GEORGIA
DEPARTMENT OF NATURAL RESOURCES

ENVIRONMENTAL PROTECTION DIVISION

Air Protection Branch
Ambient Monitoring Program

Addendum to 2022 Ambient Air Monitoring Plan

Per the Environmental Protection Agency regulations, the Georgia Ambient Air Monitoring Program (GA AAMP) produces an annual network monitoring plan to show how the ambient air monitoring requirements are met (40 CFR 58.10). If that plan is modified during the year after it is published, it is the state's responsibility to let the public know of those modifications. Since the publication of the 2022 Ambient Air Monitoring Plan in June 2022, the GA AAMP is in the process of making the following changes to the ambient air monitoring network.

After preliminary analysis of $PM_{2.5}$ data and discussions with the EPA Office of Air Quality Assurance Planning and Standards, GA AAMP has decided to designate select $PM_{2.5}$ T640s and $PM_{2.5}$ measurements of the T640x instruments as special purpose monitors (SPMs) at sites where these monitors are collocated with $PM_{2.5}$ Federal Reference Methods (FRMs). This is in accordance with the provisions of 40 CFR 58.20. Each of the Federal Equivalence Method (FEMs) instruments will continue to meet the requirements of Appendix A of 40 CFR Part 58. The $PM_{2.5}$ FRMs will continue to collect data and ensure that we are meeting the SLAMS requirement for each of the sites. GA AAMP plans to use the 2022 through 2023 timeframe to re-evaluate the comparability of the $PM_{2.5}$ FEMs to the $PM_{2.5}$ FRMs. Based on the network comparisons, the comparability of these instruments may change over time. GA AAMP is working on correction factors to allow the measurements made by the FEMs and the FRMs to align for the accurate representation of the $PM_{2.5}$ measurements being made. As the National Ambient Air Quality Standard (NAAQS) for $PM_{2.5}$ is reevaluated by EPA, GA AAMP wants to provide the most accurate data for regulatory determinations.

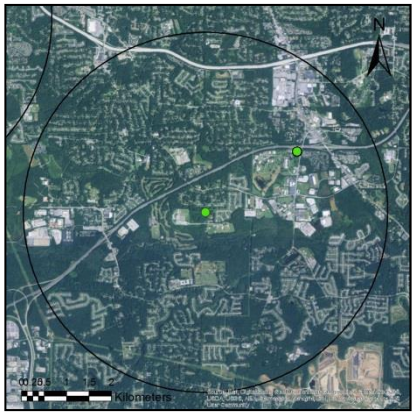
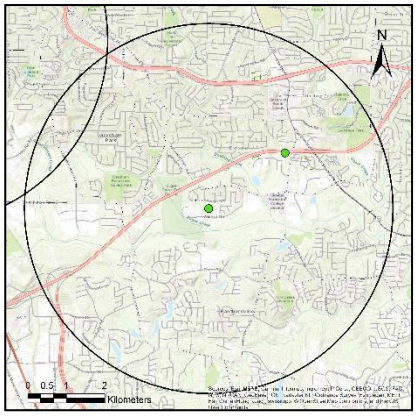
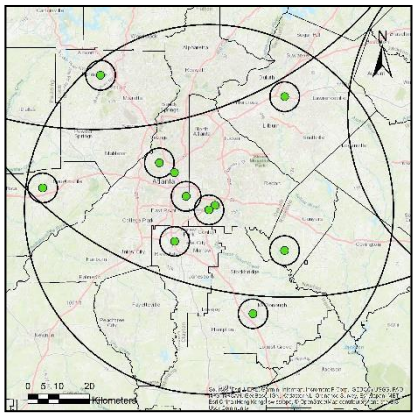
The following sites that have both $PM_{2.5}$ T640 or the $PM_{2.5}$ T640x and the $PM_{2.5}$ FRM (with the FEM designated as the collocated sampler) will have the $PM_{2.5}$ T640 designated as a Special Purpose Monitor and requests NAAQS exclusion for these monitors. The $PM_{2.5}$ FRMs will run on a daily sampling schedule beginning August 9, 2022 to ensure data coverage for each of the areas:

- South DeKalb (13-089-0002)
- Albany (13-095-0007)
- Columbus-Airport (13-215-0008)
- Augusta (13-245-0091)

At the Augusta site (13-245-0091), there will be an additional collocated $PM_{2.5}$ FRM monitor added to the site, and this monitor will collect data on a 1-in-3 day sampling schedule starting in September 2022. The collocated $PM_{2.5}$ FRM already in place at the Albany site (13-095-0007) will begin a 1-in-3 day sampling schedule in September of 2022.

The following information includes site specific details for each of the four sites listed above, as well as comparisons of the FRM and FEM data found at each site. The comparison information was obtained from EPA's $PM_{2.5}$ Continuous Monitor Comparability Assessments website (https://www.epa.gov/outdoor-air-quality-data/pm25-continuous-monitor-comparability-assessments). For an explanation of what is found in this assessment tool, see EPA's website, https://www.epa.gov/sites/default/files/2016-09/documents/comparabilityassessmenttool.pdf. As can be seen in each of the comparability assessments (Figure 1 through Figure 4), the FEM monitors are reading significantly higher $PM_{2.5}$ data than the FRM monitors.

