New Jersey
Ambient Air Monitoring
Network Plan 2020

July 2020

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Air Monitoring
https://nj.gov/dep/airmon
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**DISCLAIMER**

Mention of trade names, manufacturers or commercial products in this document does not constitute New Jersey Department of Environmental Protection endorsement or recommendation for use.
EXECUTIVE SUMMARY

New Jersey’s Ambient Air Monitoring Network Plan for 2020 provides a complete description of the air monitoring network operated by the Bureau of Air Monitoring (BAM), and summarizes any changes made in the previous year and those planned for the next year. The New Jersey Department of Environmental Protection (NJDEP) is required to submit a Network Plan to the U.S. Environmental Protection Agency (USEPA) each year. The primary purpose of the air monitoring program is to demonstrate compliance with the National Ambient Air Quality Standards (NAAQS) for specific pollutants. It also provides real-time air quality data to the general public through a website, and measures concentrations of non-criteria pollutants for the protection of public health.

Here is a list of monitoring network changes that occurred from March 2019 to March 31, 2020:

1. Installed a PM$_{10}$ monitor at Camden Spruce Street to replace the one located at the Camden RRF monitoring site. Camden RRF will be shut down as soon as EPA’s approval letter is received.
2. Shut down the Fort Lee Library site and removed the filter-based PM$_{2.5}$ monitor. This was approved by USEPA through the 2019 Network Plan. The site was shut down because the monitor was located on a roof without a safety rail, and the PM$_{2.5}$ concentrations were consistently lower than those at the nearby Fort Lee Near Road monitoring station.
3. At Toms River, installed a Federal Equivalent Method (FEM) continuous monitor for PM$_{2.5}$, with the intention of discontinuing the filter-based PM$_{2.5}$ sampling on December 31, 2020.
4. Beginning January 2020, Rutgers meteorology data, from instruments maintained by the University, is being sent to New Jersey’s Envista data collection system.

These changes are summarized in Table 1.

<table>
<thead>
<tr>
<th>Monitoring Site</th>
<th>Parameter(s)</th>
<th>Action</th>
<th>Date</th>
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<td>PM$_{10}$</td>
<td>Installed monitor</td>
<td>1/1/2020</td>
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<td>Camden RRF</td>
<td>PM$_{10}$</td>
<td>Shut down site</td>
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<td>approval letter</td>
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<td>Fort Lee Library</td>
<td>PM$_{2.5}$</td>
<td>Shut down site</td>
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<td>Toms River</td>
<td>PM$_{2.5}$</td>
<td>Installed a continuous monitor</td>
<td>1/1/2020</td>
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<td>Rutgers University</td>
<td>Meteorological data</td>
<td>Start collecting data from Rutgers-operated monitors</td>
<td>1/1/2020</td>
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</table>
Proposed Changes

The only change to the New Jersey air monitoring network proposed for the coming year is to replace the filter-based PM$_{2.5}$ monitor at the Trenton Library site with a continuous PM$_{2.5}$ monitor. The filter-based monitor runs every day.

REGULATORY REQUIREMENTS

NJDEP is required by 40 CFR Part 58 to submit an Ambient Air Monitoring Network Plan to the USEPA Region 2 Regional Administrator by July 1 of each year, and to have the Plan available for public inspection for at least 30 days prior to its submittal to the USEPA. The plan describes New Jersey’s State and Local Air Monitoring Stations (SLAMS), National Core (NCore) stations, Chemical Speciation Network (CSN) stations, Urban Air Toxics Monitoring Program (UATMP) stations, Special Purpose Monitor (SPM) stations, and Photochemical Assessment Monitoring Stations (PAMS).

This 2020 Network Plan contains information required by the regulations; descriptions of the air monitoring sites; large- and small-scale maps of the monitoring station locations; a summary of the changes to the Air Monitoring Network that NJDEP expects to implement during the year; comments received following the 30-day public comment period; and NJDEP’s responses to the comments. A draft of this plan was available for public comment from May 15 to June 15, 2020. We received one comment. The finalized version of this document is available for download from the Bureau of Air Monitoring website, https://nj.gov/dep/airmon, or as a hard copy by request from bamweb@dep.nj.gov.

THE NEW JERSEY AIR MONITORING NETWORK

NJDEP currently operates 30 air monitoring stations throughout the state. Table 2 lists all the monitoring sites, along with the pollutants, pollutant categories, or meteorological parameters that are measured at each site. Figure 1 shows the locations of the monitoring stations across New Jersey.

Data used for comparison to the National Ambient Air Quality Standards (NAAQS) must be measured by USEPA-approved real-time analyzers or USEPA-approved manual samplers. The real-time data is also used to generate a rating of current air quality called the Air Quality Index (AQI), which is updated hourly on the Bureau of Air Monitoring webpage.

Real-time sampling instruments collect and analyze data continuously, and transmit the data to a centralized computer system once every minute. Several parameters, including carbon monoxide (CO), nitrogen dioxide (NO$_2$), ozone (O$_3$), sulfur dioxide (SO$_2$), fine particulate matter (PM$_{2.5}$), and meteorological data are measured this way.

NJDEP also uses USEPA-approved manual particulate samplers for comparison to the PM NAAQS. Separately, three types of airborne particles can be collected on a filter over a 24-hour period: fine particulate (particles smaller than 2.5 micrometers in diameter, or “PM$_{2.5}$”); inhalable particulate (particles smaller than 10 micrometers in diameter, or “PM$_{10}$”); and PM$_{coarse}$ (particles between 2.5 micrometers in diameter and 10 micrometers in diameter). At the end of the 24-hour collection period, the samples are manually retrieved and sent to NJDEP’s laboratory for gravimetric analysis (weighing).
NJDEP monitors other pollutants, some of which are grouped together into categories by their method of sampling or analysis. These categories are listed in the headings of Table 2. “Toxics” monitoring is part of the USEPA’s Urban Air Toxics Monitoring Program (UATMP), in which certain volatile organic compounds (VOCs) and carbonyls are analyzed using whole air samples or adsorbent media (see Appendices A and B). Pollutants in the “PM$_{2.5}$ Speciation” category include trace elements, heavy metals, and carbon compounds (see Appendix C); they are analyzed using PM$_{2.5}$ particles, under the USEPA Chemical Speciation Network (CSN) program. The site at Rutgers University that monitors for ozone precursors (pollutants that promote ozone formation in the atmosphere) is part of the national Photochemical Assessment Monitoring Station (PAMS) program. Ozone precursors (see Appendix D) are often referred to as PAMS pollutants. The PM$_{2.5}$ speciation, VOC, and carbonyl samples are collected by NJDEP and sent to USEPA-approved contract laboratories for analysis. Five urban monitoring stations measure near-real-time benzene, toluene, ethylbenzene, and xylenes (with a “BTEX” analyzer), and black carbon (with an aethalometer). In addition, NJDEP also measures acid deposition, mercury, and visibility (using a nephelometer) at a number of sites.
### TABLE 2. Summary of Current New Jersey Air Monitoring Sites

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<tr>
<th>Station Name</th>
<th>CO</th>
<th>NO₂</th>
<th>NOₓ</th>
<th>O₃</th>
<th>SO₂</th>
<th>Lead</th>
<th>PM₁₀</th>
<th>Real-Time PM₁₀</th>
<th>PM₁₅</th>
<th>PM₁₀ coarse</th>
<th>PM₂.⁵ Speciation</th>
<th>O₃ Precursors</th>
<th>Toxics</th>
<th>Urban Pollutants</th>
<th>Acid Deposition</th>
<th>Mercury</th>
<th>Visibility</th>
<th>Meteorological</th>
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* Indicates that there is a collocated monitor at the site (for quality assurance purposes, as required by USEPA).  
Shaded cell indicates that the monitor is scheduled to be removed.  
a – See Appendix C  
b – See Appendix D  
c – See Appendices A and B  
d – Urban pollutants include black carbon and select volatile organic compounds (BTEX compounds; see Appendix E).  
e - Meteorological parameters include temperature, barometric pressure, relative humidity, rain, wind direction, and wind speed.
FIGURE 1. Map of Current New Jersey Air Monitoring Network
NEW JERSEY AIR MONITORING SITE DESCRIPTIONS

SITE INFORMATION

Site Name: Ancora State Hospital
Address: 301 Spring Garden Road
City, State, Zip: Hammonton, NJ 08037
AQS Code: 34 007 1001
NJ County: Camden
UAR/CSA: Philadelphia-Camden-Wilmington CSA
Latitude: 39.684250
Longitude: -74.861491
Date Established: 1/1/1966
Suitable for Comparison to PM2.5 NAAQS?: Not Applicable

PARAMETER SUMMARY

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<th>Parameter</th>
<th>AQS Parameter Code</th>
<th>Sampling Instrument</th>
<th>Method of Analysis</th>
<th>AQS Method Code</th>
<th>Sample Frequency</th>
<th>AQS Spatial Scale</th>
<th>AQS Monitoring Objective</th>
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<td>Thermo 49C</td>
<td>Ultraviolet</td>
<td>047</td>
<td>Continuous</td>
<td>Urban</td>
<td>Population Exposure</td>
</tr>
</tbody>
</table>

Site Purpose:
During O₃ season, to measure background O₃ concentrations for the southern part of New Jersey. May also measure maximum O₃ concentrations downwind from the Philadelphia metropolitan area.

