

**State of Alabama
Ambient Air Monitoring
2022 Network Plan**

July 01, 2022



Table of Contents

Definitions and Acronyms	iii
Introduction.....	1
Public Review and Comment.....	1
Overview of Alabama’s Air Monitoring Network.....	2
Summary of adjustments and proposals for the ADEM AAQMP.....	3
Summary of changes in 2021/2022.....	3
Summary of proposed changes for 2022/2023	3
Network Plan Description.....	5
Monitoring Requirements	6
Population and CBSA	6
Types of Monitoring Stations	9
CASTNET.....	9
NCore.....	9
PAMS.....	9
SLAMS	9
SPM.....	9
SO2 DRR	9
STN	9
Supplemental Speciation.....	9
ADEM’s Monitoring Networks by Pollutant.....	10
Carbon Monoxide (CO) Network	10
Lead (Pb) Network.....	10
Nitrogen Dioxide (NO ₂) Network.....	10
Ozone (O ₃) Network	11
Ozone Monitoring Requirements for Alabama MSAs	12
PM _{2.5} Network.....	14
PM _{2.5} Monitoring Requirements for Alabama MSAs	16
PM ₁₀ Network	18
Sulfur Dioxide (SO ₂) Network.....	18
Quality Assurance.....	19
ADEM AAQMP Pollutant Network Tables	20
Appendix A.....	25
Site Assessments.....	25
Appendix B.....	43
Notice of Site Consolidation.....	43
Appendix C	48
Notice of Site Closure.....	48
Appendix D.....	51
DRR SO ₂ Annual Report.....	51
Appendix E	53
Comments	53

List of Tables

Table 1 2022 ADEM Ambient Air Monitoring Network	4
Table 2 Alabama CBSAs	7
Table 3 SLAMS Minimum Ozone Monitoring Site Requirements	11
Table 4 ADEM Ozone Monitoring Sites and Design Values	11
Table 5 PM _{2.5} Minimum Monitoring Site Requirements	14
Table 6 ADEM PM _{2.5} Monitoring Sites and Design Values	15
Table 7 SO ₂ Minimum Monitoring Site Requirements	19
Table 8 Issues observed during site assessments	25
Table 9 Alabama 8-Hour Ozone Design Value Data	49
Table 10 Ozone 3-yr design value for STH and SND152	50

List of Figures

Figure 1 Alabama MSAs and ADEM Monitoring Sites	8
Figure 2 Distance between TSV and DUN	43
Figure 3 Tuscaloosa VA Site in the Tuscaloosa MSA	44
Figure 4 Duncanville Site in the Tuscaloosa MSA	46
Figure 5 Tuscaloosa Wind Rose	46
Figure 6 CASTNET and Southside Air Monitoring Sites	48
Figure 7 Comparison of Ozone Design Values	50
Figure 8 Gadsden Wind Rose	50

Definitions and Acronyms

AADT	Annual Average Daily Traffic
AAQM	Ambient Air Quality Monitoring
AAQMP	Ambient Air Quality Monitoring Plan
ADEM	Alabama Department of Environmental Management
ARM	Approved Regional Method
AQS	Air Quality System
avg	average
CASTNET	Clean Air Status and Trends Network
CBSA	Core Based Statistical Area
CFR	<i>Code of Federal Regulations</i>
CO	Carbon Monoxide
CSA	Combined Statistical Area
CSN	Chemical Speciation Network
EPA	Environmental Protection Agency
FEM	Federal Equivalent Method
FRM	Federal Reference Method
HDNREM	Huntsville Division of Natural Resources and Environmental Management
hr	hour
hi-vol	high-volume sampler
JCDH	Jefferson County Department of Health
low-vol	low-volume particulate sampler
m ³	cubic meter
min	minute
ml	milliliter
MSA	Metropolitan Statistical Area
NAAQS	National Ambient Air Quality Standards
NCore	National Core multipollutant monitoring station
O ₃	ozone
PAMS	Photochemical Assessment Monitoring Station
Pb	lead
PM	particulate matter
PM _{2.5}	particulate matter ≤2.5 micrometers diameter
PM ₁₀	particulate matter ≤10 micrometers diameter
ppb	parts per billion
PQAO	primary quality assurance organization
PSD	Prevention of Significant Deterioration
PWEI	Population Weighted Emissions Index
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
SLAMS	State or Local Air Monitoring Station
SO ₂	Sulfur Dioxide
SPM	Special Purpose Monitor
STN (PM _{2.5})	Speciation Trends Network
tpy	tons per year
TSP	Total Suspended Particulate
URG	URG-3000N PM _{2.5} Speciation monitoring carbon-specific sampler
° C	degree Celsius
µg/m ³	micrograms (of pollutant) per cubic meter (of air sampled)
µSA	Micropolitan Statistical Area
≥	greater than or equal to
>	greater than
≤	less than or equal to
<	less than

Introduction

In October 2006, the United States Environmental Protection Agency (EPA) issued final Federal Regulations (40 CFR Part 58) concerning state and local agency ambient air monitoring networks. These regulations require states to submit an annual monitoring network review to EPA. This document provides the framework for establishment and maintenance of Alabama's air quality surveillance system, lists changes that occurred during 2021/2022, and changes proposed to take place to the current ambient air monitoring network during 2022/2023. In the final approved draft, any changes made to the plan after public comment period can be found in Appendix E.