South DeKalb

AQS ID: 130890002

Address: 2300-C Wildcat Road, Decatur, DeKalb County, Georgia 30034

Site Established: 1/1/74

Latitude/Longitude: N33.6877/W-84.2905

Elevation: 308 meters

Area Represented: Atlanta-Sandy Springs-Marietta MSA

Site History: Established as O_3 site

North South East West

Parameter	Monitoring Objective	Sampling Schedule	Probe Inlet Height	Spatial Scale	Begin Date
$PM_{2.5}$	Population Exposure	Daily	2.4 m	Neighborhood	1/22/99
$PM_{2.5}$	Quality Assurance	Every 3 days	2.4 m	Neighborhood	12/20/08
$PM_{2.5}$	Population Exposure	Continuous	4 m	Neighborhood	5/1/03
$PM_{2.5}$ Speciation	Population Exposure	Every 3 days	2.2 m	Neighborhood	10/1/00
SO_2	Population Exposure	Continuous	3.8 m	Neighborhood	10/1/10
SO_2 5-Minute Maximum	Population Exposure	Continuous	3.8 m	Neighborhood	10/1/10
O_3	Population Exposure	Continuous	4 m	Neighborhood/ Urban	1/1/74
CO	Population Exposure	Continuous	4 m	Neighborhood	5/19/03

South DeKalb (continued)

Parameter	Monitoring Objective	Sampling Schedule	Probe Inlet Height	Spatial Scale	Begin Date
NOy	Population Exposure	Continuous	10 m	Neighborhood/ Urban	1/1/98
NO	Population Exposure	Continuous	4 m	Neighborhood/ Urban	4/1/94
NOx	Population Exposure	Continuous	4 m	Neighborhood/ Urban	4/1/94
NO_2	Population Exposure	Continuous	4 m	Neighborhood/ Urban	7/21/78
Carbonyls (PAMS)	Max Precursor Emissions	Three 8-hour samples every third day in summer	3.8 m	Neighborhood	6/1/93
Carbonyls (NATTS)	Population Exposure	Every 6 days	3.8 m	Neighborhood	6/1/93
Carbonyls (NATTS)	Quality Assurance	1/month	3.8 m	Neighborhood	1/1/06
PM_{10} Select Metals (NATTS)	Population Exposure	Every 6 days	2 m	Neighborhood	1/1/00
PM_{10} Select Metals (NATTS)	Quality Assurance	1/month	2 m	Neighborhood	1/1/05
PM_{10} Continuous	Population Exposure	Continuous	4 m	Neighborhood	1/1/11
PM_{coarse} Continuous	Population Exposure	Continuous	4 m	Neighborhood	1/1/11
VOCs (PAMS)	Max Precursor Emissions	Continuous in Summer (June-August)	3.8 m	Neighborhood	6/1/93
VOCs (NATTS)	Population Exposure	Every 6 days	3.8 m	Neighborhood	6/1/93
VOCs (NATTS)	Quality Assurance	1/month	3.8 m	Neighborhood	1/1/05
Semi-VOCs (NATTS)	Population Exposure	Every 6 days	2.5 m	Neighborhood	4/30/07
Semi-VOCs (NATTS)	Quality Assurance	1/month	2.5 m	Neighborhood	4/30/07
Outdoor Temperature	General/ Background	Continuous	2 m	Neighborhood	6/1/93
Rain/Melt Precipitation	General/ Background	Continuous	3.2 m	Neighborhood	1/1/97
Barometric Pressure	General/ Background	Continuous	2 m	Neighborhood	6/1/93

South DeKalb (continued)

Parameter	Monitoring Objective	Sampling Schedule	Probe Inlet Height	Spatial Scale	Begin Date
Wind Direction	General/ Background	Continuous	10 m	Neighborhood	6/1/93
Wind Speed	General/ Background	Continuous	10 m	Neighborhood	6/1/93
Sigma Theta	General/ Background	Continuous	10 m	Neighborhood	1/1/02
Relative Humidity	General/ Background	Continuous	2 m	Neighborhood	6/1/93

GA AAMP's plans for this site: Continue monitoring. NCore site (refer to GA AAMP's *2011 Ambient Air Monitoring Plan, Appendix C, Ambient Air Monitoring Plan for National Core (NCore) Multipollutant Monitoring Station* for full description and approval). Solar radiation and ultraviolet radiation for South DeKalb PAMS are currently monitored at the Conyers site due to equipment specifications (see Section 1.4 for waiver request). GA AAMP replaced both the primary and collocated NATTS high-volume PM_{10} metals samplers with low-volume PM_{10} metals samplers as of April 1, 2022. GA AAMP installed a Markes-Agilent 7890B Gas Chromatograph to fulfill the PAMS requirement for measuring hourly VOCs by June 1, 2021. GA AAMP also installed a direct NO_2 monitor in June 2021 to fulfill PAMS requirements. This site is also being used as part of GA AAMP's ethylene oxide monitoring study.

