA – Metropolitan Statistical Area

NAAQS – National Ambient Air Quality Standards

NAMS – National Air Monitoring Stations

SAMWG – Standing Air Monitoring Working Group

SLAMS – State and Local Air Monitoring Stations

SPM – Special Purpose Monitors

U.S.EPA – United States Environmental Protection Agency

UV – Ultra Violet

VOC – Volatile Organic Compounds

INTRODUCTION

In October 1975, the United State Environmental Protection Agency (U.S.EPA) established a work group to critically review and evaluate current air monitoring activities at that time. This group was named the Standing Air Monitoring Working Group (SAMWG). The review by the SAMWG indicated several areas where deficiencies existed which needed correction. The principal areas needing correction were: an excess of monitoring sites in some areas to assess air quality; existing regulations did not allow for flexibility to conduct special purpose monitoring studies; data reporting was untimely and incomplete caused by a lack of uniformity in station location and probe siting, sampling methodology, quality assurance practices, and data handling procedures.

In August 1978, recommendations developed by SAMWG, to remedy the deficiencies in the existing monitoring activities, were combined with the new requirements of Section 319 of the Clean Air Act. Section 319 provided for the development of uniform air quality monitoring criteria and methodology; reporting of a uniform air quality index in major urban areas; and the establishment of an air quality monitoring system nation-wide which utilizes uniform monitoring criteria and provides for monitoring stations in major urban areas that supplement State monitoring. The combination of the recommendations and requirements were included in a proposed revision to the air monitoring regulations.

In May 1979, air monitoring regulations were finalized by the U.S.EPA requiring certain modifications and additions to be included in the State Implementation Plan for air quality surveillance. These regulations require each state to operate a network of monitoring stations designated as State and Local Air Monitoring Stations (SLAMS) that measure ambient concentrations of air pollutants for which standards have been established. The SLAMS designation contains provisions concerning the conformity to specific siting and monitoring criteria not previously required. The regulations also provide for an annual review of the monitoring network to insure objectives are being met and to identify needed modification.

The Kentucky Division for Air Quality (KYDAQ) has operated an air quality monitoring network in the Commonwealth since July 1967. The Louisville Metro Air Pollution Control District (LMAPCD), a local agency, has maintained a sub-network in its area of jurisdiction since January 1956. Since that time, the networks have been expanded in accordance with the U.S.EPA's regulations to consist of a current overall network of 44 stations, operated by KYDAQ, LMAPCD and the National Park Service. The Commonwealth's SLAMS air monitoring network monitors criteria pollutants for which the National Ambient Air Quality Standards (NAAQS) have been issued. In addition to a SLAMS network, KYDAQ's air monitoring network includes special purpose monitors (SPM) for air toxics, mercury, wet deposition and meteorological stations.

The annual monitoring network description, as provided for in 40 CFR Part 58.10, *Annual monitoring network plan and periodic network assessment*, must contain the following information for each monitoring station in the network:

1. The Air Quality System (AQS) site identification number for existing stations.

2. The location, including the street address and geographical coordinates, for each monitoring station.

3. The sampling and analysis method used for each measured parameter.

4. The operating schedule for each monitor.

5. Any proposal to remove or move a monitoring station with in a period of eighteen months following the plan submittal.

6. The monitoring objective and spatial scale of representativeness for each monitor.

7. The identification of any sites that are suitable for comparison against the PM2.5 NAAQS.

8. The Metropolitan Statistical Area (MSA), Core-Based Statistical Area (CBSA), Combined Statistical Area (CSA) or other area represented by the monitor.

The following document constitutes the Kentucky ambient air monitoring network description and is organized into three main parts:

(1) Station Description Format: An outline of the designations, parameters, monitoring methods, and the basis for site selection.

(2) Network Summaries: Presenting the total number of sites and monitors in each region and for the state. Also included is a listing of all proposed changes to the current network.

(3) Air Monitoring Station Description: Each air monitor station is described in detail as per the outline in (1) above.

<u>Modification to the network as determined by an annual review process will be made each year to maintain a current up-to-date network description document.</u>

STATION DESCRIPTION FORMAT

AQS Site Identification Information

Pertinent, specific siting information for each site and monitor is stored in the U.S. EPA's AQS data system. This information includes the exact location of the site, local and regional population, description of the site location, monitor types, and monitoring objectives. This site and monitor information is routinely updated whenever there is a change in site characteristics or pollutants monitored.

Network Station Description

The network station descriptions contained in this document include the following information:

1. Site Description

Specific information is provided to show the location of the monitoring equipment at the site, if the site is located in a CSA/MSA, the AQS identification number, the GPS coordinates, and that monitors and monitor probes conform to the siting criteria.

2. Date Established

The date when each existing monitoring station was established is shown in the description. For those stations, which are proposed, a date is provided when it is expected for the station to be in operation.

3. Site Approval Status

Each monitoring station in the existing network has been reviewed with the purpose of determining whether it meets all design criteria for inclusion in the SLAMS network. Stations that do not meet the criteria will either be relocated in the immediate area or when possible, re-sited at the present location.

4. Monitoring Objectives

The monitoring network was designed to provide information to be used as a basis for the following actions:

(a) To determine compliance with ambient air quality standards and to plan measures to attain these standards.

(b) To activate emergency control procedures in the event of an impending air pollution episode.

(c) To observe pollution trends throughout a region including rural areas and report progress made toward meeting ambient air quality standards.

(d) To provide a database for the evaluation of the effects of air quality on population, land use, and transportation planning; to provide a database for the development and evaluation of air dispersion models.

5. Monitoring Stations' Designations

Most stations described in the air quality surveillance network are designated as "SLAMS". In addition, some of these stations fulfill other requirements, which must be identified. In this description of the network, designations are also made for National Air Monitoring Stations (NAMS), Special Purpose Monitors (SPM), Emergency Episode Monitoring sites and Air Quality Index sites (AQI). The following is the criteria used for each of these designations.

SLAMS: Requirements for air quality surveillance systems provide for the establishment of a network of monitoring stations designated as State and Local Air Monitoring Stations (SLAMS) that measure ambient concentrations of those pollutants for which standards have been established. These stations must meet

requirements that relate to four major areas: quality assurance, monitoring methodology, sampling interval and siting of instruments and instrument probes.

NAMS: Within the SLAMS network certain monitors are selected to provide the U.S. EPA with timely data for use in national trends analysis. These NAMS monitors are identified in the summary of network stations.

EMERGENCY EPISODE MONITORING SITES (EPISODE): Regulations provide for the operation of at least one continuous SLAMS monitor for each major pollutant in designated locations for emergency episode monitoring. These monitors are placed in areas of worst air quality and provide continual surveillance during episode conditions.

AIR QUALITY INDEX (AQI): Certain stations in the SLAMS network provide data for daily index reporting. Index reporting is required for all urban areas with a population exceeding 200,000. However, KYDAQ is providing this service to the general public from all areas where monitoring and attending staff are available. The AQI is a method of reporting that converts concentration levels of pollution to a simple number scale of 0-500. Intervals on the AQI scale are related to potential health effects of the daily measured concentrations of the major pollutants. KYDAQ prepares the Index twice daily for release to the public from the pollutant data reported from the Field Offices.

SPM: Not all monitors and monitoring stations in the air quality surveillance network are included in the SLAMS network. In order to allow the capability of providing monitoring for complaint studies, modeling verification and compliance status, certain monitors are reserved for short-term studies and designated as Special Purpose Monitors (SPM). These monitors are not committed to any one location or for any specified time period. They may be located as separate monitoring stations or be included at SLAMS locations. Monitoring data may be reported, provided that the monitors and stations conform to all requirements of the SLAMS network.

6. Monitoring Methods

All sampling and analytical procedures used in the air-monitoring network conform to Federal reference (FRM), alternate (FAM) or equivalent (FEM) methods. In case there is no federal method, procedures are described in the Kentucky Air Quality Monitoring and Quality Assurance Manuals.

(a) Particulate Matter 10 microns in size (PM_{10})

All PM_{10} samplers operated by the Division for Air Quality are certified as either FRM or FEM samplers and are operated according to the requirements set forth in 40 CFR 50 and 40 CFR 53. Intermittent samplers collect a 24-hour sample every sixth day on 46.2 mm PTFE filters. The filter is weighed before and after the sample run. The gain in weight in relation to the volume of air sampled is calculated in micrograms per cubic meter ($\mu g/m^3$). The PTFE filters are to be equilibrated before each weighing for a minimum of 24 hours at a 20-23 degrees C mean temperature and a 30-40 % mean relative humidity.

Continuous PM_{10} samplers provide 24-hour samples daily for SLAMS reporting. During sampling, ambient air passes through an inlet designed to pass only particles smaller than 10 microns in diameter. After exiting the inlet, the sample stream is sent to a mass

transducer. Inside the transducer the sample stream passes through a Teflon-coated glass fiber filter. This filter is weighed every two seconds. The difference between the current filter weight and the initial or installed weight gives the total mass of the collected particulate. The mass concentration is computed by dividing the total mass by the flow rate. Data is transmitted by telemetry for entry into the automated central data acquisition system.

(b) **Particulate Matter 2.5 microns in size ($PM_{2.5}$)**

With the exception of continuous samplers all $PM_{2.5}$ samplers operated by the Division for Air Quality are certified as either FRM or FEM samplers. All manual samplers are operated per the requirements set forth in 40 CFR 50, Appendix L. Samples are collected on 46.2mm PTFE filters over a 24-hour sampling period. Air flow through the filter is to be maintained at 16.7 liters per minute. The flow rate must not vary more than +/-5% for five minutes over a 24-hour sample period at actual ambient temperature and pressure. Samples must be retrieved within 177 hours of the end of the sample run and must be kept cool (4 degrees C or cooler) during transit to meet the thirty-day limit for re-weighing.

The PTFE filters are to be equilibrated before each weighing for a minimum of 24 hours at a controlled atmosphere of 20-23 degrees C mean temperature and 30-40% mean relative humidity. Filters must be used within thirty days of initial weighing. Filters must be re-weighed within thirty days of the end of the sample run and must be kept at 4 degrees C or cooler. The gain in weight in relation to the volume of air sampled is calculated in micrograms per cubic meter ($\mu g/m^3$).

Continuous $PM_{2.5}$ samplers provide 24-hour samples daily for AQI reporting. During sampling, ambient air passes through an inlet and sharp cut cyclone designed to pass only particles smaller than 2.5 microns in diameter. After exiting the inlet, the sample stream is sent to a mass transducer. Inside the transducer the sample stream passes through a Teflon-coated glass fiber filter. This filter is weighed every two seconds. The difference between the current filter weight and the initial or installed weight gives the total mass of the collected particulate. The mass concentration is computed by dividing the total mass by the flow rate. Data is transmitted by telemetry for entry into the automated central data acquisition system.

(c) **$PM_{2.5}$ Speciation sampling and analysis**

In addition to operating $PM_{2.5}$ samplers that determine only $PM_{2.5}$ mass values, KYDAQ also operates $PM_{2.5}$ speciation samplers that collect samples that are analyzed to determine the chemical makeup of $PM_{2.5}$. Samples are collected on a set of three filters over a 24-hour sampling period. The individual filters are composed of different media in order to collect specific types of toxic pollutants.

After collection, the samples are shipped in ice chests to an EPA contract laboratory for analysis. At the laboratory the samples are analyzed using optical and electron microscopy, thermal optical analysis, ion chromatography and x-ray fluorescence to determine the presence and level of specific toxic compounds. Sample results are entered in the AQS data system.

(d) **Sulfur Dioxide**

Instruments used to continuously monitor sulfur dioxide levels in the atmosphere employ the UV fluorescence and UV open path methods. The continuous data output

from the instrument is transmitted by telemetry for entry into an automated central data system.

Calibration of these instruments is done dynamically using certified gas mixtures containing a known concentration of sulfur dioxide gas. This gas is then diluted in a specially designed apparatus to give varying known concentrations of sulfur dioxide. These known concentrations are supplied to the instruments, which are adjusted so that instrument output corresponds with the specific concentrations. Calibration curves are prepared for each instrument and each data point is automatically compared to this curve before entry into the data acquisition system.

(e) **Carbon Monoxide**

Continuous monitoring for carbon monoxide is performed by use of the non-dispersive infrared correlation method. Data is transmitted by telemetry for entry in an automated central data acquisition system.

Calibration of the instrument is performed periodically by using nitrogen or zero air to establish the zero baseline and NIST or NIST traceable gas mixtures of carbon monoxide in air. The span is checked daily using a certified mixture of compressed gas containing approximately 45 parts per million carbon monoxide.

(f) **Ozone**

Ozone is monitored using the UV photometry and UV open path methods. The continuous data output from the instrument is transmitted by telemetry for entry into an automated central data acquisition system.

Monitors are calibrated routinely using an ozone generator, which is calibrated using the ultra violet photometry reference method. Calibration curves are prepared for each instrument and each data point is automatically compared to this curve before entry into the data acquisition system.

(g) **Nitrogen Dioxide**

The chemiluminescence and UV open path methods are used in monitoring the nitrogen dioxide level in the ambient air. The continuous data output from the instrument is transmitted by telemetry for entry into an automated central data acquisition system.

Calibration of these instruments is done dynamically using NIST certified gas mixtures of nitric oxide. Through the use of dilution apparatus, varying concentrations are produced and supplied to the monitors, thus producing a specific calibration curve for each instrument. Each data point is automatically compared to this curve before entry into the data acquisition system.

(h) **Lead**

Lead concentrations are determined from the analysis of suspended particulates collected by high volume particulate samplers. Particulate samples are ashed to remove organic matter and acid extracted to dissolve the metals. The lead content is determined by the atomic absorption spectroscopy method.

(i) **Mercury**

Cold vapor atomic fluorescence spectrometry is used to determine elemental gaseous mercury in ambient air at sub-ng/m^3 levels. The analyzer uses a dual, ultra pure gold absorbent, cartridge design that allows alternating desorption and sampling. The dual cartridge designs results in continuous mercury sampling of the air stream. The continuous data

output from the instrument is transmitted by telemetry for entry into an automated central data acquisition system.

(j) **Air Toxics**

Air toxics pollutants are determined in three categories: metals, volatile organic compounds (VOC) and carbonyls.

Metal samples are collected on 46.2 mm PTFE filter over a 24-hour period similar to the PM10 monitoring method. The filter is weighed before and after the sample run. The gain in weight in relation to the volume of air sampled is used to calculate the concentration in micrograms per cubic meter ($\mu g/m^3$). The PTFE filter is to be equilibrated before each weighing for a minimum of 24 hours at a 20-23 degrees C mean temperature and a 30-40 % mean relative humidity. The filter is then delivered to the Division for Environmental Services for inductively coupled plasma/mass spectrometer analysis to determine the concentration of metals in $\mu g/m^3$.

VOC samples are collected in a vacuum canister. Ambient air is pulled into the canister over a 24-hour sampling period. The sample is shipped to the Division for Environmental Services for gas chromatography/mass spectrometer analysis. VOC concentrations determined in the sample are reported in $\mu g/m^3$.

Carbonyl samples are collected on a DPNH cartridge. An ambient air stream flows through the cartridge at a1 liter per minute flow rate for a 24-hour sampling period. The cartridge is packed on ice and shipped to the Division for Environmental Services for high-pressure liquid chromatography analysis. Carbonyl concentrations determined in the sample are reported in $\mu g/m^3$.

(k) **Wet Deposition**

Acid precipitation monitoring stations operate on a weekly sampling schedule. Cumulative precipitation events occurring during a seven-day period are collected in one container to represent a one-week sample. An Aerochem precipitation sampler and NCON samplers are used to collect the sample. The principle of operation of the samplers is based on the use of a moisture sensor that activates an electrically driven movable container lid covering the “wet” container during dry periods and then is moved to un-cover the “wet” container when precipitation occurs. The opening and closing of the lid for each precipitation event is indicated on a data logger providing the time and date of each event. At the end of each weekly sampling period, the sample bag/bottle in the “wet” container is removed and a new sample bag/bottle is installed. The sample is then analyzed at the Division for Environmental Services’ laboratory.

7. Quality Assurance Status

The Division for Air Quality has an extensive quality assurance program to ensure that all air monitoring data collected is accurate and precise. Staff members audit air monitors on a scheduled basis, including those operated by the Louisville Metro Air Pollution Control District, to ensure that each instrument is calibrated and operating properly. Data validation is performed monthly by verifying the data reported by each instrument is recorded accurately in the computerized database.

8. Area Representativeness

Each station in the monitoring network must be described in terms of the physical dimensions of the air parcel nearest the monitoring station throughout which actual pollutant concentrations are

reasonably similar. Area dimensions or scales of representativeness used in the network description are:

(a) Microscale - defines the concentration in air volumes associated with area dimensions ranging from several meters up to about 100 meters.

(b) Middle scale - defines the concentration typical of areas up to several city blocks in size with dimensions ranging from about 100 meters to 0.5 kilometers.

(c) Neighborhood scale - defines concentrations within an extended area of a city that has relatively uniform land use with dimensions in the 0.5 to 4.0 kilometers.

(d) Urban scale - defines an overall citywide condition with dimensions on the order of 4 to 50 kilometers.

(e) Regional Scale - defines air quality levels over areas having dimensions of 50 to hundreds of kilometers.

Closely associated with the area around the monitoring station where pollutant concentrations are reasonably similar are the basic monitoring exposures of the station. There are four basic exposures included in this description:

(a) To determine the highest concentrations expected to occur in the area covered by the network.

(b) To determine representative concentrations in areas of high population density.

(c) To determine the impact on ambient pollution levels of significant sources or source categories.

(d) To determine general background concentration levels.

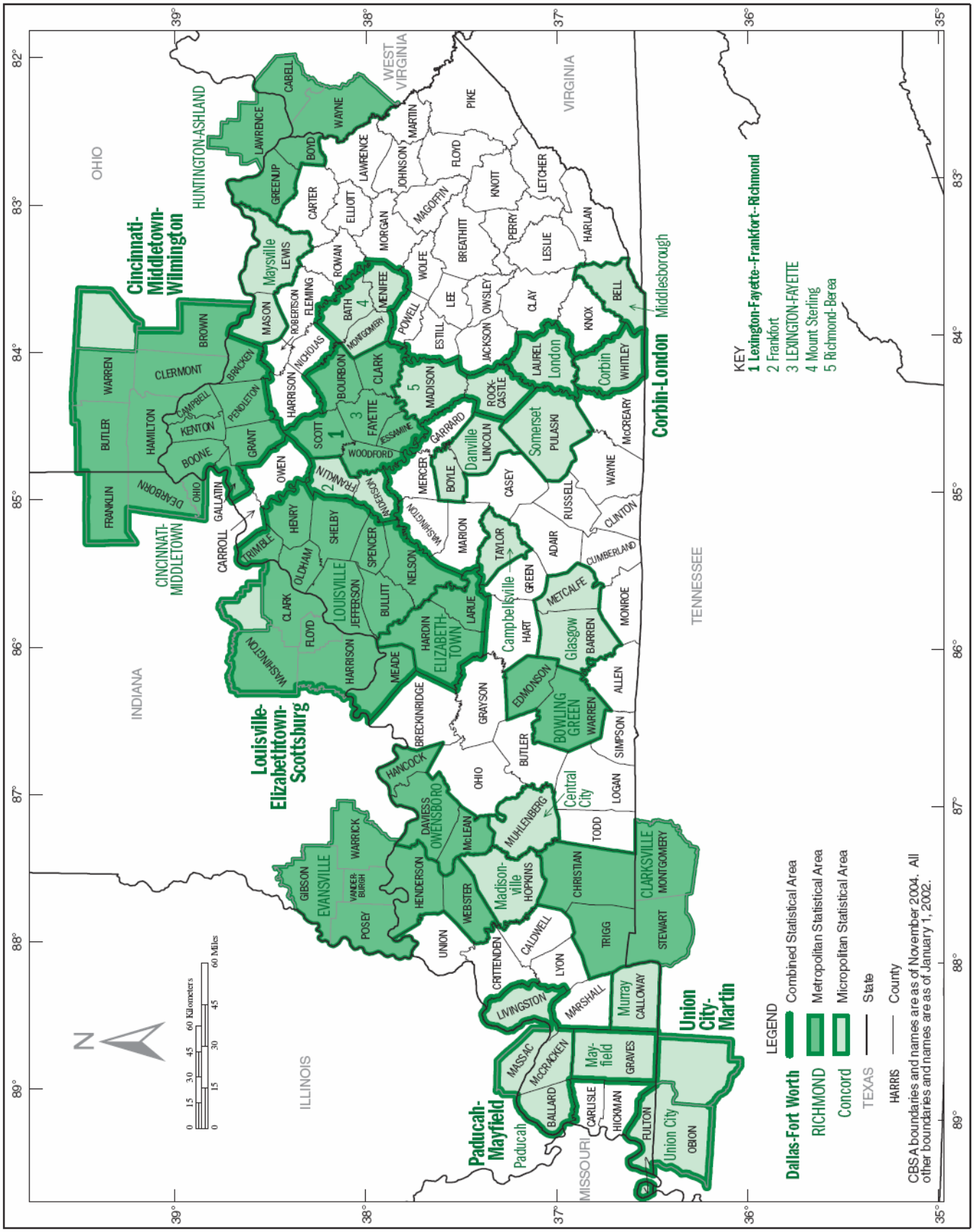
The design intent in siting stations is to correctly match the area dimensions represented by the sample of monitored air with the area dimensions most appropriate for the monitoring objective of the station. The following relationship of the four basic objectives and the area of representativeness are appropriate when siting monitoring stations:

Monitoring Exposures	**Siting Area Scale**
Highest concentration	Micro, Middle, Neighborhood
Population	Neighborhood, Urban
Source impact	Micro, Middle, Neighborhood
General/background	Neighborhood, Regional

Data Processing and Reporting

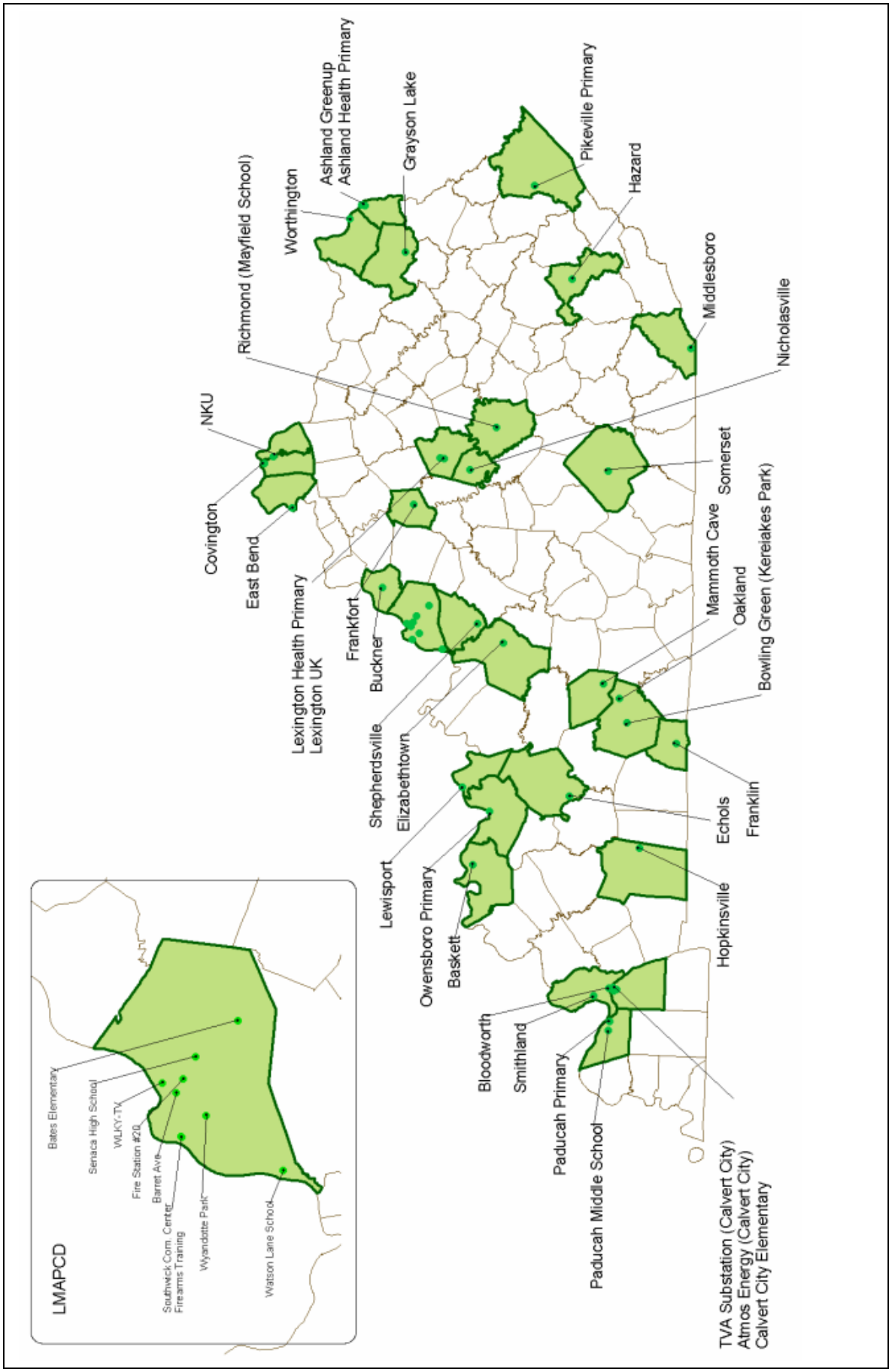
All ambient air quality data are stored in a centralized server located at the 14th floor of the Capital Plaza Tower, the Environmental and Public Protection (EPPC) headquarters in Frankfort, Kentucky. The server is backed up on tape nightly, weekly and monthly. The backup tape of the server is stored off site of the EPPC headquarters and is cycled through use on a monthly schedule. After each month of data has passed all quality assurance checks, the data is transmitted via telemetry to the U.S. EPA's national data storage system known as AQS. Statistical data summaries are generated from this database and compiled to produce the Ambient Air Quality Annual Report. This report may be accessed at the KYDAQ website: http://www.air.ky.gov. The report is located under **Public Information**.