Plans for the next 18 months:
No changes.

Other Comment:

NEW JERSEY AMBIENT AIR MONITORING NETWORK PLAN 2020
SITE INFORMATION

<table>
<thead>
<tr>
<th>Site Name</th>
<th>Atlantic City</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td>Atlantic Cape Community College, 1535 Bacharach Boulevard</td>
</tr>
<tr>
<td>City, State, Zip</td>
<td>Atlantic City, NJ 08401</td>
</tr>
<tr>
<td>AQS Code</td>
<td>34 001 1006</td>
</tr>
<tr>
<td>NJ County</td>
<td>Atlantic</td>
</tr>
<tr>
<td>UAR/CSA</td>
<td>Atlantic City, NJ UA</td>
</tr>
<tr>
<td>Latitude</td>
<td>39.363260</td>
</tr>
<tr>
<td>Longitude</td>
<td>-74.431000</td>
</tr>
<tr>
<td>Date Established</td>
<td>7/27/2001</td>
</tr>
<tr>
<td>Suitable for Comparison to PM&lt;sub&gt;2.5&lt;/sub&gt; NAAQS?</td>
<td>Yes</td>
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PARAMETER SUMMARY

<table>
<thead>
<tr>
<th>Parameter</th>
<th>AQS Parameter Code</th>
<th>Sampling Instrument</th>
<th>Method of Analysis</th>
<th>AQS Method Code</th>
<th>Sample Frequency</th>
<th>AQS Spatial Scale</th>
<th>AQS Monitoring Objective</th>
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</thead>
<tbody>
<tr>
<td>Fine Particles</td>
<td>88101</td>
<td>Thermo 2025 low-volume sequential sampler</td>
<td>Gravimetric</td>
<td>145</td>
<td>Every 3 days</td>
<td>Neighborhood</td>
<td>Population Exposure</td>
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</table>

Site Purpose:
To measure PM<sub>2.5</sub> concentrations in the commercial area of Atlantic City.

Plans for the next 18 months:
No changes.

Other Comment:

---

NEW JERSEY AMBIENT AIR MONITORING NETWORK PLAN 2020
## SITE INFORMATION

<table>
<thead>
<tr>
<th>Site Name</th>
<th>Bayonne</th>
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<tr>
<td>Address</td>
<td>Veterans Park, Park Road at end of W. 25th St.</td>
</tr>
<tr>
<td>City, State, Zip</td>
<td>Bayonne, NJ 07002</td>
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<tr>
<td>AQS Code</td>
<td>34 017 0006</td>
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<td>NJ County</td>
<td>Hudson</td>
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<tr>
<td>UAR/CSA</td>
<td>New York-Northeast New Jersey-Connecticut CSA</td>
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<tr>
<td>Latitude</td>
<td>40.670250</td>
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<td>Longitude</td>
<td>-74.126081</td>
</tr>
<tr>
<td>Date Established</td>
<td>1/1/1983</td>
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<td>Suitable for Comparison to PM$_{2.5}$ NAAQS?</td>
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## PARAMETER SUMMARY

<table>
<thead>
<tr>
<th>Parameter</th>
<th>AQS Parameter Code</th>
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<th>Method of Analysis</th>
<th>AQS Method Code</th>
<th>Sample Frequency</th>
<th>AQS Spatial Scale</th>
<th>AQS Monitoring Objective</th>
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</thead>
<tbody>
<tr>
<td>Ozone (O$_3$)</td>
<td>44201</td>
<td>Thermo 49i</td>
<td>Ultraviolet</td>
<td>047</td>
<td>Continuous</td>
<td>Neighborhood</td>
<td>Population Exposure</td>
</tr>
<tr>
<td>Nitrogen Dioxide (NO$_2$)</td>
<td>42602</td>
<td>Thermo 42i</td>
<td>Chemiluminescence</td>
<td>074</td>
<td>Continuous</td>
<td>Urban</td>
<td>Population Exposure</td>
</tr>
<tr>
<td>Nitric Oxide (NO)</td>
<td>42601</td>
<td>Thermo 42i</td>
<td>Chemiluminescence</td>
<td>074</td>
<td>Continuous</td>
<td>Urban</td>
<td>Population Exposure</td>
</tr>
<tr>
<td>Oxides of Nitrogen (NOx)</td>
<td>42603</td>
<td>Thermo 42i</td>
<td>Chemiluminescence</td>
<td>074</td>
<td>Continuous</td>
<td>Urban</td>
<td>Population Exposure</td>
</tr>
<tr>
<td>Sulfur Dioxide (SO$_2$)</td>
<td>42401</td>
<td>Thermo 43i-TLE</td>
<td>Pulsed fluorescence</td>
<td>060</td>
<td>Continuous</td>
<td>Neighborhood</td>
<td>Population Exposure</td>
</tr>
<tr>
<td>Black Carbon</td>
<td>84313</td>
<td>Teledyne API 633</td>
<td>Aethalometer</td>
<td>894</td>
<td>Continuous</td>
<td>Neighborhood</td>
<td>Population Exposure</td>
</tr>
<tr>
<td>BTEX</td>
<td>Appendix E</td>
<td>Syntech Spectras GC 955 BTEX analyzer</td>
<td>Auto GC-PID</td>
<td>092</td>
<td>Continuous</td>
<td>Neighborhood</td>
<td>Population Exposure</td>
</tr>
<tr>
<td>Barometric Pressure</td>
<td>64101</td>
<td>Vaisala WXT</td>
<td>Capacitive sensor</td>
<td>060</td>
<td>Continuous</td>
<td>Neighborhood</td>
<td>Population Exposure</td>
</tr>
<tr>
<td>Relative Humidity</td>
<td>62201</td>
<td>Vaisala WXT</td>
<td>Capacitive sensor</td>
<td>060</td>
<td>Continuous</td>
<td>Neighborhood</td>
<td>Population Exposure</td>
</tr>
<tr>
<td>Temperature</td>
<td>62101</td>
<td>Vaisala WXT</td>
<td>Capacitive sensor</td>
<td>060</td>
<td>Continuous</td>
<td>Neighborhood</td>
<td>Population Exposure</td>
</tr>
<tr>
<td>Precipitation</td>
<td>65102</td>
<td>Vaisala WXT</td>
<td>Ultrasonic sensor</td>
<td>060</td>
<td>Continuous</td>
<td>Neighborhood</td>
<td>Population Exposure</td>
</tr>
<tr>
<td>Wind Direction</td>
<td>61102</td>
<td>Vaisala WXT</td>
<td>Ultrasonic sensor</td>
<td>060</td>
<td>Continuous</td>
<td>Neighborhood</td>
<td>Population Exposure</td>
</tr>
<tr>
<td>Wind Speed</td>
<td>61101</td>
<td>Vaisala WXT</td>
<td>Ultrasonic sensor</td>
<td>060</td>
<td>Continuous</td>
<td>Neighborhood</td>
<td>Population Exposure</td>
</tr>
</tbody>
</table>

**Site Purpose**
To measure population exposure in the Hudson County area.

**Plans for the next 18 months**
No changes.

**Other Comment**

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**NEW JERSEY AMBIENT AIR MONITORING NETWORK PLAN 2020**
SITE INFORMATION

<table>
<thead>
<tr>
<th>Site Name</th>
<th>Brigantine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td>Edwin B. Forsythe National Wildlife Refuge</td>
</tr>
<tr>
<td></td>
<td>Visitor Center, 800 Great Creek Road</td>
</tr>
<tr>
<td>City, State, Zip</td>
<td>Galloway, NJ 08205</td>
</tr>
<tr>
<td>AQS Code</td>
<td>34 001 0006</td>
</tr>
<tr>
<td>NJ County</td>
<td>Atlantic</td>
</tr>
<tr>
<td>UAR/CSA</td>
<td>Atlantic City, NJ UA</td>
</tr>
<tr>
<td>Latitude</td>
<td>-74.448736</td>
</tr>
<tr>
<td>Longitude</td>
<td>39.464872</td>
</tr>
<tr>
<td>Date Established</td>
<td>9/18/1991</td>
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<td>Suitable for</td>
<td>Comparison to PM$_{2.5}$ NAAQS?</td>
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PARAMETER SUMMARY