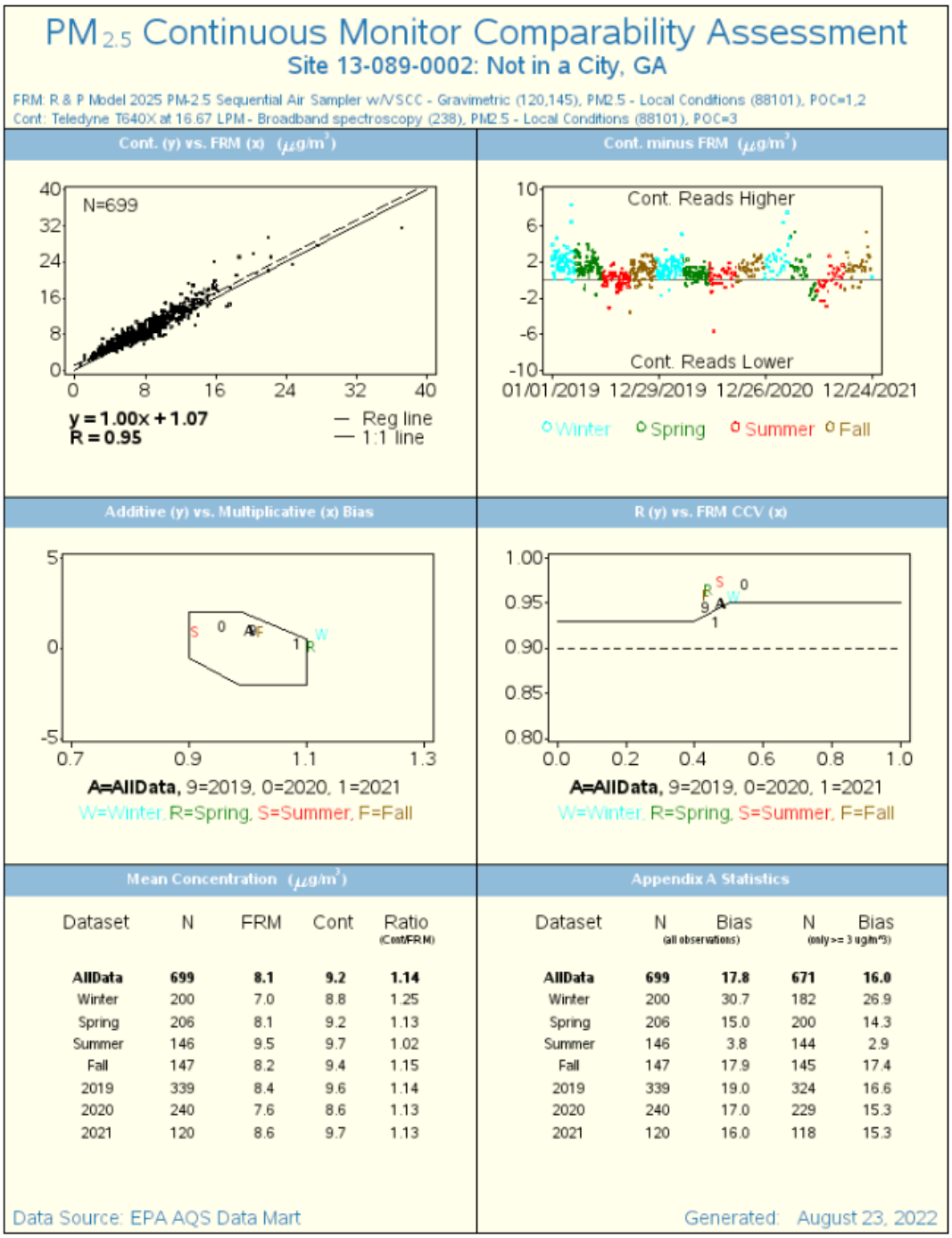
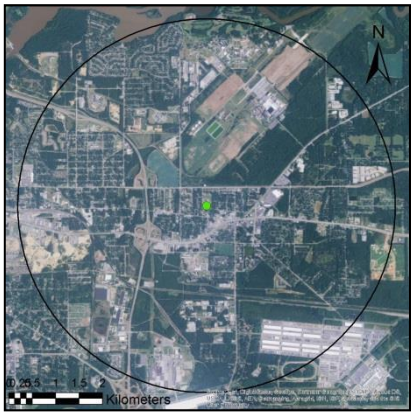
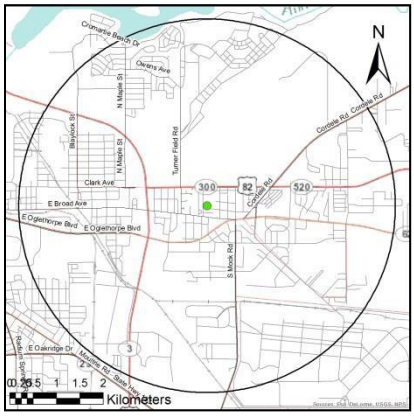


Figure 1. FEM/FRM Comparability Assessment for the South DeKalb Site

Albany





AQS ID: 130950007

Address: Turner Elementary School, 2001 Leonard Avenue, Albany, Dougherty County, Georgia 31705

Site Established: 7/31/91

Latitude/Longitude: N31.5776/W-84.0998

Elevation: 67 meters

Area Represented: Albany MSA Site

History: Established as TSP site

North South East West

Parameter	Monitoring Objective	Sampling Schedule	Probe Inlet Height	Spatial Scale	Begin Date
$PM_{2.5}$	Population Exposure	Daily	2.1 m	Neighborhood	2/2/99
$PM_{2.5}$	Quality Assurance	Every 3 days	2.1 m	Neighborhood	1/10/13
$PM_{2.5}$	Population Exposure	Continuous	2.1 m	Neighborhood	5/11/08

GA AAMP's plans for this site: Continue monitoring; running continuous monitor as FEM as of 1/10/13; GA AAMP is planning to relocate this sampling station to ground level once the appropriate infrastructure is in place.