Public Review and Comment

The annual monitoring network review must be made available for public inspection for thirty (30) days prior to submission to EPA. For 2022, this document was placed on ADEM's website on 05/27/2022 to begin a 30-day public review period. This document can be accessed at the following link:

<http://www.adem.alabama.gov/newsEvents/publicNotices.cnt>

Or by contacting:

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Overview of Alabama's Air Monitoring Network

Ambient air monitors in the state of Alabama are operated for a variety of monitoring objectives. These objectives include determining whether areas of the state meet the National Ambient Air Quality Standards (NAAQS), to provide public information such as participation in EPA's AirNow program, Air Quality Index (AQI) reporting for larger Metropolitan Statistical Areas (MSAs), for use in Air Quality models, and to provide data to Air Quality Researchers. Entities in Alabama monitor all six (6) criteria pollutants which have NAAQS identified for them: Carbon Monoxide (CO), Lead (Pb), Nitrogen Dioxide (NO₂), Ozone (O₃), particulate matter (PM₁₀, PM_{2.5}), and Sulfur Dioxide (SO₂). PM_{2.5} speciated compounds, a non-criteria pollutant, is also monitored for special purposes. In addition, meteorological data may be collected to support air monitoring and aid in analysis of the ambient air monitoring data.

In Alabama, the air quality surveillance system is operated by three separate entities: the Alabama Department of Environmental Management (ADEM), and two local agencies, the Jefferson County Department of Health (JCDH), and the Huntsville Department of Natural Resources and Environmental Management (HDNREM). Each agency is responsible for its own annual network plan. This document reflects only the ADEM air quality surveillance system. An overview of the 2022 ADEM Monitoring Network can be found in Table 1.

The JCDH plan will be available for review on their website by following this link. <https://jcdh.org/SitePages/Misc/AirProgReports.aspx>

The HDNREM plan will be available for review on their website by following this link. <https://www.huntsvilleal.gov/environment/air-quality/>

Currently, the Air Quality Index (AQI) is reported for Huntsville, Birmingham, Mobile, Montgomery and Phenix City on the Internet at the sites listed below.

ADEM <http://adem.alabama.gov/programs/air/airquality/ozone/historical.cnt>

JCDH <https://jcdh.org/SitePages/Programs-Services/EnvironmentalHealth/Air-RadiationProtectionDivision/AirQualForecast.aspx>

HDNREM <https://www.huntsvilleal.gov/environment/air-quality/air-pollution-control-program/air-quality-daily-index-reports/>

Summary of adjustments and proposals for the ADEM AAQMP

Summary of changes in 2021/2022

- **Duncanville, Tuscaloosa, AQS ID 01-125-0010**, was closed on November 1, 2021.
- **Duncanville Middle School, AQS ID 01-125-0011**, replaced Duncanville, Tuscaloosa, AQS ID 01-125-0010. Ozone monitoring began on March 1, 2022. Since the sites are approximately 1.3 miles apart, ADEM requests a continuation of the data for design value purposes.
- **Gadsden, AQS ID 01-055-0010**, stopped sampling with the FRM manual monitor on October 5, 2021, due to equipment malfunction. Supply chain issues prevented obtaining replacement parts to repair the sampler. The FRM sampler was replaced with a FEM BAM-1022 and continuous sampling began on December 7, 2021.
- **Chickasaw, AQS ID 01-097-003**, proposed equipment changes have been postponed due to reallocation of available equipment to Gadsden, AQS ID 01-055-0010.
- **Ward, Sumter Co., AQS ID 01-119-0003**, proposed changes have been postponed due to equipment procurement delays related to supply chain issues.

Summary of proposed changes for 2022/2023

- **Ashland, AQS ID 01-027-0001**, ADEM will replace the FRM sampler with an FEM BAM-1022 continuous sampler as equipment becomes available.
- **Chickasaw, AQS ID 01-097-0003**, both the primary FRM manual monitor and the non-FEM BAM 1020 will be shut down and replaced by a continuous FEM BAM-1022 PM_{2.5} monitor as equipment becomes available. The continuous FEM BAM-1022 PM_{2.5} SLAMS monitor will be designated as the primary monitor at the site. Although two monitors will be shut-down, no change in the number of pollutants monitored will occur as result of this change of equipment.
- **Crossville, AQS ID 01-049-1003**, ADEM will replace the FRM sampler with an FEM BAM-1022 continuous sampler as equipment becomes available.
- **Fairhope, AQS ID 01-0003-0010**, ADEM will replace the FRM sampler with an FEM BAM-1022 continuous sampler as equipment becomes available.
- **MOM, AQS ID 01-101-1002**, Both the primary FRM manual monitor and the non-FEM BAM 1020 will be shut down and replaced by a continuous FEM BAM-1022 PM_{2.5} monitor as equipment becomes available. The continuous FEM BAM-1022 PM_{2.5} SLAMS monitor will be designated as the primary monitor at the site. Although two monitors will be shut-down, no change in the number of pollutants monitored will occur as result of this change of equipment. The collocated FRM will continue to operate or switch to a collocated FEM to meet regulatory collocation requirements.
- **Southside, AQS ID 01-055-0011**, ADEM is currently proposing to shut down the ozone site. The ozone monitor is not required in the MSA and is in close proximity to the CASTNET site at Crossville operated by EPA. Design values from these sites are very similar and below 85% of the NAAQS (Appendix C).
- **Troy Lead, AQS ID 01-109-0003**, high volume TSP samplers are being replaced with an updated version of the same type of equipment.
- **VA, Tuscaloosa, AQS ID 01-125-0004**, the collocated FRM sampler at this site will be shut down on December 31, 2022, as it is no longer needed to meet regulatory collocation requirements. ADEM is proposing to consolidate all air monitoring in the Tuscaloosa MSA to Duncanville Middle School, AQS ID 01-125-0011 (Appendix B). This proposal will

