

Ambient Air Monitoring Network Plan 2008



NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Air Monitoring
WWW.STATE.NJ.US/DEP/AIRMON

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DISCLAIMER

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INTRODUCTION

In the Federal Register of October 17, 2006, the U.S. Environmental Protection Agency (USEPA) revised “Subpart B – Monitoring Network” of Part 58 – Ambient Surveillance Networks of *Title 40* of the Code of Federal Regulations. Specifically, the New Jersey Department of Environmental Protection (NJDEP) is required by the revised regulations to submit an Annual Monitoring Network Plan to the USEPA Region 2 Regional Administrator by July 1 of every year starting in 2007, and to have the Plan available for public inspection for at least 30 days prior to its submittal to the USEPA. The Plan should describe State and Local Air Monitoring Stations (SLAMS), National Core (NCore) stations, Speciation Trends Network (STN) stations, State speciation stations, Special Purpose Monitor (SPM) stations, and Photochemical Assessment Monitoring Stations (PAMS).

In addition, the new regulations provide three other deadlines: the NJDEP is required to submit a plan for establishing NCore multipollutant stations by July 1, 2009; the NJDEP is required to submit an assessment of its Air Monitoring Network every 5 years starting July 1, 2010; and the NJDEP is required to have all NCore multipollutant stations operational by January 1, 2011.

This 2008 Network Plan contains all the information required by the regulations, along with an overview of air monitoring network concepts, descriptions of the air monitoring sites, large and small scale maps of the monitoring stations, and a summary of the changes to the Air Monitoring Network that the NJDEP expects to implement in the next two years. It is available for download from the Bureau of Air Monitoring’s website, www.state.nj.us/dep/airmon/reports.htm, or as a hardcopy by calling 609-292-0138.

NETWORK DESIGN

Air monitoring sites are designed to meet one or more of the following objectives: to measure maximum pollutant concentrations, to assess population exposure, to determine the impact of major pollution sources, to measure background levels, to determine the extent of regional pollutant transport, and to measure secondary impacts in rural areas. In addition, summary monitoring data are provided to various public and media outlets, and real-time data is used to update a graphic on the Bureau’s webpage that rates the current air quality in the various regions of the state. The real-time data is also supplied to the USEPA which displays current air quality data from throughout the nation on the webpage, www.airnow.gov.



Elizabeth Lab air monitoring site located near the tollbooths at Exit 13 of the New Jersey Turnpike

The USEPA developed the concept of spatial scales of representativeness in order to standardize the process of connecting pollutant characteristics, monitoring objectives and site selection. This concept also allows the comparison of air quality data to the National Ambient Air Quality Standards (NAAQS) and among various networks throughout the country. The spatial scales define prospective monitoring sites in terms of the area surrounding a monitor where the pollutant concentrations are relatively similar. The USEPA has defined five spatial scales of representativeness: Micro Scale, Middle Scale, Neighborhood Scale, Urban Scale and Regional Scale. Air quality concentrations from a Micro Scale monitoring site are generally the same in a small radius of 10 to 100 meters surrounding the site. This area of homogenous air quality expands to 100 to 1000 meters for a Middle Scale site, to 1 to 10 kilometers for a Neighborhood Scale site, and to 10 to 100 kilometers for an Urban Scale site. The largest spatial scale, Regional Scale, is reserved for monitoring sites located in large rural areas that range from 100 to 1000 kilometers.

For each monitoring objective, appropriate spatial scales are used to identify the general physical location of a suitable monitoring site. Some pollutants have characteristics that define the spatial scale of the monitoring site depending on the monitoring objective. For example, carbon monoxide is a pollutant that is generated by local sources and may vary highly from one city block to another. If the objective of a particular monitor is to measure the highest concentrations of carbon monoxide, the monitoring site must meet the spatial criteria of a Micro Scale site. Conversely, concentrations of fine particles are generally the same over a large area. If the objective of a monitor is to measure the background concentrations of fine particles, then the appropriate spatial scale for such a monitoring site is Urban or Regional Scale. The spatial scales of monitoring sites in New Jersey range from Micro to Urban Scale with most sites being Neighborhood Scale sites.

THE NEW JERSEY AIR MONITORING NETWORK

The NJDEP is currently operating 43 air monitoring sites and is proposing the establishment of 1 new site by the end of 2008. Table 1 lists all the current and proposed monitoring sites along with the pollutants, categories of pollutants or meteorological parameters that are measured at each site. Figure 1 shows the locations of the monitoring sites across New Jersey.

Several parameters, carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), sulfur dioxide (SO₂), particulate matter, and meteorological parameters, are measured by instruments that automatically collect and analyze data instantaneously and continuously. The data is transmitted to a centralized computer system in Trenton, New Jersey, once every minute, thus providing near real-time data. For fine particles (particles smaller than 2.5 micrometers in diameter or PM_{2.5}), inhalable particles (particles smaller than 10 micrometers in diameter or PM₁₀), lead (Pb), and Total Suspended Particulates (TSP), their respective instruments collect a sample over a 24-hour period. These samples are subsequently manually retrieved and then analyzed in a laboratory several days to a few weeks following their sample collection.



USEPA-approved manual PM_{2.5} sampler on the roof of the Mitchell Building in downtown Elizabeth

PM_{2.5} concentrations are determined by both continuous or real-time analyzers and manual samplers. The real-time PM_{2.5} analyzer measures PM_{2.5} levels every minute, and the data is used, along with data from the other continuous pollutants, to generate a rating of air quality called the Air Quality Index, which is updated hourly on the Bureau of Air Monitoring's webpage. The manual PM_{2.5} sampler collects particles on a filter over a 24-hour period. The filter is retrieved following the completion of the sampling period and weighed in a laboratory. Concentrations of PM_{2.5} from a real-time analyzer cannot be compared to the NAAQS, while concentrations of PM_{2.5} from an USEPA-approved manual sampler are valid for comparison to the NAAQS.

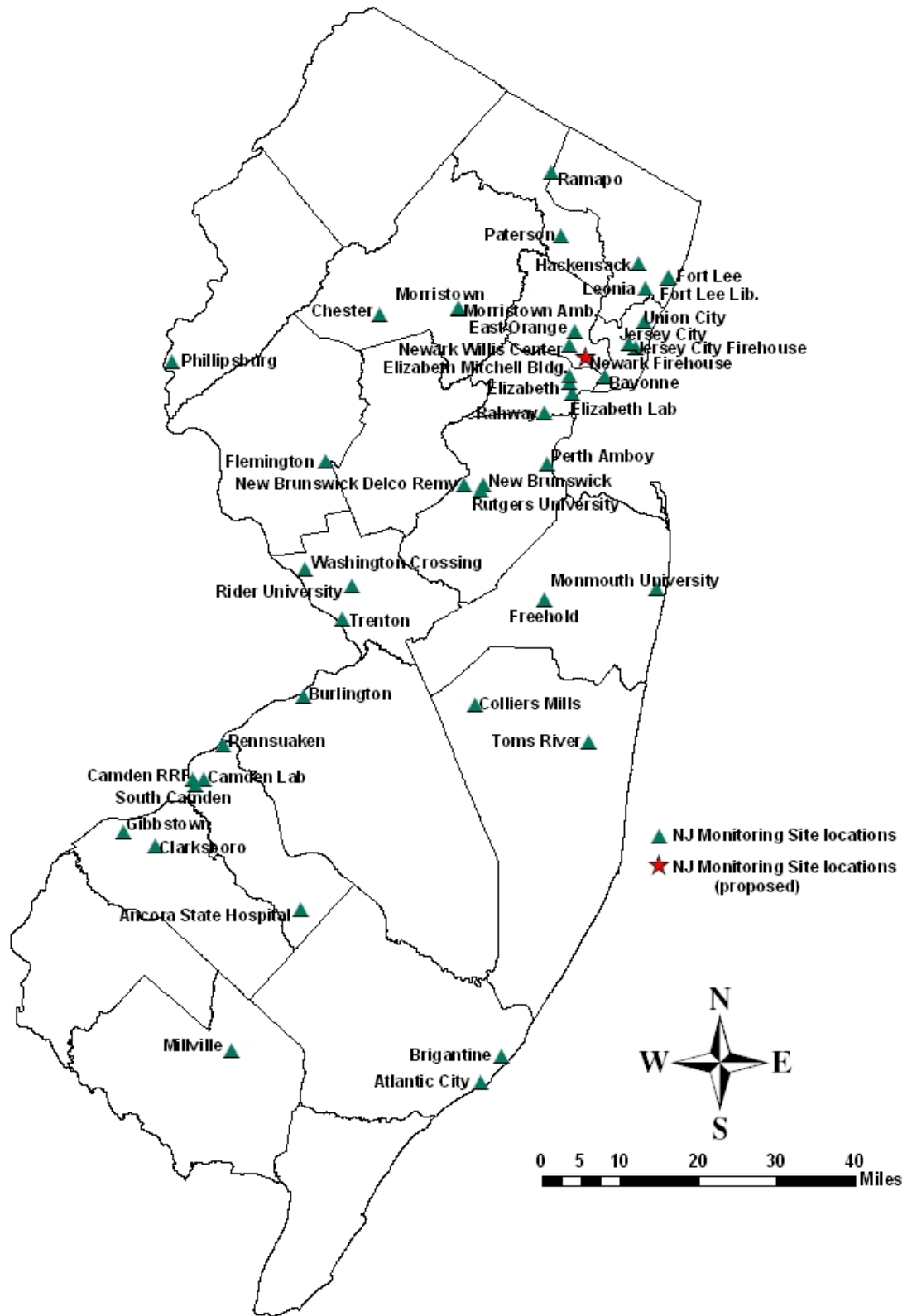
The NJDEP also monitors many other pollutants which are grouped together into categories by their method of sampling or analysis. These categories are listed in the headings of Table 1. Sites that monitor for O₃ Precursors, pollutants that affect O₃ formation and destruction in the atmosphere, are part of the national Photochemical Assessment Monitoring Station (PAMS) program. O₃ precursors are frequently referred to as PAMS pollutants. Pollutants in the PM_{2.5}-Speciation category include trace elements, heavy metals, and carbon compounds that are analyzed from PM_{2.5} particles. VOCs and Carbonyls refer to selected carbon-based air pollutants that are analyzed from whole air samples or adsorbent media. The PM_{2.5}-Speciation, VOC, and Carbonyls samples are collected by the NJDEP and are sent to USEPA-approved contract laboratories for analysis.

TABLE 1: SUMMARY OF CURRENT AND PROPOSED NEW JERSEY AIR MONITORING SITES

	CO	NO ₂	O ₃	SO ₂	Smoke Shade	PM2.5	PM2.5-Speciation	Real-Time PM2.5	Nephelometer	PM10	PM-coarse	Lead	TSP	O ₃ Precursors	VOCs	Carbonyls	Acid Deposition	Mercury	Barometric Press	Relative Humidity	Solar Radiation	Temperature	Wind Direction	Wind Speed
Ancora State Hospital	✓		✓	✓													✓							
Atlantic City						✓				✓														
Bayonne		✓	✓	✓																				
Brigantine			✓	✓		✓		✓	✓															
Burlington	✓			✓	✓																			
Camden Lab	✓	✓	✓	✓	✓	✓	✓	✓		✓				✓	✓	✓			✓	✓	✓	✓	✓	✓
Camden RRF										✓														
Chester		✓	✓	✓		✓	✓								✓	✓		✓			✓			
Clarksboro			✓	✓																				
Colliers Mills			✓																					
East Orange	✓	✓																			✓		✓	
Elizabeth	✓			✓	✓																✓			
Elizabeth Lab	✓	✓		✓	✓	✓	✓	✓							✓	✓		✓					✓	✓
Elizabeth Mitchell Bldg						✓																		
Flemington			✓					✓												✓	✓	✓	✓	✓
Fort Lee	✓							✓		✓														
Fort Lee Library						✓																		
Freehold	✓				✓																			
Gibbstown						✓																		
Hackensack	✓			✓	✓																			
Jersey City	✓			✓	✓																			
Jersey City Firehouse						✓		✓		✓														
Leonia		✓	✓																					
Millville		✓	✓	✓				✓																
Monmouth University			✓																					
Morristown	✓				✓																			
Morristown Amb Squad						✓																		
New Brunswick						✓	✓								✓	✓		✓						
New Brunswick Delco													✓	✓										
Newark Firehouse	P	P	P	P		P	P	P			P										P		P	P
Newark Willis Center						✓																		
Paterson						✓																		
Pennsauken						✓																		
Perth Amboy	✓			✓	✓																			
Phillipsburg						✓																		
Rahway						✓		✓																
Ramapo			✓																					
Rider University		✓	✓											✓					✓	✓	✓	✓	✓	✓
Rutgers University		✓	✓											✓										
South Camden								✓																
Toms River						✓																		
Trenton						✓				✓														
Union City						✓																		
Washington Crossing						✓											✓							
TOTAL (Current only)	12	9	14	13	9	20	4	9	1	6	0	1	1	3	4	4	2	3	3	4	4	4	4	4

✓ - Current Site and Parameter
P - Proposed Site and Parameter

FIGURE 1: MAP OF THE CURRENT AND PROPOSED NEW JERSEY AIR MONITORING SITES



CHANGES TO THE NETWORK, 2007-2008

On February 2, 2007, a PM_{2.5} monitor began sampling at the Gibbstown site which was the replacement for a site discontinued in 2006 in a different area of Gibbstown. At the Brigantine site located at the Visitor Center of the Edwin B. Forsythe National Wildlife Refuge, a PM_{2.5} monitor began sampling on January 4, 2007; an O₃ analyzer started up on April 4, 2007; a real-time fine particle analyzer called a nephelometer started up on July 26, 2007, a real-time PM_{2.5} TEOM analyzer started up on August 11, 2007; and a trace level SO₂ analyzer started up on August 22, 2007. The O₃ and NO₂ analyzers began sampling in the newly established Leonia site on December 7, 2007. The process to establish proposed Newark Firehouse air monitoring station is still on-going. Upon start-up, the Newark Firehouse site will be designated New Jersey's sole NCore site. At a minimum, NCore sites must measure PM_{2.5}, real-time PM_{2.5}, real-time coarse particles (PM_{10-2.5}), O₃, SO₂, CO, total oxides of nitrogen, wind speed, wind direction, relative humidity and ambient temperature.