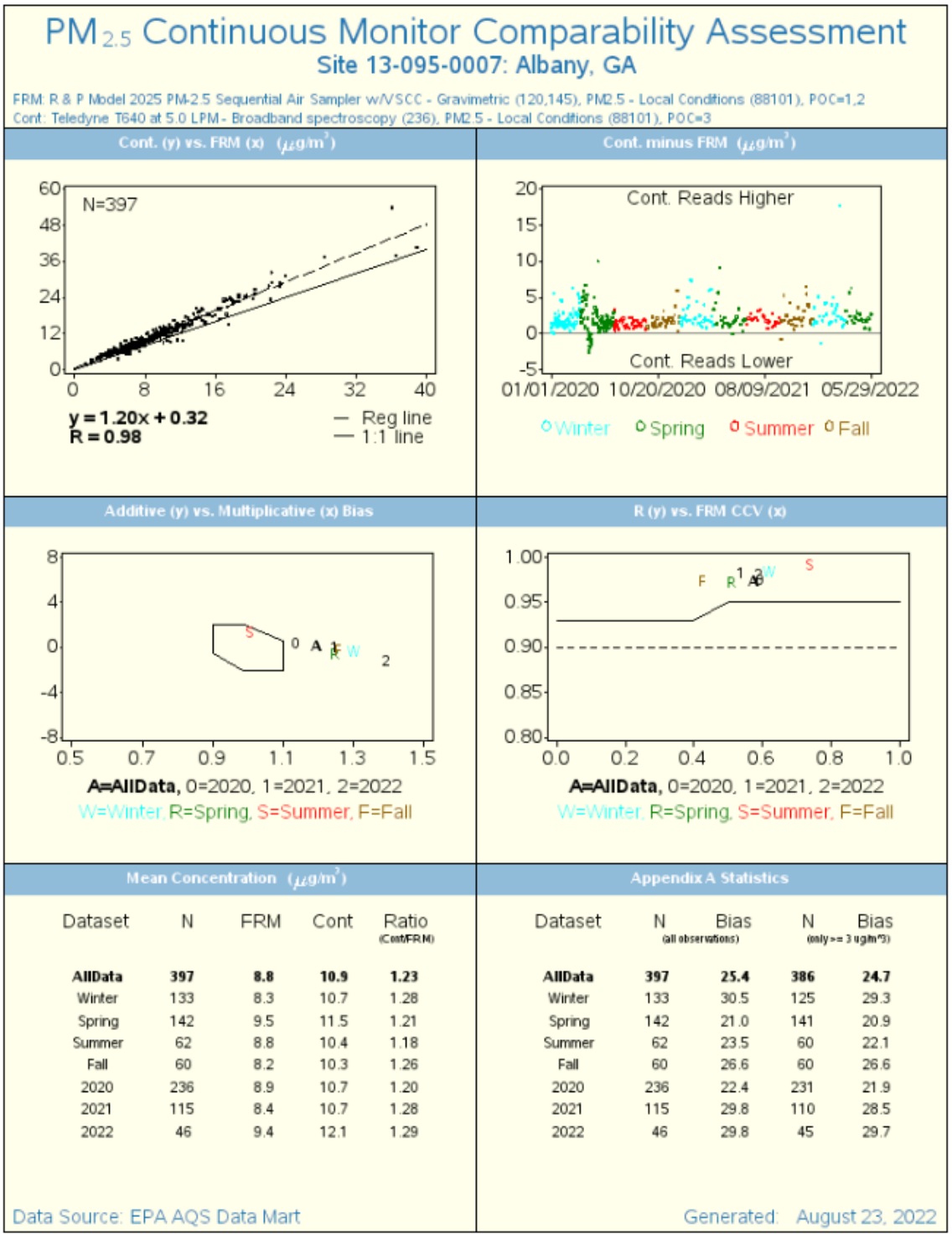
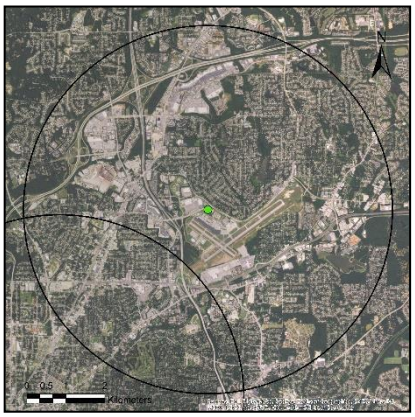
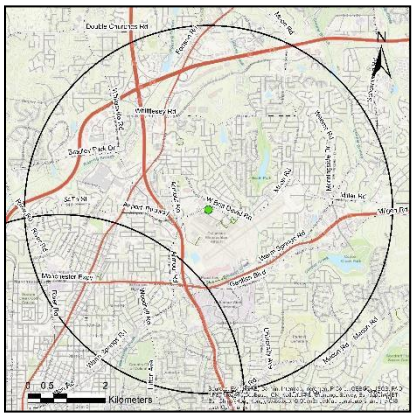