KENTUCKY - Core Based Statistical Areas and Counties



U.S. DEPARTMENT OF COMMERCE Economics and Statistics Administration U.S. Census Bureau

KYDAQ Monitoring Network



AIR MONITORING STATIONS SUMMARY

Region	Number of Sites	$PM_{2.5}$	PM_{10}	SO_2	NO_2	CO	O_3	Metals	Hg	Wet Dep	VOC	Carbonyl	Speciation	MET
Appalachian	3	5^{CT}	2^{C**}	0	0	0	3	2^{C}	0	0	2^{D}	2^{D}	1	2
Ashland-Huntington	4	3^{T}	2^{C**}	2	1	0	3	2^{C}	1	2	1	1	1	2
Bluegrass	5	5^{T}	1^{**}	2	1	0	2^{N}	1	1	1	2	1	1	1
Cincinnati-Northern Kentucky	3	4^{T}	0	1	1	0	3	0	1	1	1	1	1	2
Louisville	9	9^{CT}	3^{C}	2^{N}	1	2^{N}	3^{N}	0	0	0	0	0	1	1
North Central	3	3^{T}	0	0	0	0	3	0	0	0	0	0	0	1
Owensboro-Henderson	4	7^{CT}	1^{T}	3	2	0	4	1	1	1	0	0	0	2
Paducah-Cairo	8	3^{T}	2^{**}	1	1	0	2	1	1	1	5^{C}	0	0	2
South Central	4	3^{CT}	0	0	0	0	3	0	0	0	0	0	0	1
National Park Service	1	1^{T}	0	1	1	1	1	0	1	0	0	0	0	1
TOTALS	44	43	11	12	8	3	27	7	6	6	11	5	5	15

^{C}=Collocated monitors; ^{D}=Duplicate monitors; ^{T}=$TEOM_{2.5}$ continuous $PM_{2.5}$ monitors or $TEOM_{10}$ continuous PM_{10} monitors; **=Multiple analysis: PM_{10} Teflon filters used for PM_{10} monitoring and Metals monitoring; ^{N}=NAMS (PM_{10} NAMS in Ashland and Louisville=2sites; SO_2 NAMS in Louisville=1 site; CO NAMS in Louisville=1 site; O3 NAMS in Bluegrass=2 sites; O3 NAMS in Louisville =1 site)

SUMMARY OF NETWORK CHANGES 2007

Ashland-Huntington Region – Grayson Lake (21-043-0500) add Hg wet deposition sampler.

Bluegrass Region – Ironworks (21-067-0001) discontinue site. **Nicholasville** (21-113-0001) add Hg wet deposition and sulfur dioxide samplers.

Cincinnati-Northern Kentucky Region – Covington (21-117-0007) when the NKU site is operational, discontinue sulfur dioxide and nitrogen dioxide samplers. **East Bend** (21-015-0003) when the NKU site is operational, discontinue mercury sampler. **NKU** (to be announced) add sulfur dioxide, nitrogen dioxide, mercury, Hg wet deposition, $PM_{2.5}$, $PM_{2.5}$ TEOM and ozone samplers.

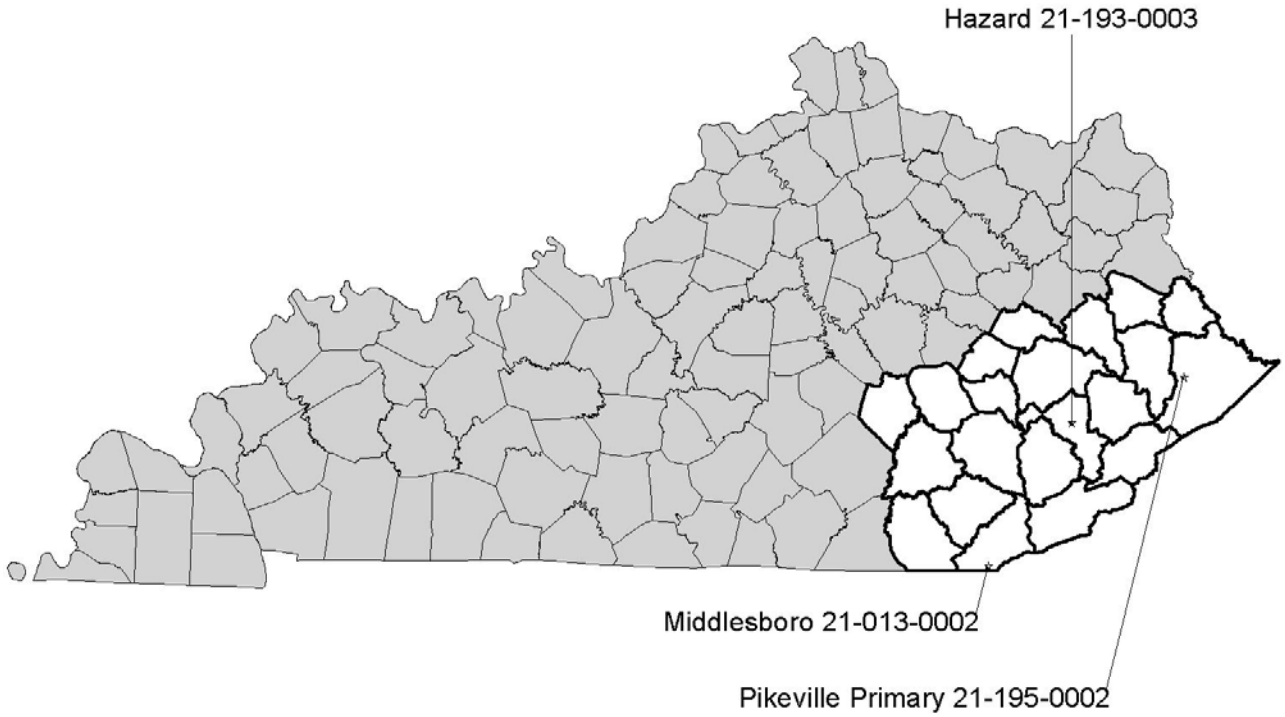
Owensboro Region – Baskett (21-101-0014) discontinue PM_{10} TEOM sampler; add $PM_{2.5}$ TEOM sampler. **Echols** (21-183-0032) discontinue air toxics sampling; discontinue ozone and sulfur dioxide point source samplers; add Hg wet deposition sampler; sample nitrogen dioxide, ozone and sulfur dioxide pollutants with the UV open path method.

North Central Region – Shepherdsville (21-029-0006) discontinue PM_{10} TEOM, nitrogen dioxide, and $PM_{2.5}$ TEOM samplers. **Elizabethtown** (21-093-0006) add $PM_{2.5}$ TEOM sampler.

Paducah Region – Bloodworth (21-139-0004) discontinue mercury and sulfur dioxide samplers. **Smithland** (21-139-0003) add mercury and Hg wet deposition samplers.

South Central Region – Oakland (21-227-0008) discontinue nitrogen dioxide sampler.

Appalachian Region



AIRS ID	ADDRESS	PM2.5	PM10	SO2	NO2	CO	O3	Metals	Hg	Wet Dep.	VOC	Carb-onyl	Specia-tion	MET
21-013-0002	Airport, 34th & Dorchester Middlesboro (Bell)	X(s)					X(s)							X
21-193-0003	Perry County Horse Park Hazard (Perry)	X(s)	X(c)				X(s)	X(cs)			X(cs)	X(cs)	X(s)	X
21-195-0002	101 N. Mayo Trail, DOT Office Pikeville (Pike)	X(ct)					X(s)							
	TOTAL	5	2	0	0	0	3	2	0	0	2	2	1	2

(c) Collocated Monitor

(s) Special Purpose Monitor

(t) Continuous PM Monitor

(Rev.3/27/06)

401 KAR 50:020 Air Quality Control Region: Appalachian Intrastate (101)
CSA/MSA: Middlesborough, KY Micropolitan Statistical Area
Site Name: Middlesboro
AQS Site ID: 21-013-0002
Location: Middlesboro Airport, Middlesboro, KY 40965
County: Bell
GPS Coordinates: 36.608056, -83.736944
Date Established: February 14, 1992
Inspection Date: November 28, 2006
Inspection By: Andrea P. Keatley
Site Approval Status: Site and monitors meet all design criteria for the monitoring network.

The monitoring site is a stationary equipment shelter located on the grounds of the Middlesboro Airport in Middlesboro, Kentucky. The sample inlets are 13 feet above ground level and 55 feet from the nearest road. The most recent site inspection was conducted on November 28, 2006. Upon inspection the sample lines and monitors were found to be in good condition. Even though this site is for special purpose monitoring, the site meets the requirements of 40 CFR 58, Appendices C, D and E.

Monitoring Objective:
The monitoring objectives are to determine compliance with National Ambient Air Quality Standards and to provide information on the transport of ozone into the region.

Monitors:

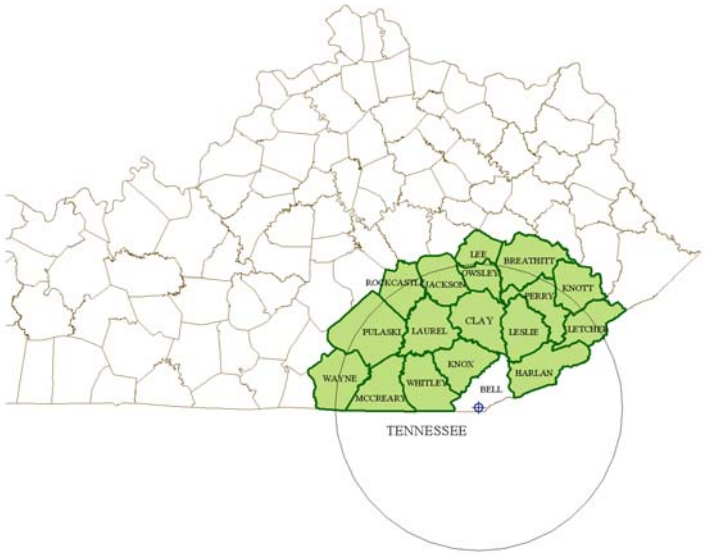
Monitor Type	Designation	Analysis Method	Frequency of Sampling
FRM $PM_{2.5}$	SPM	Gravimetric	24-hours every sixth day
AEM Ozone	SPM	UV photometry	Continuously March 1-October 31
Meteorological	Other	AQM grade instruments for wind speed, wind direction, humidity, barometric pressure and temperature	Continuously

Quality Assurance Status:
All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area Representativeness:
The site represents population exposure on a neighborhood scale for particulates. This site also represents transport on a regional scale for ozone.

Particulate Neighborhood Scale

Ozone Regional Scale



401 KAR 50:020 Air Quality Control Region: Appalachian Intrastate (101)
CSA/MSA: Not in a MSA – Rural
Site Name: Hazard
AQS Site ID: 21-193-0003
Location: Perry County Horse Park, Hazard, KY 41701
County: Perry
GPS Coordinates: 37.283056, -83.220278
Date Established: April 1, 2000
Inspection Date: October 24, 2006
Inspection By: Andrea P. Keatley
Site Approval Status: Site and monitors meet all design criteria for the monitoring network.

The monitoring site is a stationary equipment shelter located on the grounds of the Perry County Horse Park in Hazard, Kentucky. The sample inlets are 15 feet above ground level and 65 feet from the nearest road. The most recent site inspection was conducted on October 24, 2006. Upon inspection the sample lines and monitors were found to be in good condition. This site meets the requirements of 40 CFR 58, Appendices C, D and E.

Monitoring Objective:
The monitoring objectives are to determine compliance with National Ambient Air Quality Standards; to detect elevated pollutant levels for activation of emergency control procedures for ozone; and to measure rural concentrations of a sub-group of air toxics for use in national assessment.

Monitors:

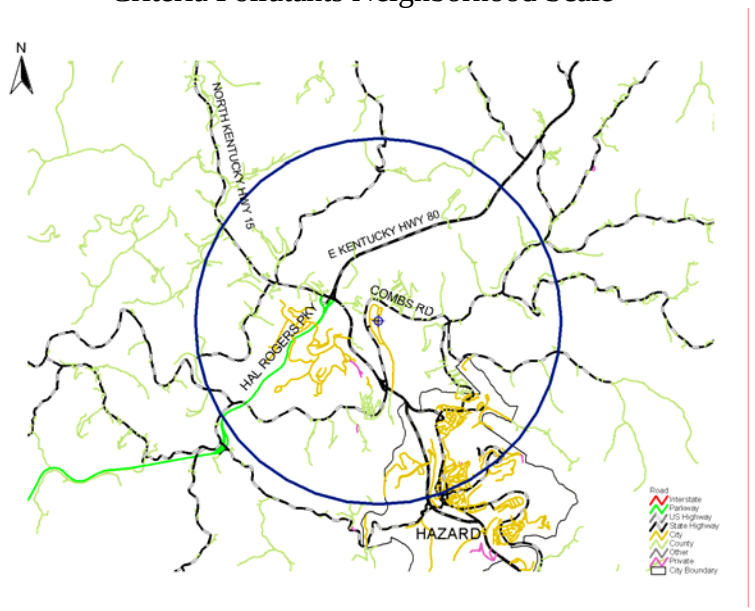
Monitor Type	Designation	Analysis Method	Frequency of Sampling
AEM Ozone	SPM EPISODE	UV photometry	Continuously March 1 – October 31
FRM PM_{10}	SLAMS	Gravimetric	24-hours every sixth day
- Collocated PM_{10}	SLAMS	Gravimetric	24-hours every sixth day
- Metals PM_{10}	SPM	Determined from the PM_{10} sample using EPA method IO 3.4	Same as PM_{10}
FRM $PM_{2.5}$	SPM	Gravimetric	24-hours every third day
$PM_{2.5}$ Speciation	SLAMS	Thermal optical, ion chromatography, and X-ray florescence	24-hours every sixth day
Volatile Organics Compound	SPM	EPA method TO-15	24-hours every sixth day
Carbonyls	SPM	EPA method TO-11A	24-hours every sixth day
$Chrome_{VI}$	SPM	CARB method	24-hours every sixth day
Collocated $Chrome_{VI}$	SPM	CARB method	24-hours every twelfth day

Meteorological	Other	AQM grade instruments for wind speed, wind direction, humidity, barometric pressure and temperature	Continuously

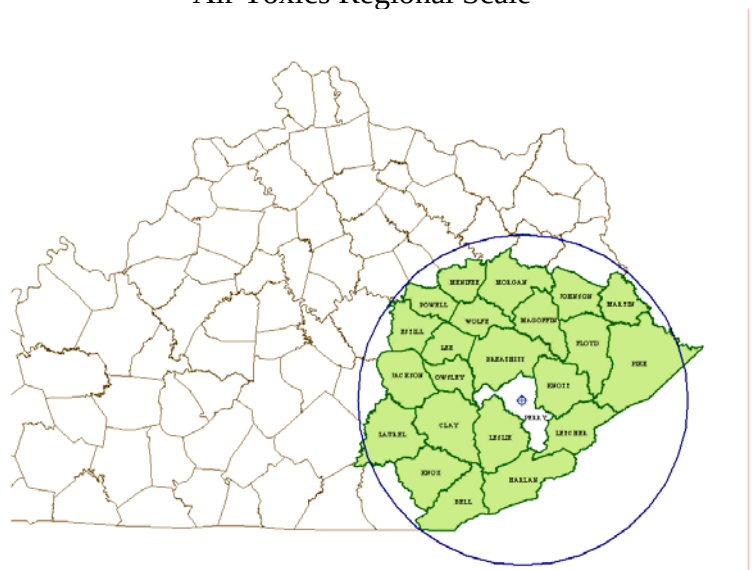
Quality Assurance Status:
All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area Representativeness:
The site represents population exposure on a neighborhood scale. This site also represents general/background on a regional scale for air toxics.

Criteria Pollutants Neighborhood Scale



Air Toxics Regional Scale



401 KAR 50:020 Air Quality Control Region: Appalachian Intrastate (101)
CSA/MSA: Not in a MSA - Rural
Site Name: Pikeville Primary
AQS Site ID: 21-195-0002
Location: DOT District Office, 101 North Mayo Trail, Pikeville, KY 41501
County: Pike
GPS Coordinates: 37.482778, -82.535278
Date Established: May1, 1994
Inspection Date: September 12, 2006 and March 8, 2007
Inspection By: Andrea P. Keatley
Site Approval Status: Site and monitors meet all design criteria for the monitoring network.

The monitoring site is a stationary equipment shelter located behind the DOT District Office building at 101 North Mayo Trail in Pikeville, KY. The sample inlets are 12 feet above ground level and 116 feet from the nearest road. A new stationary shelter was delivered to the Pikeville site in December 2006. Upon inspection the sample lines and monitors were found to be in good condition. This site meets the requirements of 40 CFR 58, Appendices C, D, E and G.

Monitoring Objective:
The monitoring objectives are to determine compliance with National Ambient Air Quality Standards; to detect elevated pollutant levels for activation of emergency control procedures for particulates; and to provide pollutant levels for daily air quality index reporting.

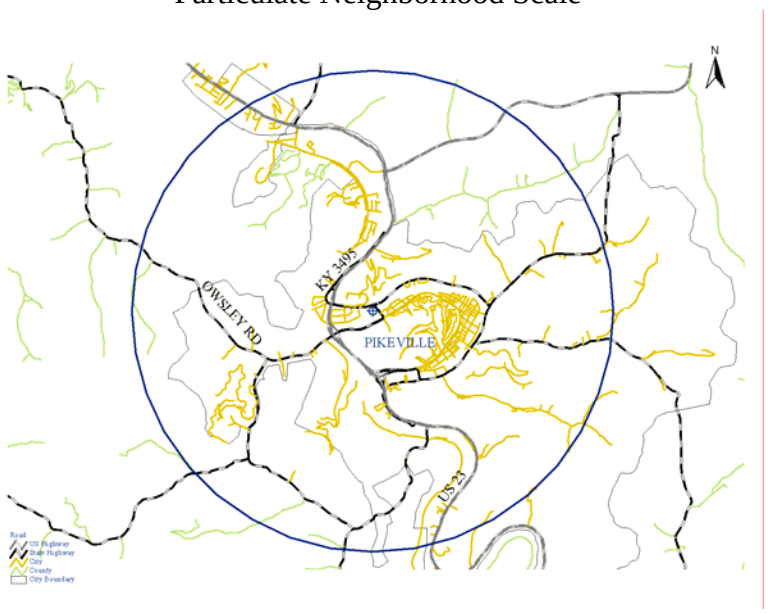
Monitors:

Monitor Type	Designation	Analysis Method	Frequency of Sampling
AEM Ozone	SPM AQI	UV photometry	Continuously March 1 – October 31
FRM $PM_{2.5}$	SLAMS	Gravimetric	24-hours every third day
- Collocated FRM $PM_{2.5}$	SLAMS	Gravimetric	24-hours every sixth day
$PM_{2.5}$ TEOM	SPM AQI	Tapered element oscillating microbalance, gravimetric	Continuously

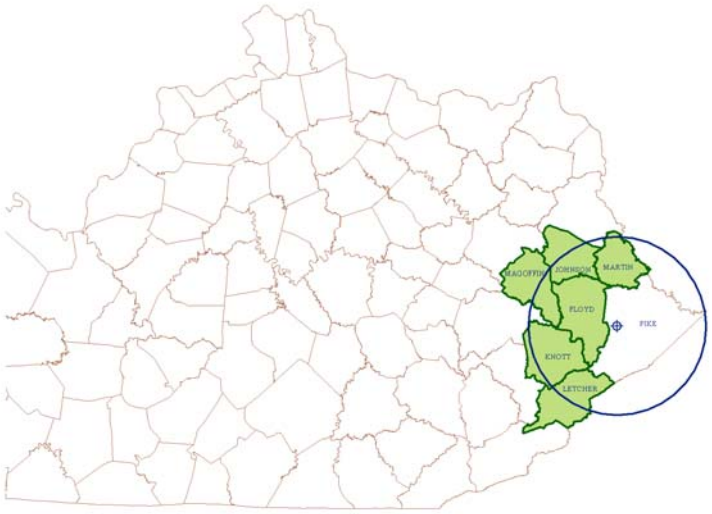
Quality Assurance Status:
All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area Representativeness:
The site represents population exposure on a neighborhood scale for particulates. This site also represents population exposure on an urban scale for ozone.

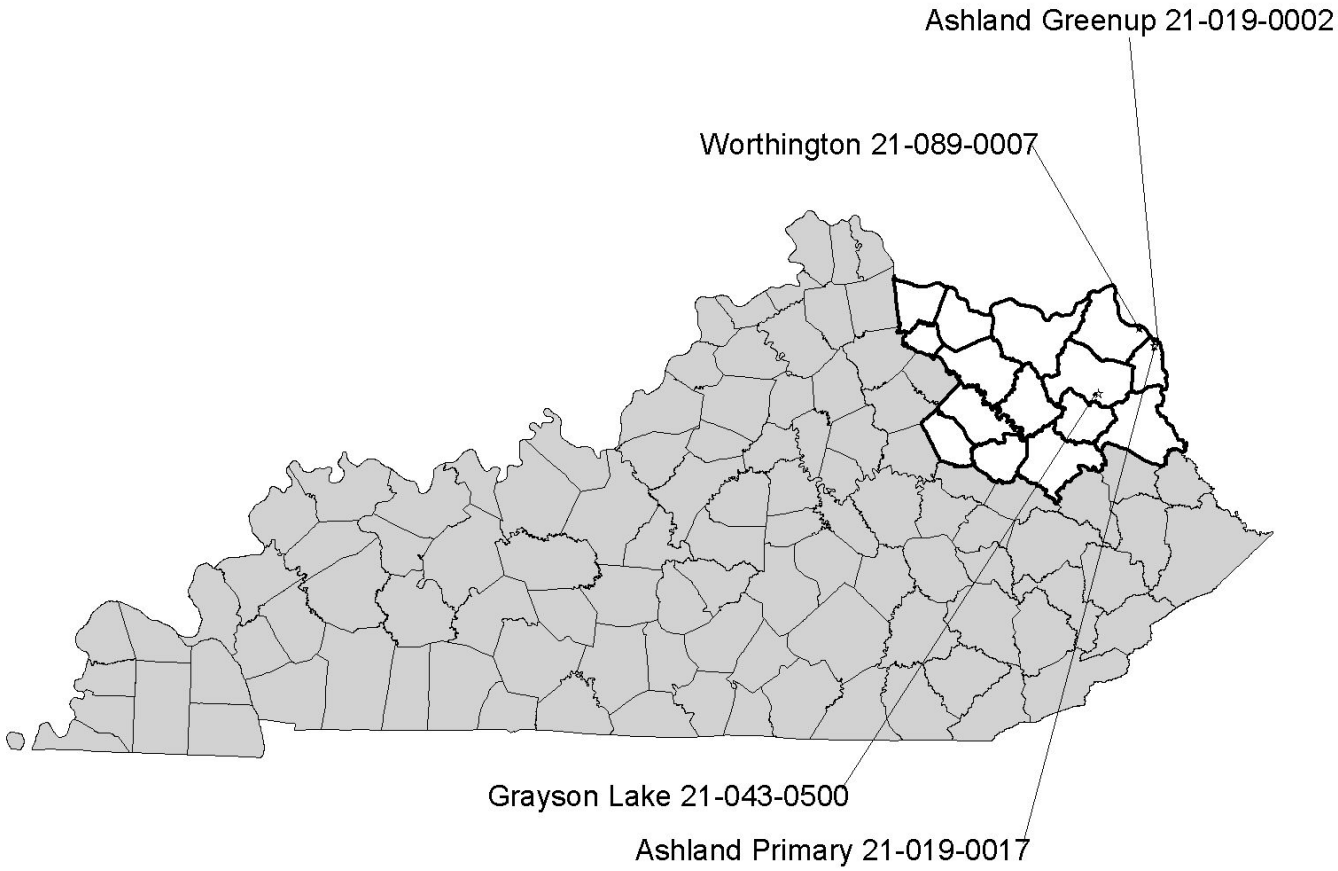
Particulate Neighborhood Scale



Ozone Urban Scale



Ashland-Huntington Region



AIRS ID	ADDRESS	PM2.5	PM10	SO2	NO2	CO	O3	Metals	Hg	Wet Dep.	VOC	Carb-onyl	Specia-tion	MET
21-019-0002	21st & Greenup Ashland (Boyd)		X(cN)					X(c)						
21-019-0017	2924 Holt St, FIVCO Health Dept Ashland (Boyd)	X(It)		X(eI)	X(e)		X(eI)				X(s)	X(s)	X(s)	X
21-043-0500	Camp Webb, Grayson Lake Grayson (Carter)	X					X(s)		X	X HG				X
21-089-0007	Water Tower, Scott & Center Sts. Worthington (Greenup)			X(s)			X							
	TOTAL	3	2	2	1	0	3	2	1	2	1	1	1	2

(c) Collocated Monitor
(e) Emergency Episode Monitor
(I) Air Quality Index Monitor
(N) National Air Monitoring Station (NAMS) Monitor
(s) Special Purpose Monitor
(t) Continuous PM Monitor

(Rev.3/2/07)

401 KAR 50:020 Air Quality Control Region: Huntington (WV)-Ashland (KY)-Portsmouth-Ironton (OH) Interstate (103)
CSA/MSA: Huntington-Ashland, WV-KY-OH MSA
Site Name: Ashland -Greenup
AQS Site ID: 21-019-0002
Location: 122 22nd Street, Ashland, KY
County: Boyd
GPS Coordinates: 38.478611, -82.631944
Date Established: April 2, 1978
Inspection Date: October 23, 2006
Inspection By: Andrea P. Keatley
Site Approval Status: Site and monitors meet all design criteria for the monitoring network.