The Nacote Creek air monitoring station was permanently discontinued in December 2007. In 2008, the NJDEP discontinued the Pb and TSP sampler in New Brunswick effective June 1, 2008. Lead concentrations in New Brunswick have been 10 percent or less of the New Jersey and NAAQS since 2002. The CO, SO₂ and smoke shade analyzers at the Elizabeth site located on Broad Street were temporarily discontinued on March 8, 2007 in order for the building owner to begin major site renovations.

In accordance with the regulations, the NJDEP will perform a comprehensive assessment of the air monitoring network to determine if it meets federal and state monitoring objectives, if new sites are needed, if existing sites can be shut down, and whether new technologies can be utilized in the network. The general public and interested parties will be invited to provide input in this assessment through public meetings and other venues. A report summarizing the first assessment is required to be submitted to the USEPA by July 1, 2010, and this comprehensive network assessment process will be repeated every 5 years.

NEW JERSEY AIR MONITORING SITE DESCRIPTIONS

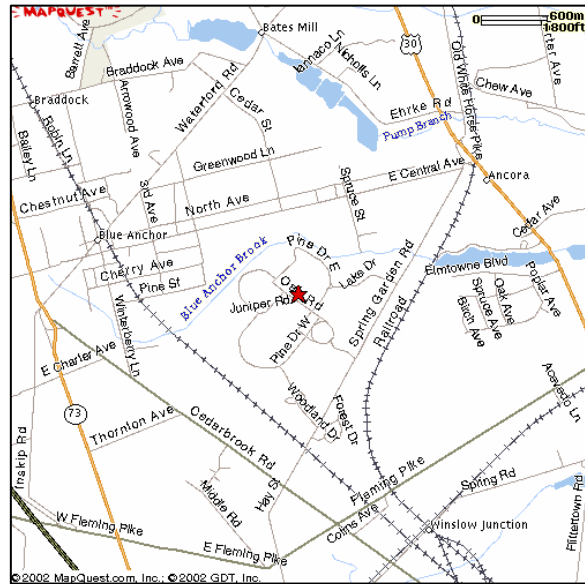
According to 40 CFR 58.10, the following elements for each existing and proposed air monitoring station must be included in New Jersey's Network Plan:

1. the Air Quality Subsystem (AQS) site identification number,
2. the location, including street address and geographical coordinates,
3. the sampling and analysis methods for each measured parameter,
4. the operating schedules for each monitor,
5. any proposals to remove or move a monitoring station within a period of 18 months following Plan submittal,
6. the monitoring objective and spatial scale of representativeness for each monitor as defined in Appendix D to Part 58,
7. the identification of any sites that are suitable and sites that are not suitable for comparison against the annual fine particle (PM_{2.5}) National Ambient Air Quality Standards (NAAQS) as described in 40 CFR Part 58.30, and
8. the Metropolitan Statistical Area (MSA), Core-Based Statistical Area (CBSA), Combined Statistical Area (CSA) or other area represented by this monitor.

The next pages supply the above information for current and proposed New Jersey air monitoring sites. All abbreviations and terms are defined and explained in the Glossary following this section.

SITE INFORMATION

Site Name	Ancora State Hospital
Address	202 Spring Garden Road
City, State, Zip	Hammonton, NJ 08037
AQS Code	34 007 1001
NJ County	Camden
MSA/CSA	Philadelphia-Camden-Wilmington CSA
Latitude	39:41:03.3
Longitude	-74:51:41.4
Date Established	1/1/1966
Suitable for Comparison to PM2.5 NAAQS?	Not Applicable



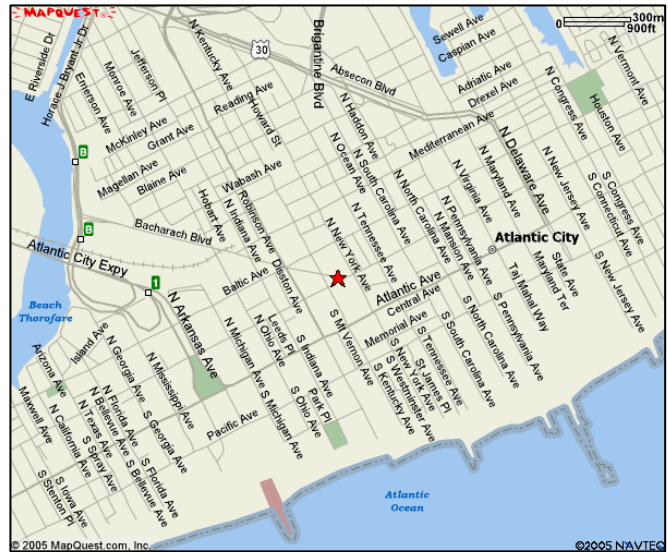
PARAMETER SUMMARY

Parameter	Sampling Instrument	Analysis Method	Sample Frequency	Spatial Scale	Monitoring Objective
Carbon Monoxide (CO)	TECO 48	Nondispersive-infrared	Continuous	Urban	Background
Ozone (O ₃)	Dasibi 1008	Ultraviolet	Continuous	Urban	Background
Sulfur Dioxide (SO ₂)	TECO 43A	Pulsed fluorescence	Continuous	Urban	Background
Acid Deposition	Bucket	Ion Chromatography	Weekly	Urban	Background

Site Purpose	To measure background concentrations for the southern part of New Jersey. May also measure maximum ozone concentrations downwind from the Philadelphia metropolitan area.
Plans for the next 18 months	No changes
Other Comment	

SITE INFORMATION

Site Name	Atlantic City
Address	1535 Bacharach Blvd
City, State, Zip	Atlantic City, NJ 08401
AQS Code	34 001 1006
NJ County	Atlantic
MSA/CSA	Atlantic City MSA
Latitude	39:21:45.5
Longitude	-74:25:45.6
Date Established	7/27/2001
Suitable for Comparison to PM2.5 NAAQS?	Yes



PARAMETER SUMMARY

Parameter	Sampling Instrument	Analysis Method	Sample Frequency	Spatial Scale	Monitoring Objective
Fine Particles (PM2.5)	R&P 2025	Gravimetric	Every 3 days	Neighborhood	Population Exposure
Inhalable Particles (PM10)	SierraAnderson	Gravimetric	Every 6 days	Neighborhood	Population Exposure

Site Purpose	To measure fine particle concentrations in the commercial area of Atlantic City
Plans for the next 18 months	No changes
Other Comment	

SITE INFORMATION

Site Name	Bayonne
Address	Veterans Park, 25th St. near Park Road
City, State, Zip	Bayonne, NJ 07002
AQS Code	34 017 0006
NJ County	Hudson
MSA/CSA	New York-Northeast New Jersey-Connecticut CSA
Latitude	40:40:12.9
Longitude	-74:07:33.9
Date Established	1/1/1983
Suitable for Comparison to PM2.5 NAAQS?	Not Applicable



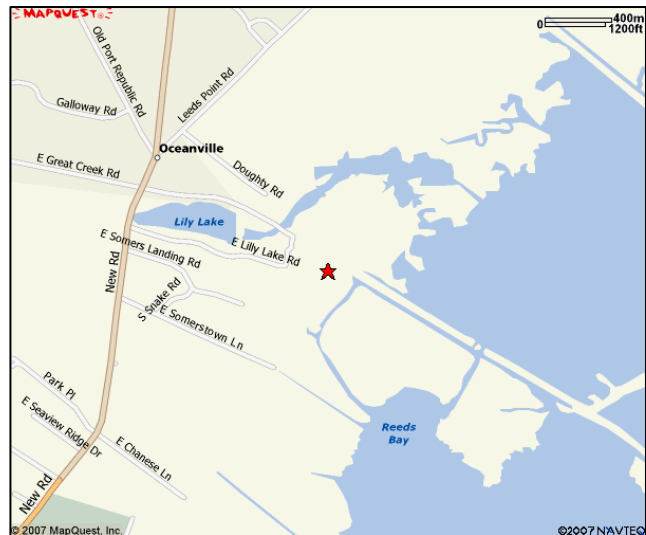
PARAMETER SUMMARY

Parameter	Sampling Instrument	Analysis Method	Sample Frequency	Spatial Scale	Monitoring Objective
Nitrogen Dioxide (NO ₂)	TECO 42	Chemiluminescence	Continuous	Urban	Population Exposure
Ozone (O ₃)	Dasibi 1008	Ultraviolet	Continuous	Neighborhood	Population Exposure
Sulfur Dioxide (SO ₂)	TECO 43A	Pulsed fluorescence	Continuous	Neighborhood	Population Exposure

Site Purpose	To measure population exposure in the Hudson County area
Plans for the next 18 months	No changes
Other Comment	Nitric Oxide (NO) is also measured, but the data is not submitted to USEPA's AQS database

SITE INFORMATION

Site Name	Brigantine
Address	Edwin Forsythe National Wildlife Refuge Visitor Center, Great Creek Road
City, State, Zip	Oceanville, NJ 08231
AQS Code	34 001 0006
NJ County	Atlantic
MSA/CSA	Atlantic City MSA
Latitude	39:27:53.99
Longitude	-74:26:55.93
Date Established	1/1/2007
Suitable for Comparison to PM2.5 NAAQS?	Yes



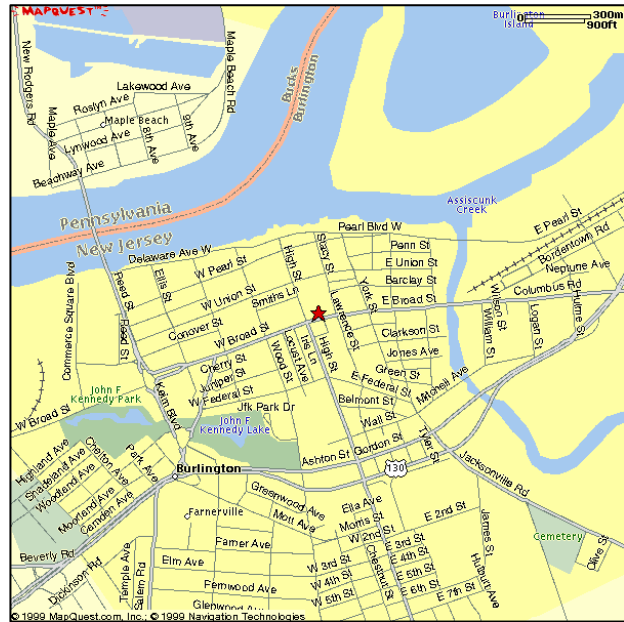
PARAMETER SUMMARY

Parameter	Sampling Instrument	Analysis Method	Sample Frequency	Spatial Scale	Monitoring Objective
Ozone (O ₃)	TECO 49i	Ultraviolet	Continuous	Urban	Background
Sulfur Dioxide (SO ₂)	TECO 43iTLE	Pulsed fluorescence	Continuous	Urban	Background
Fine Particles (PM _{2.5})	R&P 2025	Gravimetric	Every 3 days	Urban	Background
Real-time PM _{2.5}	R&P 1400	TEOM-FDMS	Continuous	Urban	Background
Real-time PM _{2.5}	Nephelometer	Light-scattering	Continuous	Urban	Background

Site Purpose	To measure pollutant concentrations and visibility in Class I areas
Plans for the next 18 months	Add real-time sulfate
Other Comment	Also an IMPROVE station

SITE INFORMATION

Site Name	Burlington
Address	1 East Broad St.
City, State, Zip	Burlington, NJ 08016
AQS Code	34 005 1001
NJ County	Burlington
MSA/CSA	Philadelphia-Camden-Wilmington CSA
Latitude	40:04:41.0
Longitude	-74:51:27.8
Date Established	1/1/1970
Suitable for Comparison to PM2.5 NAAQS?	Not Applicable



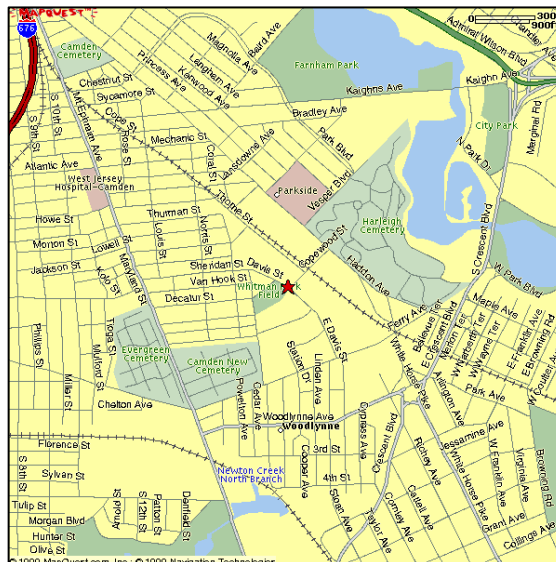
PARAMETER SUMMARY

Parameter	Sampling Instrument	Analysis Method	Sample Frequency	Spatial Scale	Monitoring Objective
Carbon Monoxide (CO)	TECO 48	Nondispersive-infrared	Continuous	Neighborhood	Population Exposure
Sulfur Dioxide (SO ₂)	TECO 43A	Pulsed fluorescence	Continuous	Neighborhood	Population Exposure
Smoke Shade	Wallace Fisher	Tape sampler	Hourly	Neighborhood	Population Exposure

Site Purpose	To measure population exposure in the commercial district of Burlington City
Plans for the next 18 months	No changes
Other Comment	Smoke Shade data is not submitted to USEPA's AQS database

SITE INFORMATION

Site Name	Camden Lab
Address	1667 Davis Street
City, State, Zip	Camden, NJ 08103
AQS Code	34 007 0003
NJ County	Camden
MSA/CSA	Philadelphia-Camden-Wilmington
CSA	
Latitude	39:55:23.0
Longitude	-75:05:51.4
Date Established	1/1/1968
Suitable for Comparison to PM2.5 NAAQS?	Yes