Figure 2. FEM/FRM Comparability Assessment for the Albany Site

Columbus-Airport





AQS ID: 132150008

Address: Columbus Airport, 3100 Airport Thruway Drive, Columbus, Muscogee County, Georgia 31909

Site Established: 7/1/82

Latitude/Longitude: N32.5211/W-84.9447

Elevation: 445 meters

Area Represented: Columbus Georgia-Alabama

MSA Site History: Established as O_3 site

North South East West

Parameter	Monitoring Objective	Sampling Schedule	Probe Inlet Height	Spatial Scale	Begin Date
O_3	Population Exposure	Continuous (Mar-Oct)	3 m	Neighborhood	7/1/82
$PM_{2.5}$	Population Exposure	Daily	4.8 m	Neighborhood	6/2/03
$PM_{2.5}$	Population Exposure	Continuous	3 m	Neighborhood	6/1/03

GA AAMP's plans for this site: Continue monitoring; GA AAMP installed a continuous FEM $PM_{2.5}$ T640 sampler to replace the continuous non-FEM $PM_{2.5}$ TEOM on November 23, 2021.

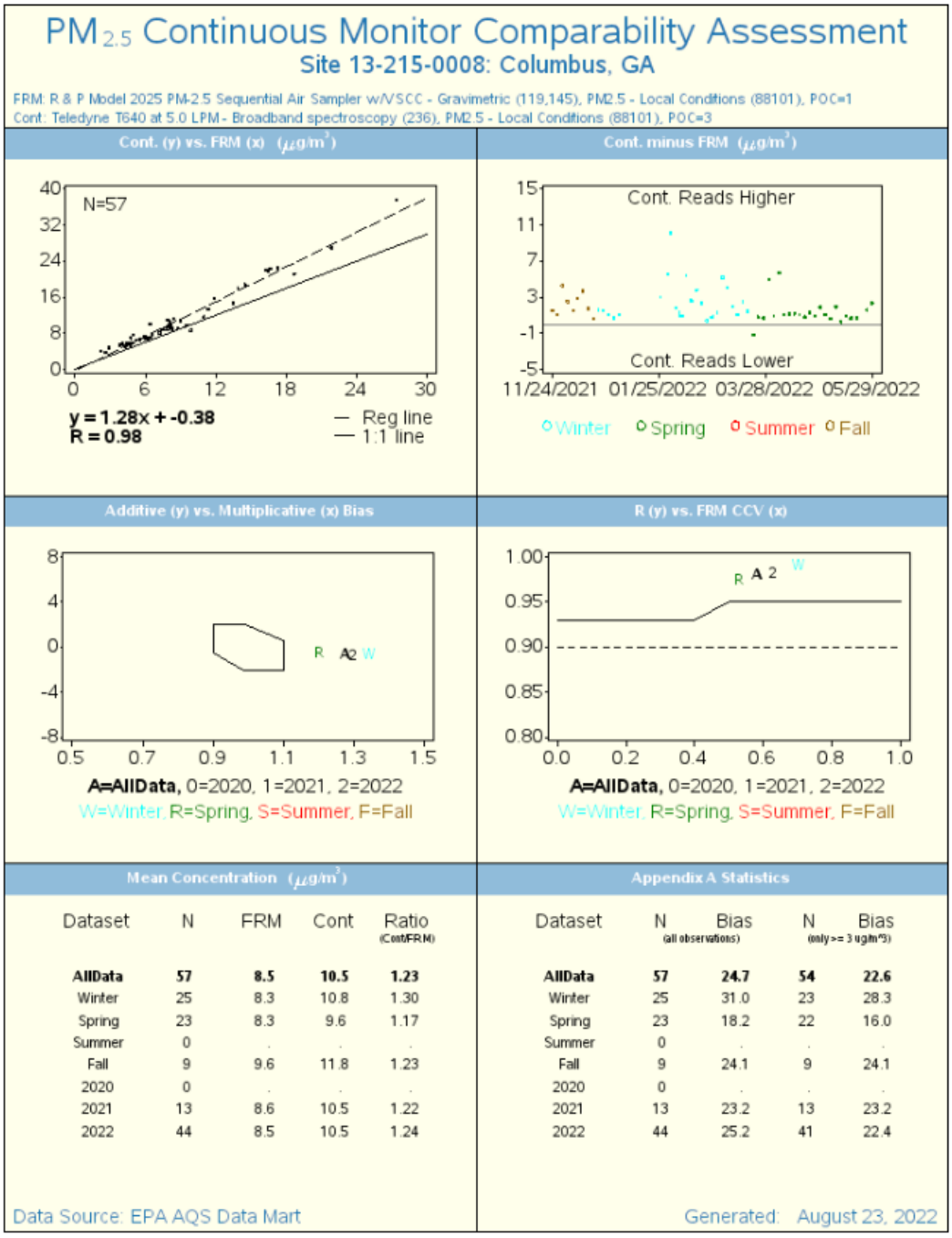
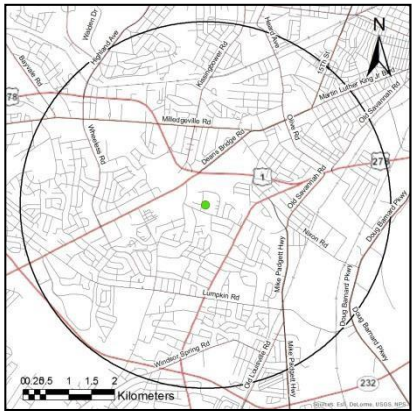