shut down the VA, Tuscaloosa site entirely and move PM_{2.5} monitoring to Duncanville to increase efficiency and utilize the new shelter. Although one site will be shut-down, no change in the number of pollutants monitored in this MSA will occur as a result of this consolidation of monitoring.

- **Ward, Sumter Co., AQS ID 01-119-0003**, after delays in equipment procurement, ADEM is scheduled to begin monitoring NO₂ at Ward, Sumter Co. (AQS ID 01-119-0003) as a background site by the end of this calendar year. The monitor will be designated as a Special Purpose Monitor (SPM) during its 2-year evaluation period. With this additional parameter, a new, much bigger shelter is needed and will be purchased later this year.
- ADEM is working with EPA to develop PM₁₀ monitoring in the Mobile area. Any monitoring will be suitable for NAAQS comparability and adhere to proper siting and monitoring guidelines as found in 40 CFR 58, Appendices A, C, D and E, as appropriate.

Table 1 2022 ADEM Ambient Air Monitoring Network

ADEM Site Common Name	AQS ID	Ozone	PM _{2.5} Local	PM _{2.5} Local Collocated	PM _{2.5} Speciation	PM _{2.5} Continuous	PM ₁₀ Lo-Vol	PM ₁₀ Lo-Vol Collocated	Lead TSP	Lead TSP Collocated	NO ₂	SO ₂	
Fairhope	01-003-0010	X	X ¹			X ¹							
Ashland	01-027-0001		X ¹			X ¹							
Crossville	01-049-1003		X ¹			X ¹							
Wetumpka Westside Technology	01-051-0004	X											
Gadsden C College	01-055-0010					X							
Southside	01-055-0011	X ⁵											
Chickasaw	01-097-0003	X	X ²			X ²						X	
Bay Road	01-097-2005	X											
MOMS, ADEM	01-101-1002	X	X ²	X		X ²	X	X					
Decatur	01-103-0011	X	X			X							
Troy Lead	01-109-0003							X	X				
Phenix City - South Girard School	01-113-0003	X		X	X	X							
Helena	01-117-0004	X											
Lhoist, Montevallo Plant (DRR)	01-117-9001											X	
Ward, Sumter Co.	01-119-0003	X				X					X ³	X	
VA, Tuscaloosa	01-125-0004		X ¹	X ⁴		X ¹							
Duncanville Middle School	01-125-0011	X											
1. FEM BAM-1022 Continuous Sampler will replace the FRM PM _{2.5} Local Sampler.													
2. FEM BAM-1022 Continuous Sampler will replace both the FRM PM _{2.5} Local Sampler and non-FEM BAM-1020.													
3. Ward is scheduled to begin NO _x sampling.													
4. The collocated sampler is no longer needed to meet regulatory requirements and will shut down 12/31/22.													
5. Proposal to shutdown 11/1/22													

Network Plan Description

As per 40 CFR Part 58.10, an annual monitoring network plan which provides for the establishment and maintenance of an air quality surveillance system consisting of the air quality monitors in the state is required to be submitted by all states to EPA.

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

1. A statement of purpose for each monitor.
2. Evidence that siting and operation of each monitor meets the requirements of Appendices A, C, D, and E of 40 CFR Part 58, where applicable.
3. §58.10 (b) requires the plan contain the following information for each existing and proposed site:
 - a. The Air Quality System (AQS) site identification number.
 - b. The location, including street address and geographical coordinates.
 - c. The sampling and analysis method(s) for each measured parameter.
 - d. The operating schedules for each monitor.
 - e. Any proposals to remove or move a monitoring station within a period of 18 months following plan submittal.
 - f. The monitoring objective and spatial scale of representativeness for each monitor.
 - g. The identification of any sites that are suitable and sites that are not suitable for comparison against the annual PM_{2.5} NAAQS as described in §58.30.
 - h. The Metropolitan Statistical Area (MSA), Core Based Statistical Area (CBSA), Combined Statistical Area (CSA) or other area represented by the monitor.
 - i. The designation of any Pb monitors as either source-oriented or non-source-oriented according to Appendix D to 40 CFR part 58.
 - j. Any source-oriented monitors for which a waiver has been requested or granted by the U.S. EPA Regional Administrator as allowed for under paragraph 4.5(a)(ii) of Appendix D to 40 CFR part 58.
 - k. Any source-oriented or non-source-oriented site for which a waiver has been requested or granted by the U.S. EPA Regional Administrator for the use of Pb-PM₁₀ monitoring in lieu of Pb-TSP monitoring as allowed for under paragraph 2.10 of Appendix C to 40 CFR part 58.
 - l. The identification of required NO₂ monitors as near-road, area-wide, or vulnerable and susceptible population monitors in accordance with Appendix D, section 4.3 of this part.
 - m. The identification of any PM_{2.5} FEMs and/or ARMs used in the monitoring agency's network where the data are not of sufficient quality such that data are not to be compared to the NAAQS. For required SLAMS where the agency identifies that the PM_{2.5} Class III FEM or ARM does not produce data of sufficient quality for comparison to the NAAQS, the monitoring agency must ensure that an operating FRM or filter-based FEM meeting the sample frequency requirements described in § 58.12 or other Class III PM_{2.5} FEM or ARM with data of sufficient quality is operating and reporting data to meet the network design criteria described in Appendix D to this part.