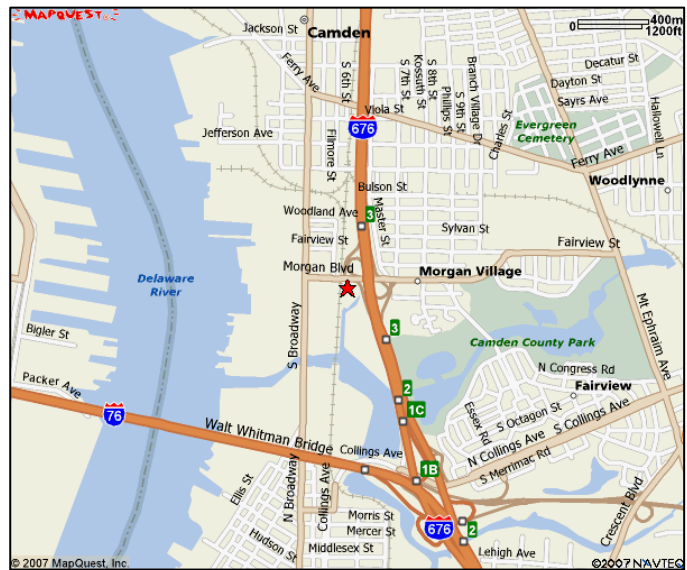
PARAMETER SUMMARY

Parameter	Sampling Instrument	Analysis Method	Sample Frequency	Spatial Scale	Monitoring Objective
Carbon Monoxide (CO)	TECO 48	Nondispersive-infrared	Continuous	Neighborhood	Population Exposure
Nitrogen Dioxide (NO ₂)	TECO 42	Chemiluminescence	Continuous	Neighborhood	Population Exposure
Ozone (O ₃)	TECO 49	Ultraviolet	Continuous	Urban	Highest Concentration
Sulfur Dioxide (SO ₂)	TECO 43A	Pulsed fluorescence	Continuous	Neighborhood	Population Exposure
Smoke Shade	Wallace Fisher	Tape sampler	Hourly	Neighborhood	Population Exposure
Fine Particles (PM _{2.5})	R&P 2025	Gravimetric	Daily	Neighborhood	Population Exposure
PM _{2.5} Speciation	Met One	XRF, IC, TOA	Every 3 days	Neighborhood	Population Exposure
Real-time PM _{2.5}	R&P 1400	TEOM-FDMS	Continuous	Neighborhood	Population Exposure
Inhalable Particles (PM ₁₀)	SierraAnderson	Gravimetric	Every 6 days	Neighborhood	Population Exposure
O ₃ Precursors	PerkinElmer	Auto GC-FID	Hourly	Neighborhood	Population Exposure
Volatile Organic Compounds	Canister	TO-15	Every 6 days	Neighborhood	Population Exposure
Carbonyls	DNPH cartridge	TO-11A	Every 6 days	Neighborhood	Population Exposure
Barometric Pressure	Qualimetrics	Pressure transducer	Continuous	Neighborhood	
Relative Humidity	Qualimetrics	Capacitive sensor	Continuous	Neighborhood	
Solar Radiation	Qualimetrics	Pyrometer	Continuous	Neighborhood	
Temperature	Qualimetrics	Thermistor	Continuous	Neighborhood	
Wind Direction	Qualimetrics	Wind vane	Continuous	Neighborhood	
Wind Speed	Qualimetrics	Anemometer	Continuous	Neighborhood	

Site Purpose	The comprehensive air monitoring station in the southern part of New Jersey
Plans for the next 18 months	No changes
Other Comment	Nitric Oxide (NO) and Oxides of Nitrogen (NO _x) are also measured, PM2.5 is collocated for precision, Smoke Shade data is not submitted to USEPA's AQS database

SITE INFORMATION

Site Name	Camden RRF (Resource Recovery Facility)
Address	Morgan Blvd., & I-676 entrance ramp
City, State, Zip	Camden, NJ 08104
AQS Code	34 007 0009
NJ County	Camden
MSA/CSA	Philadelphia-Camden-Wilmington CSA
Latitude	39:54:44.9
Longitude	-75:07:02.0
Date Established	5/8/1994
Suitable for Comparison to PM2.5 NAAQS?	Not Applicable



PARAMETER SUMMARY

Parameter	Sampling Instrument	Analysis Method	Sample Frequency	Spatial Scale	Monitoring Objective
Inhalable Particles (PM10)	SierraAnderson	Gravimetric	Every 6 days	Middle	Highest Concentration

Site Purpose	To measure the impact of mobile sources in heavily used roadways in southern Camden
Plans for the next 18 months	No changes
Other Comment	PM10 is collocated for precision measurements

SITE INFORMATION

Site Name	Chester
Address	Bldg # 1, Lucent Tech., Route 513
City, State, Zip	Chester, NJ 07930
AQS Code	34 027 3001
NJ County	Morris
MSA/CSA	New York-Northeast New Jersey-Connecticut CSA
Latitude	40:47:15.5
Longitude	-74:40:34.7
Date Established	1/1/1978
Suitable for Comparison to PM2.5 NAAQS?	Yes



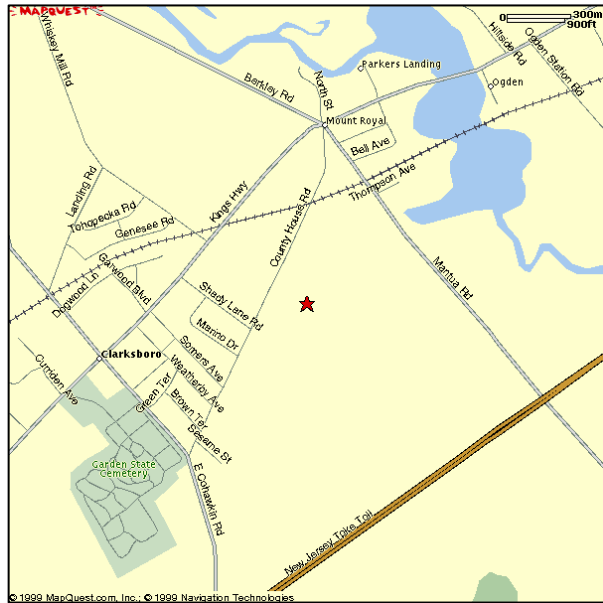
PARAMETER SUMMARY

Parameter	Sampling Instrument	Analysis Method	Sample Frequency	Spatial Scale	Monitoring Objective
Nitrogen Dioxide (NO ₂)	TECO 42	Chemiluminescence	Continuous	Urban	Background
Ozone (O ₃)	Dasibi 1008RS	Ultraviolet	Continuous	Urban	Background
Sulfur Dioxide (SO ₂)	TECO 43A	Pulsed fluorescence	Continuous	Urban	Background
Fine Particles (PM _{2.5})	R&P 2025	Gravimetric	Every 3 days	Neighborhood	Population Exposure
PM _{2.5} Speciation	Met One	XRF, IC, TOA	Every 3 days	Neighborhood	Population Exposure
Volatile Organic Compounds	Canister	TO-15	Every 6 days	Neighborhood	Population Exposure
Carbonyls	DNPH cartridge	TO-11A	Every 6 days	Neighborhood	Population Exposure
Mercury (Hg)	Tekran 2537A	CVAF Spectrometry	Hourly	Neighborhood	Population Exposure
Solar Radiation	Qualimetrics	Pyrometer	Continuous	Neighborhood	

Site Purpose	To measure background concentrations in northern New Jersey, one of 4 Air Toxics sites
Plans for the next 18 months	No changes
Other Comment	Nitric Oxide (NO) is also measured

SITE INFORMATION

Site Name	Clarksboro
Address	Clarksboro Shady Rest Home, Shady Lane and County House Road
City, State, Zip	Clarksboro, NJ 08020
AQS Code	34 015 0002
NJ County	Gloucester
MSA/CSA	Philadelphia-Camden-Wilmington CSA
Latitude	39:48:01.2
Longitude	-75:12:43.6
Date Established	1/1/1981
Suitable for Comparison to PM2.5 NAAQS?	Not Applicable



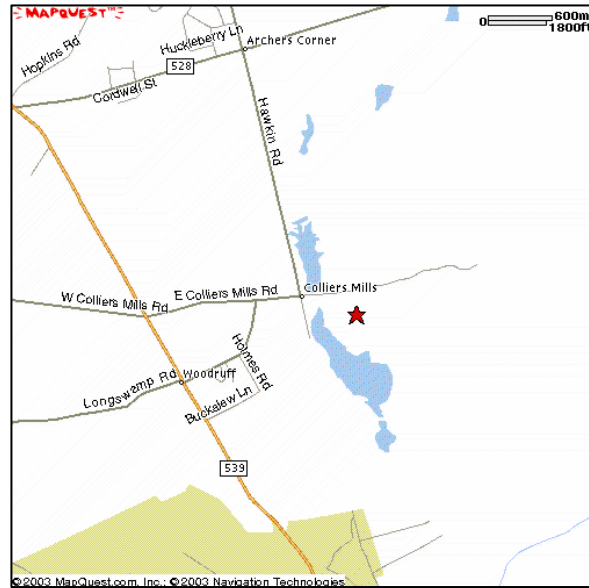
PARAMETER SUMMARY

Parameter	Sampling Instrument	Analysis Method	Sample Frequency	Spatial Scale	Monitoring Objective
Ozone (O ₃)	TECO 49	Ultraviolet	Continuous	Urban	Highest Concentration
Sulfur Dioxide (SO ₂)	TECO 43A	Pulsed fluorescence	Continuous	Urban	Population Exposure

Site Purpose	To measure highest concentrations of ozone downwind from Philadelphia metropolitan area
Plans for the next 18 months	No changes
Other Comment	

SITE INFORMATION

Site Name	Colliers Mills
Address	Colliers Mills Wildlife Management Area
City, State, Zip	Colliers Mills, NJ
AQS Code	34 029 0006
NJ County	Ocean
MSA/CSA	New York-Northeast New Jersey-Connecticut CSA
Latitude	40:03:53.4
Longitude	-74:26:38.5
Date Established	1/1/1985
Suitable for Comparison to PM2.5 NAAQS?	Not Applicable



PARAMETER SUMMARY

Parameter	Sampling Instrument	Analysis Method	Sample Frequency	Spatial Scale	Monitoring Objective
Ozone (O ₃)	TECO 49	Ultraviolet	Continuous	Urban	Highest Concentration

Site Purpose	To measure highest concentrations for ozone downwind from the Philadelphia metropolitan area and central New Jersey
Plans for the next 18 months	No changes
Other Comment	

SITE INFORMATION

Site Name	East Orange
Address	Engine No. 2, Main Street & Greenwood
City, State, Zip	East Orange, NJ 07018
AQS Code	34 013 1003
NJ County	Essex
MSA/CSA	New York-Northeast New Jersey-Connecticut CSA
Latitude	40:45:27.21
Longitude	-74:12:01.97
Date Established	1/1/1980
Suitable for Comparison to PM2.5 NAAQS?	Not Applicable



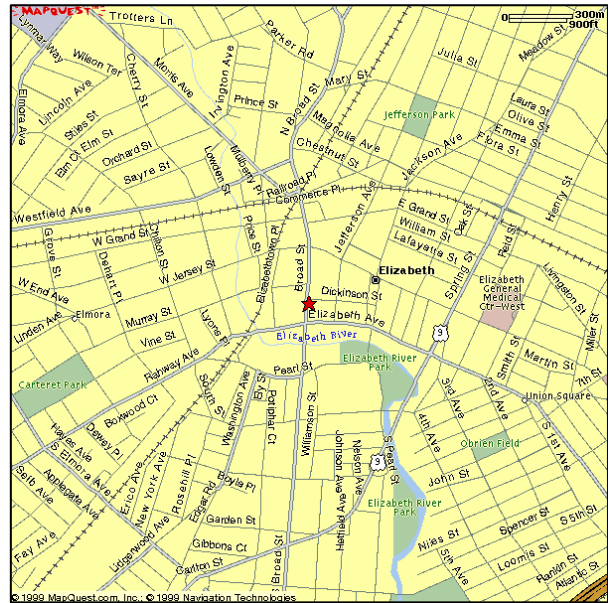
PARAMETER SUMMARY

Parameter	Sampling Instrument	Analysis Method	Sample Frequency	Spatial Scale	Monitoring Objective
Carbon Monoxide (CO)	TECO 48	Nondispersive-infrared	Continuous	Neighborhood	Population Exposure
Nitrogen Dioxide (NO ₂)	TECO 42	Chemiluminescence	Continuous	Neighborhood	Population Exposure
Relative Humidity	Qualimetrics	Capacitive sensor	Continuous	Neighborhood	
Temperature	Qualimetrics	Thermistor	Continuous	Neighborhood	

Site Purpose	To measure population exposure in the East Orange and Newark areas
Plans for the next 18 months	No changes
Other Comment	Nitric Oxide (NO) and Oxides of Nitrogen (NO _x) are also measured; the CO, NO, NO _x , Relative Humidity and Temperature data are not submitted to USEPA's AQS database

SITE INFORMATION

Site Name	Elizabeth
Address	5 Broad St.
City, State, Zip	Elizabeth, NJ 07201
AQS Code	34 039 0003
NJ County	Union
MSA/CSA	New York-Northeast New Jersey-Connecticut CSA
Latitude	40:39:44.8
Longitude	-74:12:53.1
Date Established	1/1/1970
Suitable for Comparison to PM2.5 NAAQS?	Not Applicable



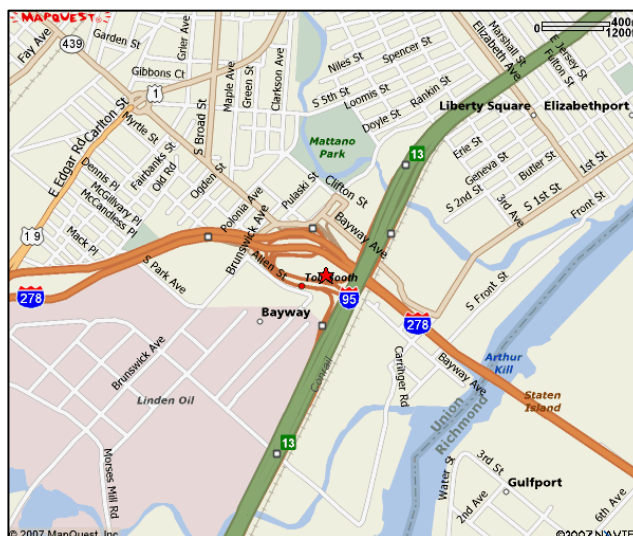
PARAMETER SUMMARY

Parameter	Sampling Instrument	Analysis Method	Sample Frequency	Spatial Scale	Monitoring Objective
Carbon Monoxide (CO)	TECO 48	Nondispersive-infrared	Continuous	Micro	Highest Concentration
Sulfur Dioxide (SO ₂)	TECO 43A	Pulsed fluorescence	Continuous	Middle	Population Exposure
Smoke Shade	Wallace Fisher	Tape sampler	Hourly	Neighborhood	Population Exposure