The monitoring site is located on the west end, on a one-story building, of a roof in the Ashland Valvoline Oil complex in Ashland, Kentucky. The sample inlets are 19 feet above ground level and 100 feet from the nearest road. The most recent site inspection was conducted on October 23, 2006. Upon inspection, the sample inlets and monitors were found to be in good condition. The site meets the requirements of 40 CFR 58, Appendices C, D and E.

Monitoring Objective:
The monitoring objectives are to determine compliance with National Ambient Air Quality Standards; to observe pollution trends that provide information for national data analysis; and to measure concentrations of a sub-group of air toxics.

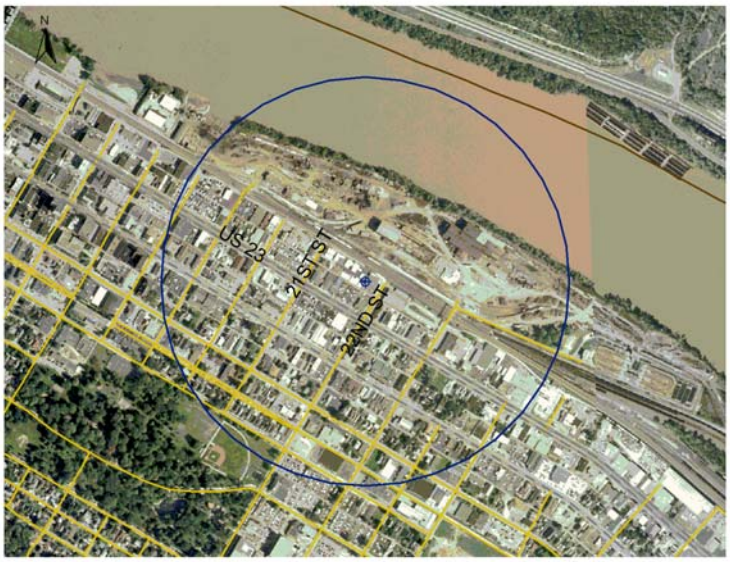
Monitors:

Monitor Type	Designation	Analysis Method	Frequency of Sampling
FRM PM_{10}	NAMS SLAMS	Gravimetric	24-hours every sixth day
- Collocated FRM PM_{10}	SPM	Gravimetric	24-hours every sixth day
- Metals PM_{10}	SPM	Determined from the PM_{10} sample using EPA method IO 3.4	Same as PM_{10}

Quality Assurance Status:
All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area Representativeness:
The site represents maximum concentrations on a middle scale for particulates. This site also represents population exposure on a neighborhood scale for air toxics.

Particulate Middle Scale



Air Toxics Neighborhood Scale

401 KAR 50:020 Air Quality Control Region: Huntington (WV)-Ashland (KY)-Portsmouth-Ironton (OH) Interstate (103)
CSA/MSA: Huntington-Ashland, WV-KY-OH MSA
Site Name: Ashland Primary (FIVCO)
AQS Site ID: 21-019-0017
Location: FIVCO Health Department, 2924 Holt Street, Ashland, KY 41101
County: Boyd
GPS Coordinates: 38.459167, -82.640556
Date Established: January 1, 1999
Inspection Date: October 23, 2006
Inspection By: Andrea P. Keatley
Site Approval Status: Site and monitors meet all design criteria for the monitoring network.

The monitoring site is a stationary equipment shelter located on the grounds of the health department building in Ashland, Kentucky. The sample inlets are 13 feet above ground level and 240 feet from the nearest road. The most recent site inspection was conducted on October 23, 2006. Upon inspection, the sample lines and monitors were found to be in good condition. The site meets the requirements of 40 CFR 58, Appendices C, D, E and G.

Monitoring Objective:
The monitoring objectives are to determine compliance with National Ambient Air Quality Standards; to detect elevated pollutant levels for activation of emergency control procedures for nitrogen dioxide, ozone and sulfur dioxide; and to provide pollutant levels for daily air quality index reporting.

Monitors:

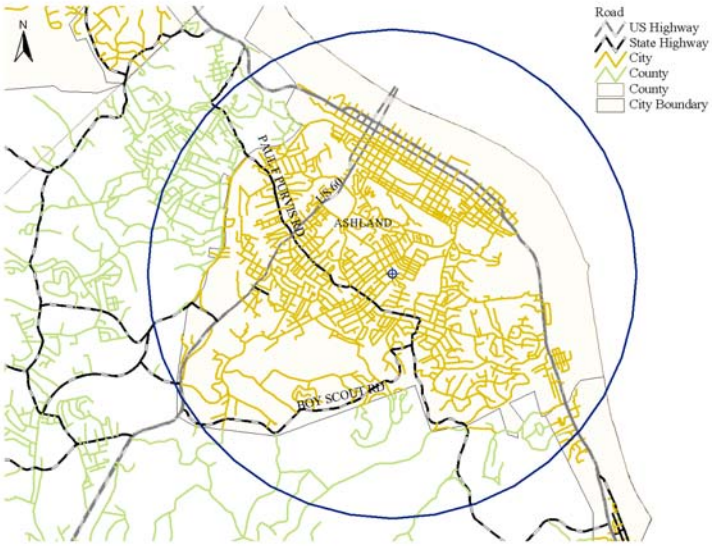
Monitor Type	Designation	Analysis Method	Frequency of Sampling
AEM Nitrogen Dioxide	SLAMS EPISODE	Chemiluminescence	Continuously
AEM Ozone	SLAMS AQI EPISODE	UV photometry	Continuously March 1 – October 31
FRM $PM_{2.5}$	SLAMS	Gravimetric	24-hours every third day
$PM_{2.5}$ Speciation	SLAMS	Thermal optical, ion chromatography, and X-ray florescence	24-hours every sixth day
$PM_{2.5}$ TEOM	SPM AQI	Tapered element oscillating microbalance, gravimetric	Continuously
AEM Sulfur Dioxide	SLAMS AQI EPISODE	UV fluorescence	Continuously
Volatile Organics Compound	SPM	EPA method TO-15	24-hours every sixth day

Carbonyls	SPM	EPA method TO-11A	24-hours every sixth day
Meteorological	Other	AQM grade instruments for wind speed, wind direction, humidity, barometric pressure and temperature	Continuously

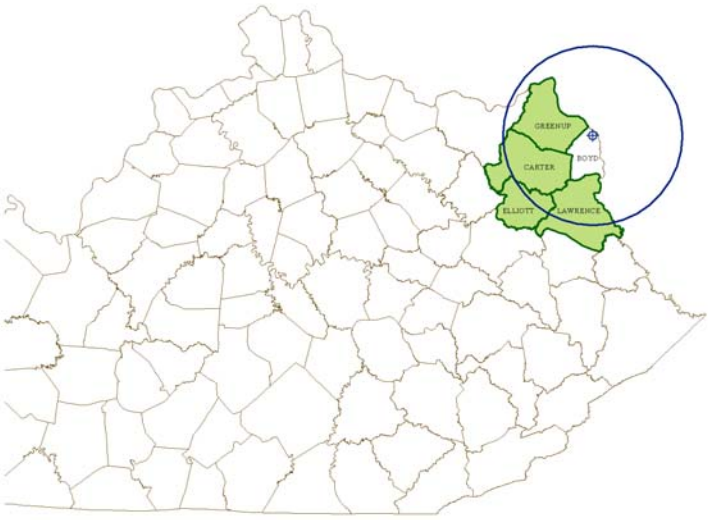
Quality Assurance Status:
All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area Representativeness:
This site represents population exposure on a neighborhood scale for particulates, sulfur dioxide, ozone and air toxics. This site also represents population exposure on an urban scale for nitrogen dioxide.

Criteria and Air Toxics Neighborhood Scale



Nitrogen Dioxide Urban Scale



401 KAR 50:020 Air Quality Control Region: Huntington (WV)-Ashland (KY)-Portsmouth-Ironton (OH) Interstate (103)
CSA/MSA: Not in a MSA - Rural
Site Name: Grayson Lake
AQS Site ID: 21-043-0500
Location: Camp Grayson at Grayson Lake, Grayson, KY 41143
County: Carter
GPS Coordinates: 38.238333, -82.988333
Date Established: May 13, 1981
Inspection Date: October 23, 2006
Inspection By: Andrea P. Keatley
Site Approval Status: Site and monitors meet all design criteria for the monitoring network.

The monitoring site is a stationary equipment shelter in a fenced area located in a remote section of Camp Grayson in Grayson, Kentucky. The sample inlets are 13 feet above ground level and the nearest road is a service road. The most recent site inspection was conducted on October 23, 2006. Upon inspection, the sample lines and monitors were found to be in good condition. The site meets the requirements of 40 CFR 58, Appendices C, D and E.

Monitoring Objective:
The monitoring objectives are to determine compliance with National Ambient Air Quality Standards; to determine background levels of PM2.5; to provide ozone data upwind of the Ashland area; and to measure background levels of Mercury in ambient air and in precipitation.

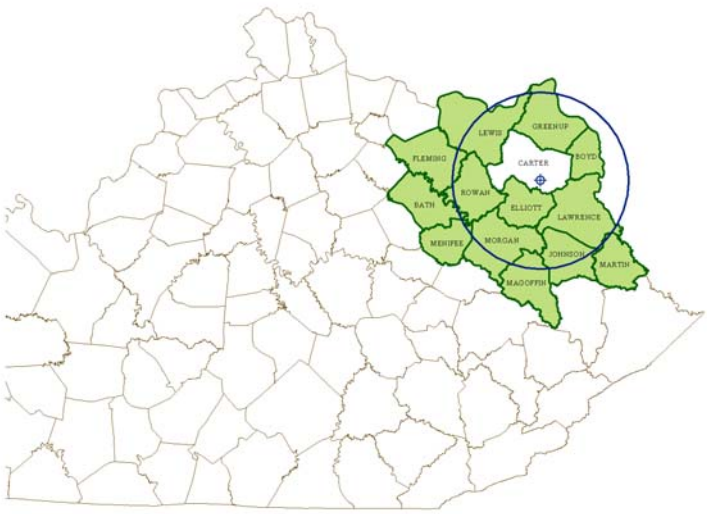
Monitors:

Monitor Type	Designation	Analysis Method	Frequency of Sampling
AEM Ozone	SPM	UV photometry	Continuously March 1 – October 31
FRM $PM_{2.5}$	SLAMS	Gravimetric	24-hours every third day
Mercury - ambient	SPM	Cold vapour atomic fluorescence spectrometry	Continuously
Mercury - Wet Deposition	SPM	Wet deposition collected, analysis of sample by the Environmental Services Laboratory using EPA method 1631, Revision E	Weekly
Wet Deposition	SPM	Wet deposition collected, analysis of sample by the Environmental Services laboratory	Weekly
Meteorological	Other	AQM grade instruments for wind speed, wind direction, humidity, barometric pressure and temperature	Continuously

Quality Assurance Status:
All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area Representativeness:
The site represents background levels on an urban scale for particulates and mercury. This site also represents upwind/background levels on an urban scale for ozone and population exposure on an urban scale for wet deposition.

Criteria and Wet Deposition Urban Scale



401 KAR 50:020 Air Quality Control Region: Huntington (WV)-Ashland (KY)-Portsmouth-Ironton (OH) Interstate (103)
CSA/MSA: Huntington-Ashland, WV-KY-OH MSA
Site Name: Worthington
AQS Site ID: 21-089-0007
Location: Scott Street and Center Avenue, Worthington, KY 41183
County: Greenup
GPS Coordinates: 38.548333, -82.731667
Date Established: October 12, 1980
Inspection Date: October 23, 2006
Inspection By: Andrea P. Keatley
Site Approval Status: Site and monitors meet all design criteria for the monitoring network.

The monitoring site is a stationary equipment shelter located on the grounds of a water tower near the intersection of Scott Street and Center Avenue in Worthington, Kentucky. The sample inlets are 13 feet above ground level and 57 feet from the nearest road. The most recent site inspection was conducted on October 23, 2006. Upon inspection, the sample lines and monitors were found to be in good condition. The site meets the requirements of 40 CFR 58, Appendices C, D and E.

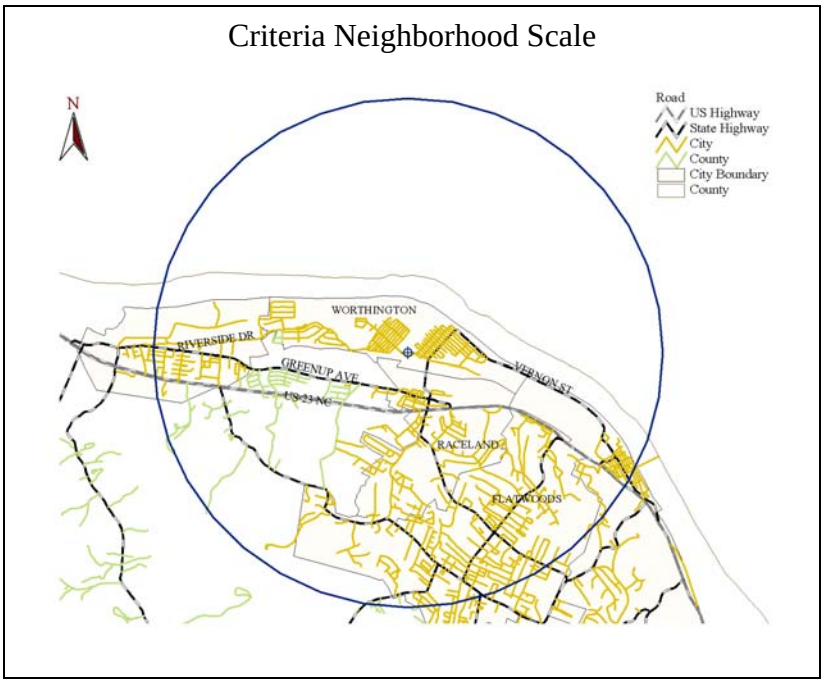
Monitoring Objective:
The monitoring objectives are to determine compliance with National Ambient Air Quality Standards; to detect elevated pollutant levels for activation of emergency control procedures for nitrogen dioxide, ozone and sulfur dioxide; and to provide pollutant levels for daily air quality index reporting.

Monitors:

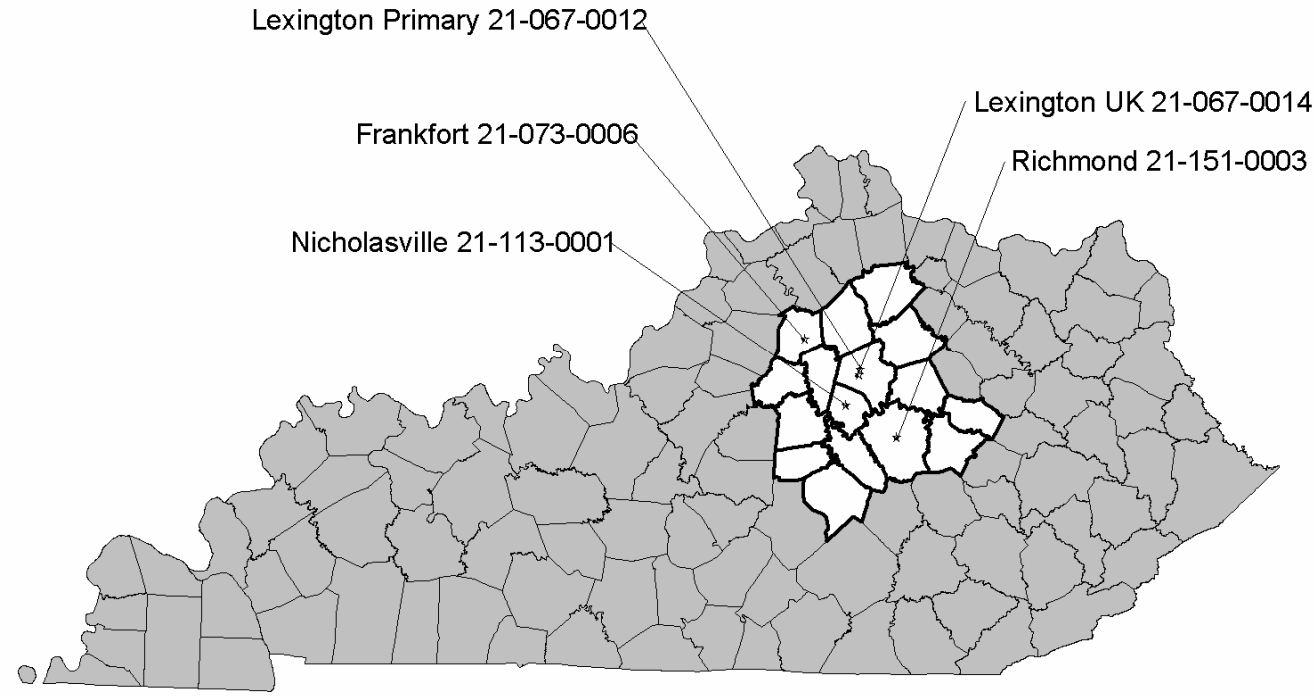
Monitor Type	Designation	Analysis Method	Frequency of Sampling
AEM Ozone	SLAMS	UV photometry	Continuously March 1 – October 31
AEM Sulfur Dioxide	SPM	UV fluorescence	Continuously

Quality Assurance Status:
All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area Representativeness:
This site represents population exposure on a neighborhood scale for ozone and sulfur dioxide.



Bluegrass Region



AIRS ID	ADDRESS	PM2.5	PM10	SO2	NO2	CO	O3	Metals	Hg	Wet Dep.	VOC	Carb-onyl	Specia-tion	MET
21-067-0012	650 Newtown Pike Lexington (Fayette)	X(t)		X(eI)	X(e)		X (N I e)				X(s)	X(s)	X(s)	
21-067-0014	533 South Limestone Lexington (Fayette)	X	X					X(s)			X(s)			
21-073-0006	803 Schenkel Lane Frankfort (Franklin)	X												
21-113-0001	KY DOT Garage, US 27 Bypass Nicholasville (Jessamine)			X(s)			X		X	HG				X
21-151-0003	Mayfield Elementary Sch, Bond St Richmond (Madison)	X												
	TOTAL	5	1	2	1	0	2	1	1	1	2	1	1	1

(e) Emergency Episode Monitor

(I) Air Quality Index Monitor

(N) National Air Monitoring Station (NAMS) Monitor

(s) Special Purpose Monitor

(t) Continuous PM Monitor

(Rev.3/2/07)

401 KAR 50:020 Air Quality Control Region: Bluegrass Intrastate (102)
CSA/MSA: Lexington-Fayette-Frankfort-Richmond, KY CSA / Lexington-Fayette, KY MSA
Site Name: Lexington Primary
AQS Site ID: 21-067-0012
Location: Fayette County Health Department, 650 Newtown Pike, Lexington, KY 40508
County: Fayette
GPS Coordinates: 38.065000, -84.500000
Date Established: November 8, 1979
Inspection Date: August 18, 2006
Inspection By: Andrea P. Keatley
Site Approval Status: Site and monitors meet all design criteria for the monitoring network.

The monitoring site is a stationary equipment shelter located on the grounds of the Fayette County health department building in Lexington, Kentucky. The sample inlets are 13 feet above ground level and 385 feet from the nearest road. The most recent site inspection was conducted on August 18, 2006. Upon inspection, the sample lines and monitors were found to be in good condition. The site meets the requirements of 40 CFR 58, Appendices C, D, E and G.

Monitoring Objective:
The monitoring objectives are to determine compliance with National Ambient Air Quality Standards; to detect elevated pollutant levels for activation of emergency control procedures for nitrogen dioxide, ozone and sulfur dioxide; to provide pollutant levels for daily air quality index reporting; and to observe pollution trends for national data analysis for ozone.

Monitors:

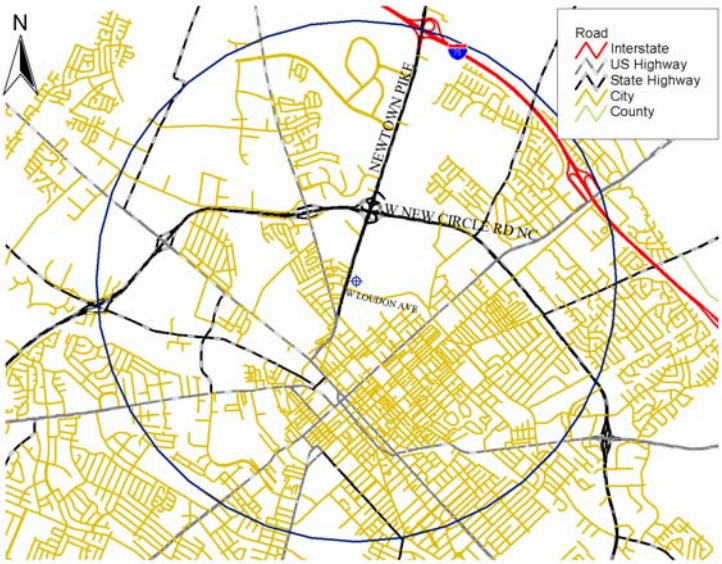
Monitor Type	Designation	Analysis Method	Frequency of Sampling
ARM Nitrogen Dioxide	SLAMS EPISODE	Chemiluminescence	Continuously
AEM Ozone	SLAMS AQI EPISODE	UV photometry	Continuously March 1 – October 31
FRM $PM_{2.5}$	SLAMS	Gravimetric	24-hours every third day
$PM_{2.5}$ Speciation	SLAMS	Thermal optical, ion chromatography, and X-ray florescence	24-hours every sixth day
$PM_{2.5}$ TEOM	SPM AQI	Tapered element oscillating microbalance, gravimetric	Continuously
AEM Sulfur Dioxide	SLAMS AQI EPISODE	UV fluorescence	Continuously
Volatile Organics Compound	SPM	EPA method TO-15	24-hours every sixth day

Carbonyls	SPM	EPA method TO-11A	24-hours every sixth day

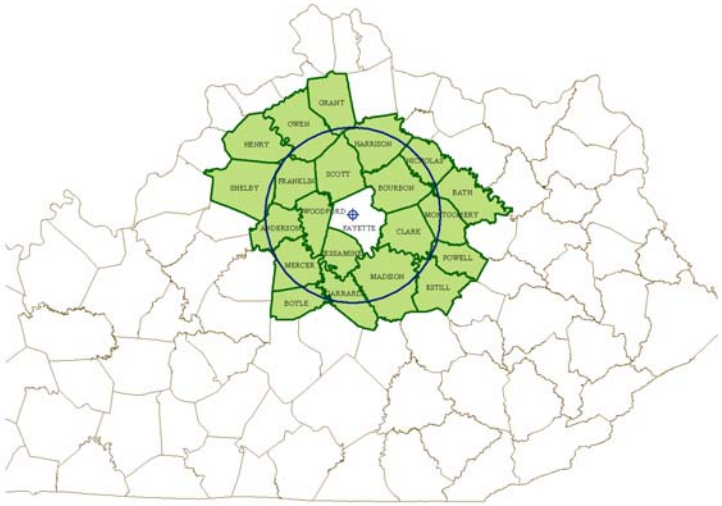
Quality Assurance Status:
All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area Representativeness:
This site represents population exposure on a neighborhood scale for particulates, sulfur dioxide and ozone. This site also represents population exposure on an urban scale for nitrogen dioxide and air toxics.

Criteria Neighborhood Scale



Nitrogen Dioxide and Air Toxics Urban Scale



401 KAR 50:020 Air Quality Control Region: Bluegrass Intrastate (102)
CSA/MSA: Lexington-Fayette-Frankfort-Richmond, KY CSA / Lexington-Fayette, KY MSA
Site Name: U.K. Lexington
AQS Site ID: 21-067-0014
Location: 533 South Limestone, Lexington, KY 40508
County: Fayette
GPS Coordinates: 38.038889, -84.507500
Date Established: October 2, 1982
Inspection Date: August 18, 2006
Inspection By: Andrea P. Keatley
Site Approval Status: Site and monitors meet all design criteria for the monitoring network.

The monitoring site is located on the roof of the Whalen Transportation Research Building on the University of Kentucky campus in Lexington, Kentucky. The sample inlets are 32 feet above ground level and 60 feet from the nearest road. The most recent site inspection was conducted on August 18, 2006. Upon inspection, the sample inlets and monitors were found to be in good condition. The site meets the requirements of 40 CFR 58, Appendices C, D and E.

Monitoring Objective:
The monitoring objectives are to determine compliance with National Ambient Air Quality Standards.

Monitors:

Monitor Type	Designation	Analysis Method	Frequency of Sampling
FRM PM_{10}	SLAMS	Gravimetric	24-hours every sixth day
- Metals PM_{10}	SPM	Determined from the PM_{10} sample using EPA method IO 3.4	Same as PM_{10}
FRM $PM_{2.5}$	SLAMS	Gravimetric	24-hours every third day
Volatile Organic Compound	SPM	EPA Method TO-15	24-hour every sixth day

Quality Assurance Status:
All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area Representativeness:
The site represents population exposure on a neighborhood scale.

Criteria Neighborhood Scale

401 KAR 50:020 Air Quality Control Region: Bluegrass Intrastate (102)
CSA/MSA: Frankfort, KY Micropolitan Statistical Area
Site Name: Frankfort
AQS Site ID: 21-073-0006
Location: 803 Schenkel Lane, Frankfort, KY 40601
County: Franklin
GPS Coordinates: 38.219361, -84.838500
Date Established: January 1, 1999
Inspection Date: December 15, 2006
Inspection By: Andrea P. Keatley
Site Approval Status: Site and monitors meet all design criteria for the monitoring network.

The monitoring site is located on the roof of the Ragland Building in Frankfort, Kentucky. The sample inlets are 18 feet above ground level and 250 feet from the nearest road. The most recent site inspection was conducted on December 15, 2006. Upon inspection, the sample inlet and monitor was found to be in good condition. The site meets the requirements of 40 CFR 58, Appendices C, D and E.

Monitoring Objective:
The monitoring objectives are to determine compliance with National Ambient Air Quality Standards.