Monitoring Requirements

Appendix A of 40 CFR Part 58 outlines the Quality Assurance Requirements for SLAMS, SPMs, and PSD Air Monitoring. It details calibration and auditing procedures used to collect valid air quality data, the minimum number of collocated monitoring sites, calculations used for data quality assessments, and reporting requirements. All sites operated by ADEM follow the requirements set forth in Appendix A.

Appendix C of 40 CFR Part 58 specifies the criteria pollutant monitoring methods which must be used in SLAMS and NCore stations. All criteria pollutant monitoring operated by ADEM follow the methods specified in Appendix C.

Appendix D of 40 CFR Part 58 specifies network design criteria for ambient air quality monitoring. The overall design criteria, the minimum number of sites for each parameter, the type of sites, the spatial scale of the sites, and the monitoring objectives of the sites are detailed. In designing the air monitoring network for ADEM, the requirements of Appendix D were followed. The specifics for each pollutant network are in their individual chapters.

Appendix E of 40 CFR Part 58 specifies probe material, placement of the monitoring probe and spacing from obstructions. All monitors operated by ADEM were evaluated against Appendix E criteria.

Population and CBSA

Alabama has a 2021 population estimate of 4,974,692. Alabama's Metropolitan and Micropolitan Core Based Statistical Areas with corresponding classifications as Metropolitan or Micropolitan, county names included in that area, the 2020 population base and the 2021 population estimates are listed in Table 2. Alabama's network is represented in Figure 1.

Minimum monitoring requirements vary for each pollutant and can be based on a combination of factors such as population, the level of monitored pollutants, and Core Based Statistical Area boundaries as defined in the latest U.S. Census information. The term "Core Based Statistical Area" (CBSA) is a collective term for both Metropolitan Statistical Areas (MSA) and Micropolitan Statistical Areas (μ SA).

Table 2 Alabama CBSAs

Alabama Core Based Statistical Area	Counties in CBSA	2020 Population Base	2021 Population Estimate	Statistical Area
Anniston-Oxford	Calhoun	116,441	115,972	Metropolitan
Auburn-Opelika	Lee	174,241	177,218	Metropolitan
Birmingham-Hoover	Bibb, Blount, Chilton, Jefferson, Shelby, St. Clair, Walker	1,115,289	1,114,262	Metropolitan
Columbus, GA-AL	Russell County in Alabama and Chattahoochee, Harris, Marion, Muscogee Counties in Georgia	328,883	327,536	Metropolitan
Daphne-Fairhope-Foley	Baldwin	231,767	239,294	Metropolitan
Decatur	Lawrence, Morgan	156,494	156,758	Metropolitan
Dothan	Geneva, Henry, Houston	151,007	151,618	Metropolitan
Florence-Muscle Shoals	Colbert, Lauderdale	150,791	151,517	Metropolitan
Gadsden	Etowah	103,436	103,162	Metropolitan
Huntsville	Limestone, Madison	491,723	502,728	Metropolitan
Mobile	Mobile	430,197	428,220	Metropolitan
Montgomery	Autauga, Elmore, Lowndes, Montgomery	386,047	385,798	Metropolitan
Tuscaloosa	Hale, Pickens, Tuscaloosa	268,674	268,191	Metropolitan
Albertville	Marshall	97,612	98,228	Micropolitan
Alexander City	Tallapoosa	51,698	51,473	Micropolitan
Atmore	Escambia	36,757	36,699	Micropolitan
Cullman	Cullman	87,866	89,496	Micropolitan
Enterprise	Coffee	53,465	54,174	Micropolitan
Eufaula, AL-GA Micro Area	Eufaula, AL-GA Micro Area	27,458	27,207	Micropolitan
Fort Payne	DeKalb	71,608	71,813	Micropolitan
Jasper, AL Micro Area	Jasper, AL Micro Area	65,342	64,818	Micropolitan
LaGrange, GA-AL Micro Area	LaGrange, GA-AL Micro Area	104,198	104,261	Micropolitan
Ozark	Dale	49,326	49,342	Micropolitan
Scottsboro	Jackson	52,579	52,773	Micropolitan
Selma	Dallas	38,462	37,619	Micropolitan
Talladega-Sylacauga	Coosa, Talladega	82,149	81,524	Micropolitan
Troy	Pike	33,009	32,991	Micropolitan



ALABAMA MSAs

- Anniston-Oxford
- Auburn-Opelika
- Birmingham-Hoover
- Columbus, GA-AL
- Daphne-Fairhope-Foley
- Decatur
- Dothan
- Florence-Muscle Shoals
- Gadsden
- Huntsville
- Mobile
- Montgomery
- Tuscaloosa