Site Purpose	To measure the highest concentrations in the central commercial area of Elizabeth
Plans for the next 18 months	All analyzers were temporarily discontinued on Mar 8, 2007 to conduct major renovations to the site
Other Comment	Smoke Shade data is not submitted to USEPA's AQS database

SITE INFORMATION

Site Name	Elizabeth Lab
Address	Interchange 13, NJ Turnpike
City, State, Zip	Elizabeth, NJ 07206
AQS Code	34 039 0004
NJ County	Union
MSA/CSA	New York-Northeast New Jersey-Connecticut CSA
Latitude	40:38:29.12
Longitude	-74:12:29.89
Date Established	1/1/1970
Suitable for Comparison to PM2.5 NAAQS?	Yes



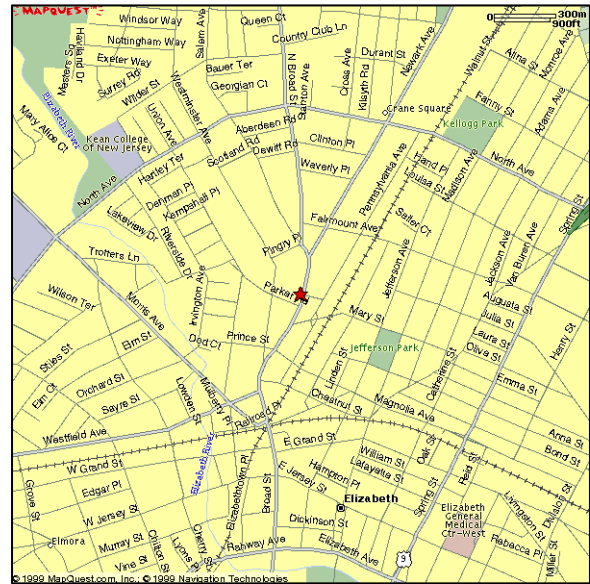
PARAMETER SUMMARY

Parameter	Sampling Instrument	Analysis Method	Sample Frequency	Spatial Scale	Monitoring Objective
Carbon Monoxide (CO)	TECO 48	Nondispersive-infrared	Continuous	Neighborhood	Population Exposure
Nitrogen Dioxide (NO ₂)	TECO 42	Chemiluminescence	Continuous	Neighborhood	Highest Concentration
Sulfur Dioxide (SO ₂)	TECO 43A	Pulsed fluorescence	Continuous	Neighborhood	Highest Concentration
Smoke Shade	Wallace Fisher	Tape sampler	Hourly	Neighborhood	Population Exposure
Fine Particles (PM _{2.5})	R&P 2025	Gravimetric	Daily	Neighborhood	Population Exposure
PM _{2.5} Speciation	Met One	XRF, IC, TOA	Every 3 days	Neighborhood	Population Exposure
Real-time PM _{2.5}	R&P 1400	TEOM-FDMS	Continuous	Neighborhood	Population Exposure
Volatile Organic Compounds	Canister	TO-15	Every 6 days	Neighborhood	Population Exposure
Carbonyls	DNPH cartridge	TO-11A	Every 6 days	Neighborhood	Population Exposure
Mercury (Hg)	Tekran 2537A	CVAF Spectrometry	Hourly	Neighborhood	Population Exposure
Wind Direction	Qualimetrics	Wind vane	Continuous	Neighborhood	
Wind Speed	Qualimetrics	Anemometer	Continuous	Neighborhood	

Site Purpose	The comprehensive air monitoring site in the northeast metropolitan region of New Jersey
Plans for the next 18 months	No changes
Other Comment	Nitric Oxide (NO) and Oxides of Nitrogen (NO _x) are also measured; PM _{2.5} is collocated for precision; CO, NO, NO _x , Smoke Shade, Wind Direction and Wind Speed data are not submitted to USEPA's AQS database

SITE INFORMATION

Site Name	Elizabeth Mitchell Bldg
Address	Mitchell Bldg., 500 N. Broad St.
City, State, Zip	Elizabeth, NJ 07208
AQS Code	34 039 0006
NJ County	Union
MSA/CSA	New York-Northeast New Jersey-Connecticut CSA
Latitude	40:24:02.24
Longitude	-73:51:36.27
Date Established	1/1/1983
Suitable for Comparison to PM2.5 NAAQS?	Yes



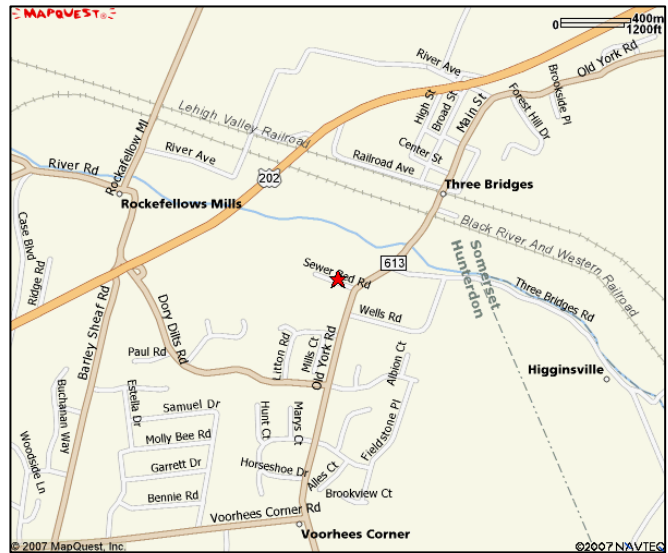
PARAMETER SUMMARY

Parameter	Sampling Instrument	Analysis Method	Sample Frequency	Spatial Scale	Monitoring Objective
Fine Particles (PM2.5)	R&P 2025	Gravimetric	Every 3 days	Neighborhood	Population Exposure

Site Purpose	To measure population exposure in the Elizabeth area
Plans for the next 18 months	No changes
Other Comment	

SITE INFORMATION

Site Name	Flemington
Address	Raritan Township Municipal Utilities Authority, 365 Old York Rd
City, State, Zip	Flemington, NJ 08822
AQS Code	34 019 0001
NJ County	Hunterdon
MSA/CSA	New York-Northeast New Jersey-Connecticut CSA
Latitude	40:30:55.0
Longitude	-74:48:24.0
Date Established	1/1/1980
Suitable for Comparison to PM2.5 NAAQS?	Not Applicable



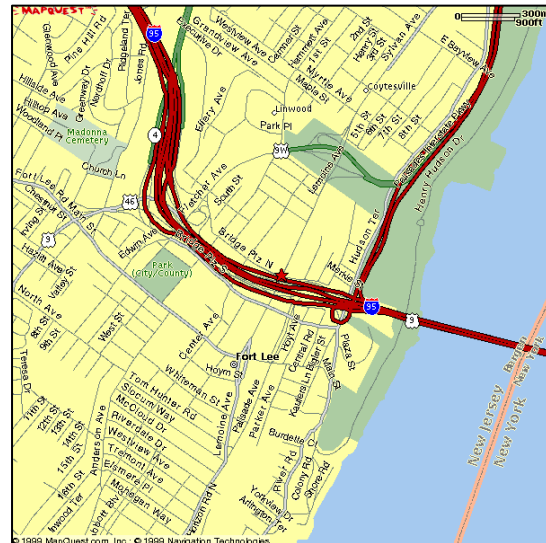
PARAMETER SUMMARY

Parameter	Sampling Instrument	Analysis Method	Sample Frequency	Spatial Scale	Monitoring Objective
Ozone (O ₃)	Dasibi 1008RS	Ultraviolet	Continuous	Urban	Highest Concentration
Real-time PM2.5	R&P 1400	TEOM-FDMS	Continuous	Neighborhood	Population Exposure
Barometric Pressure	Qualimetrics	Pressure transducer	Continuous	Neighborhood	
Relative Humidity	Qualimetrics	Capacitive sensor	Continuous	Neighborhood	
Solar Radiation	Qualimetrics	Pyrometer	Continuous	Neighborhood	
Temperature	Qualimetrics	Thermistor	Continuous	Neighborhood	
Wind Direction	Qualimetrics	Wind vane	Continuous	Neighborhood	
Wind Speed	Qualimetrics	Anemometer	Continuous	Neighborhood	

Site Purpose	To measure ozone concentrations in the northwestern region of New Jersey
Plans for the next 18 months	No changes
Other Comment	Barometric Pressure, Relative Humidity, Solar Radiation, Temperature, Wind Direction, and Wind Speed data are not submitted to USEPA's AQS database

SITE INFORMATION

Site Name	Fort Lee
Address	Bridge Plaza North & Lemoine Ave.
City, State, Zip	Fort Lee, NJ 07024
AQS Code	34 003 0004
NJ County	Bergen
MSA/CSA	New York-Northeast New Jersey-Connecticut CSA
Latitude	40:35:07.06
Longitude	-73:37:10.20
Date Established	12/9/1985
Suitable for Comparison to PM2.5 NAAQS?	Not Applicable



PARAMETER SUMMARY

Parameter	Sampling Instrument	Analysis Method	Sample Frequency	Spatial Scale	Monitoring Objective
Carbon Monoxide (CO)	TECO 48	Nondispersive-infrared	Continuous	Middle	Highest Concentration
Real-time PM2.5	R&P 1400	TEOM-FDMS	Continuous	Middle	Population Exposure
Inhalable Particles (PM10)	SierraAnderson	Gravimetric	Every 6 days	Middle	Highest Concentration

Site Purpose	To measure the impact of I-95 on CO, PM2.5 and PM10 concentrations in Fort Lee
Plans for the next 18 months	No changes
Other Comment	

SITE INFORMATION

Site Name	Fort Lee Library
Address	Fort Lee Library, 320 Main St.
City, State, Zip	Fort Lee, NJ 07024
AQS Code	34 003 0003
NJ County	Bergen
MSA/CSA	New York-Northeast New Jersey-Connecticut CSA
Latitude	40:34:51.87
Longitude	-73:37:21.79
Date Established	1/23/1986
Suitable for Comparison to PM2.5 NAAQS?	Yes



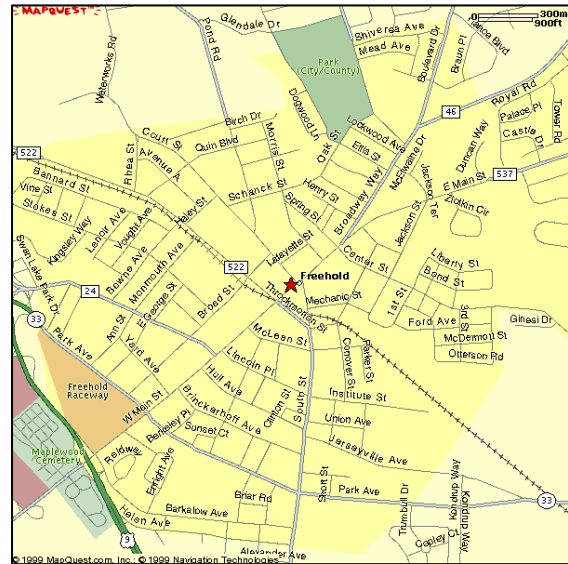
PARAMETER SUMMARY

Parameter	Sampling Instrument	Analysis Method	Sample Frequency	Spatial Scale	Monitoring Objective
Fine Particles (PM2.5)	R&P 2025	Gravimetric	Every 3 days	Neighborhood	Population Exposure

Site Purpose	To measure the population exposure in the Fort Lee area
Plans for the next 18 months	No changes
Other Comment	

SITE INFORMATION

Site Name	Freehold
Address	5 West Main St.
City, State, Zip	Freehold, NJ 07728
AQS Code	34 025 2001
NJ County	Monmouth
MSA/CSA	New York-Northeast New Jersey-Connecticut CSA
Latitude	40:15:35.6
Longitude	-74:16:28.9
Date Established	1/1/1970
Suitable for Comparison to PM2.5 NAAQS?	Not Applicable



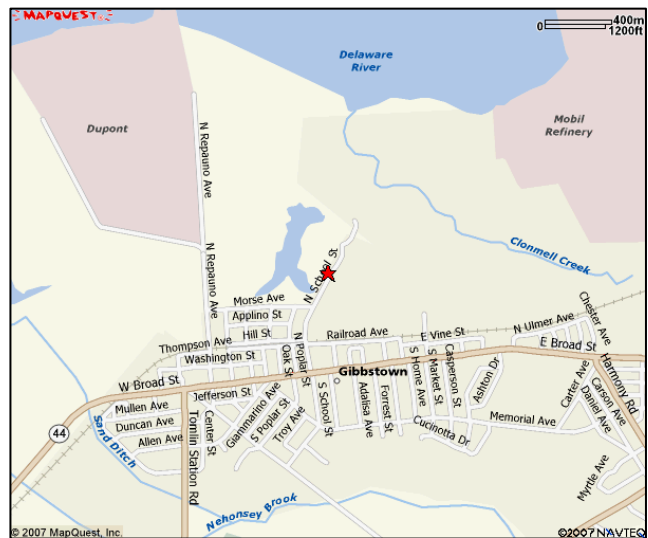
PARAMETER SUMMARY

Parameter	Sampling Instrument	Analysis Method	Sample Frequency	Spatial Scale	Monitoring Objective
Carbon Monoxide (CO)	TECO 48	Nondispersive-infrared	Continuous	Micro	Highest Concentration
Smoke Shade	Wallace Fisher	Tape sampler	Hourly	Neighborhood	Population Exposure