<table>
<thead>
<tr>
<th>Parameter</th>
<th>AQS Parameter Code</th>
<th>Sampling Instrument</th>
<th>Method of Analysis</th>
<th>AQS Method Code</th>
<th>Sample Frequency</th>
<th>AQS Spatial Scale</th>
<th>AQS Monitoring Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ozone (O$_3$)</td>
<td>44201</td>
<td>Teledyne T400</td>
<td>Ultraviolet</td>
<td>087</td>
<td>Continuous</td>
<td>Urban</td>
<td>Background</td>
</tr>
<tr>
<td>Fine Particles (PM$_{2.5}$)</td>
<td>88101</td>
<td>Thermo 2025 low-volume sequential sampler</td>
<td>Gravimetric</td>
<td>145</td>
<td>Every 3 days</td>
<td>Urban</td>
<td>Background</td>
</tr>
<tr>
<td>Real-time PM$_{2.5}$</td>
<td>88101</td>
<td>Thermo Beta 5014i</td>
<td>Beta particle attenuation</td>
<td>183</td>
<td>Continuous</td>
<td>Urban</td>
<td>Background</td>
</tr>
<tr>
<td>Sulfur Dioxide (SO$_2$)</td>
<td>42401</td>
<td>Thermo 43i-TLE</td>
<td>Pulsed fluorescence</td>
<td>060</td>
<td>Continuous</td>
<td>Urban</td>
<td>Background</td>
</tr>
<tr>
<td>Real-time PM$_{1.5}$</td>
<td>88347</td>
<td>Ecotech Nephelometer</td>
<td>Light-scattering</td>
<td>011</td>
<td>Continuous</td>
<td>Urban</td>
<td>Background</td>
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</tbody>
</table>

Site Purpose
To measure background pollutant concentrations in a southern coastal area, and visibility in a Class I protected area.

Plans for the next 18 months
No changes.

Other Comment
SO$_2$ is measured by a “trace-level” analyzer. Site is also an IMPROVE station, part of NESCAUM visibility network. Real-time PM$_{2.5}$ nephelometer data is not submitted to USEPA’s AQS database. The US Fish & Wildlife Service collects a weekly acid deposition sample which is sent to the National Atmospheric Deposition Program (NADP) for analysis.
## SITE INFORMATION

<table>
<thead>
<tr>
<th>Site Name</th>
<th>Camden Spruce Street</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td>266-298 Spruce Street</td>
</tr>
<tr>
<td>City, State, Zip</td>
<td>Camden, NJ 08103</td>
</tr>
<tr>
<td>AQS Code</td>
<td>34 007 0002</td>
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<tr>
<td>NJ County</td>
<td>Camden</td>
</tr>
<tr>
<td>UAR/CSA</td>
<td>Philadelphia-Camden-Wilmington CSA</td>
</tr>
<tr>
<td>Latitude</td>
<td>39.934446</td>
</tr>
<tr>
<td>Longitude</td>
<td>-75.125291</td>
</tr>
<tr>
<td>Date Established</td>
<td>4/11/2012</td>
</tr>
<tr>
<td>Suitable for Comparison to PM2.5 NAAQS?</td>
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## SITE INFORMATION

<table>
<thead>
<tr>
<th>Parameter Summary</th>
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</thead>
<tbody>
<tr>
<td><strong>Parameter</strong></td>
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<tr>
<td>Ozone (O3)</td>
</tr>
<tr>
<td>Fine Particles (PM2.5)</td>
</tr>
<tr>
<td>Real-time PM2.5</td>
</tr>
<tr>
<td>Nitrogen Dioxide (NO2)</td>
</tr>
<tr>
<td>Nitric Oxide (NO)</td>
</tr>
<tr>
<td>Oxides of Nitrogen (NOx)</td>
</tr>
<tr>
<td>Sulfur Dioxide (SO2)</td>
</tr>
<tr>
<td>Carbon Monoxide (CO)</td>
</tr>
<tr>
<td>Inhalable Particles (PM10)</td>
</tr>
<tr>
<td>Black Carbon</td>
</tr>
<tr>
<td>BTEX</td>
</tr>
<tr>
<td>PM2.5 Speciation</td>
</tr>
<tr>
<td>Volatile Organic Compounds</td>
</tr>
<tr>
<td>Carbonyls</td>
</tr>
<tr>
<td>Barometric Pressure</td>
</tr>
<tr>
<td>Relative Humidity</td>
</tr>
<tr>
<td>Temperature</td>
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</table>
**PARAMETER SUMMARY (Camden Spruce Street, continued)**

<table>
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<tr>
<th>Parameter</th>
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<th>Sampling Instrument</th>
<th>Method of Analysis</th>
<th>AQS Method Code</th>
<th>Sample Frequency</th>
<th>AQS Spatial Scale</th>
<th>AQS Monitoring Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Precipitation</td>
<td>65102</td>
<td>Vaisala WXT</td>
<td>Ultrasonic sensor</td>
<td>060</td>
<td>Continuous</td>
<td>Neighborhood</td>
<td>Population Exposure</td>
</tr>
<tr>
<td>Wind Direction</td>
<td>61102</td>
<td>Vaisala WXT</td>
<td>Ultrasonic sensor</td>
<td>060</td>
<td>Continuous</td>
<td>Neighborhood</td>
<td>Population Exposure</td>
</tr>
<tr>
<td>Wind Speed</td>
<td>61101</td>
<td>Vaisala WXT</td>
<td>Ultrasonic sensor</td>
<td>060</td>
<td>Continuous</td>
<td>Neighborhood</td>
<td>Population Exposure</td>
</tr>
</tbody>
</table>

**Site Purpose**

Comprehensive air monitoring station in the Philadelphia-Camden metro area of southern New Jersey.

**Plans for the next 18 months**

No changes.

**Other Comment**

PM$_{2.5}$ gravimetric sampler is collocated for precision. Collocated sample taken every 6 days. See Appendices A, B and C for more information on PM$_{2.5}$ speciation, volatile organic compounds and carbonyls.
## SITE INFORMATION

<table>
<thead>
<tr>
<th>Site Name</th>
<th>Cattus Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td>Cattus Island County Park, end of Bandon Road</td>
</tr>
<tr>
<td>Municipality</td>
<td>Toms River NJ 08753</td>
</tr>
<tr>
<td>AQS Code</td>
<td>None</td>
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<tr>
<td>NJ County</td>
<td>Ocean</td>
</tr>
<tr>
<td>UAR/CSA</td>
<td>New York-Northeast New Jersey-Connecticut CSA</td>
</tr>
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<td>Latitude</td>
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<td>-74.134132</td>
</tr>
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<td>Date Established</td>
<td>10/23/2012</td>
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<td>Suitable for Comparison to PM2.5 NAAQS?</td>
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## PARAMETER SUMMARY

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<tr>
<th>Parameter</th>
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<th>Sampling Instrument</th>
<th>Method of Analysis</th>
<th>AQS Method Code</th>
<th>Sample Frequency</th>
<th>AQS Spatial Scale</th>
<th>AQS Monitoring Objective</th>
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<tbody>
<tr>
<td>Acid Deposition</td>
<td></td>
<td>Wet Deposition Collector</td>
<td>Ion Chromatography</td>
<td>Weekly</td>
<td>Neighborhood</td>
<td>Population Exposure</td>
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</table>

**Site Purpose**: To measure acid deposition near Barnegat Bay.

**Plans for the next 18 months**: No changes.

**Other Comment**: Weekly acid deposition samples are sent to the National Atmospheric Deposition Program (NADP) for analysis. Acid deposition data are not submitted by NJDEP or NADP to USEPA’s AQS database.
### SITE INFORMATION

<table>
<thead>
<tr>
<th>Site Name</th>
<th>Chester</th>
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</thead>
<tbody>
<tr>
<td>Address</td>
<td>Department of Public Works Bldg. #1, 50 North Road</td>
</tr>
<tr>
<td>City, State, Zip</td>
<td>Chester, NJ 07930</td>
</tr>
<tr>
<td>AQS Code</td>
<td>34 027 3001</td>
</tr>
<tr>
<td>NJ County</td>
<td>Morris</td>
</tr>
<tr>
<td>UAR/CSA</td>
<td>New York-Northeast New Jersey-Connecticut CSA</td>
</tr>
<tr>
<td>Latitude</td>
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</tr>
<tr>
<td>Longitude</td>
<td>-74.676301</td>
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<tr>
<td>Date Established</td>
<td>1/1/1978</td>
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<tr>
<td>Suitable for</td>
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<td>Comparison to</td>
<td>PM$_{2.5}$ NAAQS?</td>
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### PARAMETER SUMMARY