- | | |
|--------------------------|------------------------|
| 1 Ashland | 10 Lhoist |
| 2 Bay Road | 11 MOMS, ADEM |
| 3 Chickasaw | 12 Phenix City Girard |
| 4 Crossville | 13 Southside |
| 5 Decatur | 14 Troy Lead |
| 6 Duncanville, M. School | 15 VA, Tuscaloosa |
| 7 Fairhope | 16 Ward |
| 8 Gadsden C. College | 17 Wetumpka Technology |
| 9 Helena | |

Figure 1 Alabama MSAs and ADEM Monitoring Sites

Types of Monitoring Stations

CASTNET – *Clean Air Status and Trends Network*: is a national air quality monitoring network designed to provide data to assess trends in air quality, atmospheric deposition, and ecological effects due to changes in air pollutant emissions. CASTNET provides long-term monitoring of air quality in rural areas to determine trends in regional atmospheric nitrogen, sulfur, and ozone concentrations and deposition fluxes of sulfur and nitrogen pollutants in order to evaluate the effectiveness of national and regional air pollution control programs. EPA-sponsored CASTNET ozone monitors are Part 58 compliant, therefore the data can be used for regulatory purposes. CASTNET Ozone data is now reported to AQS. There is one CASTNET site in Alabama, **Sand Mountain (SND152), AQS ID 01-049-9991**, in DeKalb County, operated by EPA.

NCore – *National Core multi-pollutant monitoring station*: Sites that measure multiple pollutants at trace levels in order to provide support to integrated air quality management data needs. Each state is required to operate at least one NCore site. There is one NCore site in Alabama, **North Birmingham, AQS ID 01-073-0023**, located in Jefferson County and operated by JCDH. Refer to the JCDH Ambient Air Network Plan for details.

PAMS – *Photochemical Assessment Monitoring Station*: PAMS are established to obtain more comprehensive data in areas with high levels of ozone pollution by also monitoring oxides of Nitrogen (NO_x) and volatile organic compounds (VOCs). PAMS monitoring requirements were revised in the 2016 ozone NAAQS rule and a PAMS site is required in Jefferson County. Refer to the JCDH Ambient Air Network Plan for details.

SLAMS - *State or Local Ambient Monitoring Station*: SLAMS make up ambient air quality monitoring sites that are primarily needed for NAAQS comparisons. ADEM SLAMS monitors are described in detail in the section labeled ADEM's Pollutant Network Tables.

SPM – *Special Purpose Monitor*: **Decatur, AQS ID 01-103-0011**, will complete its 2-year evaluation period with the API T-640 on 08/01/2022 and **Ward, Sumter Co., AQS ID 01-119-0003**, will begin its evaluation period for NO₂ with a Teledyne N500, CAPS NO_x Analyzer. Both are labeled as SPM during their 24-month evaluation period, as both of these types of monitors are new for ADEM.

SO2 DRR - *SO2 Data Requirements Rule*: DRR became effective September 21, 2015. Per 40 CFR Part 51, states are required to report all sources that generate >2,000 tpy SO₂, not dependent upon population density. Each source in this category must characterize air quality through air quality modeling or ambient air monitoring. The annual progress report for sources that utilized modeling can be found in Appendix D. The source that chooses monitoring must operate a site equivalent with the SLAMS requirements of 40 CFR Part 58. Alabama has one DRR SO₂ monitoring site, **Lhoist, Montevallo Plant, AQS ID 01-117-9001**, operated by a Lhoist contractor within the ADEM PQAQ. The Lhoist-Montevallo facility was designated attainment/unclassifiable on March 26, 2021 under Round IV of the SO₂ DRR, based on 2017-2019 monitoring data.

STN – *PM_{2.5} Speciation Trends Network*: A PM_{2.5} speciation station designated to be part of the speciation trends network. This network provides chemical species data of fine particulates. There is one STN site in Alabama, **North Birmingham, AQS ID 01-073-0023**, located in Jefferson County and operated by JCDH. Refer to the JCDH Ambient Air Network Plan for details.

Supplemental Speciation – A monitoring site that is not dedicated as an STN site in the Chemical Speciation Network, but has monitors used to gain supplemental data for that network. ADEM provides supplemental speciation data from **Phenix City-South Girard School, AQS ID 01-113-0003**.

ADEM's Monitoring Networks by Pollutant

Carbon Monoxide (CO) Network

On August 12, 2011, EPA issued a final rule that retained the existing NAAQS for Carbon Monoxide (CO) and made changes to the ambient air monitoring requirements. EPA revised the minimum requirements for CO monitoring by requiring CO monitors to be collocated with one required near-road NO₂ monitor in CBSAs having a population of 1,000,000 or more persons. ADEM does not operate a near-road monitoring site or CO monitor. For more information regarding CO monitoring in Alabama refer to the JCDH Ambient Air Network Plan for details.

Lead (Pb) Network

In 2008, EPA revised the NAAQS for lead (Pb). The Pb standard was lowered from 1.5 ug/m³ for a quarterly average to 0.15 ug/m³ based on the highest rolling 3-month average over a 3-year period. EPA set minimum monitoring requirements for source and population oriented monitoring. Source oriented monitoring is required near sources that have Pb emissions ≥1 ton per year. Population oriented monitoring is required for CBSAs >500,000. In December 2010, EPA revised the Pb rule to require source-oriented monitors for sources greater than ½ ton per year (tpy) and stated that population oriented monitors would be located at NCore sites. In March 2016, EPA removed the requirement for Pb monitoring at NCore sites that were not located near a Pb emissions source.