Site Purpose	To measure highest concentrations in the commercial district of Freehold
Plans for the next 18 months	No changes
Other Comment	Smoke Shade data is not submitted to USEPA's AQS database

SITE INFORMATION

Site Name	Gibbstown2
Address	Municipal Maintenance Yard, North School St., north of Morse Ave.
City, State, Zip	Gibbstown, NJ 08027
AQS Code	34 015 0004
NJ County	Gloucester
MSA/CSA	Philadelphia-Camden-Wilmington CSA
Latitude	39:49:51.1
Longitude	-75:17:04.3
Date Established	2/2/2007
Suitable for Comparison to PM2.5 NAAQS?	Yes



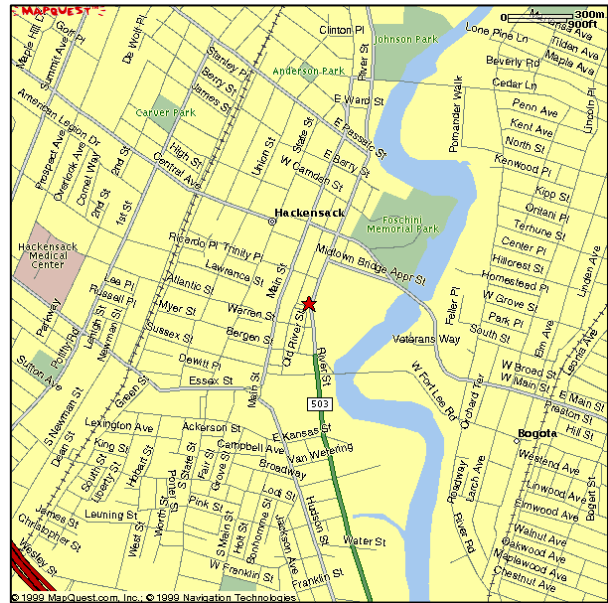
PARAMETER SUMMARY

Parameter	Sampling Instrument	Analysis Method	Sample Frequency	Spatial Scale	Monitoring Objective
Fine Particles (PM2.5)	R&P 2025	Gravimetric	Every 3 days	Neighborhood	Population Exposure

Site Purpose	To measure population exposure in the Gibbstown area
Plans for the next 18 months	No changes
Other Comment	

SITE INFORMATION

Site Name	Hackensack
Address	Bergen County Probation Services, 133 River St.
City, State, Zip	Hackensack, NJ 07601
AQS Code	34 003 5001
NJ County	Bergen
MSA/CSA	New York-Northeast New Jersey- Connecticut CSA
Latitude	40:52:56.5
Longitude	-74:02:31.8
Date Established	1/1/1968
Suitable for Comparison to PM2.5 NAAQS?	Not Applicable



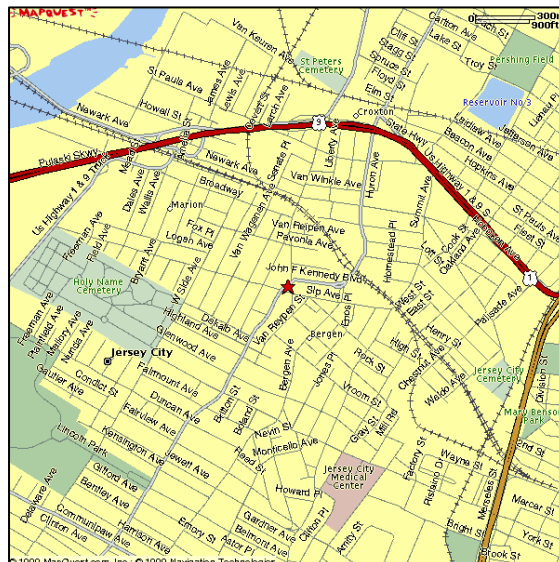
PARAMETER SUMMARY

Parameter	Sampling Instrument	Analysis Method	Sample Frequency	Spatial Scale	Monitoring Objective
Carbon Monoxide (CO)	TECO 48	Nondispersive-infrared	Continuous	Neighborhood	Population Exposure
Sulfur Dioxide (SO ₂)	TECO 43A	Pulsed fluorescence	Continuous	Neighborhood	Population Exposure
Smoke Shade	Wallace Fisher	Tape sampler	Hourly	Neighborhood	Population Exposure

Site Purpose	To measure population exposure in the Hackensack area
Plans for the next 18 months	No changes
Other Comment	Smoke Shade data is not submitted to USEPA's AQS database

SITE INFORMATION

Site Name	Jersey City
Address	2828 Kennedy Blvd.
City, State, Zip	Jersey City, NJ 07306
AQS Code	34 017 1002
NJ County	Hudson
MSA/CSA	New York-Northeast New Jersey-Connecticut CSA
Latitude	40:43:54.1
Longitude	-74:03:59.6
Date Established	1/1/1970
Suitable for Comparison to PM2.5 NAAQS?	Not Applicable



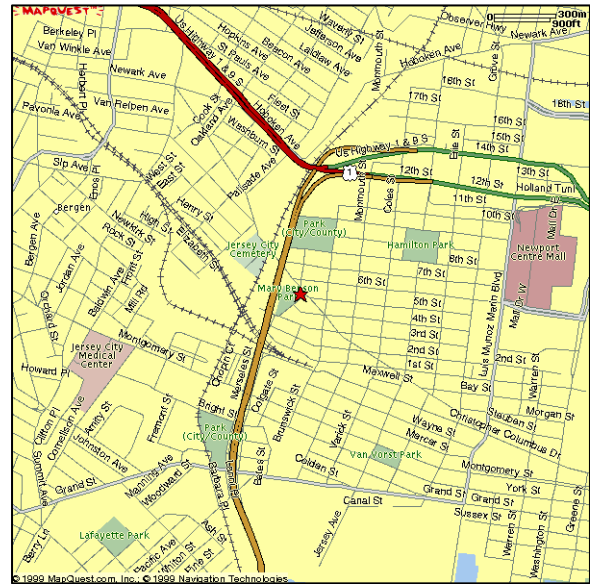
PARAMETER SUMMARY

Parameter	Sampling Instrument	Analysis Method	Sample Frequency	Spatial Scale	Monitoring Objective
Carbon Monoxide (CO)	TECO 48	Nondispersive-infrared	Continuous	Micro	Highest Concentration
Sulfur Dioxide (SO ₂)	TECO 43A	Pulsed fluorescence	Continuous	Neighborhood	Highest Concentration
Smoke Shade	Wallace Fisher	Tape sampler	Hourly	Neighborhood	Population Exposure

Site Purpose	To measure highest concentrations in the central commercial area of Jersey City
Plans for the next 18 months	No changes
Other Comment	Smoke Shade data is not submitted to USEPA's AQS database

SITE INFORMATION

Site Name	Jersey City Firehouse
Address	Consolidated Firehouse, 355 Newark Ave.
City, State, Zip	Jersey City, NJ 07302
AQS Code	34 017 1003
NJ County	Hudson
MSA/CSA	New York-Northeast New Jersey-Connecticut CSA
Latitude	40:43:31.6
Longitude	-74:03:08.2
Date Established	1/1/1967
Suitable for Comparison to PM2.5 NAAQS?	Yes



PARAMETER SUMMARY

Parameter	Sampling Instrument	Analysis Method	Sample Frequency	Spatial Scale	Monitoring Objective
Fine Particles (PM2.5)	R&P 2025	Gravimetric	Daily	Neighborhood	Population Exposure
Real-time PM2.5	R&P 1400	TEOM-FDMS	Continuous	Neighborhood	Population Exposure
Inhalable Particles (PM10)	SierraAnderson	Gravimetric	Every 6 days	Neighborhood	Highest Concentration

Site Purpose	To measure population exposure in the Jersey City area
Plans for the next 18 months	No changes
Other Comment	PM2.5 and PM10 are collocated for precision measurements

SITE INFORMATION

Site Name	Leonia
Address	Overpeck Park, 40 Fort Lee Road
City, State, Zip	Leonia, NJ, 07605
AQS Code	34 003 0006
NJ County	Bergen
MSA/CSA	New York-Northeast New Jersey-Connecticut CSA
Latitude	40:51:55.0 (tentative)
Longitude	-73:59:45.0 (tentative)
Date Established	12/7/2007
Suitable for Comparison to PM2.5 NAAQS?	Not Applicable



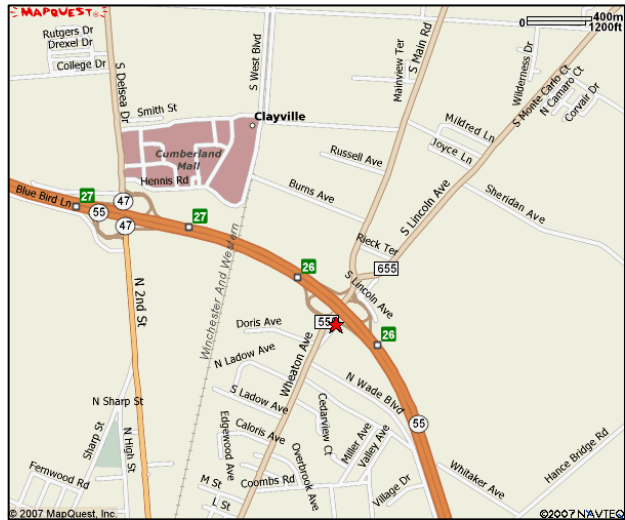
PARAMETER SUMMARY

Parameter	Sampling Instrument	Analysis Method	Sample Frequency	Spatial Scale	Monitoring Objective
Nitrogen Dioxide (NO ₂)	TECO 42	Chemiluminescence	Continuous	Neighborhood	Population Exposure
Ozone (O ₃)	Dasibi 1008	Ultraviolet	Continuous	Neighborhood	Population Exposure

Site Purpose	To measure population exposure in the Leonia and Teaneck areas
Plans for the next 18 months	No changes
Other Comment	Nitric Oxide (NO) and Oxides of Nitrogen (NO _x) will also be measured

SITE INFORMATION

Site Name	Millville
Address	Lincoln Ave. & Route 55
City, State, Zip	Millville, NJ 08332
AQS Code	34 011 0007
NJ County	Cumberland
MSA/CSA	Vineland-Millville-Bridgeton MSA
Latitude	39:25:20.2
Longitude	-75:01:30.7
Date Established	1/1/1983
Suitable for Comparison to PM2.5 NAAQS?	Not Applicable



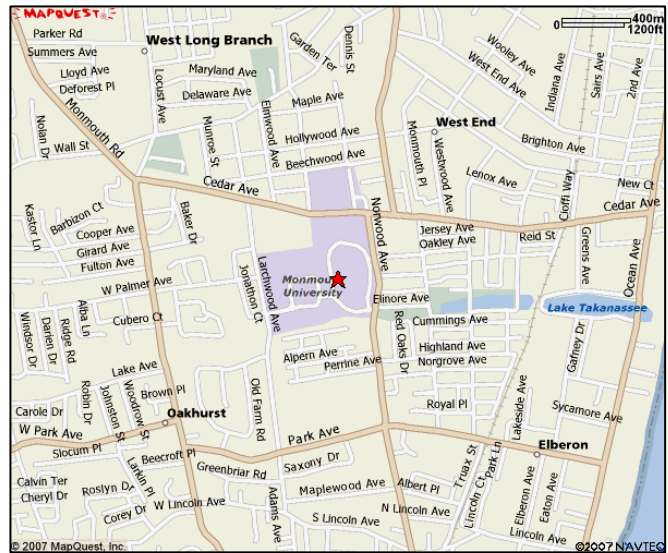
PARAMETER SUMMARY

Parameter	Sampling Instrument	Analysis Method	Sample Frequency	Spatial Scale	Monitoring Objective
Nitrogen Dioxide (NO ₂)	TECO 42	Chemiluminescence	Continuous	Neighborhood	Population Exposure
Ozone (O ₃)	Dasibi 1008	Ultraviolet	Continuous	Neighborhood	Population Exposure
Sulfur Dioxide (SO ₂)	TECO 43A	Pulsed fluorescence	Continuous	Neighborhood	Population Exposure
Real-time PM2.5	R&P 1400	TEOM-FDMS	Continuous	Neighborhood	Population Exposure

Site Purpose	To measure population exposure in the Vineland and Millville areas
Plans for the next 18 months	No changes
Other Comment	Nitric Oxide (NO) and Oxides of Nitrogen (NO _x) are also measured; NO, NO ₂ , and NO _x data are not submitted to USEPA's AQS database

SITE INFORMATION

Site Name	Monmouth University
Address	Edison Science Bldg., 400 Cedar Ave.
City, State, Zip	West Long Branch, NJ 07764
AQS Code	34 025 0005
NJ County	Monmouth
MSA/CSA	New York-Northeast New Jersey-Connecticut CSA
Latitude	40:16:42.5
Longitude	-74:00:19.2
Date Established	5/13/1989
Suitable for Comparison to PM2.5 NAAQS?	Not Applicable



PARAMETER SUMMARY

Parameter	Sampling Instrument	Analysis Method	Sample Frequency	Spatial Scale	Monitoring Objective
Ozone (O ₃)	TECO 49	Ultraviolet	Continuous	Neighborhood	Highest Concentration

Site Purpose	To measure highest concentrations of ozone in the eastern Monmouth County area
Plans for the next 18 months	No changes
Other Comment	

SITE INFORMATION

Site Name	Morristown
Address	11 Washington St.
City, State, Zip	Morristown, NJ 07960
AQS Code	34 027 0003
NJ County	Morris
MSA/CSA	New York-Northeast New Jersey-Connecticut CSA
Latitude	40:47:51.6
Longitude	-74:28:57.8
Date Established	1/1/1973
Suitable for Comparison to PM2.5 NAAQS?	Not Applicable