<table>
<thead>
<tr>
<th>Parameter</th>
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<th>Sampling Instrument</th>
<th>Method of Analysis</th>
<th>AQS Method Code</th>
<th>Sample Frequency</th>
<th>AQS Spatial Scale</th>
<th>AQS Monitoring Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ozone (O$_3$)</td>
<td>44201</td>
<td>Teledyne T400</td>
<td>Ultraviolet</td>
<td>087</td>
<td>Continuous</td>
<td>Urban</td>
<td>Population Exposure</td>
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<tr>
<td>Fine Particles (PM$_{2.5}$)</td>
<td>88101</td>
<td>Thermo 2025 low-volume sequential sampler</td>
<td>Gravimetric</td>
<td>145</td>
<td>Every 3 days</td>
<td>Urban</td>
<td>Population Exposure</td>
</tr>
<tr>
<td>Nitrogen Dioxide (NO$_2$)</td>
<td>42602</td>
<td>Teledyne T200</td>
<td>Chemiluminescence</td>
<td>099</td>
<td>Continuous</td>
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<td>Background</td>
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<tr>
<td>Nitric Oxide (NO)</td>
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<td>Teledyne T200</td>
<td>Chemiluminescence</td>
<td>099</td>
<td>Continuous</td>
<td>Urban</td>
<td>Background</td>
</tr>
<tr>
<td>Oxides of Nitrogen (NO$_x$)</td>
<td>42603</td>
<td>Teledyne T200</td>
<td>Chemiluminescence</td>
<td>099</td>
<td>Continuous</td>
<td>Urban</td>
<td>Background</td>
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<td>Sulfur Dioxide (SO$_2$)</td>
<td>42401</td>
<td>Teledyne T100</td>
<td>Pulsed fluorescence</td>
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<tr>
<td>PM$_{2.5}$ Speciation</td>
<td>Appendix C</td>
<td>Met One &amp; URG-3000N</td>
<td>XRF, IC, TOR</td>
<td>Appendix C</td>
<td>Every 6 days</td>
<td>Neighborhood</td>
<td>Population Exposure</td>
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<tr>
<td>Volatile Organic Compounds</td>
<td>Appendix A</td>
<td>Canister</td>
<td>TO-15</td>
<td>Appendix A</td>
<td>Every 6 days</td>
<td>Neighborhood</td>
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<td>Carbonyls</td>
<td>Appendix B</td>
<td>DNPH cartridge</td>
<td>TO-11A</td>
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<td>Every 6 days</td>
<td>Neighborhood</td>
<td>Population Exposure</td>
</tr>
</tbody>
</table>

### Site Purpose
To measure background concentrations of NOx & SO$_2$, and population exposure to O$_3$ and PM$_{2.5}$ in northern New Jersey.

### Plans for the next 18 months
No changes.

### Other Comment
See Appendices A, B and C for more information on PM$_{2.5}$ speciation, volatile organic compounds and carbonyls.
SITE INFORMATION

<table>
<thead>
<tr>
<th>Site Name</th>
<th>Clarksboro</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td>Shady Lane Complex, 256 County House Road</td>
</tr>
<tr>
<td>City, State, Zip</td>
<td>Clarksboro, NJ 08020</td>
</tr>
<tr>
<td>AQS Code</td>
<td>34 015 0002</td>
</tr>
<tr>
<td>NJ County</td>
<td>Gloucester</td>
</tr>
<tr>
<td>UAR/CSA</td>
<td>Philadelphia-Camden-Wilmington CSA</td>
</tr>
<tr>
<td>Latitude</td>
<td>39.800339</td>
</tr>
<tr>
<td>Longitude</td>
<td>-75.212119</td>
</tr>
<tr>
<td>Date Established</td>
<td>1/1/1981</td>
</tr>
<tr>
<td>Suitable for Comparison to PM$_{2.5}$ NAAQS?</td>
<td>Yes</td>
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</table>

PARAMETER SUMMARY

<table>
<thead>
<tr>
<th>Parameter</th>
<th>AQS Parameter Code</th>
<th>Sampling Instrument</th>
<th>Method of Analysis</th>
<th>AQS Method Code</th>
<th>Sample Frequency</th>
<th>AQS Spatial Scale</th>
<th>AQS Monitoring Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ozone ($O_3$)</td>
<td>44201</td>
<td>Thermo 49iQ</td>
<td>Ultraviolet</td>
<td>047</td>
<td>Continuous</td>
<td>Urban</td>
<td>Highest Concentration</td>
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<tr>
<td>Fine Particles ($PM_{2.5}$)</td>
<td>88101</td>
<td>Thermo 2025 low-volume sequential sampler</td>
<td>Gravimetric</td>
<td>145</td>
<td>Every 3 days</td>
<td>Neighborhood</td>
<td>Population Exposure</td>
</tr>
</tbody>
</table>

Site Purpose

During $O_3$ season, to measure highest concentrations of $O_3$ downwind from Philadelphia metropolitan area. Also to measure population exposure to PM$_{2.5}$.  

Plans for the next 18 months

No changes.

Other Comment


SITE INFORMATION

<table>
<thead>
<tr>
<th>Site Name</th>
<th>Colliers Mills</th>
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<tr>
<td>Address</td>
<td>JPTD Training Center, south of Success Rd., east of Hawkin Rd.</td>
</tr>
<tr>
<td>City, State, Zip</td>
<td>Jackson, NJ 08527</td>
</tr>
<tr>
<td>AQS Code</td>
<td>34 029 0006</td>
</tr>
<tr>
<td>NJ County</td>
<td>Ocean</td>
</tr>
<tr>
<td>UAR/CSA</td>
<td>Philadelphia-Camden-Wilmington CSA</td>
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PARAMETER SUMMARY

<table>
<thead>
<tr>
<th>Parameter</th>
<th>AQS Parameter Code</th>
<th>Sampling Instrument</th>
<th>Method of Analysis</th>
<th>AQS Method Code</th>
<th>Sample Frequency</th>
<th>AQS Spatial Scale</th>
<th>AQS Monitoring Objective</th>
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<tbody>
<tr>
<td>Ozone ($O_3$)</td>
<td>44201</td>
<td>Teledyne T400</td>
<td>Ultraviolet</td>
<td>087</td>
<td>Continuous</td>
<td>Urban</td>
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Site Purpose: During $O_3$ season, to measure highest concentrations of $O_3$ downwind from the Philadelphia metropolitan area and central New Jersey.

Plans for the next 18 months: No changes.

Other Comment: None.
SITE INFORMATION

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<td>AQS Code</td>
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<td>Warren</td>
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<td>UAR/CSA</td>
<td>Allentown-Bethlehem-Easton, PA-NJ UA</td>
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<td>Latitude</td>
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</tr>
<tr>
<td>Longitude</td>
<td>-75.067815</td>
</tr>
<tr>
<td>Date Established</td>
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PARAMETER SUMMARY