Monitors:

Monitor Type	Designation	Analysis Method	Frequency of Sampling
FRM $PM_{2.5}$	SLAMS	Gravimetric	24-hours every third day

Quality Assurance Status:
All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area Representativeness:
This site represents population exposure on a neighborhood scale.

Criteria Neighborhood Scale

401 KAR 50:020 Air Quality Control Region: Bluegrass Intrastate (102)
CSA/MSA: Lexington-Fayette-Frankfort-Richmond, KY CSA / Lexington-Fayette, KY MSA
Site Name: Nicholasville
AQS Site ID: 21-113-0001
Location: DOT Garage, US 27 Bypass, Nicholasville, KY 40356
County: Jessamine
GPS Coordinates: 37.893333, -84.589167
Date Established: August 1, 1991
Inspection Date: August 18, 2006 and December 14, 2006
Inspection By: Andrea P. Keatley
Site Approval Status: Site and monitors meet all design criteria for the monitoring network.

The monitoring site is a stationary equipment shelter located on the grounds of the Kentucky DOT Garage in Nicholasville, Kentucky. The sample inlets are 13 feet above ground level and 385 feet from the nearest road. The most recent site inspection was conducted on August 18, 2006. The site meets the requirements of 40 CFR 58, Appendices C, D and E. A new equipment shelter was delivered on September 15, 2006. After completion of the final installation, the site was revisited on December 14, 2006. The new shelter is located 216 meters south of the old shelter on the same grounds of the Kentucky DOT Garage in Nicholasville, Kentucky. The sample inlets are 17 feet above ground level and 372 feet from the nearest road. The site meets the requirements of 40 CFR 58, Appendices C, D and E.

Monitoring Objective:
The monitoring objectives are to determine compliance with National Ambient Air Quality Standards and to provide ozone data upwind of the Lexington area.

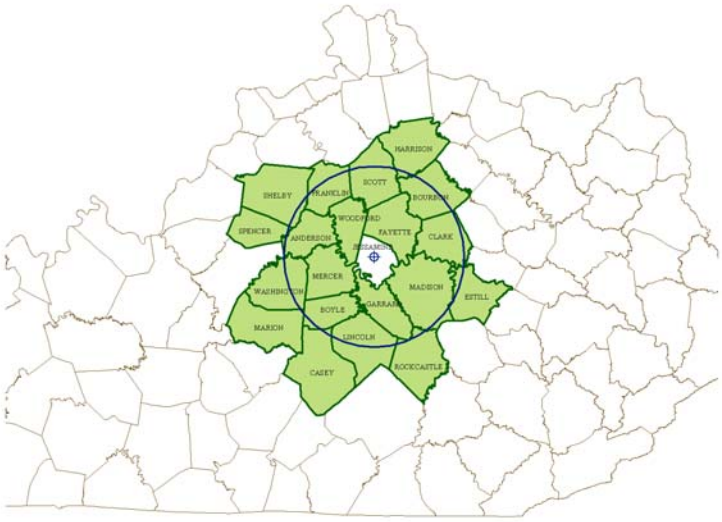
Monitors:

Monitor Type	Designation	Analysis Method	Frequency of Sampling
AEM Ozone	SLAMS	UV photometry	Continuously March 1 – October 31
AEM Sulfur Dioxide	SPM	UV fluorescence	Continuously
Mercury - ambient	SPM	Cold vapour atomic fluorescence spectrometry	Continuously
Mercury – Wet Deposition	SPM	Wet deposition collected, analysis of sample by the Environmental Services Laboratory	Weekly
Meteorological	Other	AQM grade instruments for wind speed, wind direction, humidity, barometric pressure and temperature	Continuously

Quality Assurance Status:
All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.
Area Representativeness:

This site represents population exposure on an urban scale.

Criteria and Air Toxics Urban Scale



401 KAR 50:020 Air Quality Control Region: Bluegrass Intrastate (102)
CSA/MSA: Lexington-Fayette-Frankfort-Richmond, KY CSA / Richmond-Berea, KY Micropolitan Statistical Area
Site Name: Richmond
AQS Site ID: 21-151-0003
Location: Mayfield School on Bond Street, Richmond, KY 40475
County: Madison
GPS Coordinates: 37.738056, -84.285556
Date Established: January 1, 1999
Inspection Date: October 24, 2006
Inspection By: Andrea P. Keatley
Site Approval Status: Site and monitors meet all design criteria for the monitoring network.

The monitoring site is located on the roof of the Mayfield Elementary School in Richmond, Kentucky. The sample inlet is 15 feet above ground level and 200 feet from the nearest road. The most recent site inspection was conducted on October 24, 2006. Upon inspection, the sample inlet and monitor was found to be in good condition. The site meets the requirements of 40 CFR 58, Appendices C, D and E.

Monitoring Objective:
The monitoring objective is to determine compliance with National Ambient Air Quality Standards.

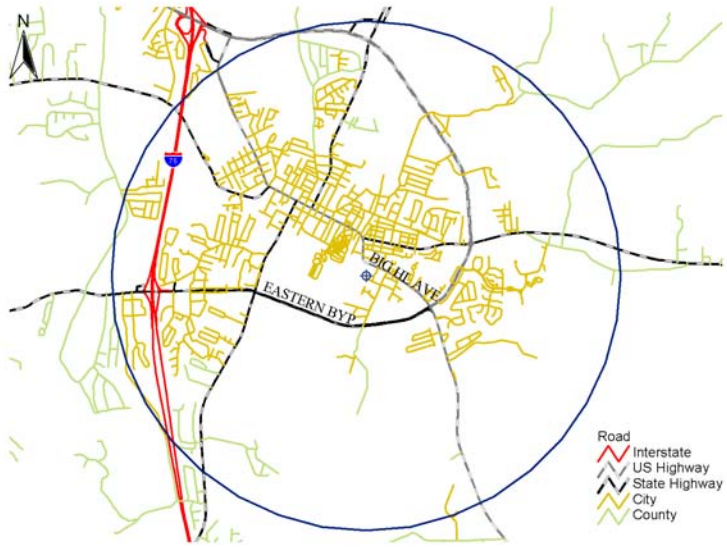
Monitors:

Monitor Type	Designation	Analysis Method	Frequency of Sampling
FRM $PM_{2.5}$	SLAMS	Gravimetric	24-hours every third day

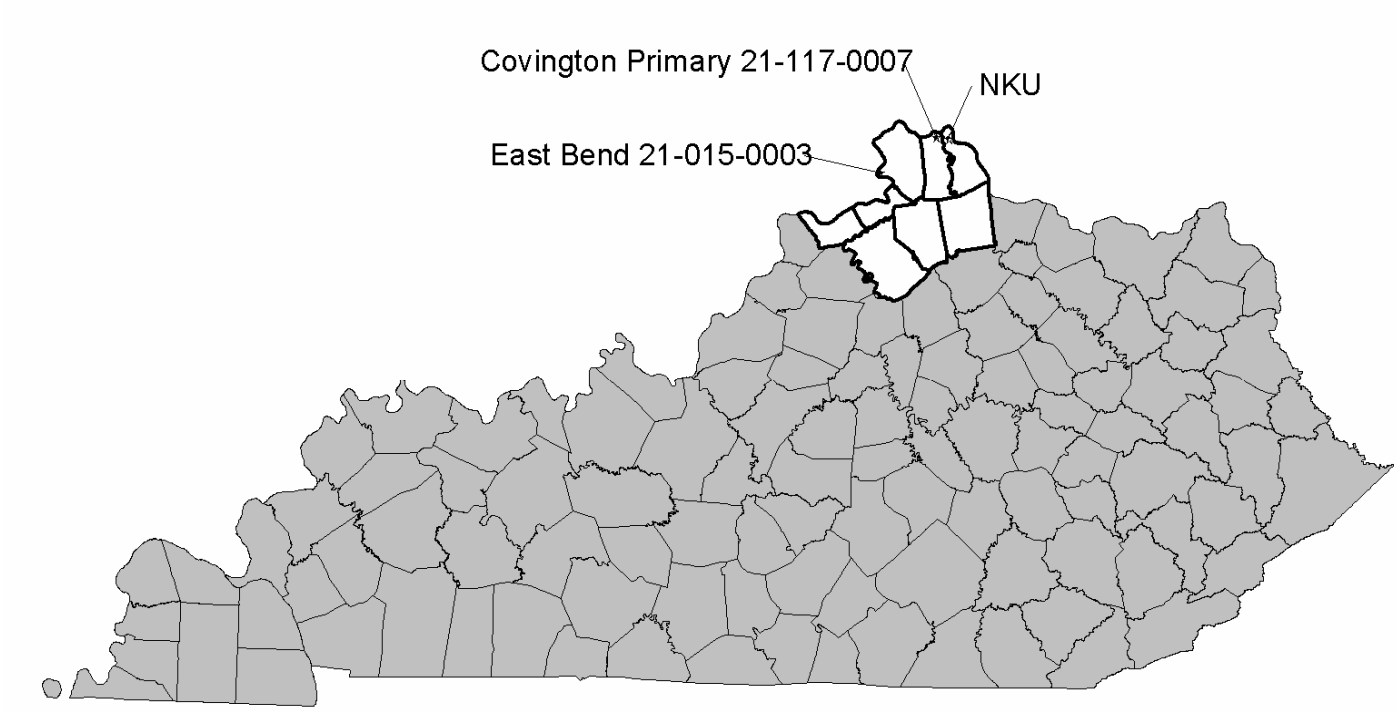
Quality Assurance Status:
All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area Representativeness:
This site represents population exposure on a neighborhood scale for particulates.

Criteria Neighborhood Scale



Cincinnati-Northern Kentucky Region



AIRS ID	ADDRESS	PM2.5	PM10	SO2	NO2	CO	O3	Metals	Hg	Wet Dep.	VOC	Carb-onyl	Specia-tion	MET
21-015-0003	KY 338 & Lower River Road East Bend (Boone)			X(s)			X		~~X~~					X
Not Available	524A John's Hill Road Highland Heights(Campbell)	X(It)		X(I)	X		X(Ie)		X	HG				
21-117-0007	1401 Dixie Highway Covington (Kenton)	X(tIe)		~~X(I)~~	~~X~~		X(I)				X	X	X	X
	TOTAL	4	0	1	1	0	3	0	1	1	1	1	1	2

(e) Emergency Episode Monitor

(I) Air Quality Index Monitor

(t) Continuous PM Monitor

(Rev.3/2/07)

401 KAR 50:020 Air Quality Control Region: Metropolitan Cincinnati (Ohio) Interstate (079)
CSA/MSA: Cincinnati-Middletown-Wilmington, OH-KY-IN CSA / Cincinnati-Middletown, OH-KY-IN MSA
Site Name: East Bend
AQS Site ID: 21-015-0003
Location: KY 338 and Lower River Road, East Bend, KY 41005
County: Boone
GPS Coordinates: 38.918056, -84.852778
Date Established: July 1, 1977
Inspection Date: October 27, 2006
Inspection By: Andrea P. Keatley
Site Approval Status: Site and monitors meet all design criteria for the monitoring network.

The monitoring site is a stationary equipment shelter located at the intersection of KY 338 and Lower River Road in East Bend, Kentucky. The sample inlets are 12 feet above ground level and 50 feet from the nearest road. The most recent site inspection was conducted on October 27, 2006. Upon inspection, the sample lines and monitors were found to be in good condition. The site meets the requirements of 40 CFR 58, Appendices C, D and E.

Monitoring Objective:
The monitoring objective is to determine compliance with National Ambient Air Quality Standards.

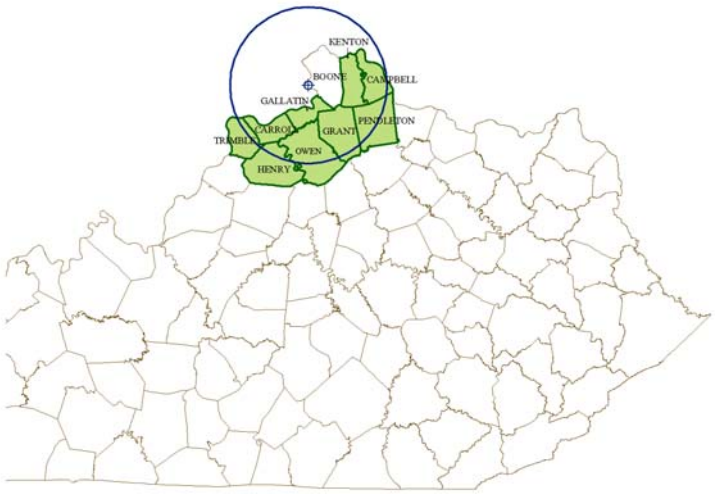
Monitors:

Monitor Type	Designation	Analysis Method	Frequency of Sampling
AEM Ozone	SLAMS	UV photometry	Continuously March 1 – October 31
Meteorological	Other	AQM grade instruments for wind speed, wind direction, humidity, barometric pressure and temperature	Continuously

Quality Assurance Status:
All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area Representativeness:
This site represents background levels on an urban scale for ozone.

Urban Scale



401 KAR 50:020 Air Quality Control Region: Metropolitan Cincinnati (Ohio) Interstate (079)
CSA/MSA: Cincinnati-Middletown-Wilmington, OH-KY-IN CSA / Cincinnati-Middletown, OH-KY-IN MSA
Site Name: Covington
AQS Site ID: 21-117-0007
Location: University College, 1401 Dixie Hwy, Covington, KY 41011
County: Kenton
GPS Coordinates: 39.072500, -84.525000
Date Established: August 22, 1975
Inspection Date: October 27, 2006
Inspection By: Andrea P. Keatley
Site Approval Status: Site and monitors meet all design criteria for the monitoring network

The monitoring site is a stationary equipment shelter located on the grounds of the University College in Covington, Kentucky. The sample inlets are 13 feet above ground level and 40 feet from the nearest road. The most recent site inspection was conducted on October 27, 2006. Upon inspection, the sample lines and monitors were found to be in good condition. The site meets the requirements of 40 CFR 58, Appendices C, D, E and G.

Monitoring Objective:
The monitoring objectives are to determine compliance with National Ambient Air Quality Standards; to provide ozone, particulate and sulfur dioxide levels for daily index reporting; and to detect elevated pollutant levels for activation of emergency control procedures for particulates.

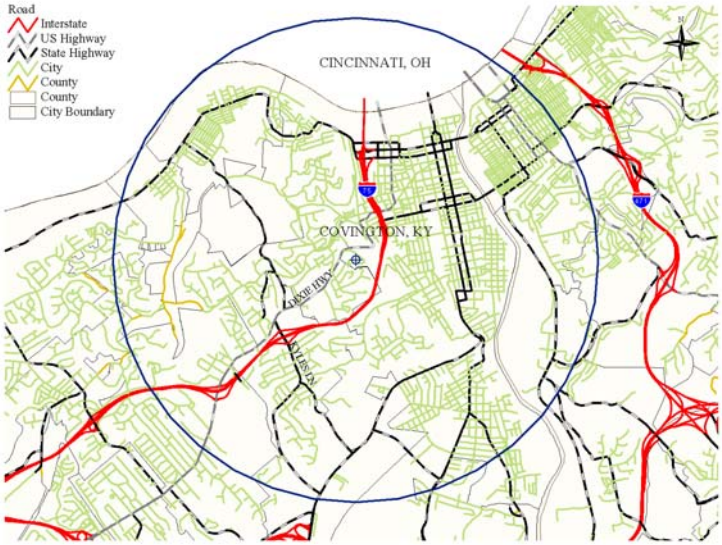
Monitors:

Monitor Type	Designation	Analysis Method	Frequency of Sampling
AEM Ozone	SLAMS AQI	UV photometry	Continuously March 1 – October 31
FRM $PM_{2.5}$	SLAMS	Gravimetric	24-hours every third day
$PM_{2.5}$ Speciation	SLAMS	Thermal optical, ion chromatography, and X-ray florescence	24-hours every sixth day
$PM_{2.5}$ TEOM	SPM AQI EPISODE	Tapered element oscillating microbalance, gravimetric	Continuously
Volatile Organics Compound	SPM	EPA method TO-15	24-hours every sixth day
Carbonyls	SPM	EPA method TO-11A	24-hours every sixth day
Meteorological	Other	AQM grade instruments for wind speed, wind direction, humidity, barometric pressure and temperature	Continuously

Quality Assurance Status:
All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area Representativeness:
This site represents population exposure on a neighborhood scale for ozone and particulates.

Neighborhood Scale



401 KAR 50:020 Air Quality Control Region: Metropolitan Cincinnati (Ohio) Interstate (079)
CSA/MSA: Cincinnati-Middletown-Wilmington, OH-KY-IN CSA / Cincinnati-Middletown, OH-KY-IN MSA
Site Name: Northern Kentucky University "NKU"
AQS Site ID: To be determined
Location: 524A John's Hill Road, Highland Heights, KY 41076
County: Campbell
GPS Coordinates: 39.021727, - 84.474386
Date Established: 2007
Inspection Date:
Inspection By:
Site Approval Status:

Picture Not Available

This site will be a stationary equipment shelter located on farmland owned by the Northern Kentucky University.

Monitoring Objective:
The monitoring objectives are to determine compliance with National Ambient Air Quality Standards; to provide ozone, particulate and sulfur dioxide levels for daily index reporting; and to detect elevated pollutant levels for activation of emergency control procedures for ozone.

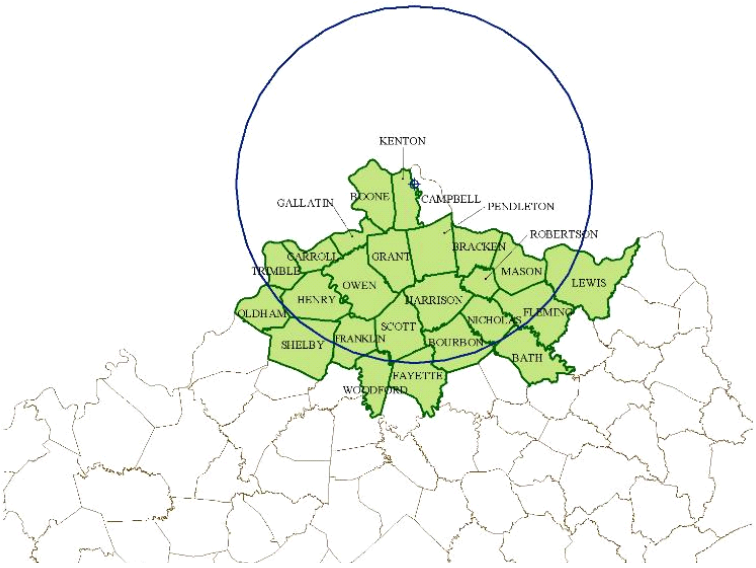
Monitors:

Monitor Type	Designation	Analysis Method	Frequency of Sampling
AEM Nitrogen Dioxide	SLAMS	Chemiluminescence	Continuously
AEM Ozone	SLAMS AQI EPISODE	UV photometry	Continuously March 1 – October 31
FRM $PM_{2.5}$	SLAMS	Gravimetric	24-hours every third day
$PM_{2.5}$ TEOM	SPM AQI	Tapered element oscillating microbalance, gravimetric	Continuously
AEM Sulfur Dioxide	SLAMS AQI	UV fluorescence	Continuously
Mercury - ambient	SPM	Cold vapour atomic fluorescence spectrometry	Continuously
Mercury – Wet Deposition	SPM	Wet deposition collected, analysis of sample by the Environmental Services laboratory	Weekly

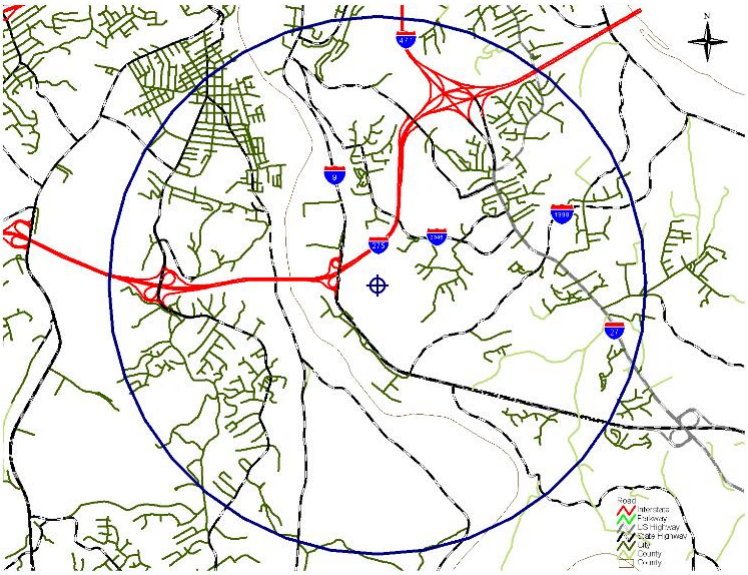
Quality Assurance Status:
All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area Representativeness:
This site represents population exposure for nitrogen dioxide, ozone, sulfur dioxide and mercury on an urban scale. This site also represents population exposure on a neighborhood scale for particulate matter.

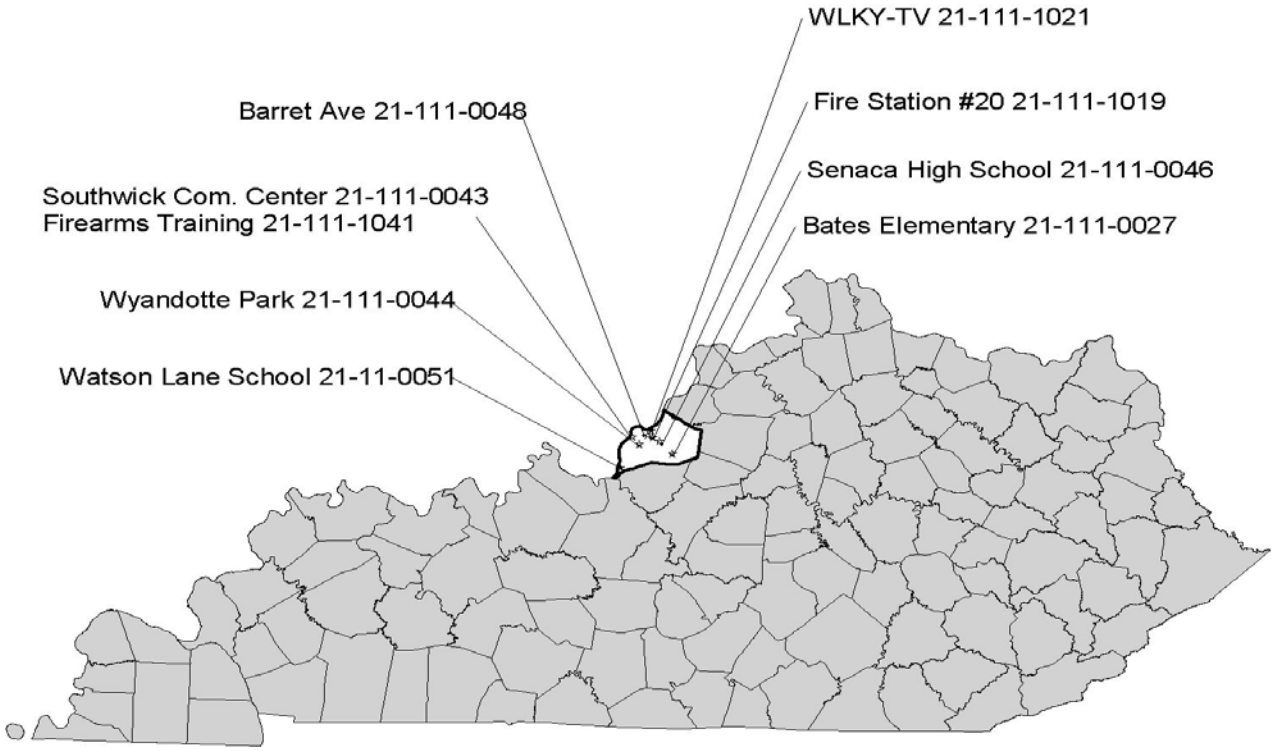
Urban Scale



Neighborhood Scale



Louisville Region



AIRS ID	ADDRESS	PM2.5	PM10	SO2	NO2	CO	O3	Metals	Hg	Wet Dep.	VOC	Carb-onyl	Specia-tion	MET
21-111-0027	7601 Bardstown Road Louisville (Jefferson)	Xt(s)					X(I)							
21-111-0043	3621 Southern Avenue Louisville (Jefferson)	X(ctI)	X(c)										X	X
21-111-0044	1032 Beecher Avenue Louisville (Jefferson)	X	X(tNI)											
21-111-0046	3510 Goldsmith Lane Louisville (Jefferson)					X(NI)								
21-111-0048	850 Barret Avenue Louisville (Jefferson)	X(t I)												
21-111-0051	7201 Watson Lane Louisville (Jefferson)	X(tsI)		X(I)			X(I)							
21-111-1019	1735 Bardstown Road Louisville (Jefferson)					X(I)								
21-111-1021	1918 Mellwood Ave, WLKY-TV Louisville (Jefferson)				X(e)		X(N)							
21-111-1041	4201 Algonquin Parkway Louisville (Jefferson)			X(NIe)										
	TOTAL	9	3	2	1	2	3	1	0	0	0	0	1	1

(c) Collocated Monitor

(e) Emergency Episode Monitor

(I) Air Quality Index Monitor

(N) National Air Monitoring Station (NAMS) Monitor

(s) Special Purpose Monitor

(t) Continuous PM Monitor

(Rev.3/27/06)

401 KAR 50:020 Air Quality Control Region: Louisville Interstate (078)
CSA/MSA: Louisville-Jefferson County-Elizabethtown-Scottsburg, KY-IN CSA / Louisville-Jefferson County, KY-IN MSA
Site Name: Bates Elementary
AQS Site ID: 21-111-0027
Location: Bates Elementary School, 7601 Bardstown Road, Louisville, KY 40291
County: Jefferson
GPS Coordinates: 38.137222, -85.578333
Date Established: January 4, 1973
Inspection Date: September 22, 2006
Inspection By: Andrea P. Keatley
Site Approval Status: Site and monitors meet all design criteria for the monitoring network.