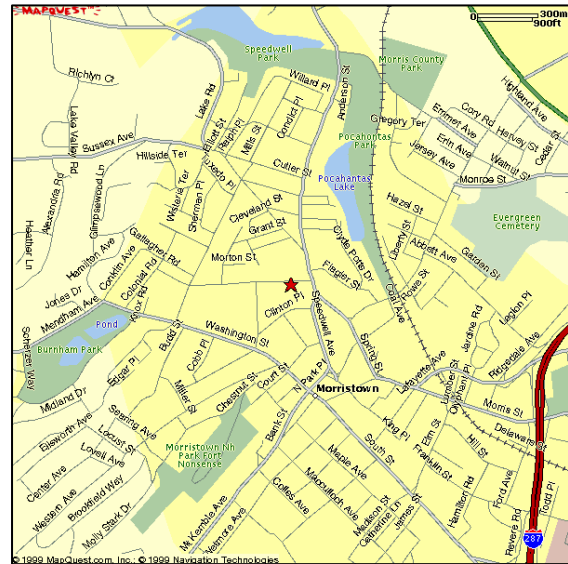
PARAMETER SUMMARY

Parameter	Sampling Instrument	Analysis Method	Sample Frequency	Spatial Scale	Monitoring Objective
Carbon Monoxide (CO)	TECO 48	Nondispersive-infrared	Continuous	Micro	Highest Concentration
Smoke Shade	Wallace Fisher	Tape sampler	Hourly	Neighborhood	Population Exposure

Site Purpose	To measure highest concentrations in the commercial district of Morristown
Plans for the next 18 months	No changes
Other Comment	Smoke Shade data is not submitted to USEPA's AQS database

SITE INFORMATION

Site Name	Morristown Ambulance Squad
Address	16 Early St.
City, State, Zip	Morristown, NJ 07960
AQS Code	34 027 0004
NJ County	Morris
MSA/CSA	New York-Northeast New Jersey-Connecticut CSA
Latitude	40:48:05.7
Longitude	-74:29:01.7
Date Established	5/30/1989
Suitable for Comparison to PM2.5 NAAQS?	Yes



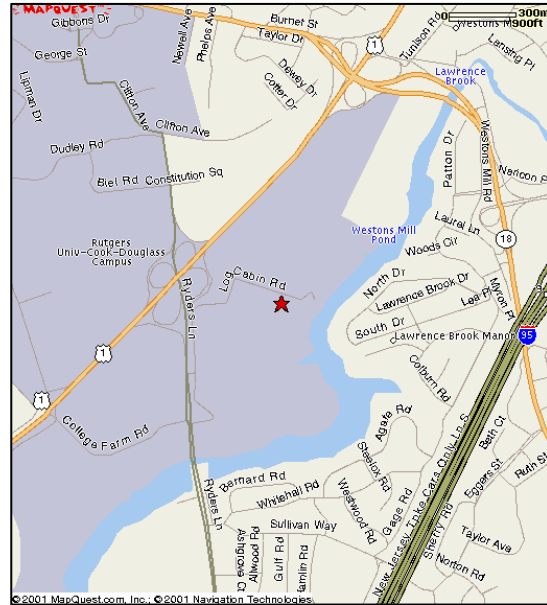
PARAMETER SUMMARY

Parameter	Sampling Instrument	Analysis Method	Sample Frequency	Spatial Scale	Monitoring Objective
Fine Particles (PM2.5)	R&P 2025	Gravimetric	Every 3 days	Neighborhood	Population Exposure

Site Purpose	To measure population exposure in the Morristown area
Plans for the next 18 months	No changes
Other Comment	

SITE INFORMATION

Site Name	New Brunswick
Address	Rutgers Gardens, Log Cabin Rd. near Horticulture Lab
City, State, Zip	New Brunswick, NJ 08901
AQS Code	34 023 0006
NJ County	Middlesex
MSA/CSA	New York-Northeast New Jersey- Connecticut CSA
Latitude	40:28:22.0
Longitude	-74:25:21.1
Date Established	1/1/1981
Suitable for Comparison to PM2.5 NAAQS?	Yes



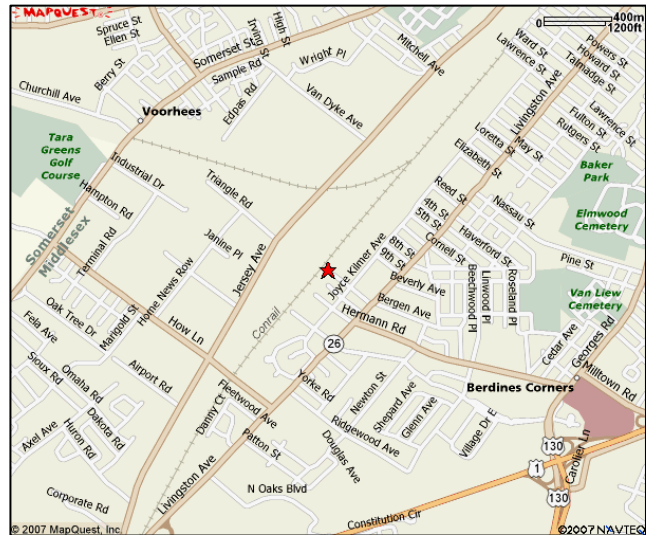
PARAMETER SUMMARY

Parameter	Sampling Instrument	Analysis Method	Sample Frequency	Spatial Scale	Monitoring Objective
Fine Particles (PM2.5)	R&P 2025	Gravimetric	Every 3 days	Neighborhood	Population Exposure
PM2.5 Speciation	Met One	XRF, IC, TOA	Every 3 days	Neighborhood	Population Exposure
Real-time PM2.5	R&P 1400	TEOM-FDMS	Continuous	Neighborhood	Population Exposure
Volatile Organic Compounds	Canister	TO-15	Every 6 days	Neighborhood	Population Exposure
Carbonyls	DNPH cartridge	TO-11A	Every 6 days	Neighborhood	Population Exposure
Mercury (Hg)	Tekran 2537A	CVAF Spectrometry	Hourly	Neighborhood	Population Exposure

Site Purpose	To measure population exposure in the New Brunswick area
Plans for the next 18 months	No changes
Other Comment	PM2.5 Speciation is collocated for precision

SITE INFORMATION

Site Name	New Brunswick Delco Remy
Address	End of 12th St., west of Joyce Kilmer Avenue
City, State, Zip	New Brunswick, NJ 08902
AQS Code	34 023 1003
NJ County	Middlesex
MSA/CSA	New York-Northeast New Jersey-Connecticut CSA
Latitude	40:28:22.6
Longitude	-74:28:15.0
Date Established	7/23/1983
Suitable for Comparison to PM2.5 NAAQS?	Not Applicable



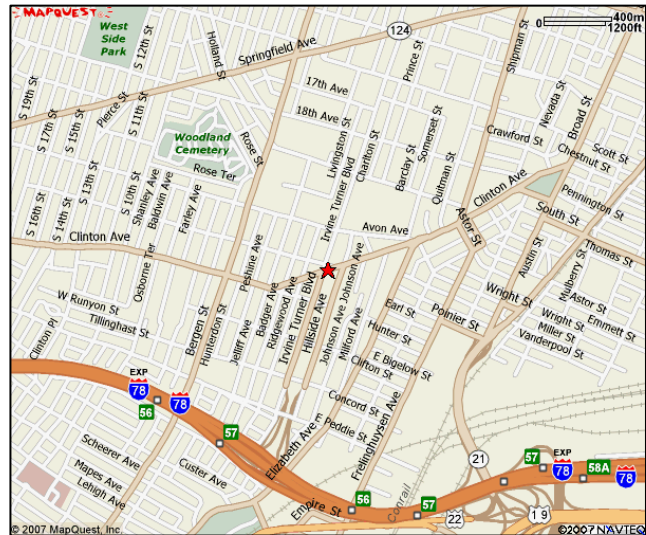
PARAMETER SUMMARY

Parameter	Sampling Instrument	Analysis Method	Sample Frequency	Spatial Scale	Monitoring Objective
Lead (Pb)	High-volume sampler	Atomic Absorption	Every 6 days	Micro	Highest Concentration
Total Suspended Particulates (TSP)	High-volume sampler	Gravimetric	Every 6 days	Micro	Highest Concentration

Site Purpose	To measure the impact of a major lead source – Delco Remy
Plans for the next 18 months	To be discontinued in 2008
Other Comment	Pb and TSP are collocated for precision measurements, TSP data is not submitted to USEPA's AQS database

SITE INFORMATION

Site Name	Newark Firehouse
Address	360 Clinton Avenue
City, State, Zip	Newark, NJ 07108
AQS Code	34 013 0003
NJ County	Essex
MSA/CSA	New York-Northeast New Jersey-Connecticut CSA
Latitude	40:43:15.79
Longitude	-74:11:34.47
Date Established	PROPOSED
Suitable for Comparison to PM2.5 NAAQS?	Yes



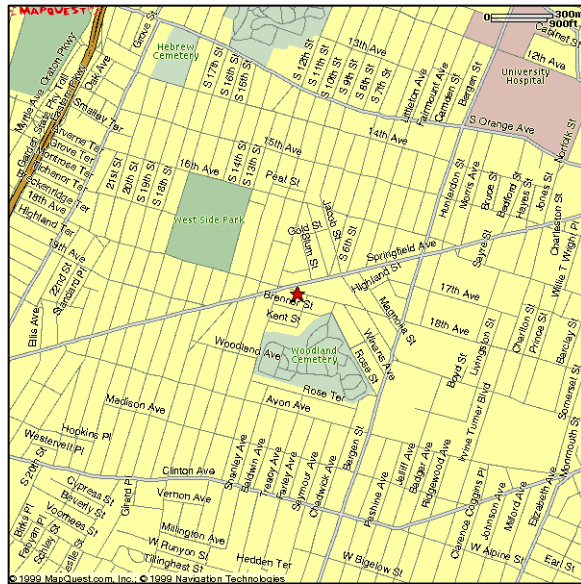
PARAMETER SUMMARY

Parameter	Sampling Instrument	Analysis Method	Sample Frequency	Spatial Scale	Monitoring Objective
Carbon Monoxide (CO)	TECO 48i	Nondispersive-infrared	Continuous	Neighborhood	Population Exposure
Nitrogen Dioxide (NO ₂)	TECO 42i	Chemiluminescence	Continuous	Neighborhood	Population Exposure
Ozone (O ₃)	TECO 49i	Ultraviolet	Continuous	Neighborhood	Population Exposure
Sulfur Dioxide (SO ₂)	TECO 43i	Pulsed fluorescence	Continuous	Neighborhood	Highest Concentration
Fine Particles (PM _{2.5})	R&P 2025	Gravimetric	Every 3 days	Neighborhood	Population Exposure
Real-time PM _{2.5}	R&P 1400	TEOM-FDMS	Continuous	Neighborhood	Population Exposure

Site Purpose	To be New Jersey's NCore site
Plans for the next 18 months	Proposed, not yet in operation. After start-up, addition of real time PM coarse (PM _{10-2.5}), total oxides of nitrogen, speciated PM _{2.5} , wind speed, wind direction, relative humidity and ambient temperature
Other Comment	Nitric Oxide (NO) and Oxides of Nitrogen (NO _x) will also be measured

SITE INFORMATION

Site Name	Newark Willis Center
Address	Mary Willis Cultural Center, 447 18th Ave.
City, State, Zip	Newark, NJ 07108
AQS Code	34 013 0015
NJ County	Essex
MSA/CSA	New York-Northeast New Jersey- Connecticut CSA
Latitude	40:43:49.0
Longitude	-74:12:45.9
Date Established	4/21/1999
Suitable for Comparison to PM2.5 NAAQS?	Yes



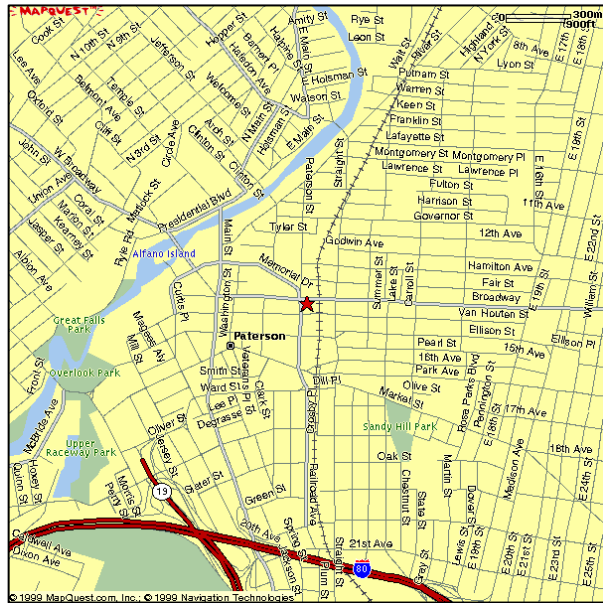
PARAMETER SUMMARY

Parameter	Sampling Instrument	Analysis Method	Sample Frequency	Spatial Scale	Monitoring Objective
Fine Particles (PM2.5)	R&P 2025	Gravimetric	Every 3 days	Neighborhood	Population Exposure

Site Purpose	To measure population exposure in the western part of Newark
Plans for the next 18 months	No changes
Other Comment	

SITE INFORMATION

Site Name	Paterson
Address	Health Department, 176 Broadway Ave.
City, State, Zip	Paterson, NJ 07505
AQS Code	34 031 0005
NJ County	Passaic
MSA/CSA	New York-Northeast New Jersey-Connecticut CSA
Latitude	40:25:56.58
Longitude	-73:32:20.33
Date Established	1/1/1978
Suitable for Comparison to PM2.5 NAAQS?	Yes



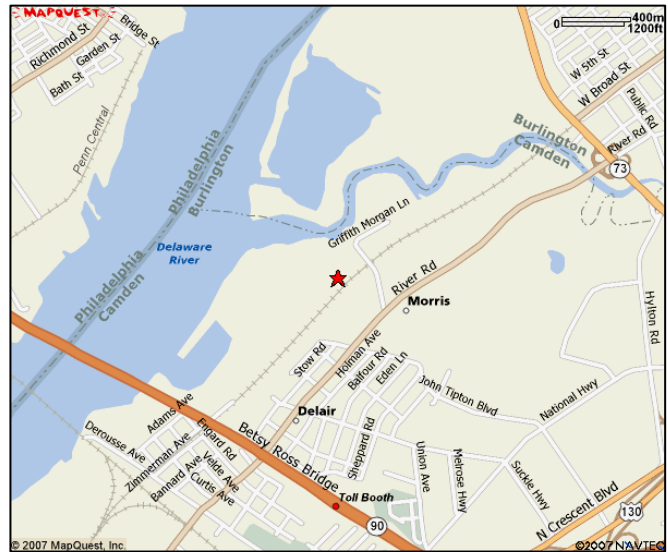
PARAMETER SUMMARY

Parameter	Sampling Instrument	Analysis Method	Sample Frequency	Spatial Scale	Monitoring Objective
Fine Particles (PM2.5)	R&P 2025	Gravimetric	Every 3 days	Neighborhood	Population Exposure