<table>
<thead>
<tr>
<th>Parameter</th>
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<th>Sample Frequency</th>
<th>AQS Spatial Scale</th>
<th>AQS Monitoring Objective</th>
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</thead>
<tbody>
<tr>
<td>Ozone (O$_3$)</td>
<td>44201</td>
<td>Thermo 49i</td>
<td>Ultraviolet</td>
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<td>Continuous</td>
<td>Neighborhood</td>
<td>Population Exposure</td>
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<tr>
<td>Fine Particles (PM$_{2.5}$)</td>
<td>88101</td>
<td>Thermo 2025</td>
<td>Low-volume sequential sampler</td>
<td>145</td>
<td>Every 6 days</td>
<td>Neighborhood</td>
<td>Population Exposure</td>
</tr>
<tr>
<td>Real-time PM$_{2.5}$</td>
<td>88101</td>
<td>Thermo Beta 5014i</td>
<td>Beta particle attenuation</td>
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<td>Continuous</td>
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<td>Population Exposure</td>
</tr>
<tr>
<td>Nitrogen Dioxide (NO$_2$)</td>
<td>42602</td>
<td>Thermo 42i</td>
<td>Chemiluminescence</td>
<td>074</td>
<td>Continuous</td>
<td>Neighborhood</td>
<td>Population Exposure</td>
</tr>
<tr>
<td>Nitric Oxide (NO)</td>
<td>42601</td>
<td>Thermo 42i</td>
<td>Chemiluminescence</td>
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<td>Continuous</td>
<td>Neighborhood</td>
<td>Population Exposure</td>
</tr>
<tr>
<td>Oxides of Nitrogen (NO$_x$)</td>
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<td>Chemiluminescence</td>
<td>074</td>
<td>Continuous</td>
<td>Neighborhood</td>
<td>Population Exposure</td>
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<tr>
<td>Sulfur Dioxide (SO$_2$)</td>
<td>42401</td>
<td>Teledyne T100U</td>
<td>Pulsed fluorescence</td>
<td>100</td>
<td>Continuous</td>
<td>Neighborhood</td>
<td>Highest Concentration</td>
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<td>Barometric Pressure</td>
<td>64101</td>
<td>Vaisala WXT</td>
<td>Capacitive sensor</td>
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<td>Continuous</td>
<td>Neighborhood</td>
<td>Population Exposure</td>
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<td>Relative Humidity</td>
<td>62201</td>
<td>Vaisala WXT</td>
<td>Capacitive sensor</td>
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</tr>
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<td>Temperature</td>
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<td>Vaisala WXT</td>
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<td>Neighborhood</td>
<td>Population Exposure</td>
</tr>
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<td>Precipitation</td>
<td>65102</td>
<td>Vaisala WXT</td>
<td>Ultrasonic sensor</td>
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<tr>
<td>Wind Direction</td>
<td>61102</td>
<td>Vaisala WXT</td>
<td>Ultrasonic sensor</td>
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<td>Neighborhood</td>
<td>Population Exposure</td>
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<td>Wind Speed</td>
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<td>Vaisala WXT</td>
<td>Ultrasonic sensor</td>
<td>060</td>
<td>Continuous</td>
<td>Neighborhood</td>
<td>Population Exposure</td>
</tr>
</tbody>
</table>

**Site Purpose**: Established in 2010 to measure the SO$_2$ impact of a coal-burning facility a mile away in Pennsylvania (closed in 2014). Additionally, it measures population exposure for NO$_2$, O$_3$ and PM$_{2.5}$ in the northwestern area of NJ.

**Plans for the next 18 months**: No changes.

**Other Comment**: Gravimetric PM$_{2.5}$ sampler is collocated for comparison with real-time sampler.
### Site Information

**Site Name**: Elizabeth  
**Address**: 7 Broad Street  
**City, State, Zip**: Elizabeth, NJ 07201  
**AQS Code**: 34 039 0003  
**NJ County**: Union  
**UAR/CSA**: New York-Northeast New Jersey-Connecticut CSA  
**Latitude**: 40.662493  
**Longitude**: -74.214800  
**Date Established**: 1/1/1970  
**Suitable for Comparison to PM<sub>2.5</sub> NAAQS?**: Not Applicable

### Parameter Summary

<table>
<thead>
<tr>
<th>Parameter</th>
<th>AQS Parameter Code</th>
<th>Sampling Instrument</th>
<th>Method of Analysis</th>
<th>AQS Method Code</th>
<th>Sample Frequency</th>
<th>AQS Spatial Scale</th>
<th>AQS Monitoring Objective</th>
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</thead>
<tbody>
<tr>
<td>Sulfur Dioxide (SO&lt;sub&gt;2&lt;/sub&gt;)</td>
<td>42401</td>
<td>Teledyne T100</td>
<td>Pulsed fluorescence</td>
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<td>Middle</td>
<td>Population Exposure</td>
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<tr>
<td>Carbon Monoxide (CO)</td>
<td>42101</td>
<td>Thermo 48i</td>
<td>Nondispersive infrared</td>
<td>054</td>
<td>Continuous</td>
<td>Microscale</td>
<td>Highest Concentration</td>
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**Site Purpose**: To measure the highest concentrations of SO<sub>2</sub> and CO in the central commercial area of Elizabeth.  
**Plans for the next 18 months**: No changes.  
**Other Comment**: Not applicable.
## SITE INFORMATION

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<tr>
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<td>New York-Northeast New Jersey-Connecticut CSA</td>
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<tr>
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<td>PM$_{2.5}$ NAAQS?</td>
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## PARAMETER SUMMARY

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<th>Sample Frequency</th>
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<tbody>
<tr>
<td>Fine Particles (PM$_{2.5}$)</td>
<td>88101</td>
<td>Thermo 2025i low-volume sequential sampler</td>
<td>Gravimetric</td>
<td>145</td>
<td>Daily</td>
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<td>Real-time PM$_{2.5}$</td>
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<td>Thermo Beta 5014i</td>
<td>Beta particle attenuation</td>
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<td>Continuous</td>
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</tr>
<tr>
<td>Nitrogen Dioxide (NO$_x$)</td>
<td>42602</td>
<td>Thermo 42i</td>
<td>Chemiluminescence</td>
<td>074</td>
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<td>Neighborhood</td>
<td>Highest Concentration</td>
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<td>Nitric Oxide (NO)</td>
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<td>Thermo 42i</td>
<td>Chemiluminescence</td>
<td>074</td>
<td>Continuous</td>
<td>Neighborhood</td>
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<tr>
<td>Oxides of Nitrogen (NO$_x$)</td>
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<td>Thermo 42i</td>
<td>Chemiluminescence</td>
<td>074</td>
<td>Continuous</td>
<td>Neighborhood</td>
<td>Highest Concentration</td>
</tr>
<tr>
<td>Sulfur Dioxide (SO$_2$)</td>
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<td>Thermo 43i</td>
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<td>Continuous</td>
<td>Neighborhood</td>
<td>Highest Concentration</td>
</tr>
<tr>
<td>Carbon Monoxide (CO)</td>
<td>42101</td>
<td>Thermo 48i</td>
<td>Nondispersive infrared</td>
<td>054</td>
<td>Continuous</td>
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<td>Black Carbon</td>
<td>84313</td>
<td>Teledyne API 633 Aethalometer</td>
<td>Optical absorption</td>
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<td>Neighborhood</td>
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<td>BTEX</td>
<td>Appendix E</td>
<td>Syntech Spectras GC 955 BTEX analyzer</td>
<td>Auto-GC PID</td>
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<td>Neighborhood</td>
<td>Population Exposure</td>
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<td>PM$_{2.5}$ Speciation</td>
<td>Appendix C</td>
<td>Met One &amp; URG-3000N</td>
<td>XRF, IC, TOR</td>
<td>Appendix C</td>
<td>Every 3 days</td>
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<td>Volatile Organic Compounds</td>
<td>Appendix A</td>
<td>Canister</td>
<td>TO-15</td>
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<td>DNPH cartridge</td>
<td>TO-11A</td>
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<td>Mercury (Hg)</td>
<td>Appendix B</td>
<td>Tekran 2537x</td>
<td>CVAF Spectrometry</td>
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<td>Barometric Pressure</td>
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### PARAMETER SUMMARY (Elizabeth Lab, continued)

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<th>Parameter</th>
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<th>Method of Analysis</th>
<th>AQS Method Code</th>
<th>Sample Frequency</th>
<th>AQS Spatial Scale</th>
<th>AQS Monitoring Objective</th>
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<tbody>
<tr>
<td>Relative Humidity</td>
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<td>Capacitive sensor</td>
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<tr>
<td>Temperature</td>
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<td>Capacitive sensor</td>
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<td>Continuous</td>
<td>Neighborhood</td>
<td>Population Exposure</td>
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<tr>
<td>Precipitation</td>
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<td>Vaisala WXT</td>
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<td>Population Exposure</td>
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<tr>
<td>Wind Direction</td>
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<td>Ultrasonic sensor</td>
<td>060</td>
<td>Continuous</td>
<td>Neighborhood</td>
<td>Population Exposure</td>
</tr>
<tr>
<td>Wind Speed</td>
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<td>Vaisala WXT</td>
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<td>Neighborhood</td>
<td>Population Exposure</td>
</tr>
</tbody>
</table>

**Site Purpose**

A comprehensive air monitoring site for the northeast metropolitan region of New Jersey.

**Plans for the next 18 months**

No changes.