After the initial 2010 ruling, two sources were identified that exceeded the 0.5 tpy threshold: Sanders Lead Company and the Anniston Army Depot. ADEM initially requested a monitoring waiver for the Anniston Army Depot because the Anniston Chemical Agent Disposal Facility, part of the Anniston Army Depot, primarily responsible for most of the lead emissions, was scheduled to be closed. Since 2012, this source's reported lead emissions have been below 0.50 tpy, as initially projected. These data were submitted to the NEI and are reflected in the 2014 and 2017 versions of the inventory. Since the facility is reporting below the threshold, no source monitoring or waiver is required per EPA (EPA correspondence from 12/7/2016).

Based on current 2017 emissions data or modeling, ADEM has only one source, Sanders Lead Company, Inc., located in Troy, Pike County, a Micropolitan statistical area, which emits greater than ½ ton of Pb per year. **Troy Lead, AQS ID 01-109-0003**, operated by ADEM, has been monitoring for Pb near that source since 1979. To meet QA requirements, collocated lead monitoring is also occurring at this site. New hi-vol TSP monitors will be installed this year with brushless motors. No additional changes are proposed for this network.

Nitrogen Dioxide (NO₂) Network

On January 22, 2010, the US EPA finalized the monitoring rules for Nitrogen Dioxide (NO₂). The rules require the placement of NO₂ monitors near a major road in each CBSA with a population ≥500,000 people and a second monitor is required near another major road in areas with either a CBSA population ≥2.5 million people, or one or more road segments with an annual average daily traffic (AADT) count ≥250,000 vehicles. For near road NO₂ monitoring, Birmingham-Hoover is the only MSA in Alabama with a population greater than 500,000. However, the population is less than 2.5 million and there are no road segments with AADT greater than 250,000 vehicles. The rules also require an NO₂ monitor to be placed in any urban area with a population greater than or equal to 1 million people to assess community-wide concentrations. Birmingham-Hoover is the only MSA in Alabama with a population greater than 1 million. Refer to the JCDH Ambient Air Network Plan for details. ADEM plans to begin monitoring NO₂ at **Ward, Sumter Co., AQS ID 01-119-0003**, for the purpose of collecting background data. ADEM requests an exclusion flag be placed on the data and the monitor be designated SPM while undergoing its evaluation period.

Ozone (O₃) Network

Effective December 28, 2015, the level of the NAAQS for ozone was changed from 0.075 to 0.070 ppm. To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.070 ppm. Minimum monitoring requirements for ozone are based on population and whether the design value is <85% of the NAAQS, or ≥85% of the NAAQS (See Table 3). Since the NAAQS for ozone is 0.070 parts per million of ozone, then 85% of the NAAQS truncated is **0.059** ppm. ADEM's Ozone Monitoring Sites and Design Values using 2019-2021 data are described in Table 4.

Table 3 SLAMS Minimum Ozone Monitoring Site Requirements

SLAMS MINIMUM OZONE MONITORING REQUIREMENTS		
	Most recent 3-year design value concentrations ≥85% of any O ₃ NAAQS ³	Most recent 3-year design value concentrations <85% of any O ₃ NAAQS ^{3,4}
MSA population ^{1, 2}		
>10 million	4	2
4–10 million	3	1
350,000–<4 million	2	1
50,000–<350,000 ⁵	1	0

1 Minimum monitoring requirements apply to the Metropolitan statistical area (MSA).

2 Population based on latest available census figures.

3 The ozone (O₃) National Ambient Air Quality Standards (NAAQS) levels and forms are defined in 40 CFR part 50.

4 These minimum monitoring requirements apply in the absence of a design value.

5 Metropolitan statistical areas (MSA) must contain an urbanized area of 50,000 or more population.

Table 4 ADEM Ozone Monitoring Sites and Design Values

Site Name	AQS ID	2019-2021 Design Values	MSA	MSA MAX DV ²	2021 Population Base
Helena ¹	01-117-0004	0.063	Birmingham-Hoover	0.066	1,114,262
Phenix City - South Girard School ¹	01-113-0003	0.057	Columbus, GA-AL	0.059	327,536
Fairhope	01-003-0010	0.058	Daphne-Fairhope-Foley	0.058	239,294
Decatur	01-103-0011	0.060	Decatur	0.060	156,758
Southside	01-055-0011	0.058	Gadsden	0.058	103,162
Chickasaw	01-097-0003	0.056	Mobile	0.056	428,220
Bay Road ⁴	01-097-2005	0.053			
Wetumpka Westside Technology ⁴	01-051-0004	0.053	Montgomery	0.058	385,798
MOMS, ADEM	01-101-1002	0.058			
Duncanville, Tuscaloosa	01-125-0010	0.055	Tuscaloosa	0.055	268,191
Ward, Sumter Co.	01-119-0003	0.054	not in MSA	N/A	NA
DV ≥ 85% of the NAAQS					
¹ Only site within MSA operated by ADEM					
² MSA MAX DV may be obtained from monitors not operated by ADEM					
⁴ Not enough valid data to meet completeness requirements to calculate the design value					

Ozone Monitoring Requirements for Alabama MSAs

Birmingham-Hoover MSA

Using the Birmingham-Hoover MSA 2021 population estimate and the design value from Table 4, two Ozone monitors are required in this MSA. ADEM operates **Helena, AQS ID 01-117-0004**, in Shelby County. Other ozone sites in this MSA are located within the jurisdiction of the JCDH. For more information regarding ozone monitoring in Jefferson County refer to the JCDH ambient air network plan. No changes to ADEM's site are planned.