Site Purpose	To measure population exposure in the Paterson area
Plans for the next 18 months	No changes
Other Comment	

SITE INFORMATION

Site Name	Pennsauken
Address	Morris Delair Water Treatment Plant, off Griffith-Morgan Lane
City, State, Zip	Pennsauken, NJ 08110
AQS Code	34 007 1007
NJ County	Camden
MSA/CSA	Philadelphia-Camden-Wilmington CSA
Latitude	39:59:20.0
Longitude	-75:02:57.0
Date Established	9/1/1983
Suitable for Comparison to PM2.5 NAAQS?	Yes



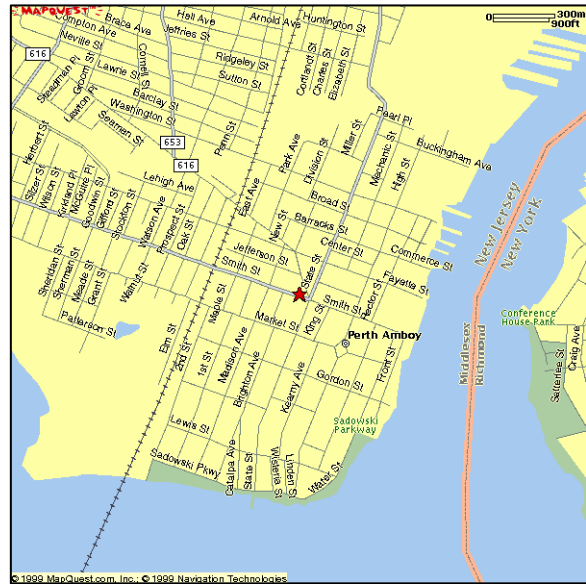
PARAMETER SUMMARY

Parameter	Sampling Instrument	Analysis Method	Sample Frequency	Spatial Scale	Monitoring Objective
Fine Particles (PM2.5)	R&P 2025	Gravimetric	Every 3 days	Neighborhood	Population Exposure

Site Purpose	To measure population exposure in the Pennsauken area
Plans for the next 18 months	No changes
Other Comment	

SITE INFORMATION

Site Name	Perth Amboy
Address	130 Smith St.
City, State, Zip	Perth Amboy, NJ 08861
AQS Code	34 023 2003
NJ County	Middlesex
MSA/CSA	New York-Northeast New Jersey-Connecticut CSA
Latitude	40:30:32.0
Longitude	-74:16:05.5
Date Established	1/1/1970
Suitable for Comparison to PM2.5 NAAQS?	Not Applicable



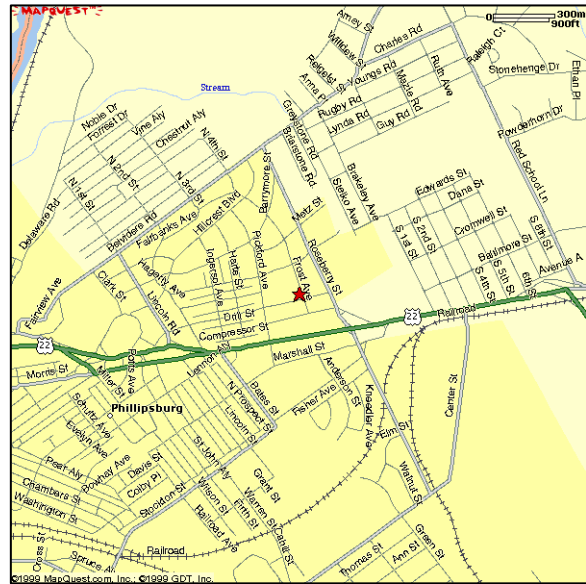
PARAMETER SUMMARY

Parameter	Sampling Instrument	Analysis Method	Sample Frequency	Spatial Scale	Monitoring Objective
Carbon Monoxide (CO)	TECO 48	Nondispersive-infrared	Continuous	Neighborhood	Population Exposure
Sulfur Dioxide (SO ₂)	TECO 43A	Pulsed fluorescence	Continuous	Neighborhood	Highest Concentration
Smoke Shade	Wallace Fisher	Tape sampler	Hourly	Neighborhood	Population Exposure

Site Purpose	To measure population exposure in the Perth Amboy area
Plans for the next 18 months	No changes
Other Comment	Smoke Shade data is not submitted to USEPA's AQS database

SITE INFORMATION

Site Name	Phillipsburg
Address	Municipal Bldg., 675 Corliss Ave.
City, State, Zip	Phillipsburg, NJ 08865
AQS Code	34 041 0006
NJ County	Warren
MSA/CSA	New York-Northeast New Jersey-Connecticut CSA
Latitude	40:41:57.2
Longitude	-75:10:49.9
Date Established	8/10/1999
Suitable for Comparison to PM2.5 NAAQS?	Yes



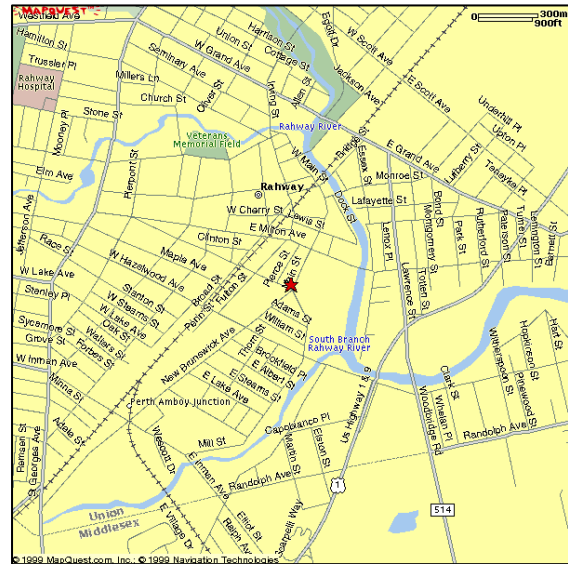
PARAMETER SUMMARY

Parameter	Sampling Instrument	Analysis Method	Sample Frequency	Spatial Scale	Monitoring Objective
Fine Particles (PM2.5)	R&P 2025	Gravimetric	Every 3 days	Neighborhood	Population Exposure

Site Purpose	To measure population exposure in the Phillipsburg area, and to measure transported fine particle concentrations
Plans for the next 18 months	No changes
Other Comment	

SITE INFORMATION

Site Name	Rahway
Address	Fire Dept. Bldg., 1300 Main St.
City, State, Zip	Rahway, NJ 07065
AQS Code	34 039 2003
NJ County	Union
MSA/CSA	New York-Northeast New Jersey-Connecticut CSA
Latitude	40:36:21.9
Longitude	-74:16:29.9
Date Established	12/11/1999
Suitable for Comparison to PM2.5 NAAQS?	Yes



PARAMETER SUMMARY

Parameter	Sampling Instrument	Analysis Method	Sample Frequency	Spatial Scale	Monitoring Objective
Fine Particles (PM2.5)	R&P 2025	Gravimetric	Every 3 days	Neighborhood	Population Exposure
Real-time PM2.5	R&P 1400	TEOM	Continuous	Neighborhood	Population Exposure

Site Purpose	To measure population exposure in the Rahway area
Plans for the next 18 months	No changes
Other Comment	TEOM analyzer is operating without the FDMS

SITE INFORMATION

Site Name	Ramapo
Address	Access Rd., off Skyline Drive, Wanaque Borough
City, State, Zip	Wanaque, NJ 07465
AQS Code	34 031 5001
NJ County	Passaic
MSA/CSA	New York-Northeast New Jersey- Connecticut CSA
Latitude	41:03:07.9
Longitude	-74:15:22.8
Date Established	6/5/1998
Suitable for Comparison to PM2.5 NAAQS?	Not Applicable



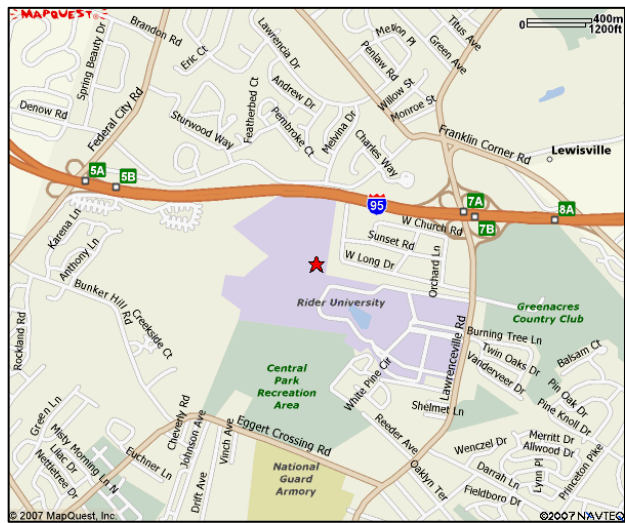
PARAMETER SUMMARY

Parameter	Sampling Instrument	Analysis Method	Sample Frequency	Spatial Scale	Monitoring Objective
Ozone (O ₃)	Dasibi 1008	Ultraviolet	Continuous	Urban	Background

Site Purpose	To measure background, transport and upwind concentrations of ozone
Plans for the next 18 months	No changes
Other Comment	

SITE INFORMATION

Site Name	Rider University
Address	Athletic Fields, Route 206 South
City, State, Zip	Lawrenceville, NJ 08648
AQS Code	34 021 0005
NJ County	Mercer
MSA/CSA	Trenton-Ewing MSA
Latitude	40:16:59.00
Longitude	-74:44:33.59
Date Established	6/1/1981
Suitable for Comparison to PM2.5 NAAQS?	Not Applicable



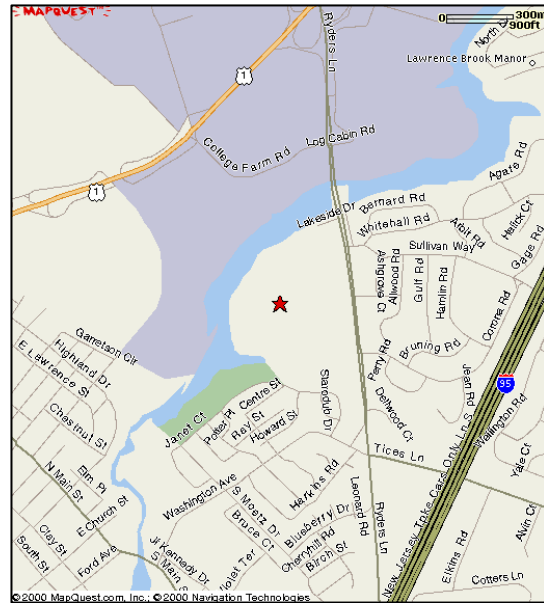
PARAMETER SUMMARY

Parameter	Sampling Instrument	Analysis Method	Sample Frequency	Spatial Scale	Monitoring Objective
Nitrogen Dioxide (NO ₂)	TECO 42	Chemiluminescence	Continuous	Neighborhood	Population Exposure
Ozone (O ₃)	Dasibi 1008	Ultraviolet	Continuous	Neighborhood	Population Exposure
O ₃ Precursors	PerkinElmer	Auto GC-FID	Hourly	Neighborhood	Population Exposure
Barometric Pressure	Qualimetrics	Pressure transducer	Continuous	Neighborhood	
Relative Humidity	Qualimetrics	Capacitive sensor	Continuous	Neighborhood	
Solar Radiation	Qualimetrics	Pyrometer	Continuous	Neighborhood	
Temperature	Qualimetrics	Thermistor	Continuous	Neighborhood	
Wind Direction	Qualimetrics	Wind vane	Continuous	Neighborhood	
Wind Speed	Qualimetrics	Anemometer	Continuous	Neighborhood	

Site Purpose	To measure population exposure and ozone precursors
Plans for the next 18 months	No changes
Other Comment	Nitric Oxide (NO) and Oxides of Nitrogen (NO _x) are also measured

SITE INFORMATION

Site Name	Rutgers University
Address	Horticultural Farm #3, off Ryder's Lane
City, State, Zip	New Brunswick, NJ 08901
AQS Code	34 023 0011
NJ County	Middlesex
MSA/CSA	New York-Northeast New Jersey-Connecticut CSA
Latitude	40:27:43.9
Longitude	-74:25:46.0
Date Established	10/1/1994
Suitable for Comparison to PM2.5 NAAQS?	Not Applicable



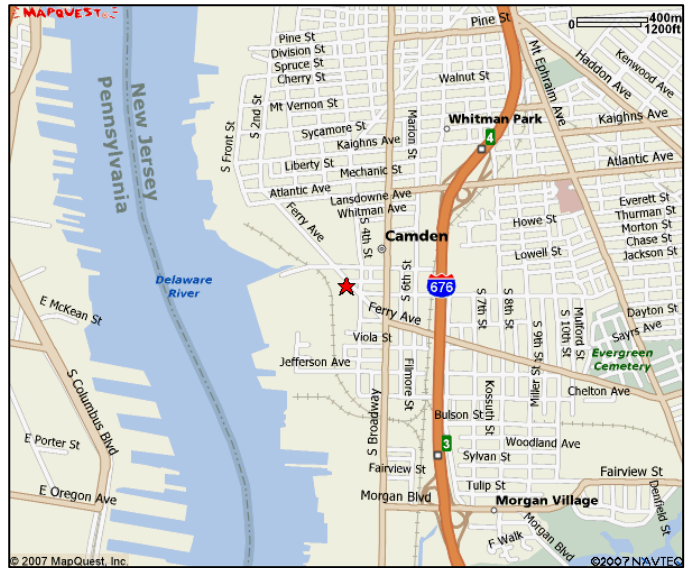
PARAMETER SUMMARY

Parameter	Sampling Instrument	Analysis Method	Sample Frequency	Spatial Scale	Monitoring Objective
Nitrogen Dioxide (NO ₂)	TECO 42	Chemiluminescence	Continuous	Neighborhood	Population Exposure
Ozone (O ₃)	Dasibi 1008	Ultraviolet	Continuous	Neighborhood	Population Exposure
O ₃ Precursors	PerkinElmer	Auto GC-FID	Hourly	Neighborhood	Population Exposure