**Other Comment**

PM$_{2.5}$ gravimetric sampler is collocated for precision. Collocated sample taken every 6 days. See Appendices A, B and C for more information on PM$_{2.5}$ speciation, volatile organic compounds and carbonyls.
SITE INFORMATION

<table>
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<tr>
<th>Site Name</th>
<th>Flemington</th>
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</thead>
<tbody>
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<td>Address</td>
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<tr>
<td>City, State, Zip</td>
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<tr>
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</tr>
<tr>
<td>NJ County</td>
<td>Hunterdon</td>
</tr>
<tr>
<td>UAR/CSA</td>
<td>New York-Northeast New Jersey-Connecticut CSA</td>
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<tr>
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PARAMETER SUMMARY

<table>
<thead>
<tr>
<th>Parameter</th>
<th>AQS Parameter Code</th>
<th>Sampling Instrument</th>
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<tbody>
<tr>
<td>Ozone ($O_3$)</td>
<td>44201</td>
<td>Thermo 49i</td>
<td>Ultraviolet</td>
<td>087</td>
<td>Continuous</td>
<td>Urban</td>
<td>Population Exposure</td>
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<td>Real-time PM$_{2.5}$</td>
<td>88101</td>
<td>Thermo Beta 5014i</td>
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<td>Continuous</td>
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<td>Population Exposure</td>
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<td>Barometric Pressure</td>
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<td>Vaisala WXT</td>
<td>Capacitive sensor</td>
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<td>Neighborhood</td>
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<td>Temperature</td>
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</tr>
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<td>Precipitation</td>
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<td>Vaisala WXT</td>
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<td>Neighborhood</td>
<td>Population Exposure</td>
</tr>
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<td>Wind Direction</td>
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<td>Vaisala WXT</td>
<td>Ultrasonic sensor</td>
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<td>Neighborhood</td>
<td>Population Exposure</td>
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<tr>
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<td>61101</td>
<td>Vaisala WXT</td>
<td>Ultrasonic sensor</td>
<td>060</td>
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<td>Neighborhood</td>
<td>Population Exposure</td>
</tr>
</tbody>
</table>

Site Purpose
To measure $O_3$ and PM$_{2.5}$ concentrations in the northwestern region of New Jersey.

Plans for the next 18 months
No changes.

Other Comment
### SITE INFORMATION

- **Site Name**: Fort Lee Near Road
- **Address**: 2047 N. Central Road
- **City, State, Zip**: Fort Lee, NJ 07024
- **AQS Code**: 34 003 0010
- **NJ County**: Bergen
- **UAR/CSA**: New York-Northeast New Jersey-Connecticut CSA
- **Latitude**: 40.853550
- **Longitude**: -73.966180
- **Date Established**: 4/1/2014
- **Suitable for Comparison to PM$_{2.5}$ NAAQS?**: Yes

### PARAMETER SUMMARY

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<tr>
<th>Parameter</th>
<th>AQS Parameter Code</th>
<th>Sampling Instrument</th>
<th>Method of Analysis</th>
<th>AQS Method Code</th>
<th>Sample Frequency</th>
<th>AQS Spatial Scale</th>
<th>AQS Monitoring Objective</th>
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<tbody>
<tr>
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<td>Met One BAM 1022</td>
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<td>Nitrogen Dioxide (NO$_2$)</td>
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<td>Thermo 42i</td>
<td>Chemiluminescence</td>
<td>074</td>
<td>Continuous</td>
<td>Microscale</td>
<td>Source-oriented</td>
</tr>
<tr>
<td>Nitric Oxide (NO)</td>
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<td>Chemiluminescence</td>
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<td>Carbon Monoxide (CO)</td>
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<td>Microscale</td>
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<td>Syntech Spectras GC 955</td>
<td>Auto-GC PID</td>
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<td>Population Exposure</td>
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<td>Vaisala WXT</td>
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<td>Vaisala WXT</td>
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**Site Purpose**: Established in 2014 as NJ’s designated NEAR-ROAD site; to measure near-road exposure for NO$_2$, CO and PM$_{2.5}$.

**Plans for the next 18 months**: No changes.

**Other Comment**: EPA OAQPS BEACON NO2, SO2, O3 and CO sensors are in operation at this site as part of NJDEP ozone Enhanced Monitoring Plan.
SITE INFORMATION

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<th>Jersey City</th>
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<td>2828 John F. Kennedy Boulevard</td>
</tr>
<tr>
<td>City, State, Zip</td>
<td>Jersey City, NJ 07306</td>
</tr>
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PARAMETER SUMMARY

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<th>Parameter</th>
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<th>AQS Method Code</th>
<th>Sample Frequency</th>
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<th>AQS Monitoring Objective</th>
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<td>Chemiluminescence</td>
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<td>Neighborhood</td>
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<td>Chemiluminescence</td>
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<td>Continuous</td>
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<td>Carbon Monoxide (CO)</td>
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<td>Thermo 48i-Q</td>
<td>Nondispersive infrared</td>
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<td>Continuous</td>
<td>Microscale</td>
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Site Purpose
To measure highest concentrations in the central commercial area of Jersey City.

Plans for the next 18 months
No changes.

Other Comment
SITE INFORMATION

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<th>Site Name</th>
<th>Jersey City Firehouse</th>
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<tr>
<td>Address</td>
<td>JCFD Engine 5/Ladder 6, 355 Newark Avenue</td>
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<td>City, State, Zip</td>
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<td>Hudson</td>
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<td>New York-Northeast New Jersey-Connecticut CSA</td>
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<td>Longitude</td>
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<td>1/1/1967</td>
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<th>AQS Method Code</th>
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<td>Thermo 2025 low-volume sequential sampler</td>
<td>Gravimetric</td>
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<td>Daily</td>
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<td>Real-time PM$_{2.5}$</td>
<td>88101</td>
<td>Thermo Beta 5014i</td>
<td>Beta particle attenuation</td>
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<td>Population Exposure</td>
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<td>Inhalable Particles (PM$_{10}$)</td>
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<td>Thermo 2000 low-volume single sampler</td>
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Site Purpose
To measure population exposure to particulate matter in the Jersey City area.

Plans for the next 18 months
No changes.

Other Comment
Gravimetric PM$_{2.5}$ and PM$_{10}$ samplers are collocated for precision measurements. Collocated samples taken every 6 days.
### SITE INFORMATION

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<tr>
<td>Address</td>
<td>Overpeck Park, 40 Fort Lee Road</td>
</tr>
<tr>
<td>City, State, Zip</td>
<td>Leonia, NJ 07605</td>
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<td>34 003 0006</td>
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<td>NJ County</td>
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### PARAMETER SUMMARY

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<th>AQS Method Code</th>
<th>Sample Frequency</th>
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**Site Purpose**

During $O_3$ season, to measure population exposure in the Leonia and Teaneck areas.

**Plans for the next 18 months**

No changes.

**Other Comment**


### SITE INFORMATION

<table>
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<th><strong>Site Name</strong></th>
<th>Millville</th>
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<tr>
<td><strong>Address</strong></td>
<td>Behind 4401 S. Main Road</td>
</tr>
<tr>
<td><strong>City, State, Zip</strong></td>
<td>Millville, NJ 08332</td>
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<td>Vineland-Millville, NJ UA</td>
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### SITE Purpose
To measure population exposure in the Vineland and Millville areas of southern New Jersey.

### Plans for the next 18 months
No changes.

### Other Comment

### PARAMETER SUMMARY

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<th>Method of Analysis</th>
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<th>Sample Frequency</th>
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<tr>
<td>Ozone ($O_3$)</td>
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<td>Thermo 49i</td>
<td>Ultraviolet</td>
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<td>Neighborhood</td>
<td>Population Exposure</td>
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<td>Real-time PM$_{2.5}$</td>
<td>88101</td>
<td>Thermo Beta 5014i</td>
<td>Beta particle attenuation</td>
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<td>Population Exposure</td>
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<td>Population Exposure</td>
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<td>Neighborhood</td>
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SITE INFORMATION

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Site Purpose
During $O_3$ season, to measure highest concentrations of $O_3$ in the eastern Monmouth County coastal area.

Plans for the next 18 months
No changes.

Other Comment

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### SITE INFORMATION

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### PARAMETER SUMMARY (Newark Firehouse, continued)

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<td>Neighborhood</td>
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<td>BTEX</td>
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<td>Barometric Pressure</td>
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<td>Population Exposure</td>
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<td>Relative Humidity</td>
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<td>Vaisala WXT</td>
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<td>Vaisala WXT</td>
<td>Ultrasonic sensor</td>
<td>060</td>
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<td>Neighborhood</td>
<td>Population Exposure</td>
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<td>Wind Speed</td>
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<td>Ultrasonic sensor</td>
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<td>Resultant Wind Direction</td>
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<td>63301</td>
<td>Qualimetrics</td>
<td>Pyrometer</td>
<td>011</td>
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<td>Population Exposure</td>
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**Site Purpose**: New Jersey’s NCore site.