Columbus, GA-AL MSA

Using the Columbus GA-AL MSA 2021 population estimate and the design value from Table 4, one Ozone monitor is required for this MSA. ADEM operates **Phenix City-South Girard School, AQS ID 01-113-0003**, in Russell County, Alabama. For more information regarding other ozone monitoring in this MSA, refer to the State of Georgia's ambient air network plan. No changes are planned.

Daphne-Fairhope-Foley MSA

Using the Daphne-Fairhope-Foley MSA 2021 population estimate and the design value from Table 4, zero Ozone monitors are required for this MSA. There is currently one Ozone site, **Fairhope, AQS ID 01-003-0010** in Baldwin County, Alabama. No changes are planned.

Decatur MSA

Using the Decatur MSA 2021 population estimate and the design value from Table 4, one Ozone monitor is required for this MSA. There is currently one Ozone site, **Decatur, AQS ID 01-103-0011**, in Morgan County, Alabama. No changes are planned.

Gadsden MSA

Using the Gadsden MSA 2021 population estimate and the design value from Table 4, zero Ozone monitors are required for this MSA. There is currently one Ozone site, **Southside, AQS ID 01-055-0011**, in Etowah County, Alabama. ADEM is requesting permission to close site (Appendix C).

Huntsville MSA

ADEM does not operate any ozone monitors in this MSA. For information regarding ozone monitoring in Huntsville refer to the HDNREM ambient air network plan.

Mobile MSA

Using the Mobile MSA 2021 population estimate and the design value from Table 4, one Ozone monitor is required for this MSA. There are currently two Ozone sites, **Chickasaw, AQS ID 01-097-0003**, and **Bay Road, 01-097-2005**, both in Mobile County, Alabama. No changes are planned.

Montgomery MSA

Using the Montgomery MSA 2021 population estimate and the design value from Table 4, one Ozone monitor is required for this MSA. There are currently two Ozone sites, **MOMS, ADEM, AQS ID 01-101-1002**, in Montgomery County, Alabama, and **Wetumpka Westside Technology Park, AQS ID 01-051-0004** in Elmore County, Alabama. No changes are planned.

Tuscaloosa MSA

Using the Tuscaloosa MSA 2021 population estimate and design value from Table 4, zero Ozone monitors are required for this MSA. **Duncanville, Tuscaloosa, AQS ID 01-125-0010** was closed upon completion of the 2021 ozone monitoring season. The new site, **Duncanville Middle School, AQS ID 01-125-0011**, located 1.3 miles west of the current location, began collecting ozone data at the beginning of the 2022 ozone monitoring season. ADEM requests a continuation of the data between the two sites for design value purposes. No changes are planned.

Anniston-Oxford and Auburn-Opelika MSAs

The MSAs of Auburn-Opelika and Anniston-Oxford were evaluated by ADEM during the 5-year assessment. It was determined that due to the close proximity of ozone monitors in the neighboring MSAs, additional ozone monitors would not be needed. Since these areas do not have design values, no ozone monitors are required by Appendix D of 40 CFR Part 58.

Sites not located in an MSA

Ward, Sumter Co., AQS ID 01-119-0003, represents rural, background ozone values for the state. The historical design values for this monitor have been less than 85% of the NAAQS. No changes are planned for ozone monitoring at this site.

PM_{2.5} Network

Minimum monitoring requirements for PM_{2.5} are based on population and whether the design value is <85% of the NAAQS, or ≥85% of the NAAQS (See Table 5). Additionally, a regional background site and a regional transport site are required.

Also, CBSAs with populations greater than one million but less than four million were required to operate a PM_{2.5} monitor at its NO₂ near road site by January 1, 2017. ADEM does not operate an NO₂ near road site. More information regarding this requirement in Alabama can be found in the JCDH ambient air network plan.

PM_{2.5} design values in Table 6 are based on 2019-2021 data. Design values must be less than **29.75** ug/m³ (85% of the NAAQS) to meet the 24-hour standard of 35 ug/m³ and less than **10.2** ug/m³ (85% of the NAAQS) to meet the annual standard of 12 ug/m³ (effective March 18, 2013).

Table 5 PM_{2.5} Minimum Monitoring Site Requirements

PM _{2.5} MINIMUM MONITORING REQUIREMENTS		
MSA population ^{1,2}	Most recent 3-year design value ≥85% of any PM _{2.5} NAAQS ³	Most recent 3-year design value <85% of any PM _{2.5} NAAQS ^{3,4}
>1,000,000	3	2
500,000–1,000,000	2	1
50,000–<500,000 ⁵	1	0

1 Minimum monitoring requirements apply to the Metropolitan statistical area (MSA).

2 Population based on latest available census figures.

3 The PM_{2.5} National Ambient Air Quality Standards (NAAQS) levels and forms are defined in 40 CFR part 50.

4 These minimum monitoring requirements apply in the absence of a design value.

5 Metropolitan statistical areas (MSA) must contain an urbanized area of 50,000 or more population.

Section 4.7.2 of Appendix D of 40 CFR Part 58 requires a collocated continuous PM_{2.5} monitor in each MSA that is required to have a FRM monitor. The number of collocated continuous monitors required for an MSA will be equal to at least half of the required FRM monitors for that MSA. This is not required if the continuous monitor is a FEM that is labeled as the primary and comparable to the NAAQS. The state is also required to operate PM_{2.5} speciation monitors to characterize the constituents of PM_{2.5}. The number of speciation monitors is determined by EPA Region IV.