Site Purpose	To measure population exposure and ozone precursors – downwind for Philadelphia metropolitan area and upwind for New York metropolitan area
Plans for the next 18 months	No changes
Other Comment	Nitric Oxide (NO) and Oxides of Nitrogen (NO _x) are also measured, upper air and lower air meteorological measurements are collected at this site by Rutgers University

SITE INFORMATION

Site Name	South Camden
Address	Camden County Municipal Utilities Authority, 1645 Ferry Ave
City, State, Zip	Camden, NJ 08104
AQS Code	34 007 0010
NJ County	Camden
MSA/CSA	Philadelphia-Camden-Wilmington CSA
Latitude	39:55:26.4
Longitude	-75:07:20.6
Date Established	11/20/2003
Suitable for Comparison to PM2.5 NAAQS?	Not Applicable



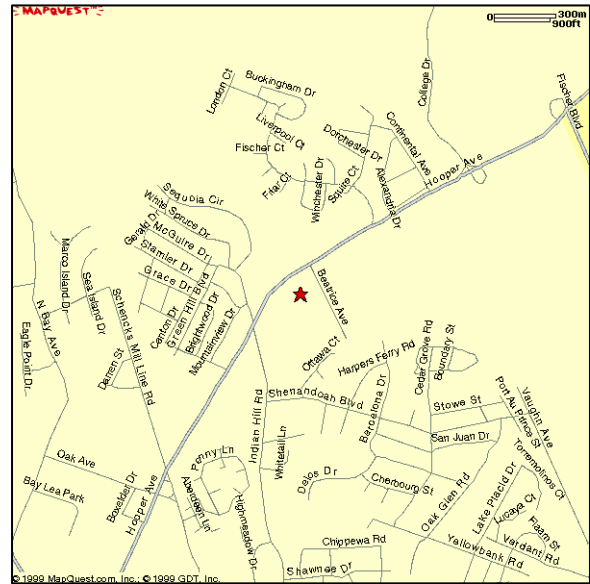
PARAMETER SUMMARY

Parameter	Sampling Instrument	Analysis Method	Sample Frequency	Spatial Scale	Monitoring Objective
Real-time PM2.5	R&P 1400	TEOM-FDMS	Continuous	Neighborhood	Population Exposure

Site Purpose	To measure population exposure in the South Camden area
Plans for the next 18 months	No changes
Other Comment	Real-time PM2.5 data is not submitted to USEPA's AQS database

SITE INFORMATION

Site Name	Toms River
Address	Elementary School, 1517 Hooper Avenue
City, State, Zip	Toms River, NJ 08753
AQS Code	34 029 2002
NJ County	Ocean
MSA/CSA	New York-Northeast New Jersey-Connecticut CSA
Latitude	39:59:40.8
Longitude	-74:10:12.5
Date Established	2/11/1999
Suitable for Comparison to PM2.5 NAAQS?	Yes



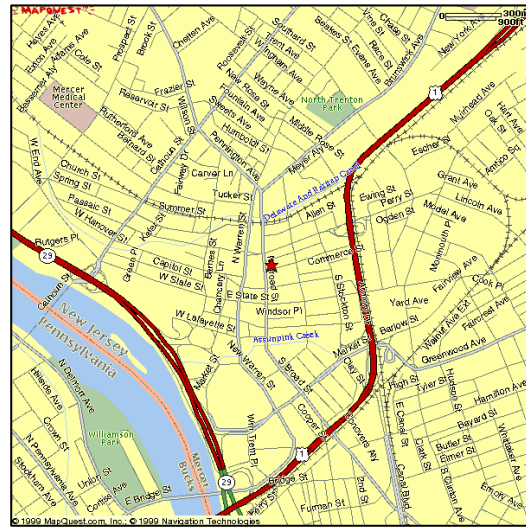
PARAMETER SUMMARY

Parameter	Sampling Instrument	Analysis Method	Sample Frequency	Spatial Scale	Monitoring Objective
Fine Particles (PM2.5)	R&P 2025	Gravimetric	Daily	Neighborhood	Population Exposure

Site Purpose	To measure population exposure in the Toms River area
Plans for the next 18 months	No changes
Other Comment	

SITE INFORMATION

Site Name	Trenton
Address	Trenton Library, 120 Academy St.
City, State, Zip	Trenton, NJ 08608
AQS Code	34 021 0008
NJ County	Mercer
MSA/CSA	Trenton-Ewing MSA
Latitude	40:13:20.2
Longitude	-74:45:47.3
Date Established	9/1/1982
Suitable for Comparison to PM2.5 NAAQS?	Yes



PARAMETER SUMMARY

Parameter	Sampling Instrument	Analysis Method	Sample Frequency	Spatial Scale	Monitoring Objective
Fine Particles (PM2.5)	R&P 2025	Gravimetric	Daily	Neighborhood	Population Exposure
Inhalable Particles (PM10)	SierraAnderson	Gravimetric	Every 6 days	Neighborhood	Population Exposure

Site Purpose	To measure population exposure in the downtown commercial district of Trenton
Plans for the next 18 months	No changes
Other Comment	

SITE INFORMATION

Site Name	Union City
Address	Health Department, 714 31st St.
City, State, Zip	Union City, NJ 07087
AQS Code	34 017 2002
NJ County	Hudson
MSA/CSA	New York-Northeast New Jersey-Connecticut CSA
Latitude	40:46:21.93
Longitude	-74:01:54.12
Date Established	1/1/1983
Suitable for Comparison to PM2.5 NAAQS?	Yes



PARAMETER SUMMARY

Parameter	Sampling Instrument	Analysis Method	Sample Frequency	Spatial Scale	Monitoring Objective
Fine Particles (PM2.5)	R&P 2025	Gravimetric	Every 3 days	Neighborhood	Population Exposure

Site Purpose	To measure population exposure in the Union City and Hudson County areas
Plans for the next 18 months	No changes
Other Comment	

SITE INFORMATION

Site Name	Washington Crossing
Address	Washington Crossing State Park, near 66 Church Rd.
City, State, Zip	Titusville, NJ 08560
AQS Code	34 021 8001
NJ County	Mercer
MSA/CSA	Trenton-Ewing MSA
Latitude	40:18:44.64
Longitude	-74:52:21.72
Date Established	1/1/1989
Suitable for Comparison to PM2.5 NAAQS?	Yes



PARAMETER SUMMARY

Parameter	Sampling Instrument	Analysis Method	Sample Frequency	Spatial Scale	Monitoring Objective
Fine Particles (PM2.5)	R&P 2025	Gravimetric	Every 3 days	Neighborhood	Population Exposure
Acid Deposition	Bucket	Ion Chromatography	Weekly	Neighborhood	Population Exposure

Site Purpose	To measure population exposure and transported fine particle concentrations
Plans for the next 18 months	No changes
Other Comment	

GLOSSARY OF ABBREVIATIONS AND TERMS

ABBREVIATIONS

AQI – Air Quality Index, a national air quality rating system based on the National Ambient Air Quality Standards

AQS – Air Quality Subsystem, USEPA's database for air quality data nationwide

CSA – Combined Statistical Area, defined by U.S. Office of Management and Budget as a geographic area having 2 or more Metropolitan Statistical Areas

CFR – Code of Federal Regulations

CO – Carbon monoxide

CVAF Spectrometry – Cold Vapor Atomic Fluorescence Spectrometry, method for analyzing Mercury

DNPH cartridge – Di-Nitro-Phenyl-Hydrazine, an adsorbent for trapping carbonyls in air

auto GC-FID – automated Gas Chromatograph Flame Ionization Detection

Hg – Mercury

IC – Ion Chromatography, a method for analyzing for ionic compounds from Fine Particles

IMPROVE – Interagency Monitoring of Protected Visual Environments

MSA – Metropolitan Statistical Area, a cluster or 1 or more contiguous counties having a population greater than 50,000

NAAQS – National Ambient Air Quality Standard

NCORE – National Core, a category of monitoring site having a group of parameters specified by the USEPA

NJDEP – New Jersey Department of Environmental Protection

NO – Nitric Oxide

NO₂ – Nitrogen Dioxide

NO_x – Oxides of Nitrogen

O₃ – Ozone

PAMS – Photochemical Assessment Monitoring Station, monitoring sites which measure ozone precursors

Pb – Lead

PM_{2.5} – Fine Particles, particles 2.5 micrometers in aerodynamic diameter or smaller

PM₁₀ – Inhalable Particles, particles 10 micrometer in aerodynamic diameter or smaller

PM_{10-2.5} – Coarse Particles, particles between 10 and 2.5 micrometers in aerodynamic diameter

PM_{2.5}-Speciation – a group of elements, ionic compounds and carbon compounds that are analyzed from Fine Particles

R&P 1400 – the instrument manufactured by Rupprecht and Pattashnik to measure real-time PM_{2.5}

R&P 2025 – the instrument manufactured by Rupprecht and Pattashnik to measure PM_{2.5}, data from this instrument can be used for comparison to the NAAQS

RRF – Resource Recovery Facility, trash incineration facility

SLAMS – State and Local Air Monitoring Station, designation for monitoring sites or samplers, the data from which can be used for comparison to the National Ambient Air Quality Standards

SO₂ – Sulfur Dioxide

SPM – Special Purpose Monitor, designation for monitoring sites or samplers, the data from which are not used for comparison to the National Ambient Air Quality Standards

STN – Speciation Trends Network

TEOM-FDMS – Tapered Element Oscillating Microbalance with Filter Dynamic Measurement System, the analytical method used by an R&P 1400 to measure real-time PM_{2.5}

TECO 42 – the instrument manufactured by Thermo Environmental Corp. to measure nitrogen dioxide, nitric oxide and oxides of nitrogen

TECO 43A – the instrument manufactured by Thermo Environmental Corp. to measure sulfur dioxide

TECO 48 – the instrument manufactured by Thermo Environmental Corp. to measure carbon monoxide

TECO 49 – the instrument manufactured by Thermo Environmental Corp. to measure ozone

TO-11A – a standard method approved by the USEPA to analyze carbonyls

TO-15 – a standard method approved by the USEPA to analyze Volatile Organic Compounds

TOA – Thermal Optic Analysis, a method for analyzing carbon compounds from Fine Particles

TSP – Total Suspended Particles, all particles that are captured by a high-volume sampler
USEPA – United States Environmental Protection Agency
VOC – Volatile Organic Compound, a carbon-based chemical that is gaseous
XRF – X-ray Fluorescence, a method for analyzing elements from Fine Particles

TERMS

Acid Deposition – acid rain, the phenomenon where air pollutants raise the acidity of rain and snow
Ambient air – air in areas that are accessible to the general public
Anemometer – an instrument used for measuring wind speed
Atomic Absorption – the method used for analyzing for lead from Total Suspended Particles
Background – a monitoring site in an area which is not affected by air pollution sources
Canister – a stainless steel container used for collecting an air sample to be analyzed for VOCs
Capacitive Sensor – an instrument used for measuring relative humidity
Carbonyls – a group of aldehydes, or a carbon chain with an oxygen molecule at one end
Chemiluminescence – the method used for analyzing for NO, NO₂ and NO_x
Coarse Particles – also PM_{10-2.5}, particles between 10 and 2.5 micrometers in aerodynamic diameter
Collocated – operating two samplers side by side in order to collect data used for precision statistics
Continuous – an instrument that collects data instantaneously, without stopping, throughout the year, and transmits the data to a central data acquisition system every minute
Fine Particles – also PM_{2.5}, particles 2.5 micrometers in aerodynamic diameter or smaller
Gravimetric – weighing a filter in a controlled environment by a highly accurate balance
High-volume Sampler – an instrument used to collect Total Suspended Particles
Highest Concentration – a monitoring instrument or site which is designated to measure the maximum concentration of a pollutant in a given area
Inhalable Particles – also PM₁₀, particles 10 micrometers in aerodynamic diameter or smaller
Ion Chromatography – also IC, a method used for analyzing for ionic compounds
Manual – an instrument that collects an air sample over a 24-hour filter on a filter, adsorbent cartridge or canister which is then manually retrieved for subsequent analysis
Met One – a manufacturer of PM_{2.5} Speciation samplers
Micro Scale – the spatial scale of a monitoring site, from 10 – 100 meters around the monitor
Middle Scale – the spatial scale of a monitoring site, from 100 –1000 meters around the monitor
Neighborhood Scale – the spatial scale of a monitoring site, from 1 km to 10 kms around the monitor
Nephelometer – an instrument that measures fine particles by light scattering
Nondispersive-infrared – the method used for analyzing for carbon monoxide
Ozone Precursors – a group of 55 volatile organic compounds that affect ozone formation and destruction in the atmosphere, also called PAMS pollutants
PerkinElmer – the manufacturer of an automated GC-FID
Population Exposure – a monitoring instrument or site that is designated to measure the concentrations of a pollutant in a highly populated area
Pressure Transducer – an instrument used for measuring barometric pressure
Pulsed fluorescence – the method used for analyzing for sulfur dioxide
Pyrometer – the method used for measuring solar radiation
Qualimetrics – the manufacturer of meteorological instruments
Real-time PM_{2.5} – PM_{2.5} concentrations that are measured continuously
Regional Scale – the spatial scale of a monitoring site, from 100 kms to 1000 kms around the monitor
SierraAnderson – the manufacturer of PM₁₀ samplers
Smoke Shade – an index of TSP by the measurement of light diminishment due to particles
Solar Radiation – the intensity of energy from sunlight
Tape Sampler – an instrument that measures TSP by collecting particles on a roll of filter paper which is automatically forwarded hourly
Thermistor – an instrument that measures temperature
Ultraviolet – the method used for analyzing ozone
Urban Scale – the spatial scale of a monitoring site, from 10 kms to 100 kms around the monitor
Wallace Fisher – the manufacturer of smoke shade analyzers

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