**Plans for the next 18 months**: No changes.

**Other Comment**: CO and SO$_2$ data are measured by trace-level analyzers. See Appendix C for more information on PM$_{2.5}$ speciation.
### SITE INFORMATION

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<td>Address</td>
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</tr>
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<td>New York-Northeast New Jersey-Connecticut CSA</td>
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<td>Longitude</td>
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<td>Date Established</td>
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### PARAMETER SUMMARY

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<th>AQS Method Code</th>
<th>Sample Frequency</th>
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<tr>
<td>Fine Particles (PM$_{2.5}$)</td>
<td>88101</td>
<td>Thermo 2025 low-volume sequential sampler</td>
<td>Gravimetric</td>
<td>145</td>
<td>Every 3 days</td>
<td>Neighborhood</td>
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</table>

**Site Purpose**: To measure population exposure to PM$_{2.5}$ in the Paterson area.

**Plans for the next 18 months**: No changes.

**Other Comment**: 

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NEW JERSEY AMBIENT AIR MONITORING NETWORK PLAN 2020 29
SITE INFORMATION

<table>
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<tr>
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<td>Pennsauken, NJ 08110</td>
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<tr>
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<td>NJ County</td>
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<td>UAR/CSA</td>
<td>Philadelphia-Camden-Wilmington CSA</td>
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<td>Longitude</td>
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<td>Date Established</td>
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PARAMETER SUMMARY

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<th>Sample Frequency</th>
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<th>AQS Monitoring Objective</th>
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<tr>
<td>Fine Particles (PM$_{2.5}$)</td>
<td>88101</td>
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<td>Gravimetric</td>
<td>145</td>
<td>Every 3 days</td>
<td>Neighborhood</td>
<td>Population Exposure</td>
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Site Purpose

To measure population exposure to PM$_{2.5}$ in the Pennsauken area.

Plans for the next 18 months

No changes.

Other Comment


SITE INFORMATION

<table>
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<tr>
<th>Site Name</th>
<th>Rahway</th>
</tr>
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<tbody>
<tr>
<td>Address</td>
<td>Rahway Fire Department, 1300 Main Street</td>
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<tr>
<td>City, State, Zip</td>
<td>Rahway, NJ 07065</td>
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<td>AQS Code</td>
<td>34 039 2003</td>
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<td>New York-Northeast New Jersey-Connecticut CSA</td>
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<td>-74.276174</td>
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<td>12/11/1999</td>
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PARAMETER SUMMARY

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<tbody>
<tr>
<td>Real-time PM$_{2.5}$</td>
<td>88101</td>
<td>Met One BAM 1022</td>
<td>Beta particle attenuation</td>
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<td>Continuous</td>
<td>Neighborhood</td>
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Site Purpose: To measure population exposure to PM$_{2.5}$ in the Rahway area.

Plans for the next 18 months: No changes.

Other Comment:
SITE INFORMATION

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<tr>
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<tbody>
<tr>
<td>Address</td>
<td>Ramapo Station Fire Tower, Ramapo Park Drive</td>
</tr>
<tr>
<td>City, State, Zip</td>
<td>Wanaque, NJ 07465</td>
</tr>
<tr>
<td>AQS Code</td>
<td>34 031 5001</td>
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<td>NJ County</td>
<td>Passaic</td>
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<td>UAR/CSA</td>
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<td>Date Established</td>
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PARAMETER SUMMARY

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<th>AQS Monitoring Objective</th>
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<tbody>
<tr>
<td>Ozone (O$_3$)</td>
<td>44201</td>
<td>Thermo 49i</td>
<td>Ultraviolet</td>
<td>047</td>
<td>Continuous</td>
<td>Urban</td>
<td>Background</td>
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Site Purpose

During O$_3$ season, to measure background, transport and upwind concentrations of ozone.

Plans for the next 18 months

No changes.

Other Comment

None.
### SITE INFORMATION

<table>
<thead>
<tr>
<th>Site Name</th>
<th>Rider University</th>
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<tbody>
<tr>
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<td>Athletic Fields, off of 2083 Lawrenceville Road</td>
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<tr>
<td>City, State, Zip</td>
<td>Lawrenceville, NJ 08648</td>
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<td>AQS Code</td>
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<td>UAR/CSA</td>
<td>Trenton, NJ-PA UA</td>
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### PARAMETER SUMMARY

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<th>AQS Method Code</th>
<th>Sample Frequency</th>
<th>AQS Spatial Scale</th>
<th>AQS Monitoring Objective</th>
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<td>Ozone ($O_3$)</td>
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<td>Thermo 49i</td>
<td>Ultraviolet</td>
<td>047</td>
<td>Continuous</td>
<td>Neighborhood</td>
<td>Population Exposure</td>
</tr>
<tr>
<td>Real-time PM$_{2.5}$</td>
<td>88101</td>
<td>Thermo Beta 5014i</td>
<td>Beta particle attenuation</td>
<td>183</td>
<td>Continuous</td>
<td>Neighborhood</td>
<td>Population Exposure</td>
</tr>
<tr>
<td>Barometric Pressure</td>
<td>64101</td>
<td>Vaisala WXT</td>
<td>Capacitive sensor</td>
<td>060</td>
<td>Continuous</td>
<td>Neighborhood</td>
<td>Population Exposure</td>
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<tr>
<td>Relative Humidity</td>
<td>62201</td>
<td>Vaisala WXT</td>
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<td>Precipitation</td>
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<td>Vaisala WXT</td>
<td>Ultrasonic sensor</td>
<td>060</td>
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<td>Neighborhood</td>
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**Site Purpose**: To measure population exposure in the Mercer County area.

**Plans for the next 18 months**: No changes.
### SITE INFORMATION

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### PARAMETER SUMMARY

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<th>Parameter</th>
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<th>Method of Analysis</th>
<th>AQS Method Code</th>
<th>Sample Frequency</th>
<th>AQS Spatial Scale</th>
<th>AQS Monitoring Objective</th>
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<tbody>
<tr>
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<td>88101</td>
<td>Thermo 2025i</td>
<td>low-volume sequential sampler</td>
<td>145</td>
<td>Every 3 days</td>
<td>Neighborhood</td>
<td>Population Exposure</td>
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<tr>
<td>Real-time PM$_{2.5}$</td>
<td>88101</td>
<td>Thermo Beta 5014i</td>
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<td>True-NO$_2$</td>
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<td>NO$_x$-NO Difference</td>
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<td>Thermo 42i-Y</td>
<td>Chemiluminescence</td>
<td>674</td>
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<td>Nitric Oxide (NO)</td>
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## PARAMETER SUMMARY (Rutgers University, continued)

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<th>Parameter</th>
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<tbody>
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<td>Relative Humidity</td>
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<td>Rotronic MP101A</td>
<td>Capacitive sensor</td>
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<td>Population Exposure</td>
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<td>Temperature</td>
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<td>Rotronic MP101A</td>
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<td>Continuous</td>
<td>Neighborhood</td>
<td>Population Exposure</td>
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<tr>
<td>Precipitation</td>
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<td>Geonor T-200B</td>
<td>Rain gauge</td>
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<td>Wind Direction</td>
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<td>Ultrasonic sensor</td>
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<td>Wind Speed</td>
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<td>Gill Windmaster HS 3D</td>
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<td>Solar Radiation</td>
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<td>Vaisala CL51</td>
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</table>

### Site Purpose
To measure population exposure and O₃ precursors, downwind for Philadelphia metropolitan area and upwind for New York metropolitan area.

### Plans for the next 18 months
No changes.

### Other Comment
PAMS sampling period is June 1 to August 31. EPA OAQPS Pandora spectrometer is operating as part of the ozone Enhanced Monitoring Plan. Upper air and surface meteorological measurements collected at this site by Rutgers University are integrated into DEP’s database. See Appendix D for more information on ozone precursors, also known as PAMS. See Appendices A, B and C for more information on PM$_{2.5}$ speciation, volatile organic compounds and carbonyls. A PM$_{2.5}$ speciation sampler is collocated for QA/QC.
SITE INFORMATION

<table>
<thead>
<tr>
<th>Site Name</th>
<th>Toms River</th>
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</thead>
<tbody>
<tr>
<td>Address</td>
<td>Hooper Avenue Elementary School, 1517 Hooper Avenue</td>
</tr>
<tr>
<td>City, State, Zip</td>
<td>Toms River, NJ 08753</td>
</tr>
<tr>
<td>AQS Code</td>
<td>34 029 2002</td>
</tr>
<tr>
<td>NJ County</td>
<td>Ocean</td>
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<td>UAR/CSA</td>
<td>Philadelphia-Camden-Wilmington CSA</td>
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<td>Suitable for</td>
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<td>Comparison to</td>
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<tr>
<td>PM$_{2.5}$ NAAQS?</td>
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PARAMETER SUMMARY

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<thead>
<tr>
<th>Parameter</th>
<th>AQS Parameter Code</th>
<th>Sampling Instrument</th>
<th>Method of Analysis</th>
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<th>Sample Frequency</th>
<th>AQS Spatial Scale</th>
<th>AQS Monitoring Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fine Particles (PM$_{2.5}$)</td>
<td>88101</td>
<td>Thermo 2025 low-volume sequential sampler</td>
<td>Gravimetric</td>
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<td>Daily</td>
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<td>Population Exposure</td>
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<td>Thermo Beta 5014i</td>
<td>Beta particle attenuation</td>
<td>183</td>
<td>Continuous</td>
<td>Neighborhood</td>
<td>Population Exposure</td>
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Site Purpose

To measure population exposure to PM$_{2.5}$ in the Toms River area.