Figure 3. FEM/FRM Comparability Assessment for the Columbus Site

Augusta



AQS ID: 132450091

Address: Bungalow Road Elementary School, 2216 Bungalow Rd, Augusta, Richmond County, Georgia 30906

Site Established: 1/1/76

Latitude/Longitude: N33.4339/W-82.0224

Elevation: 48.77 meters

Area Represented: Augusta-Richmond County, Georgia-South Carolina MSA

Site History: Established as TSP site

North

South

East

West

Parameter	Monitoring Objective	Sampling Schedule	Probe Inlet Height	Spatial Scale	Begin Date
O_3	Population Exposure	Continuous (Mar-Oct)	4.5 m	Neighborhood	4/27/89
PM_{10}	Population Exposure	Continuous	3.5 m	Neighborhood	4/9/96
$PM_{2.5}$ Speciation	Population Exposure	Every 6 days	2.5 m	Neighborhood	3/2/02
$PM_{2.5}$	Population Exposure	Continuous	4.5 m	Neighborhood	10/1/03
$PM_{2.5}$	Population Exposure	Daily	2.5 m	Neighborhood	1/1/22
$PM_{2.5}$	Quality Assurance	Every 3 days	2.5 m	Neighborhood	September 2022

Augusta (continued)

Parameter	Monitoring Objective	Sampling Schedule	Probe Inlet Height	Spatial Scale	Begin Date
SO_2	Population Exposure	Continuous	4.5 m	Neighborhood	1/14/13
SO_2 5-Minute Maximum	Population Exposure	Continuous	4.5 m	Neighborhood	1/14/13
Wind Speed	General/ Background	Continuous	10 m	Neighborhood	10/2/03
Wind Direction	General/ Background	Continuous	10 m	Neighborhood	10/2/03
Outside Temperature	General/ Background	Continuous	2 m	Neighborhood	10/2/03
Relative Humidity	General/ Background	Continuous	2 m	Neighborhood	10/2/03
Rain/Melt Precipitation	General/ Background	Continuous	4 m	Neighborhood	10/2/03
Barometric Pressure	General/ Background	Continuous	2 m	Neighborhood	10/2/03

GA AAMP's plans for this site: Continue monitoring; running continuous $PM_{2.5}$ monitor as FEM as of 10/1/2017; GA AAMP replaced the continuous PM_{10} TEOM and continuous $PM_{2.5}$ T640 with continuous T640X, which reads $PM_{2.5}$, PM_{10}, and PM_{coarse} on July 13, 2021. The $PM_{2.5}$ speciation sampling was temporarily suspended from March 23, 2021 until June 9, 2021; the integrated $PM_{2.5}$ FRM monitor was shut down from 2018-2021, and reopened January 1, 2022 to meet collocation requirements.