The monitoring site is a stationary equipment shelter located on the grounds of the Bates Elementary School in Louisville, Kentucky. The sample inlets are 13 feet above ground level and 1000 feet from the nearest road. The most recent site inspection was conducted on September 22, 2006. The air monitoring site was found to be in accordance with 40 CFR Part 58, Appendices C, D, E and G.

Monitoring Objective:
The monitoring objectives are to determine compliance with National Ambient Air Quality Standards and to provide pollution levels for daily index reporting.

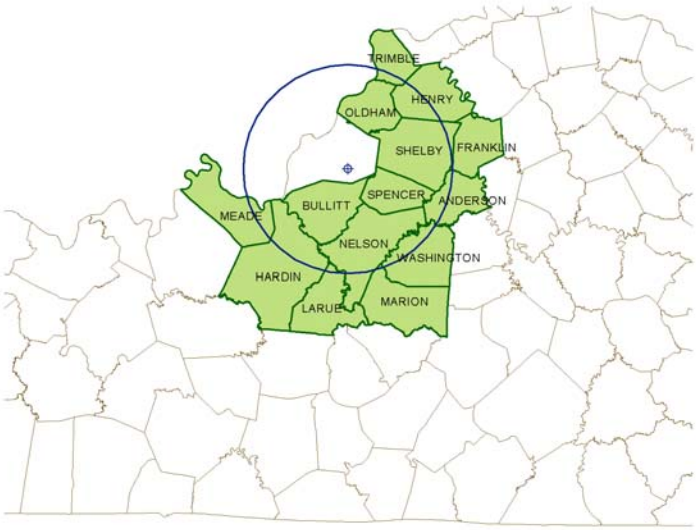
Monitors:

Monitor Type	Designation	Analysis Method	Frequency of Sampling
AEM Ozone	SLAMS AQI	UV photometry	Continuously March 1 – October 31
$PM_{2.5}$ TEOM	Other AQI	Tapered element oscillating microbalance, gravimetric	Continuously

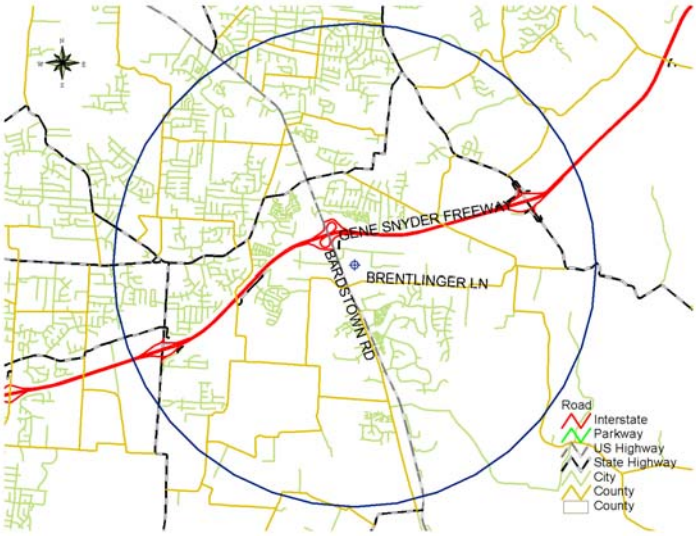
Quality Assurance Status:
All Quality Assurance procedures have been implemented in accordance with 40 CFR Part 58, Appendix A.

Area Representativeness:
The site represents population exposure on an urban scale for ozone. This site also represents population exposure on a neighborhood scale for fine particulates.

Ozone Urban Scale



Particulates Neighborhood Scale



401 KAR 50:020 Air Quality Control Region: Louisville Interstate (078)
CSA/MSA: Louisville-Jefferson County-Elizabethtown-Scottsburg, KY-IN CSA / Louisville-Jefferson County, KY-IN MSA
Site Name: Southwick Community Center
AQS Site ID: 21-111-0043
Location: Southwick Community Center, 3621 Southern Avenue, Louisville, KY 40211
County: Jefferson
GPS Coordinates: 38.232222, -85.825278
Date Established: July 1, 1983
Inspection Date: October 26, 2006
Inspection By: Andrea P. Keatley
Site Approval Status: Site and monitors meet all design criteria for the monitoring network.

The monitoring site is located on the roof of the Southwick Park Community Center in Louisville, Kentucky. The sample inlets are 16 feet above ground level and 200 feet from the nearest road. The most recent site inspection was conducted on October 26, 2006. The air monitoring site was found to be in accordance with 40 CFR Part 58, Appendices C, D, E and G.

Monitoring Objective:
The monitoring objectives are to determine compliance with National Ambient Air Quality Standards and to provide pollution levels for daily index reporting.

Monitors:

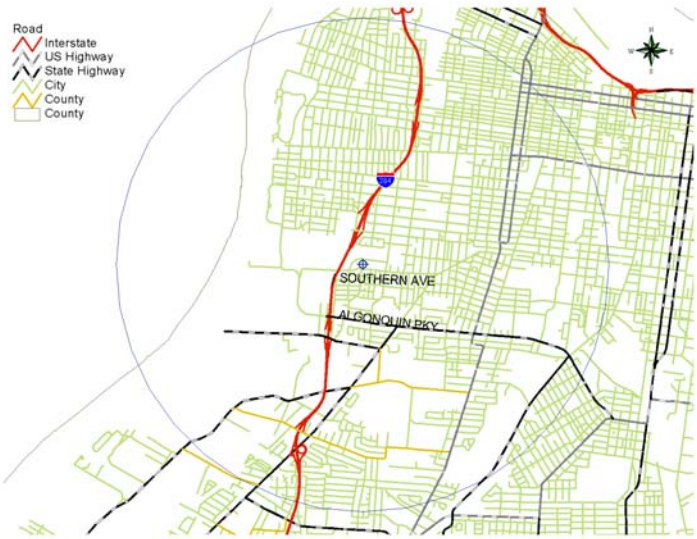
Monitor Type	Designation	Analysis Method	Frequency of Sampling
PM_{10} TEOM	AQI	Tapered element oscillating microbalance, gravimetric	Continuously
- Collocated PM_{10} TEOM	AQI	Tapered element oscillating microbalance, gravimetric	Continuously
FRM $PM_{2.5}$	SLAMS	Gravimetric	24-hours everyday
- Collocated FRM $PM_{2.5}$	Other	Gravimetric	24-hours every sixth day
$PM_{2.5}$ Speciation	SLAMS	Thermal optical, ion chromatography, and X-ray florescence	24-hours every sixth day
$PM_{2.5}$ TEOM	Other	Tapered element oscillating microbalance, gravimetric	Continuously
Meteorological	Other	AQM grade instruments for wind speed, wind direction, humidity, barometric pressure and temperature	Continuously

Quality Assurance Status:

All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area Representativeness:
This site represents population exposure on a neighborhood scale for particulates. This site also represents population exposure, highest concentration for the SLAMS speciation particulates.

Neighborhood Scale



401 KAR 50:020 Air Quality Control Region: Louisville Interstate (078)
CSA/MSA: Louisville-Jefferson County-Elizabethtown-Scottsburg, KY-IN CSA / Louisville-Jefferson County, KY-IN MSA
Site Name: Wyandotte Park
AQS Site ID: 21-111-0044
Location: Wyandotte Park, 1032 Beecher Avenue, Louisville, KY 40215
County: Jefferson
GPS Coordinates: 38.190833, -85.780556
Date Established: September 1, 1983
Inspection Date: September 22, 2006
Inspection By: Andrea P. Keatley
Site Approval Status: Site and monitors meet all design criteria for the monitoring network.

The monitoring site is located on the roof of the pool house at Wyandotte Park in Louisville, Kentucky. The sample inlets are 16 feet above ground level and 150 feet from the nearest road. The most recent site inspection was conducted on September 22, 2006. The air monitoring site was found to be in accordance with 40 CFR Part 58, Appendices C, D, E and G.

Monitoring Objective:
The monitoring objectives are to determine compliance with National Ambient Air Quality Standards; to observe pollution trends for national data analysis; and to provide pollution levels for daily index reporting.

Monitors:

Monitor Type	Designation	Analysis Method	Frequency of Sampling
AEM PM_{10} TEOM	NAMS AQI	Tapered element oscillating microbalance, gravimetric	Continuously
FRM $PM_{2.5}$	SLAMS	Gravimetric	24-hours everyday

Quality Assurance Status:
All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area Representativeness:
The site represents population exposure on a neighborhood scale.

Neighborhood Scale

401 KAR 50:020 Air Quality Control Region: Louisville Interstate (078)
CSA/MSA: Louisville-Jefferson County-Elizabethtown-Scottsburg, KY-IN CSA / Louisville-Jefferson County, KY-IN MSA
Site Name: Seneca
AQS Site ID: 21-111-0046
Location: Seneca High School, Goldsmith Lane, Louisville, KY 40218
County: Jefferson
GPS Coordinates: 38.208056, -85.655556
Date Established: April 1, 1987
Inspection Date: October 26, 2006
Inspection By: Andrea P. Keatley
Site Approval Status: Site and monitors meet all design criteria for the monitoring network.

The monitoring site is located at the Seneca High School in Louisville, Kentucky. The sample inlet is 37 feet above ground level and 600 feet from the nearest road. The most recent site inspection was conducted on October 26, 2006. The air monitoring site was found to be in accordance with 40 CFR Part 58, Appendices C, D, E and G.

Monitoring Objective:
The monitoring objectives are to determine compliance with National Ambient Air Quality Standards; to observe pollution trends for national data analysis; and to provide pollution levels for daily index reporting.

Monitors:

Monitor Type	Designation	Analysis Method	Frequency of Sampling
ARM Carbon Monoxide	NAMS SLAMS AQI	Non-dispersive infrared	Continuously

Quality Assurance Status:
All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area Representativeness:
This site represents population exposure on a neighborhood scale.

Neighborhood Scale

401 KAR 50:020 Air Quality Control Region: Louisville Interstate (078)
CSA/MSA: Louisville-Jefferson County-Elizabethtown-Scottsburg, KY-IN CSA / Louisville-Jefferson County, KY-IN MSA
Site Name: Barret Avenue
AQS Site ID: 21-111-0048
Location: 850 Barret Avenue, Louisville, KY 40204
County: Jefferson
GPS Coordinates: 38.240556, -85.731667
Date Established: November 1, 1989
Inspection Date: September 22, 2006
Inspection By: Andrea P. Keatley
Site Approval Status: Site and monitors meet all design criteria for the monitoring network.

The monitoring site is located on the roof of a three story building on Barret Avenue in Louisville, Kentucky. The sample inlets are 33 feet above ground level and 175 feet from the nearest road. The most recent site inspection was conducted on September 22, 2006. The air monitoring site was found to be in accordance with 40 CFR Part 58, Appendices C, D, E and G.

Monitoring Objective:
The monitoring objectives are to determine compliance with National Ambient Air Quality Standards and to provide pollution levels for daily index reporting.

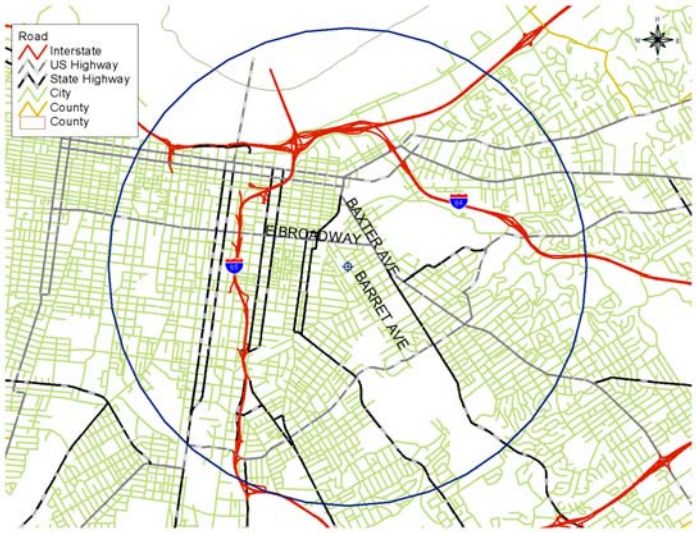
Monitors:

Monitor Type	Designation	Analysis Method	Frequency of Sampling
FRM $PM_{2.5}$	SLAMS AQI	Gravimetric	24-hours every third day
$PM_{2.5}$ TEOM	Other	Tapered element oscillating microbalance, gravimetric	Continuously
Solar Radiation	Other	Pyranometer	Continuously
Rain/melt Precipitation	Other	Heated tipping bucket	Continuously

Quality Assurance Status:
All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area Representativeness:
This site represents population exposure on a neighborhood scale.

Neighborhood Scale



401 KAR 50:020 Air Quality Control Region: Louisville Interstate (078)
CSA/MSA: Louisville-Jefferson County-Elizabethtown-Scottsburg, KY-IN CSA / Louisville-Jefferson County, KY-IN MSA
Site Name: Watson Lane
AQS Site ID: 21-111-0051
Location: Watson Lane School, 7201 Watson Lane, Louisville, KY 40272
County: Jefferson
GPS Coordinates: 38.060833, -85.896111
Date Established: July 16, 1992
Inspection Date: September 22, 2006
Inspection By: Andrea P. Keatley
Site Approval Status: Site and monitors meet all design criteria for the monitoring network.

The monitoring site is a stationary equipment shelter located on the grounds of the Watson Lane Elementary School in Louisville, Kentucky. The sample inlets are 13 feet above ground level and 125 feet from the nearest road. The most recent site inspection was conducted on September 22, 2006. The air monitoring site was found to be in accordance with 40 CFR Part 58, Appendices C, D, E and G.

Monitoring Objective:
The monitoring objectives are to determine compliance with National Ambient Air Quality Standards and to provide pollution levels for daily index reporting.

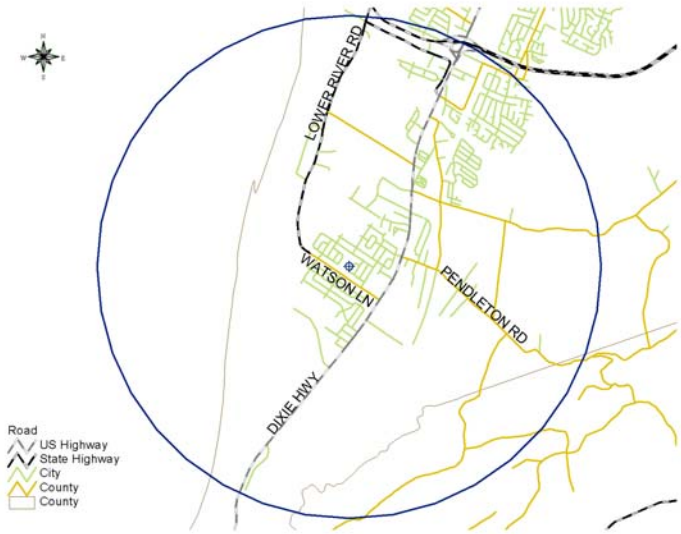
Monitors:

Monitor Type	Designation	Analysis Method	Frequency of Sampling
AEM Ozone	SLAMS AQI	UV photometry	Continuously March 1 – October 31
FRM $PM_{2.5}$	Other	Gravimetric	24-hours every sixth day
$PM_{2.5}$ TEOM	Other AQI	Tapered element oscillating microbalance, gravimetric	Continuously
AEM Sulfur Dioxide	SLAMS AQI	UV fluorescence	Continuously

Quality Assurance Status:
All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area Representativeness:
This site represents population exposure on a neighborhood scale.

Neighborhood Scale



401 KAR 50:020 Air Quality Control Region: Louisville Interstate (078)
CSA/MSA: Louisville-Jefferson County-Elizabethtown-Scottsburg, KY-IN CSA / Louisville-Jefferson County, KY-IN MSA
Site Name: Fire Station 20
AQS Site ID: 21-111-0019
Location: Fire Station 20, 1735 Bardstown Road, Louisville, KY 40205
County: Jefferson
GPS Coordinates: 38.228889, -85.702222
Date Established: January 1, 1973
Inspection Date: October 26, 2006
Inspection By: Andrea P. Keatley
Site Approval Status: Site and monitors meet all design criteria for the monitoring network.

The monitoring site is located at Fire Station Number 20 on Bardstown Road in Louisville, Kentucky. The sample inlet is 10 feet above ground level and 13 feet from the nearest road. The most recent site inspection was conducted on October 26, 2006. The air monitoring site was found to be in accordance with 40 CFR Part 58, Appendices C, D, E and G.

Monitoring Objective:
The monitoring objectives are to determine compliance with National Ambient Air Quality Standards and to provide pollution levels for daily index reporting.

Monitors:

Monitor Type	Designation	Analysis Method	Frequency of Sampling
ARM Carbon Monoxide	SLAMS AQI	Non-dispersive infrared	Continuously

Quality Assurance Status:
All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area Representativeness:
This site represents maximum concentration on a micro scale.

Micro Scale

401 KAR 50:020 Air Quality Control Region: Louisville Interstate (078)
CSA/MSA: Louisville-Jefferson County-Elizabethtown-Scottsburg, KY-IN CSA / Louisville-Jefferson County, KY-IN MSA
Site Name: WLKY-TV
AQS Site ID: 21-111-1021
Location: WLKY-TV, 1918 Mellwood Avenue, Louisville, KY 40206
County: Jefferson
GPS Coordinates: 38.263611, -85.711667
Date Established: August 31, 1973
Inspection Date: October 26, 2006
Inspection By: Andrea P. Keatley
Site Approval Status: Site and monitors meet all design criteria for the monitoring network.

The monitoring site is located at the WLKY-TV building in Louisville, Kentucky. The sample inlets are 15 feet above ground level and 500 feet from the nearest road. The most recent site inspection was conducted on October 26, 2006. The air monitoring site was found to be in accordance with 40 CFR Part 58, Appendices C, D, E and G.

Monitoring Objective:
The monitoring objectives are to determine compliance with National Ambient Air Quality Standards; to observe pollution trends for national data analysis; to detect episode levels for the activation of emergency control procedures; and to provide pollution levels for daily index reporting.

Monitors:

Monitor Type	Designation	Analysis Method	Frequency of Sampling
AEM Nitrogen Dioxide	SLAMS EPISODE	Chemiluminescence	Continuously
AEM Ozone	NAMS SLAMS AQI	UV photometry	Continuously March 1 – October 31

Quality Assurance Status:
All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area Representativeness:
This site represents population exposure on a neighborhood scale for ozone. This site also represents population exposure on an urban scale for nitrogen dioxide.

Ozone Neighborhood Scale

Nitrogen Dioxide Urban Scale

401 KAR 50:020 Air Quality Control Region: Louisville Interstate (078)
CSA/MSA: Louisville-Jefferson County-Elizabethtown-Scottsburg, KY-IN CSA / Louisville-Jefferson County, KY-IN MSA
Site Name: Firearms Training
AQS Site ID: 21-111-1041
Location: Firearms Training, 4201 Algonquin Parkway, Louisville, KY 40211
County: Jefferson
GPS Coordinates: 38.231630, -85.826720
Date Established: April 13, 1978
Inspection Date: September 22, 2006
Inspection By: Andrea P. Keatley
Site Approval Status: Site and monitors meet all design criteria for the monitoring network.

The monitoring site is a stationary equipment shelter located on the grounds of the Firearms Training Center in Louisville, Kentucky. The sample inlet is 15 feet above ground level and 100 feet from the nearest road. The most recent site inspection was conducted on September 22, 2006. The air monitoring site was found to be in accordance with 40 CFR Part 58, Appendices C, D, E and G.

Monitoring Objective:
The monitoring objectives are to determine compliance with National Ambient Air Quality Standards; to observe pollution trends for national data analysis; to detect episode levels for the activation of emergency control procedures; and to provide pollution levels for daily index reporting.

Monitors:

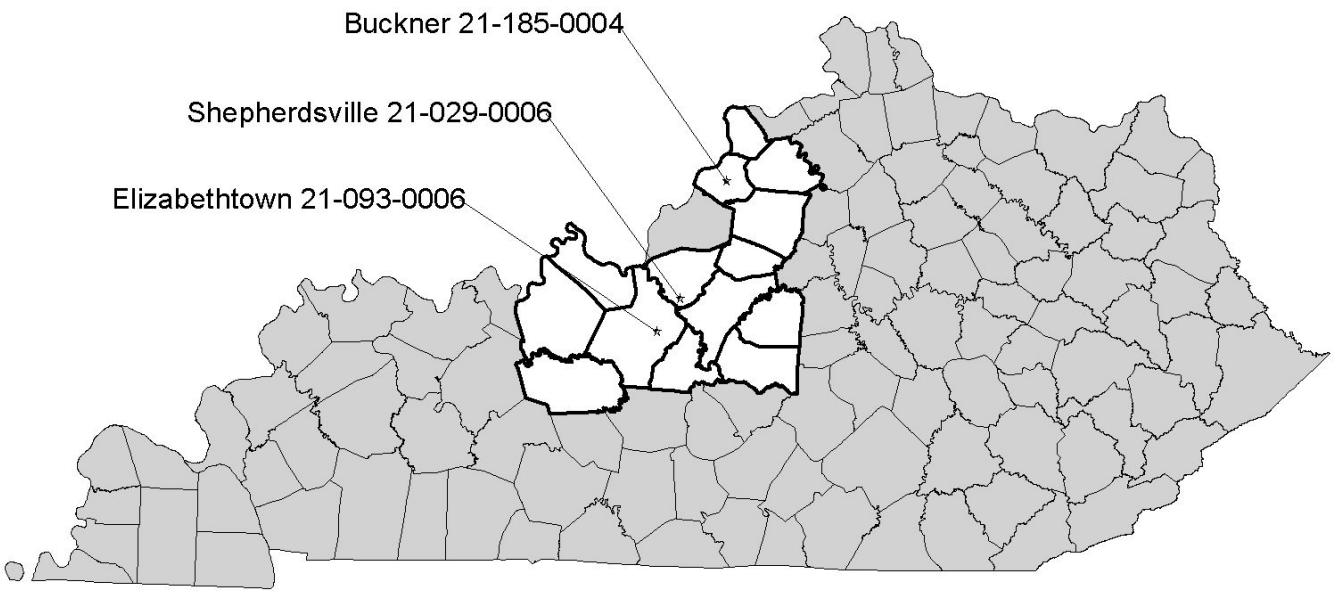
Monitor Type	Designation	Analysis Method	Frequency of Sampling
AEM Sulfur Dioxide	NAMS SLAMS EPISODE AQI	UV fluorescence	Continuously

Quality Assurance Status:
All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area Representativeness:
This site represents population exposure on a neighborhood scale.

Neighborhood Scale

North Central Region



AIRS ID	ADDRESS	PM2.5	PM10	SO2	NO2	CO	O3	Metals	Hg	Wet Dep.	VOC	Carb-onyl	Specia-tion	MET
21-029-0006	2nd & Carpenter Streets Shepherdsville (Bullitt)	X					X							X
21-093-0006	801 N Miles St, Am Legion Park Elizabethtown (Hardin)	X(t)					X(s)							
21-185-0004	DOT Garage, 3995 Morgan Rd Buckner (Oldham)						X							
	TOTAL	3	0	0	0	0	3	0	0	0	0	0	0	1

(s) Special Purpose Monitor

(t) Continuous PM Monitor

(Rev.3/2/07)

401 KAR 50:020 Air Quality Control Region: North Central Kentucky Intrastate (104)
CSA/MSA: Louisville-Jefferson County-Elizabethtown-Scottsburg, KY-IN CSA / Louisville-Jefferson County, KY-IN MSA
Site Name: Shepherdsville
AQS Site ID: 21-029-0006
Location: Second and Carpenter Streets, Shepherdsville, KY 40165
County: Bullitt
GPS Coordinates: 37.98556, -85.713056
Date Established: January 30, 1992
Inspection Date: August 21, 2006
Inspection By: Andrea P. Keatley
Site Approval Status: Site and monitors meet all design criteria for the monitoring network.

The monitoring site is a stationary equipment shelter located in a fenced in area near the intersection of Second and Carpenter Streets in Shepherdsville, Kentucky. The sample inlets are 13 feet above ground level and 70 feet from the nearest road. The most recent site inspection was conducted on August 21, 2006. Upon inspection, the sample lines and monitors were found to be in good condition. The site meets the requirements of 40 CFR 58, Appendices C, D and E.

Monitoring Objective:
The monitoring objectives are to determine compliance with National Ambient Air Quality Standards.

Monitors:

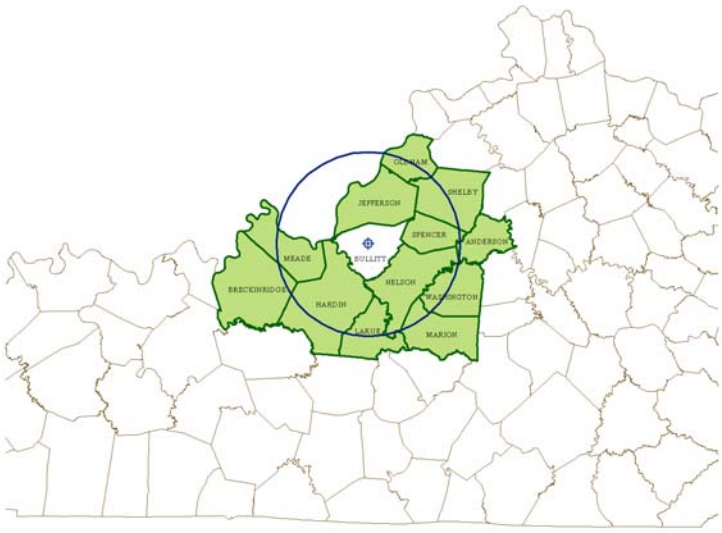
Monitor Type	Designation	Analysis Method	Frequency of Sampling
AEM Ozone	SLAMS	UV photometry	Continuously March 1 – October 31
FRM $PM_{2.5}$	SLAMS	Gravimetric	24-hours every third day
Meteorological	Other	AQM grade instruments for wind speed, wind direction, humidity, barometric pressure and temperature	Continuously

Quality Assurance Status:
All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area Representativeness:
This site represents population exposure on a neighborhood scale for particulates and population exposure on an urban scale for ozone.