Plans for the next 18 months

Remove the filter-based sampler by the end of the year.

Other Comment

...
### SITE INFORMATION

<table>
<thead>
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<th>Site Name</th>
<th>Trenton</th>
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<tbody>
<tr>
<td>Address</td>
<td>Trenton Public Library, 120 Academy Street</td>
</tr>
<tr>
<td>City, State, Zip</td>
<td>Trenton, NJ 08608</td>
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<tr>
<td>AQS Code</td>
<td>34 021 0008</td>
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<tr>
<td>NJ County</td>
<td>Mercer</td>
</tr>
<tr>
<td>UAR/CSA</td>
<td>Trenton, NJ-PA UA</td>
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</tr>
<tr>
<td>Longitude</td>
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</tr>
<tr>
<td>Date Established</td>
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</tr>
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### PARAMETER SUMMARY

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<th>Sample Frequency</th>
<th>AQS Spatial Scale</th>
<th>AQS Monitoring Objective</th>
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<td>88101</td>
<td>Thermo 2025 low-volume sequential sampler</td>
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<td>145</td>
<td>Daily</td>
<td>Neighborhood</td>
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**Site Purpose**

To measure population exposure to PM$_{2.5}$ in the downtown commercial district of Trenton.

**Plans for the next 18 months**

Replace the filter-based monitor with a continuous real-time PM$_{2.5}$ sampler.

**Other Comment**


SITE INFORMATION

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<tr>
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<td>1/1/2016</td>
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PARAMETER SUMMARY

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<th>AQS Spatial Scale</th>
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<td>Thermo 2025 low-volume sequential sampler</td>
<td>Gravimetric</td>
<td>Neighborhood</td>
<td>Population Exposure</td>
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</tbody>
</table>

Site Purpose

To measure population exposure to PM$_{2.5}$ in the Union City and Hudson County areas.

Plans for the next 18 months

No changes.

Other Comment


NEW JERSEY AMBIENT AIR MONITORING NETWORK PLAN 2020
### SITE INFORMATION

<table>
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</tr>
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<td>Washington Crossing State Park, Philips Farm Group Area, 1239 Bear Tavern Road</td>
</tr>
<tr>
<td>City, State, Zip</td>
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<td>Mercer</td>
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<td>Trenton, NJ-PA UA</td>
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<td>Date Established</td>
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### PARAMETER SUMMARY

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<td>Wet Deposition Collector</td>
<td>Ion Chromatography</td>
<td>Weekly</td>
<td>Neighborhood</td>
<td>Population Exposure</td>
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**Site Purpose**
To measure acid deposition on the western border of New Jersey.

**Plans for the next 18 months**
No changes.

**Other Comment**
Weekly acid deposition samples are sent to the National Atmospheric Deposition Program (NADP) for analysis. The event acid deposition samples are analyzed by the Bureau of Air Monitoring. The weekly and event acid deposition data are not submitted by NJDEP or NADP to USEPA’s AQS database.
# Glossary of Abbreviations and Terms

**ABBREVIATIONS**

- **AQS** – Air Quality System, 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
- **CSN** – Chemical Speciation Network
- **CFR** – Code of Federal Regulations
- **CO** – Carbon monoxide
- **CVAF Spectrometry** – Cold Vapor Atomic Fluorescence Spectrometry, method for analyzing mercury
- **FEM** – Federal Equivalent Method; monitoring method that is not FRM but is approved by USEPA
- **FRM** – Federal Reference Method; primary monitoring method recommended by USEPA for a specific pollutant
- **DNPH cartridge** – Di-Nitro-Phenyl-Hydrazine, an adsorbent for trapping carbonyls in air
- **auto GC-FID** – automated gas Chromatograph Flame Ionization Detection
- **auto GC-PID** – automated gas Chromatograph Photoionization Detection
- **Hg** – Mercury
- **IC** – Ion Chromatography, a method for analyzing for ionic compounds from fine particles
- **IMPROVE** – Interagency Monitoring of Protected Visual Environments
- **NAAQS** – National Ambient Air Quality Standard
- **NADP** – National Atmospheric Deposition Program
- **NCore** – National Core, a monitoring site required by USEPA to measure particles, O3, SO2, CO, NOx and meteorology, for compliance with the NAAQS and to support research
- **NESCAUM** – Northeast States for Coordinated Air Use Management
- **NJDEP** – New Jersey Department of Environmental Protection
- **NO** – Nitric oxide
- **NO2** – Nitrogen dioxide
- **NOx** – Oxides of nitrogen
- **NOy** – Total reactive oxides of nitrogen
- **O3** – Ozone
- **PAMS** – Photochemical Assessment Monitoring Station; site which measures ozone precursors
- **Pb** – Lead
- **PM2.5** – Fine particles, 2.5 micrometers in aerodynamic diameter or smaller
- **PM10** – Inhalable particles, 10 micrometers in aerodynamic diameter or smaller
- **PM10-2.5** – Coarse particles, between 10 and 2.5 micrometers in aerodynamic diameter
- **PM2.5-Speciation** – a group of elements, ionic compounds and carbon compounds that are analyzed from fine particles
- **RRF** – Resource Recovery Facility; trash incineration facility
- **SLAMS** – State and Local Air Monitoring Station; designation for monitoring site or sampler from which data can be used for comparison to the National Ambient Air Quality Standards
- **SO2** – Sulfur dioxide
- **SPM** – Special Purpose Monitor; designation for monitoring site or sampler from which data are not used for comparison to the National Ambient Air Quality Standards
- **TLE** – Trace Level Enhanced; type of analyzer which measures very low concentrations
- **TO-11A** – a standard method approved by USEPA to analyze carbonyls
- **TO-15** – a standard method approved by USEPA to analyze volatile organic compounds
- **UAR** – Urban Areas Represented; 1 or more counties having a population greater than 50,000
- **UATMP** – Urban Air Toxics Monitoring Program
- **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 by which air pollutants raise the acidity of rain and snow
Ambient air – air in areas that are accessible to the general public
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 NO₃
Coarse particles – also PM₁₀–₂.₅; particles between 10 and 2.5 micrometers in aerodynamic diameter
Collocated – two samplers operating 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 PM₂.₅; particles 2.5 micrometers in aerodynamic diameter or smaller
Gravimetric – weighing a filter in a controlled environment by a highly accurate balance
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 sampler – 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 PM₂.₅ speciation samplers
Microscale – 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
Near Road monitoring –
Neighborhood-scale – the spatial scale of a monitoring site, from 1-10 km around the monitor
Nephelometer – an instrument that measures fine particles through 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
Population exposure – a monitoring instrument or site that is designated to measure the concentrations of a pollutant in a highly populated area
Pulsed fluorescence – the method used for analyzing for sulfur dioxide
Pyrometer – the method used for measuring solar radiation
Real-time PM₂.₅ – PM₂.₅ concentrations that are measured continuously
Regional scale – the spatial scale of a monitoring site, from 100-1000 km around the monitor
Solar radiation – the intensity of energy from sunlight
Ultraviolet – the method used for analyzing ozone
Urban Scale – the spatial scale of a monitoring site, from 10-100 km around the monitor
REFERENCES


## APPENDIX A: VOLATILE ORGANIC COMPOUNDS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>AQS Parameter Code</th>
<th>Sampling Instrument</th>
<th>Method of Analysis</th>
<th>AQS Method Code</th>
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Continued
## APPENDIX A: VOLATILE ORGANIC COMPOUNDS (Continued)

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## Appendix B: Carboxyls

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<td>2 2,5-Dimethylbenzaldehyde</td>
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