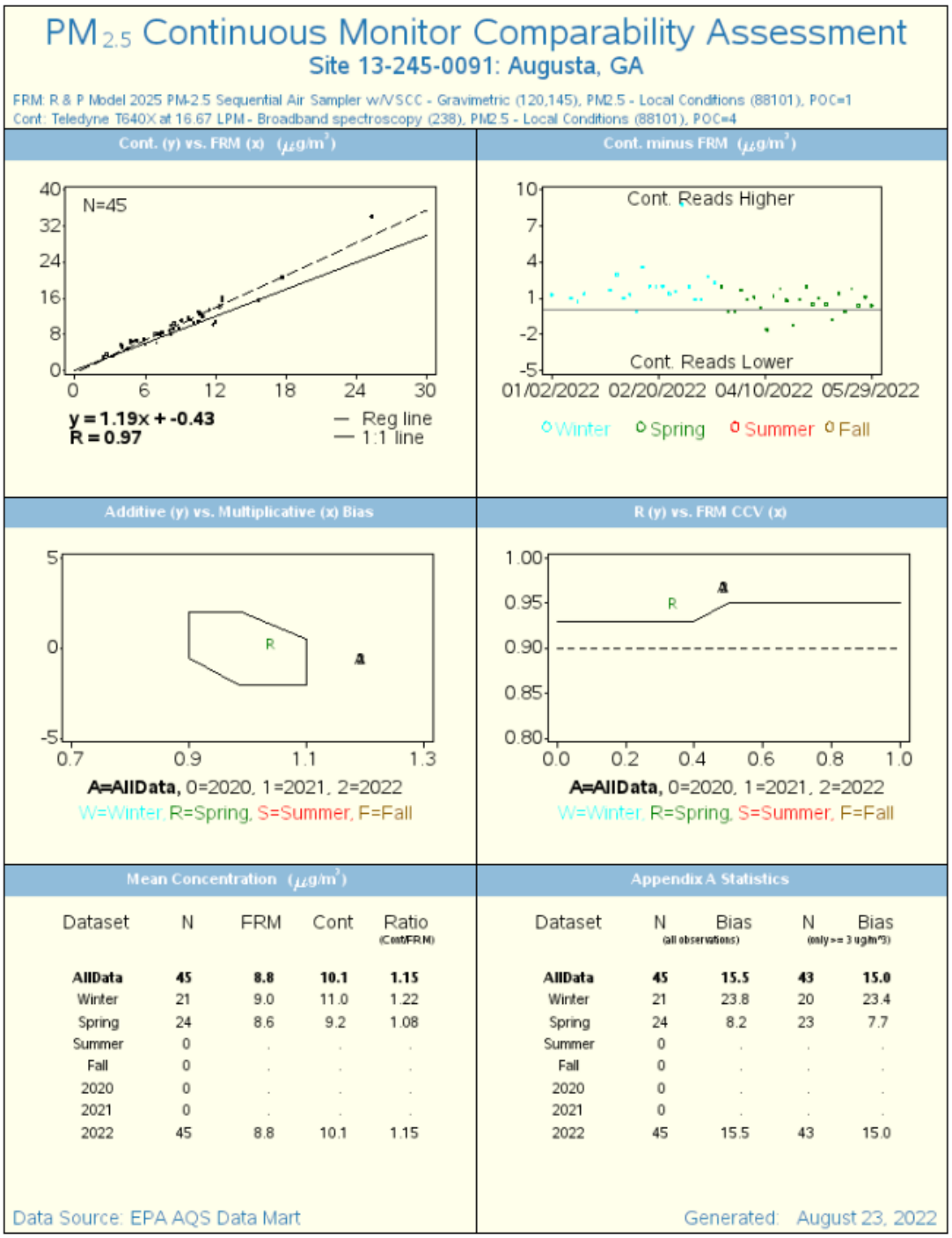


Figure 4. FEM/FRM Comparability Assessment for the Augusta Site

The following information was obtained on EPA's $PM_{2.5}$ Data Quality Dashboard website (https://sti-r-shiny.shinyapps.io/QVA_Dashboard/). This assessment reviews the 2019 through 2021 data for all of Georgia AAMP's $PM_{2.5}$ FRMs. The following graphs (Figure 5 and Figure 6) examine: precision, bias, flow rate audits/verifications and field blanks. For more information about the following assessment, please see EPA's website with explanation at https://sti-r-shiny.shinyapps.io/QVA_Dashboard/_w_e8717ddb/QA_Assessment_ReadMe.pdf.