Particulates Neighborhood Scale

Ozone Urban Scale



401 KAR 50:020 Air Quality Control Region: North Central Kentucky Intrastate (104)
CSA/MSA: Louisville-Jefferson County-Elizabethtown-Scottsburg, KY-IN CSA / Elizabethtown, KY MSA
Site Name: Elizabethtown
AQS Site ID: 21-093-0006
Location: American Legion Park, 801 North Miles Street, Elizabethtown, KY 42701
County: Hardin
GPS Coordinates: 37.706389, -85.851667
Date Established: February 24, 2000
Inspection Date: August 21, 2006
Inspection By: Andrea P. Keatley
Site Approval Status: Site and monitors meet all design criteria for the monitoring network.

No Picture Available

The monitoring site is a stationary equipment shelter located near the tennis courts on the grounds of the American Legion Park in Elizabethtown, Kentucky. The sample inlets are 13 feet above ground level and 800 feet from the nearest road. The most recent site inspection was conducted on August 21, 2006. Upon inspection, the sample lines and monitors were found to be in good condition. The site meets the requirements of 40 CFR 58, Appendices C, D and E.

Monitoring Objective:
The monitoring objectives are to determine compliance with National Ambient Air Quality Standards.

Monitors:

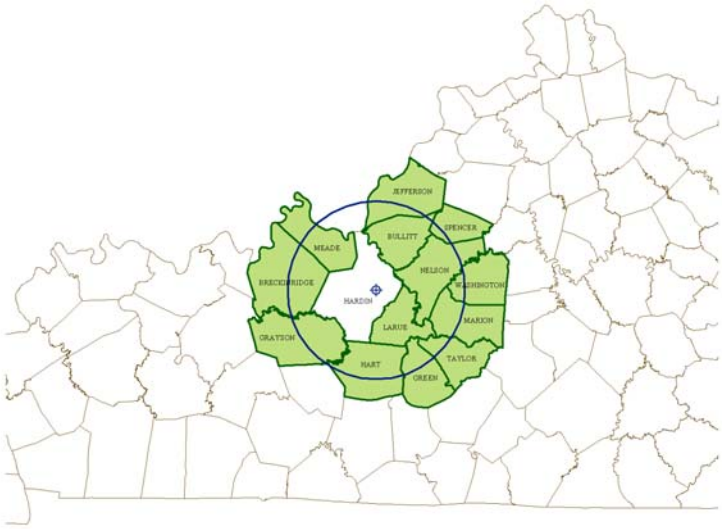
Monitor Type	Designation	Analysis Method	Frequency of Sampling
AEM Ozone	SPM	UV photometry	Continuously March 1 – October 31
FRM $PM_{2.5}$	SLAMS	Gravimetric	24-hours every third day
$PM_{2.5}$ TEOM	SPM	Tapered element oscillating microbalance, gravimetric	Continuously

Quality Assurance Status:
All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area Representativeness:
This site represents population exposure on a neighborhood scale for particulates and population exposure on an urban scale for ozone.

Particulates Neighborhood Scale

Ozone Urban Scale



401 KAR 50:020 Air Quality Control Region: North Central Kentucky Intrastate (104)
CSA/MSA: Louisville-Jefferson County-Elizabethtown-Scottsburg, KY-IN CSA / Louisville-Jefferson County, KY-IN MSA
Site Name: Buckner
AQS Site ID: 21-185-0004
Location: DOT Garage, 3995 Morgan Road, Buckner, KY 40010
County: Oldham
GPS Coordinates: 38.398611, -85.443333
Date Established: May 1, 1981
Inspection Date: August 21, 2006
Inspection By: Andrea P. Keatley
Site Approval Status: Site and monitors meet all design criteria for the monitoring network.

No Picture Available

The monitoring site is a stationary equipment shelter located on the grounds of the Kentucky DOT Highway Garage in Buckner, Kentucky. The sample inlets are 13 feet above ground level and 250 feet from the nearest road. The most recent site inspection was conducted on August 21, 2006. Upon inspection, the sample line and monitor were found to be in good condition. The site meets the requirements of 40 CFR 58, Appendices C, D and E

Monitoring Objective:
The monitoring objectives are to determine compliance with National Ambient Air Quality Standards.

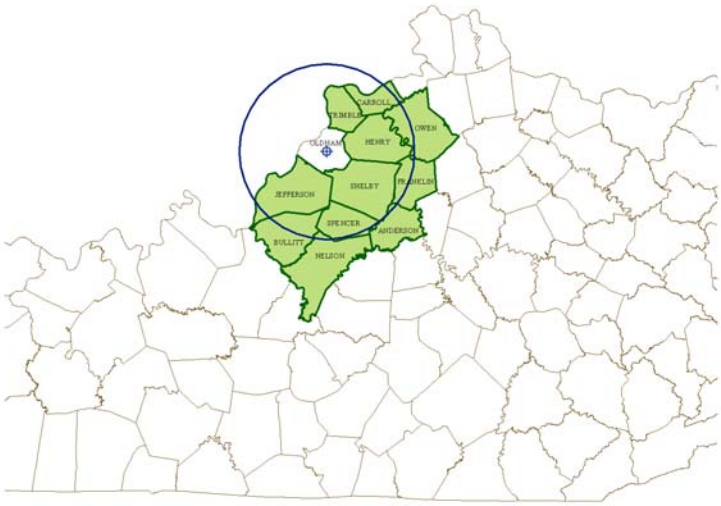
Monitors:

Monitor Type	Designation	Analysis Method	Frequency of Sampling
AEM Ozone	SLAMS	UV photometry	Continuously March 1 – October 31

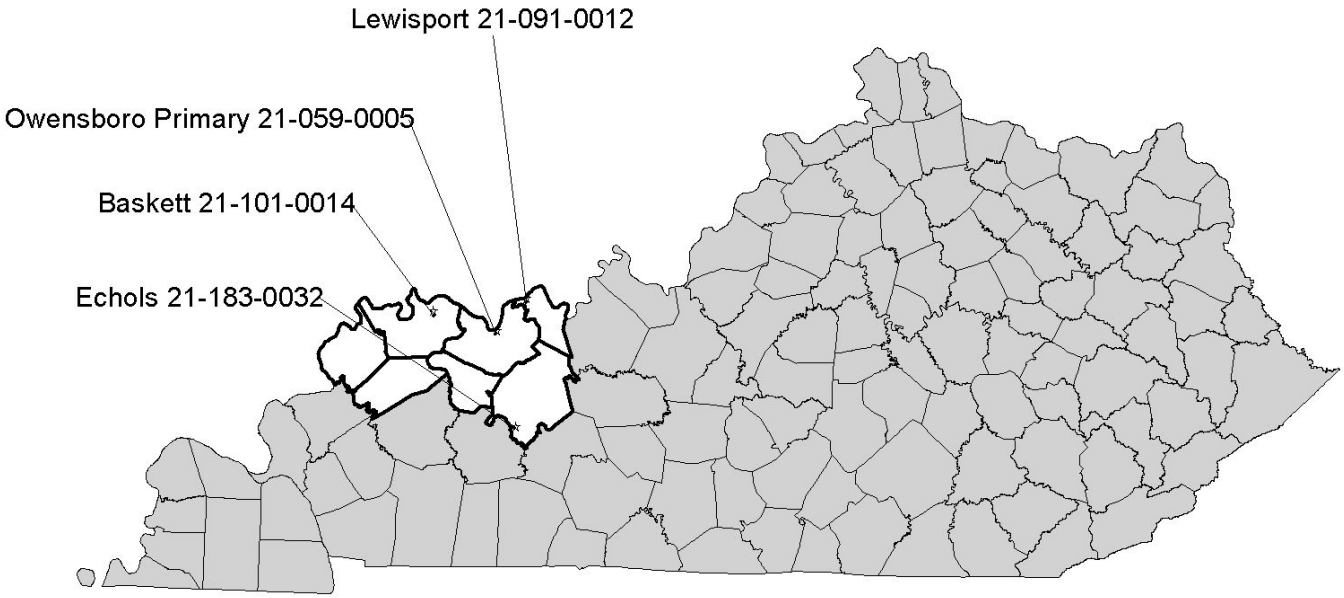
Quality Assurance Status:
All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area Representativeness:
This site represents maximum concentrations on an urban scale.

Ozone Urban Scale



Owensboro-Henderson Region



AIRS ID	ADDRESS	PM2.5	PM10	SO2	NO2	CO	O3	Metals	Hg	Wet Dep.	VOC	Carb -onyl	Specia- tion	MET
21-059-0005	716 Pleasant Valley Road Owensboro (Daviess)	X(tIe)		X(eI)	X(e)		X(eI)							X
21-091-0012	Lewisport Elementary School Lewisport (Hancock)						X							
21-101-0014	Baskett Fire Department Baskett (Henderson)	X(ct)		X			X(s)							
21-183-0032	Keytown Road Echols (Ohio)	X(st)	X(s)	X(s)	X(s)		X(s)	X(s)	X	HG				X
	TOTAL	7	1	3	2	0	4	1	1	1	0	0	0	2

(c) Collocated Monitor
(e) Emergency Episode Monitor
(I) Air Quality Index Monitor
(s) Special Purpose Monitor
(t) Continuous PM Monitor

(Rev.3/2/07)

401 KAR 50:020 Air Quality Control Region: Evansville-Owensboro-Henderson Interstate (077)
CSA/MSA: Owensboro, KY MSA
Site Name: Owensboro Primary
AQS Site ID: 21-059-0005
Location: 716 Pleasant Valley Road, Owensboro, KY 42303
County: Daviess
GPS Coordinates: 37.780833, -87.075556
Date Established: December 1, 1970
Inspection Date: September 25, 2006
Inspection By: Andrea P. Keatley
Site Approval Status: Site and monitors meet all design criteria for the monitoring network.

The monitoring site is a stationary equipment shelter located on the grounds behind the Wyndall's Shopping Center in Owensboro, Kentucky. The sample inlets are 13 feet above ground level and 200 feet from the nearest road. The most recent site inspection was conducted on September 25, 2006. Upon inspection, the sample lines and monitors were found to be in good condition. The site meets the requirements of 40 CFR 58, Appendices C, D, E and G.

Monitoring Objective:
The monitoring objectives are to determine compliance with National Ambient Air Quality Standards; to detect emergency pollution levels of criteria pollutants for activation of emergency control procedures; and to provide levels of ozone, particulate matter and sulfur dioxide for daily index reporting.

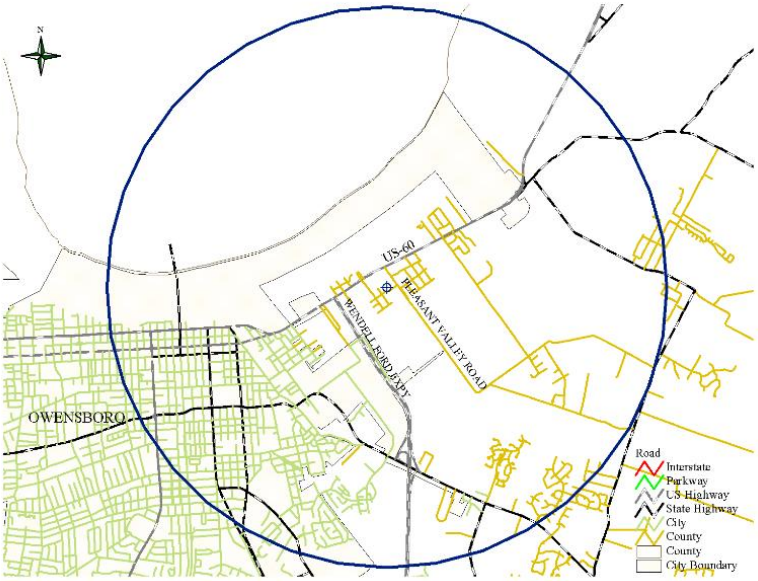
Monitors:

Monitor Type	Designation	Analysis Method	Frequency of Sampling
AEM Nitrogen Dioxide	SLAMS EPISODE	Chemiluminescence	Continuously
AEM Ozone	SLAMS EPISODE AQI	UV photometry	Continuously March 1 – October 31
FRM $PM_{2.5}$	SLAMS EPISODE AQI	Gravimetric	24-hours every third day
$PM_{2.5}$ TEOM	SPM	Tapered element oscillating microbalance, gravimetric	Continuously
AEM Sulfur Dioxide	SLAMS EPISODE AQI	UV fluorescence	Continuously
Meteorological	Other	AQM grade instruments for wind speed, wind direction, humidity, barometric pressure and temperature	Continuously

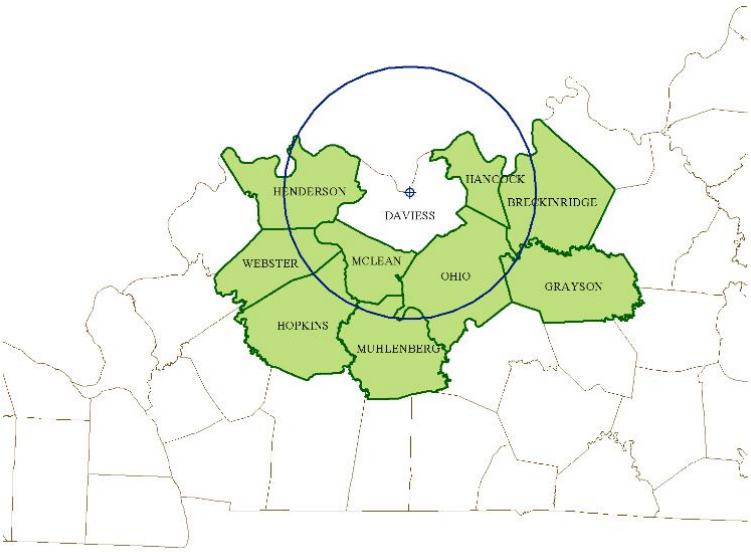
Quality Assurance Status:
All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area Representativeness:
This site represents population exposure on a neighborhood scale for particulates, ozone and sulfur dioxide. This site also represents population exposure on an urban scale for nitrogen dioxide.

Criteria Neighborhood Scale



Nitrogen Dioxide Urban Scale



401 KAR 50:020 Air Quality Control Region: Evansville-Owensboro-Henderson Interstate (077)
CSA/MSA: Owensboro, KY MSA
Site Name: Lewisport
AQS Site ID: 21-091-0012
Location: Second and Caroline Streets, Lewisport Elementary School, Lewisport, KY 42351
County: Hancock
GPS Coordinates: 37.938889, -86.896944
Date Established: September 5, 1980
Inspection Date: September 25, 2006
Inspection By: Andrea P. Keatley
Site Approval Status: Site and monitors meet all design criteria for the monitoring network.

The monitoring site is a stationary equipment shelter located on the grounds of the Lewisport Elementary School in Lewisport, Kentucky. The sample inlets are 11 feet above ground level and 175 feet from the nearest road. The most recent site inspection was conducted on September 25, 2006. Upon inspection, the sample line and monitor were found to be in good condition. The site meets the requirements of 40 CFR 58, Appendices C, D and E.

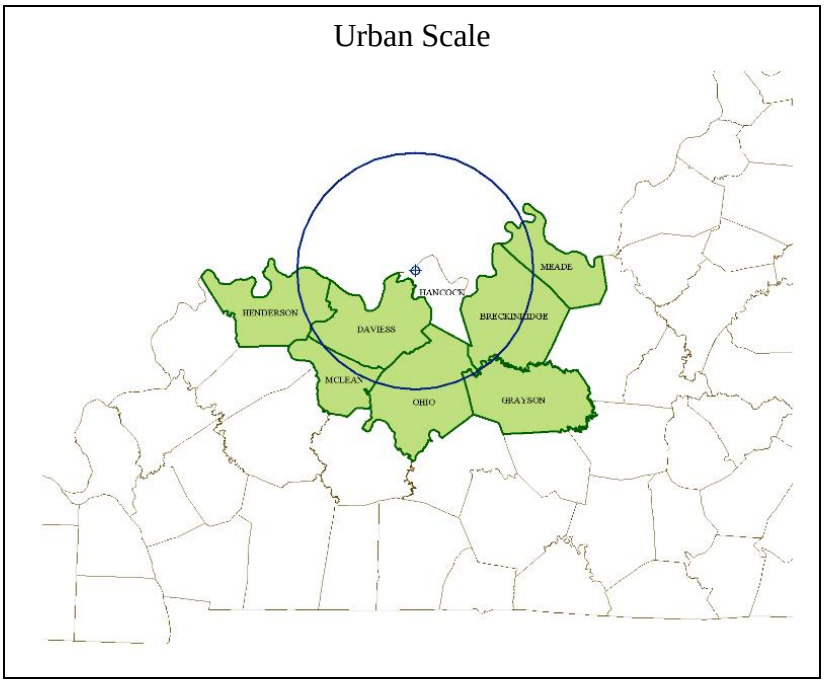
Monitoring Objective:
The monitoring objective is to determine compliance with National Ambient Air Quality Standards.

Monitors:

Monitor Type	Designation	Analysis Method	Frequency of Sampling
AEM Ozone	SLAMS	UV photometry	Continuously March 1 – October 31

Quality Assurance Status:
All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area Representativeness:
This site represents maximum concentration on an urban scale.



401 KAR 50:020 Air Quality Control Region: Evansville-Owensboro-Henderson Interstate (077)
CSA/MSA: Evansville, IN- KY MSA
Site Name: Baskett
AQS Site ID: 21-101-0014
Location: Baskett Fire Department, Baskett, KY 42402
County: Henderson
GPS Coordinates: 37.871389, -87.463333
Date Established: February 27, 1992
Inspection Date: September 25, 2006
Inspection By: Andrea P. Keatley
Site Approval Status: Site and monitors meet all design criteria for the monitoring network.

The monitoring site is a stationary equipment shelter located on the grounds of the Baskett Fire Department in Baskett, Kentucky. The sample inlets are 13 feet above ground level and 25 feet from the nearest road. The most recent site inspection was conducted on September 25, 2006. Upon inspection, the sample lines and monitors were found to be in good condition. The site meets the requirements of 40 CFR 58, Appendices C, D and E.

Monitoring Objective:
The monitoring objective is to determine compliance with National Ambient Air Quality Standards.

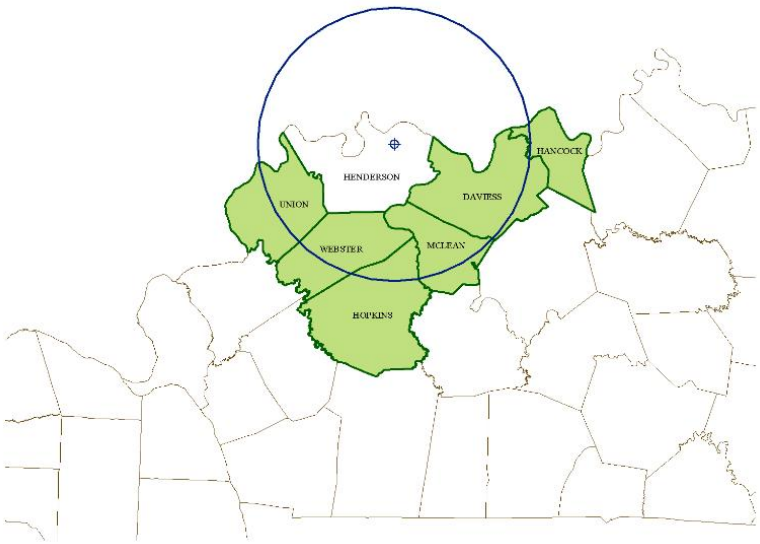
Monitors:

Monitor Type	Designation	Analysis Method	Frequency of Sampling
AEM Ozone	SPM	UV photometry	Continuously March 1 – October 31
FRM $PM_{2.5}$	SLAMS	Gravimetric	24-hours every third day
- Collocated FRM $PM_{2.5}$	SLAMS	Gravimetric	24-hours every sixth day
$PM_{2.5}$ TEOM	SPM	Tapered element oscillating microbalance, gravimetric	Continuously
AEM Sulfur Dioxide	SLAMS	UV fluorescence	Continuously

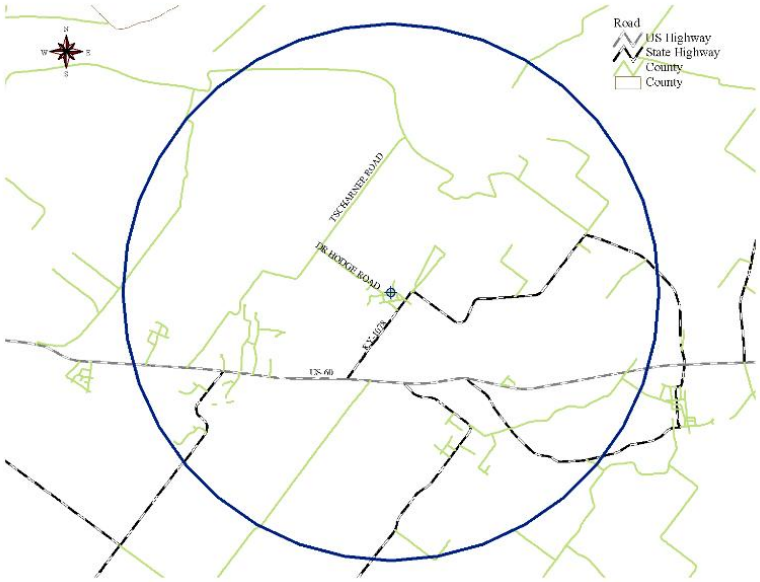
Quality Assurance Status:
All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area Representativeness:
This site represents maximum concentration on an urban scale for ozone. This site also represents population exposure on a neighborhood scale for particulates and sulfur dioxide.

Ozone Urban Scale



Neighborhood Scale



401 KAR 50:020 Air Quality Control Region: Evansville-Owensboro-Henderson Interstate (077)
CSA/MSA: Not in a MSA - Rural
Site Name: Echols
AQS Site ID: 21-183-0032
Location: Keytown Road, Echols, KY 42320
County: Ohio
GPS Coordinates: 37.319725, -86.956097
Date Established: February 1, 2005
Inspection Date: September 19, 2006
Inspection By: Andrea P. Keatley
Site Approval Status: Site and monitors meet all design criteria for the monitoring network.

The monitoring site is a stationary equipment shelter located on farmland off Keytown Road near the intersection with Pond Church Road in Echols, Kentucky. The sample inlets are 12 feet above ground level and 100 feet from the nearest road. The most recent site inspection was conducted on September 19, 2006. Upon inspection, the sample lines and monitors were found to be in good condition. The site meets the requirements of 40 CFR 58, Appendices C, D and E.

Monitoring Objective:
The monitoring objective is to determine compliance with National Ambient Air Quality Standards.

Monitors:

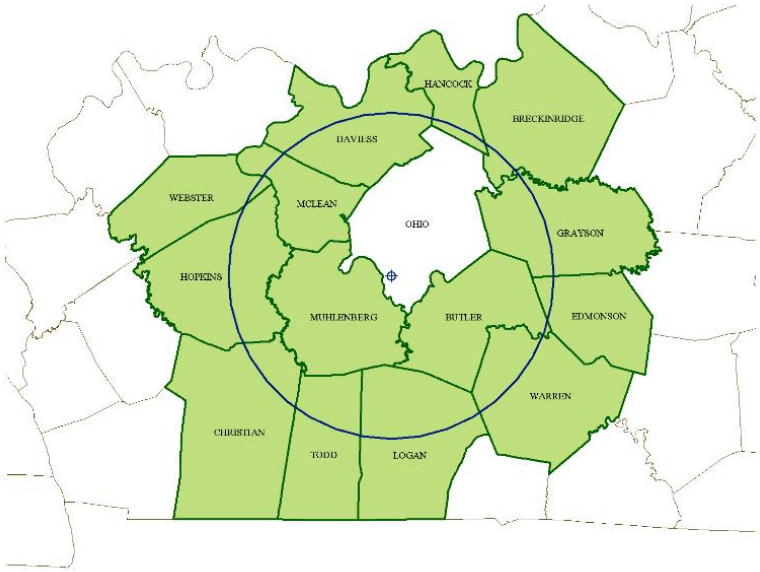
Monitor Type	Designation	Analysis Method	Frequency of Sampling
Nitrogen Dioxide	SPM	UV open path	Continuously
Ozone	SPM	UV open path	Continuously March 1 – October 31
FRM PM_{10}	SPM	Gravimetric	24-hours every sixth day
- Metals PM_{10}	SPM	Determined from the PM_{10} samples using EPA method IO 3.4	Same as PM_{10}
FRM $PM_{2.5}$	SPM	Gravimetric	24-hours every sixth day
$PM_{2.5}$ TEOM	SPM	Tapered element oscillating microbalance, gravimetric	Continuously
Sulfur Dioxide	SPM	UV open path	Continuously
Mercury – ambient	SPM	Cold vapour atomic fluorescence spectrometry	Continuously
Mercury – Wet Deposition	SPM	Wet deposition collected, analysis of sample by the Environmental Services Laboratory	Weekly
Ammonia	SPM	UV open path	Continuously
Nitric Oxide	SPM	UV open path	Continuously

Meteorological	Other	AQM grade instruments for wind speed, wind direction, humidity, barometric pressure and temperature	Continuously

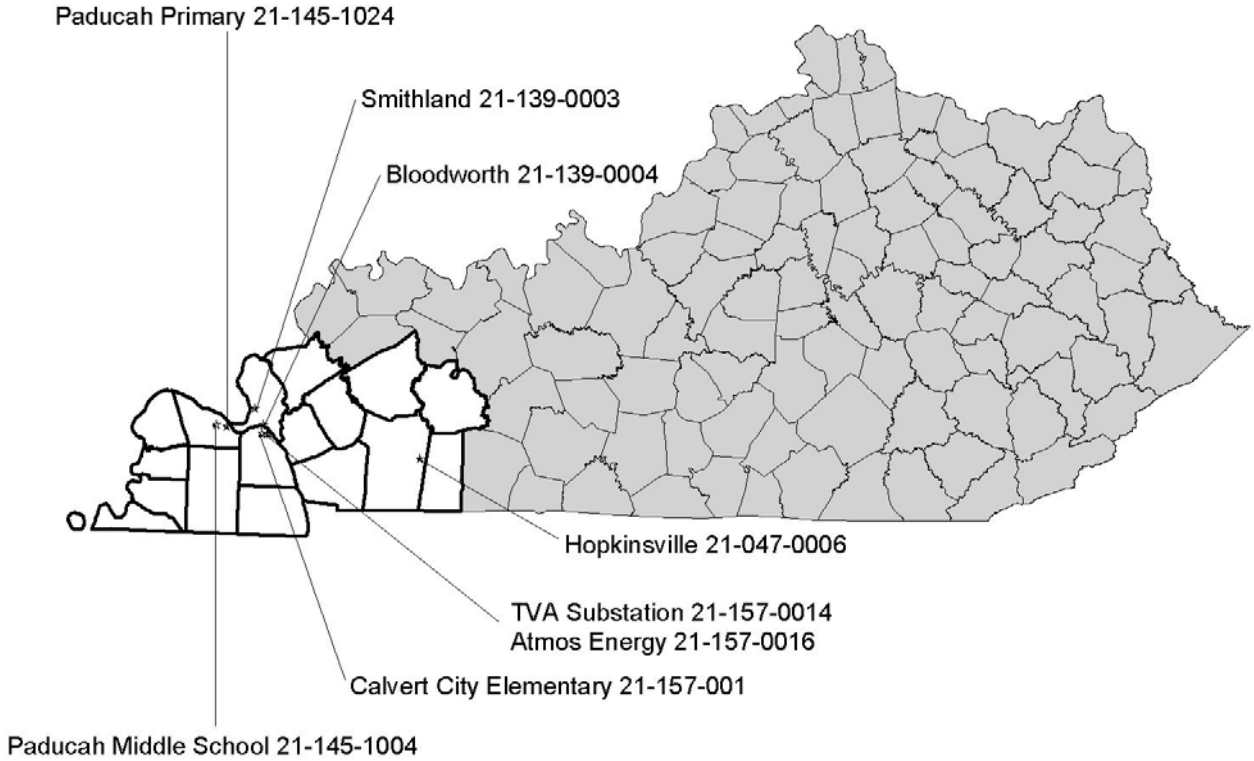
Quality Assurance Status:
All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A for the FRM $PM_{2.5}$ and PM_{10} monitors. Quality Assurance procedures are currently being developed for the open path methods.

Area Representativeness:
This site represents source oriented exposure on an urban scale.

Urban Scale



Paducah-Cairo Region



AIRS ID	ADDRESS	PM2.5	PM10	SO2	NO2	CO	O3	Metals	Hg	Wet Dep.	VOC	Carb-onyl	Specia-tion	MET
21-047-0006	10800 Pilot Rock Road Hopkinsville (Christian)	X												
21-139-0003	DOT Garage, 811 Hwy 60 East Smithland (Livingston)						X		X	HG				
21-139-0004	763 Bloodworth Road Livingston County										X(cs)			X
21-145-1004	Middle School, 342 Lone Oak Rd Paducah (McCracken)	X	X											
21-145-1024	J-P RECC, 2901 Powell Street Paducah (McCracken)	Xt(Ie)		X(eI)	X(e)		X(eI)							
21-157-0014	TVA Substation Calvert City (Marshall)										X(s)			X
21-157-0016	Atmos Energy Calvert City (Marshall)										X(s)			
21-157-0018	Calvert City Elementary School Calvert City (Marshall)		X					X			X(s)			
	TOTAL	3	2	1	1	0	2	1	1	1	5	0	0	2

(c) Collocated Monitor

(e) Emergency Episode Monitor

(I) Air Quality Index Monitor

(t) Continuous PM Monitor

(Rev.3/2/07)

401 KAR 50:020 Air Quality Control Region: Paducah – Cairo Interstate (072)
CSA/MSA: Clarksville, TN-KY MSA
Site Name: Hopkinsville
AQS Site ID: 21-047-0006
Location: 10800 Pilot Rock Road, Hopkinsville, KY 42240
County: Christian
GPS Coordinates: 36.911667, -87.323611
Date Established: January 1, 1999
Inspection Date: October 12, 2006
Inspection By: Andrea P. Keatley
Site Approval Status: Site and monitors meet all design criteria for the monitoring network.

The monitoring site is on a platform in a field adjacent to a residence located at 10800 Pilot Rock Road in Hopkinsville, Kentucky. The sample inlet is 10 feet above ground level and 300 feet from the nearest road. The most recent site inspection was conducted on October 12, 2006. Upon inspection, the sample inlet and monitor was found to be in good condition. The site meets the requirements of 40 CFR 58, Appendices C, D and E.

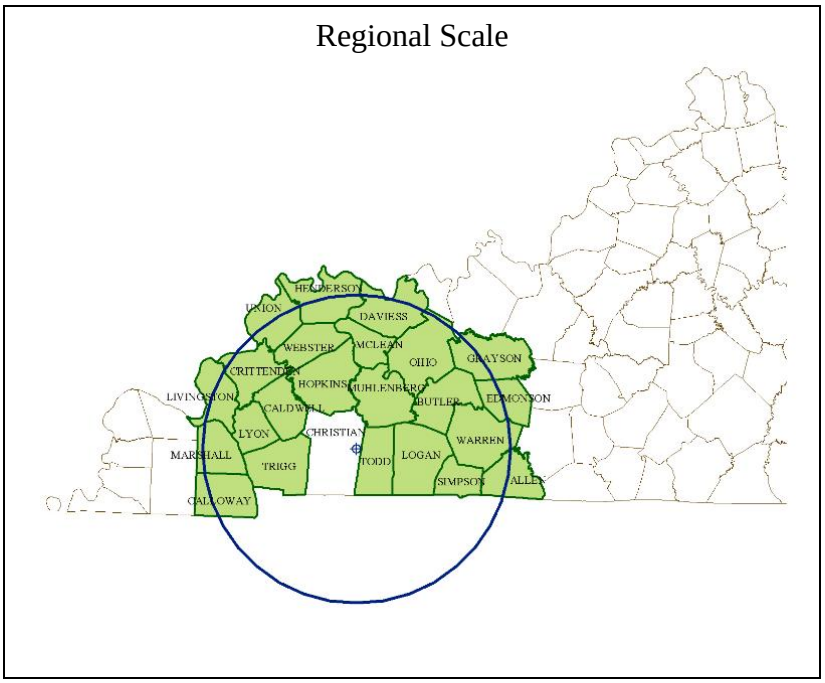
Monitoring Objective:
The monitoring objectives are to determine compliance with National Ambient Air Quality standards and to determine levels of interstate transport of fine particulate matter.

Monitors:

Monitor Type	Designation	Analysis Method	Frequency of Sampling
FRM $PM_{2.5}$	SLAMS	Gravimetric	24-hours every third day
Tennessee Valley Authority operates: AEM Ozone	Compliance	UV photometry	Continuously March 1 – October 31
Tennessee Valley Authority operates: Meteorological	Compliance	AQM grade instruments for wind speed, wind direction, humidity, barometric pressure and temperature	Continuously

Quality Assurance Status:
All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area Representativeness:
This site represents population exposure on a regional scale.



401 KAR 50:020 Air Quality Control Region: Paducah – Cairo Interstate (072)
CSA/MSA: Paducah-Mayfield, KY-IL CSA/ Paducah, KY-IL Micropolitan Statistical Area
Site Name: Smithland
AQS Site ID: 21-139-0003
Location: KY DOT Garage, 811 HWY 60 East, Smithland, KY 42081
County: Livingston
GPS Coordinates: 37.155556, -88.393056
Date Established: April 1, 1988
Inspection Date: October 12, 2006
Inspection By: Andrea P. Keatley
Site Approval Status: Site and monitors meet all design criteria for the monitoring network.

The monitoring site is a stationary equipment shelter located on the grounds of the KY DOT Highway Garage in Smithland, Kentucky. The sample inlet is 13 feet above ground level and 1200 feet from the nearest road. The most recent site inspection was conducted on October 12, 2006. Upon inspection, the sample line and monitor was found to be in good condition. The site meets the requirements of 40 CFR 58, Appendices C, D and E.

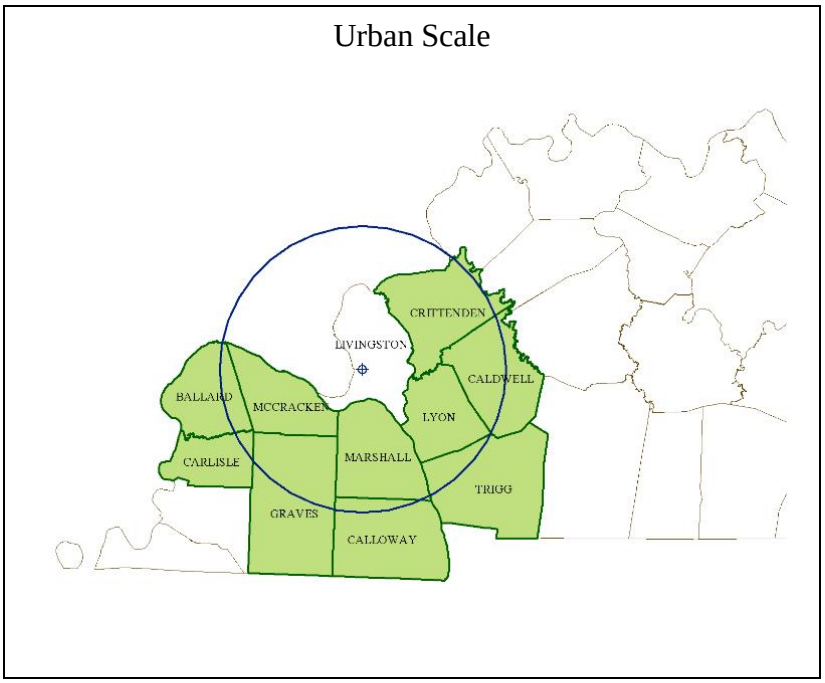
Monitoring Objective:
The monitoring objective is to determine compliance with National Ambient Air Quality standards.

Monitors:

Monitor Type	Designation	Analysis Method	Frequency of Sampling
AEM Ozone	SLAMS	UV photometry	Continuously March 1 – October 31
Mercury – ambient	SPM	Cold vapour florescence spectrometry	Continuously
Mercury – Wet Deposition	SPM	Wet deposition collected, analysis of sample by the Environmental Services Laboratory	Weekly

Quality Assurance Status:
All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area Representativeness:
This site represents maximum concentration on an urban scale.



401 KAR 50:020 Air Quality Control Region: Paducah – Cairo Interstate (072)
CSA/MSA: Paducah-Mayfield, KY-IL CSA/ Paducah, KY-IL Micropolitan Statistical Area
Site Name: Bloodworth
AQS Site ID: 21-139-0004
Location: 763 Bloodworth Road, Smithland, KY 42081
County: Livingston
GPS Coordinates: 37.070833, -88.334167
Date Established: September 15, 1986
Inspection Date: October 12, 2006
Inspection By: Andrea P. Keatley
Site Approval Status: Site and monitors meet all design criteria for the monitoring network.

The monitoring site is a stationary equipment shelter located on the grounds of a residence at the end of Bloodworth Road in Smithland, Kentucky. The sample inlets are 13 feet above ground level and 1200 feet from the nearest road. The most recent site inspection was conducted on October 12, 2006. Upon inspection, the sample lines and monitors were found to be in good condition. The site meets the requirements of 40 CFR 58, Appendices C, D and E.

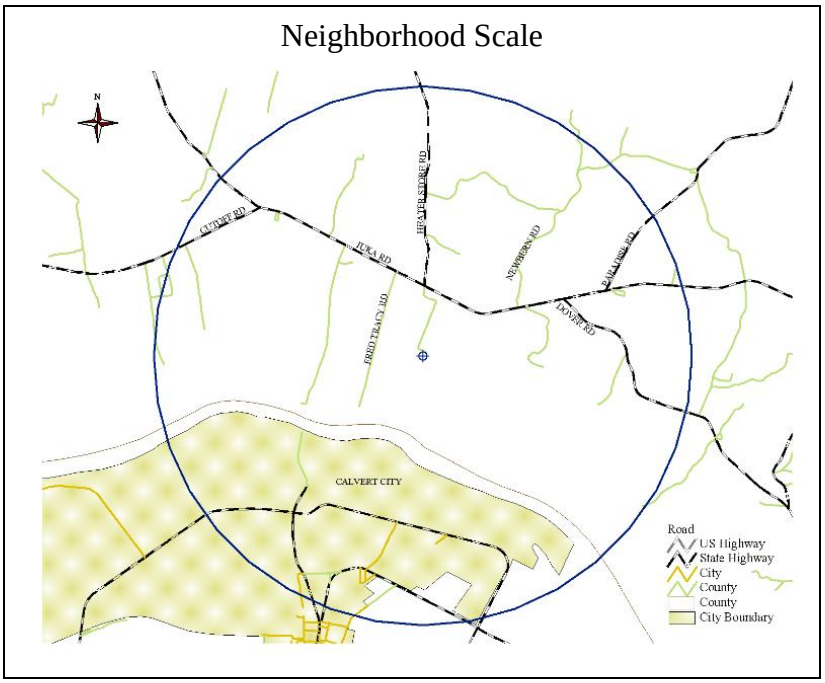
Monitoring Objective:
The monitoring objectives are to determine compliance with National Ambient Air Quality standards and to measure highest concentrations and source impact levels of a sub group of air toxics.

Monitors:

Monitor Type	Designation	Analysis Method	Frequency of Sampling
Volatile Organic Compounds	SPM	EPA method TO-15	24-hours every sixth day
- Collocated VOC	SPM	EPA method TO-15	24-hours every sixth day
Meteorological	Other	AQM grade instruments for wind speed, wind direction, humidity, barometric pressure and temperature	Continuously

Quality Assurance Status:
All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area Representativeness:
This site represents source impact on a neighborhood scale.



401 KAR 50:020 Air Quality Control Region: Paducah – Cairo Interstate (072)
CSA/MSA: Paducah-Mayfield, KY-IL CSA/ Paducah, KY-IL Micropolitan Statistical Area
Site Name: Paducah Middle School
AQS Site ID: 21-145-1004
Location: Paducah Middle School, 342 Lone Oak, Paducah, KY 42001
County: McCracken
GPS Coordinates: 37.065556, -88.637778
Date Established: July 1, 1969
Inspection Date: October 12, 2006
Inspection By: Andrea P. Keatley
Site Approval Status: Site and monitors meet all design criteria for the monitoring network.

The monitoring site is located on the roof of the Paducah Middle School in Paducah, Kentucky. The sample inlets are 20 feet above ground level and 110 feet from the nearest road. The most recent site inspection was conducted on October 12, 2006. Upon inspection, the sample inlets and monitors were found to be in good condition. The site meets the requirements of 40 CFR 58, Appendices C, D and E.

Monitoring Objective:
The monitoring objective is to determine compliance with National Ambient Air Quality standards.

Monitors:

Monitor Type	Designation	Analysis Method	Frequency of Sampling
FRM $PM_{2.5}$	SLAMS	Gravimetric	24-hours every third day
FRM PM_{10}	SLAMS	Gravimetric	24-hours every sixth day

Quality Assurance Status:
All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area Representativeness:
This site represents population exposure on a neighborhood scale.

Neighborhood Scale

401 KAR 50:020 Air Quality Control Region: Paducah – Cairo Interstate (072)
CSA/MSA: Paducah-Mayfield, KY-IL CSA/ Paducah, KY-IL Micropolitan Statistical Area
Site Name: Jackson Purchase Paducah Primary
AQS Site ID: 21-145-1024
Location: Jackson Purchase RECC, 2901 Powell Street, Paducah, KY 42003
County: McCracken
GPS Coordinates: 37.058056, -88.572500
Date Established: August 15, 1980
Inspection Date: October 12, 2006
Inspection By: Andrea P. Keatley
Site Approval Status: Site and monitors meet all design criteria for the monitoring network.

The monitoring site is a stationary equipment shelter located on the grounds of the Jackson Purchase RECC in Paducah, Kentucky. The sample inlets are 13 feet above ground level and 31 feet from the nearest road. The most recent site inspection was conducted on October 12, 2006. Upon inspection, the sample inlets and monitors were found to be in good condition. The site meets the requirements of 40 CFR 58, Appendices C, D and E.

Monitoring Objective:
The monitoring objectives are to determine compliance with National Ambient Air Quality standards; to detect episode pollution levels of criteria pollutants for activation of emergency control procedures; and to provide levels of ozone, particulate matter and sulfur dioxide for daily index reporting.

Monitors:

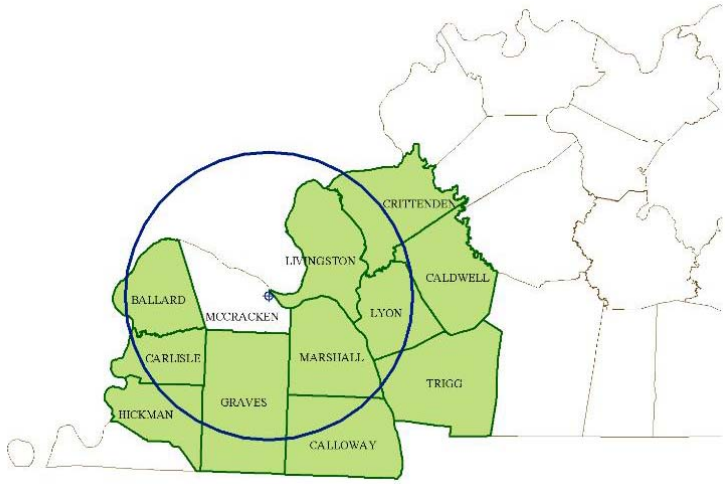
Monitor Type	Designation	Analysis Method	Frequency of Sampling
ARM Nitrogen Dioxide	SLAMS EPISODE	Chemiluminescence	Continuously
AEM Ozone	SLAMS EPISODE AQI	UV photometry	Continuously March 1 – October 31
$PM_{2.5}$ TEOM	SPM EPISODE AQI	Tapered element oscillating microbalance, gravimetric	Continuously
AEM Sulfur Dioxide	SLAMS EPISODE AQI	UV fluorescence	Continuously

Quality Assurance Status:
All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area Representativeness:
This site represents population exposure on a neighborhood scale for ozone, particulates and sulfur dioxide. This site also represents population exposure on an urban scale for nitrogen dioxide.

Neighborhood Scale

Nitrogen Dioxide Urban Scale



401 KAR 50:020 Air Quality Control Region: Paducah – Cairo Interstate (072)
CSA/MSA: Not in a MSA - Rural
Site Name: TVA Calvert City
AQS Site ID: 21-157-0014
Location: Ballpark Road, Calvert City, KY 42029
County: Marshall
GPS Coordinates: 37.024200, -88.195100
Date Established: January 1, 2005
Inspection Date: October 12, 2006
Inspection By: Andrea P. Keatley
Site Approval Status: Site and monitors meet all design criteria for the monitoring network.

The monitoring site is an air toxics monitor located off Ballpark Road in Calvert City, Kentucky. The sample inlet is 2 meters above ground level. The most recent site inspection was conducted on October 12, 2006. Upon inspection, the sample inlet and monitor was found to be in good condition.

Monitoring Objective:
The monitoring objective is to determine if toxic air pollutants are present and to quantify them.

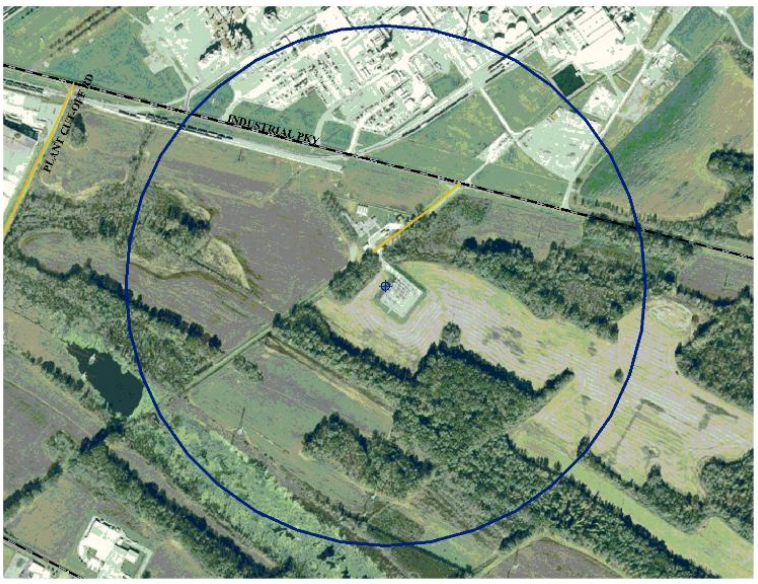
Monitors:

Monitor Type	Designation	Analysis Method	Frequency of Sampling
Volatile Organic Compounds	SPM	EPA method TO-15	24-hours every sixth day

Quality Assurance Status:
All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area Representativeness:
This site represents source oriented exposure on a middle scale.

Middle Scale



401 KAR 50:020 Air Quality Control Region: Paducah – Cairo Interstate (072)
CSA/MSA: Not in a MSA - Rural
Site Name: Atmos Calvert City
AQS Site ID: 21-157-0016
Location: KY95, Calvert City, KY 42029
County: Marshall
GPS Coordinates: 37.023100, -88.211500
Date Established: January 1, 2005
Inspection Date: October 12, 2006
Inspection By: Andrea P. Keatley
Site Approval Status: Site and monitors meet all design criteria for the monitoring network.

The monitoring site is an air toxics monitor located off KY95 in Calvert City, Kentucky. The sample inlet is 2 meters above ground level. The most recent site inspection was conducted on October 12, 2006. Upon inspection, the sample inlet and monitor was found to be in good condition.

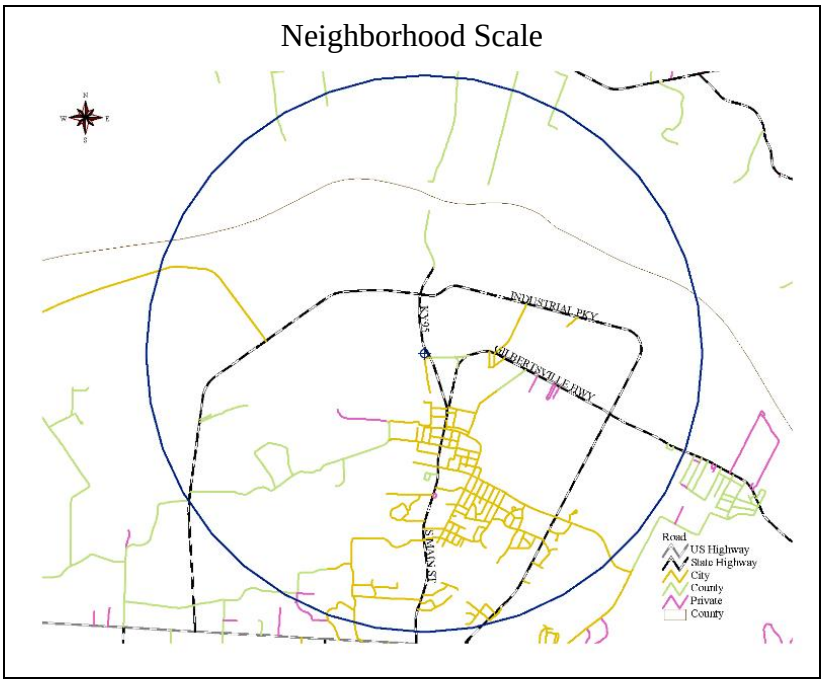
Monitoring Objective:
The monitoring objective is to determine if toxic air pollutants are present and quantify them.

Monitors:

Monitor Type	Designation	Analysis Method	Frequency of Sampling
Volatile Organic Compounds	SPM	EPA method TO-15	24-hours every sixth day

Quality Assurance Status:
All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area Representativeness:
This site represents source oriented exposure on a neighborhood scale.



401 KAR 50:020 Air Quality Control Region: Paducah – Cairo Interstate (072)
CSA/MSA: Not in a MSA - Rural
Site Name: Calvert City Elementary
AQS Site ID: 21-157-0018
Location: Calvert City Elementary, 623 5th Avenue, Calvert City, KY 42029
County: Marshall
GPS Coordinates: 37.026916, -88.343944
Date Established: May 1, 2005
Inspection Date: October 12, 2006
Inspection By: Andrea P. Keatley
Site Approval Status: Site and monitors meet all design criteria for the monitoring network.

The monitoring site is a stationary equipment shelter located on the grounds of the Calvert City Elementary in Calvert City, Kentucky. The sample inlets are 13 feet above ground level and 80 feet from the nearest road. The most recent site inspection was conducted on October 12, 2006. Upon inspection, the sample inlets and monitors were found to be in good condition. The site meets the requirements of 40 CFR 58, Appendices C, D and E.

Monitoring Objective:
The monitoring objective is to determine if toxic air pollutants are present and quantify them and to provide meteorological data for toxics analysis.