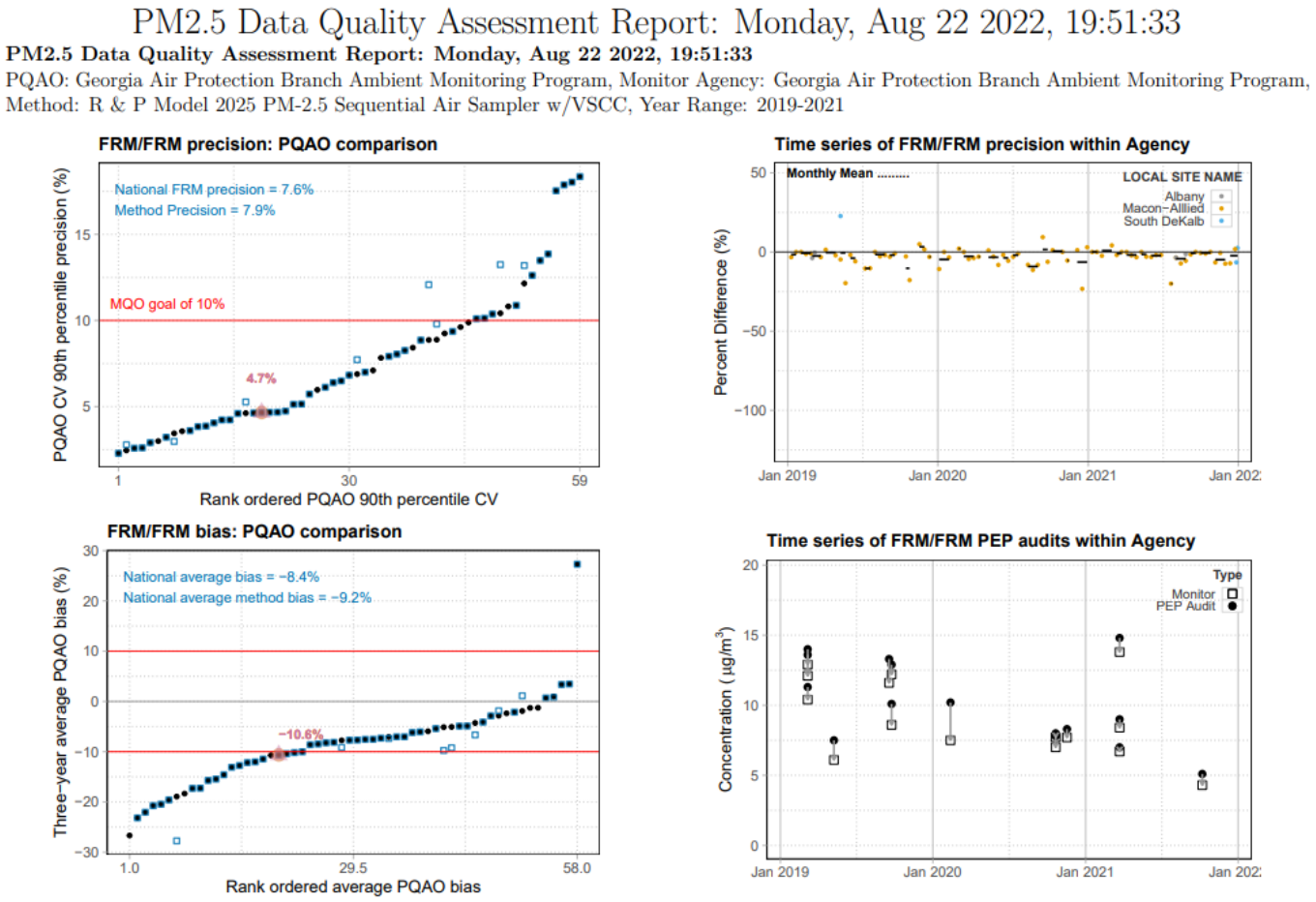
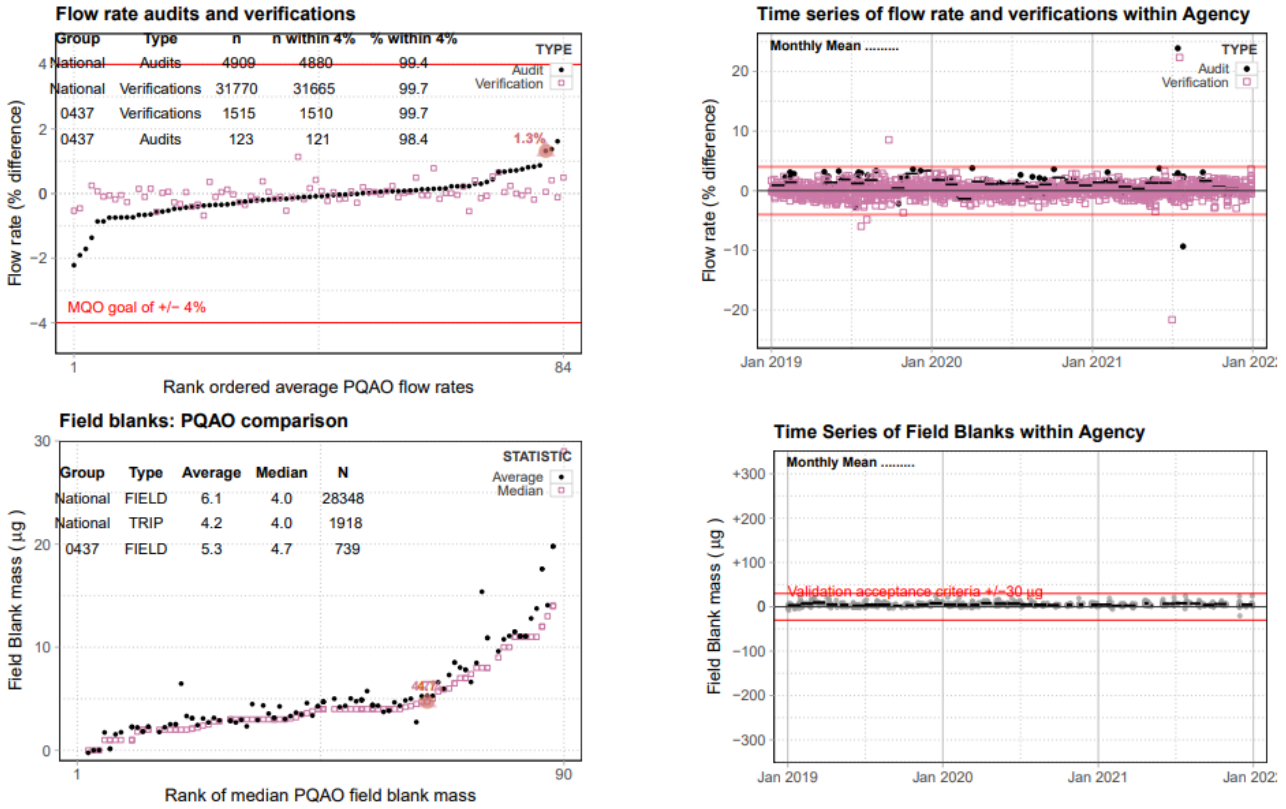


Figure 5. GA AAMP's FRM/FRM Precision and Bias

PM2.5 Data Quality Assessment Report: Monday, Aug 22 2022, 19:51:36

PQAO: Georgia Air Protection Branch Ambient Monitoring Program, Monitor Agency: Georgia Air Protection Branch Ambient Monitoring Program, Method: R & P Model 2025 PM-2.5 Sequential Air Sampler w/VSCC, Year Range: 2019-2021



Data Downloads: Newer than two years - 2022-08-21 21:02:20Z; Older than two years - 2022-07-02 07:03:02Z

Figure 6. GA AAMP's Flow Rate Audits/Verifications and Field Blanks

Comments:

The *Addendum to 2022 Ambient Air Monitoring Plan* was available for public comment from September 7, 2022 through October 10, 2022. No comments were received from the public. Informal comments were received from EPA and incorporated into this document. On page 1, the text was edited to specify that GA AAMP is requesting NAAQS exclusion for the specific monitors listed. Additionally, the text was modified to explain more clearly that a collocated $PM_{2.5}$ FRM monitor was added to the Augusta site (13-245-0091), and that the collocated $PM_{2.5}$ FRM was already in place at the Albany site (13-095-0007).