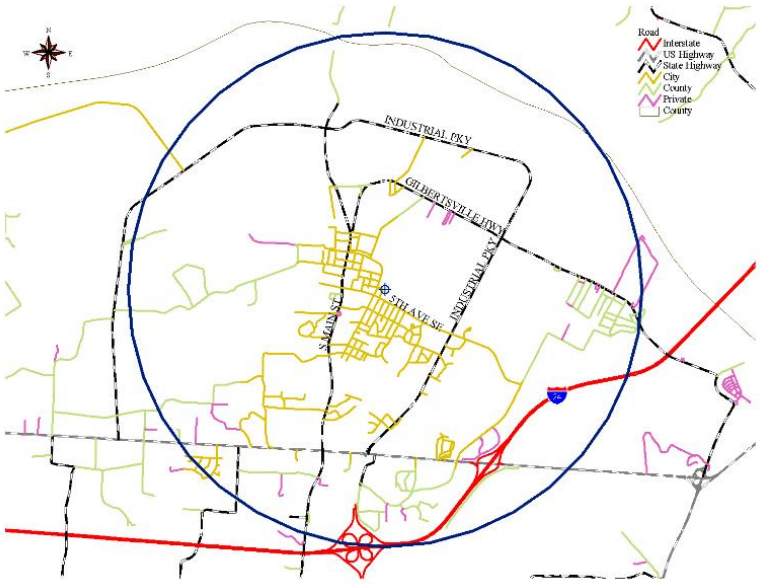
Monitors:

Monitor Type	Designation	Analysis Method	Frequency of Sampling
FRM PM10	SPM	Gravimetric	24-hours every sixth day
- Metals PM10	SPM	Determined from the PM10 sample using EPA method IO 3.4	Same as PM10
Volatile Organic Compounds	SPM	EPA method TO-15	24-hours every sixth day
Meteorological	Other	AQM grade instruments for wind speed, wind direction, humidity, barometric pressure and temperature	Continuously

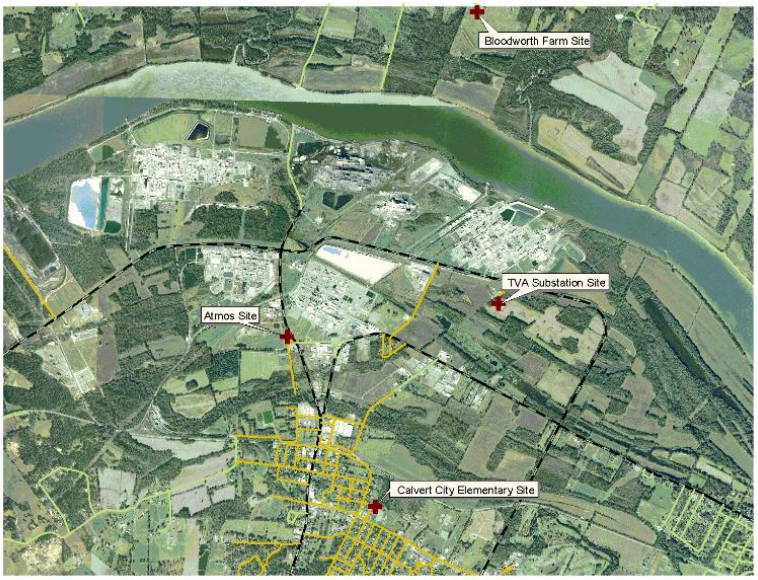
Quality Assurance Status:
All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area Representativeness:
This site represents population exposure on a neighborhood scale.

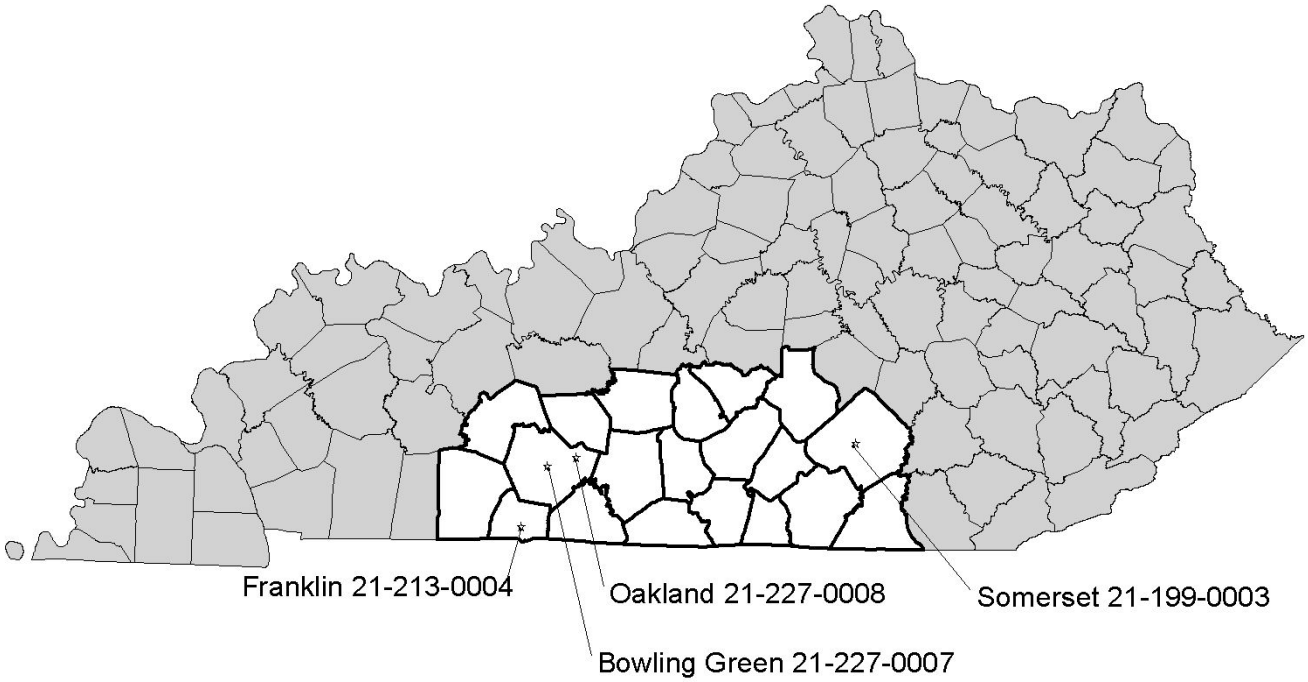
Neighborhood Scale



Calvert City Air Toxics Network



South Central Region



AIRS ID	ADDRESS	PM2.5	PM10	SO2	NO2	CO	O3	Metals	Hg	Wet Dep.	VOC	Carb-onyl	Specia-tion	MET
21-199-0003	Somerset Gas Co., Clifty Street Somerset (Pulaski)						X(s)							
21-213-0004	KY DOT Garage, KY 1008 Franklin (Simpson)						X(s)							X
21-227-0007	Kereiakes Park Bowling Green (Warren)	X(c)												
21-227-0008	Oakland School Oakland (Warren)	Xt(I)					X(sI)							
	TOTAL	3	0	0	0	0	3	0	0	0	0	0	0	1

(c) Collocated Monitor
(I) Air Quality Index Monitor
(s) Special Purpose Monitor
(t) Continuous PM Monitor

(Rev.3/2/07)

401 KAR 50:020 Air Quality Control Region: South Central Kentucky Intrastate (105)
CSA/MSA: Somerset, KY Micropolitan Statistical Area
Site Name: Somerset
AQS Site ID: 21-199-0003
Location: Somerset Gas Company, Clifty Street, Somerset, KY 42501
County: Pulaski
GPS Coordinates: 37.097500, -84.611667
Date Established: February 14, 1992
Inspection Date: December 14, 2006
Inspection By: Andrea P. Keatley
Site Approval Status: Site and monitors meet all design criteria for the monitoring network.

The monitoring site is a stationary equipment shelter located on the grounds of the Somerset Gas Company Warehouse on Clifty Street in Somerset, KY. The sample inlets are 15 feet above ground level and 35 feet from the nearest road. The most recent site inspection was conducted on December 14, 2006. Upon inspection the sample line and monitors were found to be in good condition. Even though the site is for special purpose monitoring, the site meets the requirements of 40 CFR 58, Appendices C, D and E.

Monitoring Objective:
The monitoring objective is to determine compliance with National Ambient Air Quality Standards.

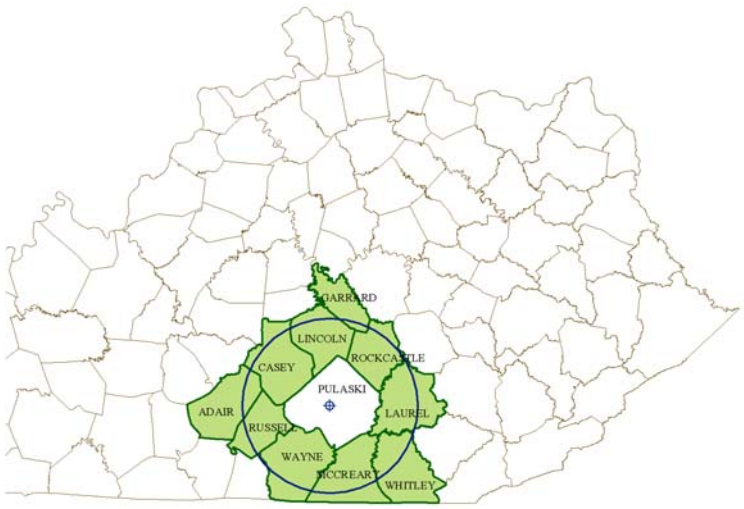
Monitors:

Monitor Type	Designation	Analysis Method	Frequency of Sampling
AEM Ozone	SPM	UV photometry	Continuously March 1 – October 31
Meteorological	Other	AQM grade instruments for wind speed, wind direction, humidity, barometric pressure and temperature	Continuously

Quality Assurance Status:
All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area Representativeness:
This site also represents population exposure on an urban scale for ozone.

Ozone Urban Scale



401 KAR 50:020 Air Quality Control Region: South Central Kentucky Intrastate (105)
CSA/MSA: Not in a MSA - Rural
Site Name: Franklin
AQS Site ID: 21-213-0004
Location: DOT Garage, KY 1008, Franklin, KY 42134
County: Simpson
GPS Coordinates: 38.219361, -84.838500
Date Established: June 19, 1991
Inspection Date: September 25, 2006
Inspection By: Andrea P. Keatley
Site Approval Status: Site and monitors meet all design criteria for the monitoring network.

The monitoring site is a stationary equipment shelter located on the grounds of the DOT Garage on KY1008 in Franklin, Kentucky. The sample inlets are 13 feet above ground level and 200 feet from the nearest road. The most recent site inspection was conducted on September 25, 2006. Upon inspection, the sample line and monitor was found to be in good condition. The site meets the requirements of 40 CFR 58, Appendices C, D and E.

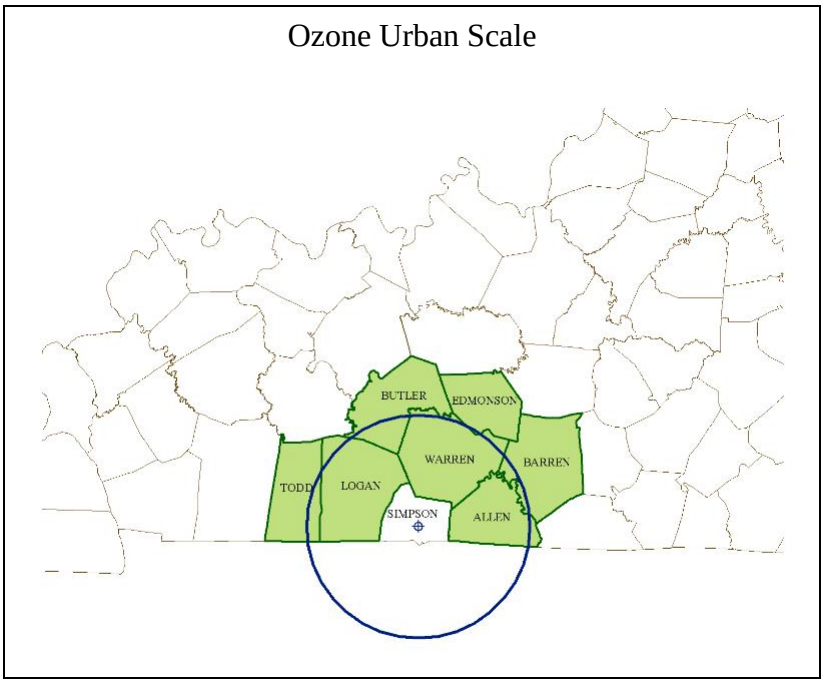
Monitoring Objective:
The monitoring objectives are to determine compliance with National Ambient Air Quality Standards; to measure ozone levels upwind of Bowling Green; and to provide data on interstate ozone transport.

Monitors:

Monitor Type	Designation	Analysis Method	Frequency of Sampling
AEM Ozone	SPM	UV photometry	Continuously March 1 – October 31
Meteorological	Other	AQM grade instruments for wind speed, wind direction, humidity, barometric pressure and temperature	Continuously

Quality Assurance Status:
All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area Representativeness:
This site represents population exposure on an urban scale.



401 KAR 50:020 Air Quality Control Region: South Central Kentucky Intrastate (105)
CSA/MSA: Bowling Green, KY MSA
Site Name: Bowling Green – Kereiakes Park
AQS Site ID: 21-227-0007
Location: Kereiakes Park, Fairview Avenue, Bowling Green, KY 42101
County: Warren
GPS Coordinates: 36.993333, -86.418333
Date Established: January1, 1999
Inspection Date: September 25, 2006
Inspection By: Andrea P. Keatley
Site Approval Status: Site and monitors meet all design criteria for the monitoring network.

The monitoring site is a platform located behind the tennis courts on the grounds of the Kereiakes Park on Fairview Avenue in Bowling Green, Kentucky. The sample inlets are 10 feet above ground level and 400 feet from the nearest road. The most recent site inspection was conducted on September 25, 2006. Upon inspection, the sample inlets and monitors were found to be in good condition. The site meets the requirements of 40 CFR 58, Appendices C, D and E.

Monitoring Objective:
The monitoring objective is to determine compliance with National Ambient Air Quality Standards.

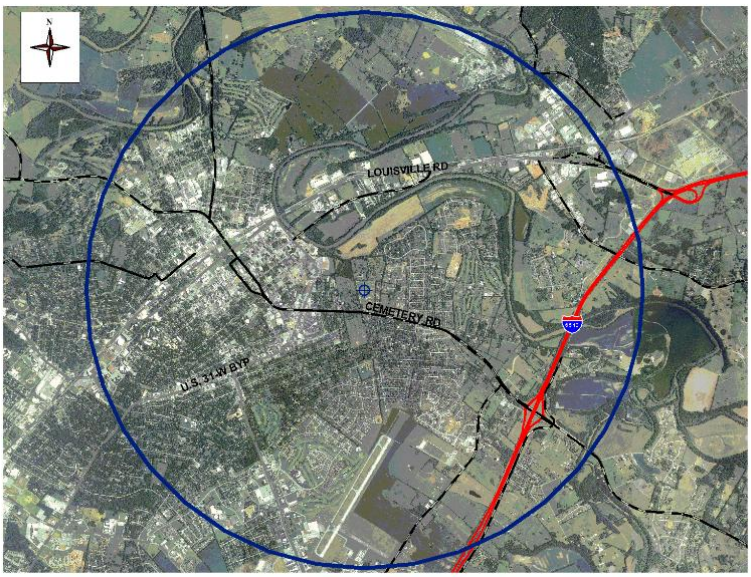
Monitors:

Monitor Type	Designation	Analysis Method	Frequency of Sampling
FRM $PM_{2.5}$	SLAMS	Gravimetric	24-hours every third day
- Collocated FRM $PM_{2.5}$	SLAMS	Gravimetric	24-hours every sixth day

Quality Assurance Status:
All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area Representativeness:
This site represents population exposure on a neighborhood scale.

Neighborhood Scale



401 KAR 50:020 Air Quality Control Region: South Central Kentucky Intrastate (105)
CSA/MSA: Bowling Green, KY MSA
Site Name: Oakland Primary
AQS Site ID: 21-227-0008
Location: Oakland Elementary School, Oakland, KY 42159
County: Warren
GPS Coordinates: 37.036667, -86.250556
Date Established: January 1, 2000
Inspection Date: September 25, 2006
Inspection By: Andrea P. Keatley
Site Approval Status: Site and monitors meet all design criteria for the monitoring network.

The monitoring site is a stationary equipment shelter located on the grounds of the Oakland Elementary School in Oakland, Kentucky. The sample inlets are 13 feet above ground level and 200 feet from the nearest road. The most recent site inspection was conducted on September 25, 2006. Upon inspection, the sample inlets and monitors were found to be in good condition. The site meets the requirements of 40 CFR 58, Appendices C, D, E and G.

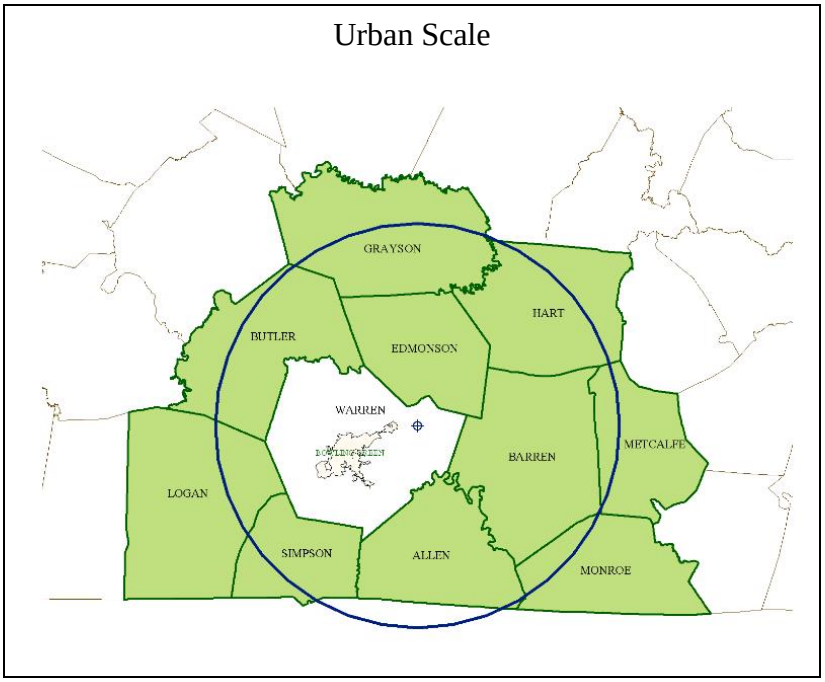
Monitoring Objective:
The monitoring objectives are to determine compliance with National Ambient Air Quality Standards and to provide levels of ozone and particulate matter for daily index reporting..

Monitors:

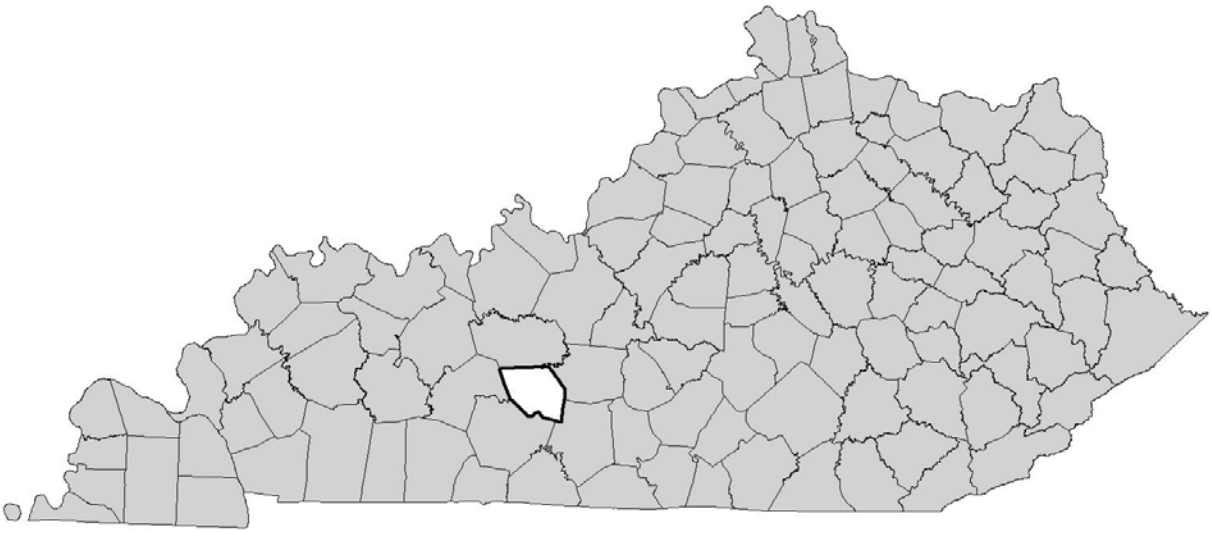
Monitor Type	Designation	Analysis Method	Frequency of Sampling
AEM Ozone	SPM AQI	UV photometry	Continuously March 1 – October 31
$PM_{2.5}$ TEOM	SPM AQI	Tapered element oscillating microbalance, gravimetric	Continuously

Quality Assurance Status:
All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area Representativeness:
This site represents population exposure on an urban scale for particulates. This site also represents maximum concentration on and urban scale for ozone.



APPENDIX A
National Park Service



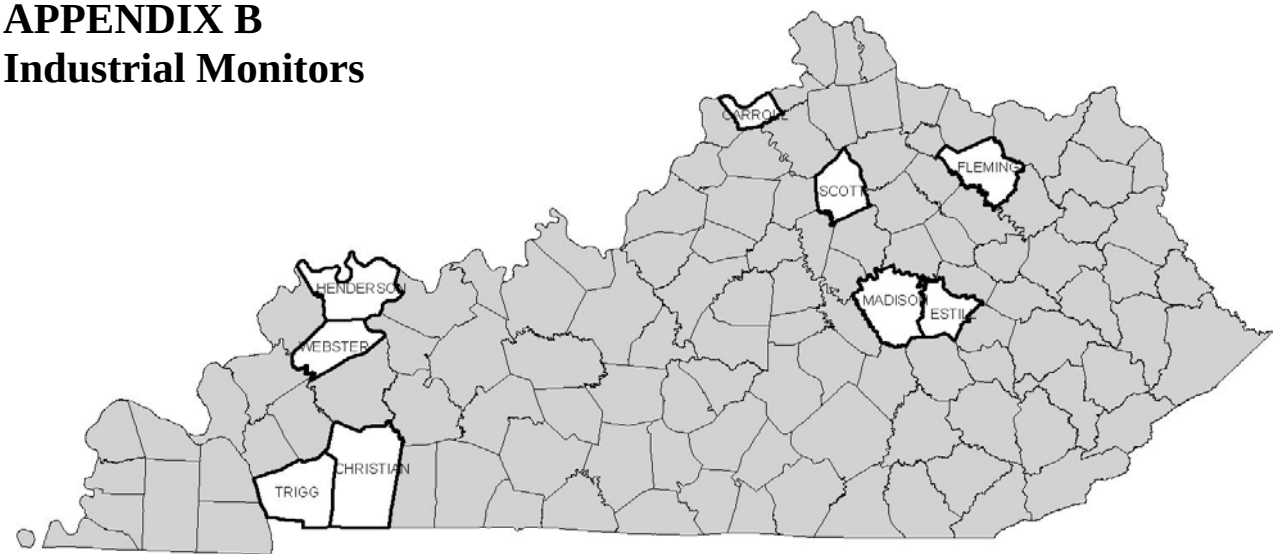
AIR QUALITY SURVEILLANCE NETWORK

NATIONAL PARK SERVICE

AIRS ID	ADDRESS	$PM_{2.5}$	PM_{10}	SO_2	NO_2	CO	O_3	HG	MET
21-061-0501	Alfred Cook Road Mammoth Cave (Edmonson)	X[1]		X	X	X	X	X	X
	TOTAL	1	0	1	1	1	1	1	1

[1] A continuous sampler operates here.

APPENDIX B
Industrial Monitors



AIRS ID	ADDRESS	$PM_{2.5}$	PM_{10}	SO_2	NO_2	CO	O_3
21-041-0004[5]	US 42 Ghent (Carroll)		X (collocated)		X		
21-041-0005[5]	US 42 Ghent (Carroll)		X				
21-047-0006[1]	10800 Pilot Rock Road Hopkinsville (Christian)						X
21-065-9001[6]	100 EK Power Lane Irvine (Estill)			X			
21-069-9001[6]	455 Industrial Drive Flemingsburg (Fleming)						X
21-101-1010[2]	US 41 & KY 2096 Sebree (Henderson)			X			
21-101-1011[2]	KY 2097 Sebree (Henderson)			X			
21-151-9001[6]	246 Ford Road Richmond (Madison)			X			
21-209-0002[3]	4673 Muddy Ford Road Scott County						X
21-221-0013[1]	Mulberry Flat Road LBL (Trigg)						X
21-233-0002[2]	Bell Gibson Road Webster County			X			
54-099-0003[4]	Spring Brook Drive Kenova (Wayne, WV)			X	X		X
54-099-0004[4]	Route 52 Neal (Wayne, WV)			X			
54-099-0005[4]	Big Sandy Road Neal (Wayne, WV)			X			
	TOTAL	0	2	8	2	0	5

[1] – TVA
[2] – Western Kentucky Electric
[3] – Toyota
[4] – Marathon-Ashland Petroleum
[5] – North American Stainless
[6] – East Kentucky Power

(Rev. 4/18/05)

APPENDIX C
West Jefferson County Air Toxics Monitoring Stations
Volatile Organics

AIRS ID	Established	Method	Location	Purpose
21-111-1041	1999	TO-15	4201 Algonquin Parkway	Maximum Impact
21-111-0054	1999	TO-15	4211 Campground Road	Maximum Impact
21-111-0057	1999	TO-15	U of L Shelby Campus	Urban Control Site
21-111-0058	1999	TO-15	Farnsley Middle School 3400 Lees Lane	Neighborhood Exposure
21-111-0060	1999	TO-15	Chickasaw Park	Neighborhood Exposure
21-111-0062	1999	TO-15	Cane Run Elementary	Neighborhood Exposure