Currently, there are no MSA's in Alabama that meet the population and design value criteria to require PM_{2.5} FRM monitoring. Continuous PM_{2.5} monitors satisfy the reporting requirement to AirNow. Every Alabama MSA with the exception of Birmingham-Hoover has a population less than 500,000 and design values <85% of the NAAQS for either the 24-hour or annual standard.

ADEM's PM_{2.5} Network is described in Table 6.

Table 6 ADEM PM_{2.5} Monitoring Sites and Design Values

Site Name	AQS Site ID	PM _{2.5} 24 hr DV 2019- 2021	PM _{2.5} Annual DV 2019- 2021	MSA	24hr MSA MAX DV ²	Annual MSA MAX DV ²	2020 Population Base
Phenix City - South Girard School ¹	01-113-0003	22	9.3	Columbus GA-AL ³	24	9.3	328,883
Fairhope	01-003-0010	15	7.6	Daphne-Fairhope-Foley	15	7.6	231,767
Decatur	01-103-0011	14	7.3	Decatur	14	7.3	156,494
Gadsden C College	01-055-0010	20	8.2	Gadsden	20	8.2	103,436
Chickasaw	01-097-0003	16	8.0	Mobile	16	8.0	430,197
MOMS, ADEM	01-101-1002	19	8.2	Montgomery	19	8.2	386,047
VA, Tuscaloosa	01-125-0004	17	7.7	Tuscaloosa	17	7.7	268,674
Ashland (Background/Regional Transport)	01-027-0001	15	7.0	Not in MSA	NA	NA	NA
Crossville (Background)	01-049-1003	17	7.5	Not in MSA	NA	NA	NA
Ward (Background) ⁴	01-119-0003	*	*	Not in MSA	NA	NA	NA
DV ≥ 85% of the NAAQS							
¹ Only site within MSA operated by ADEM							
² MSA MAX DV may be obtained from monitors not operated by ADEM.							
³ Two Georgia monitors are lacking enough valid data to meet completeness requirements to calculate design value.							
⁴ Not enough data to calculate design value							

PM_{2.5} Monitoring Requirements for Alabama MSAs

Birmingham-Hoover MSA

ADEM does not operate PM_{2.5} monitors in the Birmingham-Hoover MSA. For more information regarding PM_{2.5} monitoring in this MSA refer to the JCDH ambient air network plan.

Columbus, GA-AL MSA

Using the Columbus, GA-AL MSA 2021 population base and the design value from Table 6, zero FRM monitors are required. ADEM operates one FEM monitor, one collocated FRM monitor, and one speciation monitor at **Phenix City – South Girard School, AQS ID 01-113-0003**. The FEM continuous monitor is the designated primary monitor and the collocated FRM monitor operates on a 1 in 6 day frequency for quality assurance. For more information regarding other PM_{2.5} monitoring in this MSA refer to the State of Georgia’s ambient air network plan.

Daphne-Fairhope-Foley MSA

Using the Daphne-Fairhope-Foley MSA 2021 population base and the design value from Table 6, zero FRM monitors are required. There is currently one FRM monitor located at **Fairhope, AQS ID 01-003-0010**. The FRM monitor is planned to be replaced by a continuous FEM BAM-1022 PM_{2.5} monitor.

Decatur MSA

Using the Decatur MSA 2021 population base and the design value from Table 6, zero FRM monitors are required. There is currently one FRM monitor and one FEM continuous monitor located at **Decatur, AQS ID 01-103-0011**. The FEM continuous monitor is an API T-640 that will complete its 2-year evaluation period on August 1, 2022.

Gadsden MSA

Using the Gadsden MSA 2021 population base and the design value from Table 6, zero FRM monitors are required. Due to supply chain issues to obtain replacement parts, the FRM monitor was replaced with an FEM BAM-1022 PM_{2.5} on December 3, 2020 at **Gadsden Community College, AQS ID 01-055-0010**. No changes are planned.

Huntsville MSA

ADEM does not operate PM_{2.5} monitors in the Huntsville MSA. For information regarding PM_{2.5} monitoring in this MSA refer to the HDNREM ambient air network plan.

Mobile MSA

Using the Mobile MSA 2021 population base and the design value from Table 6, zero FRM monitors are required. There is currently one FRM monitor and one non-FEM continuous monitor located at **Chickasaw, AQS ID 01-097-0003**. Both the non-FEM continuous BAM 1020 and the FRM monitor are planned to be replaced by one continuous FEM BAM-1022 PM_{2.5} monitor. This is just a change of equipment, PM will continue to be monitored at this site.

Montgomery MSA

Using the Montgomery MSA 2021 population base and the design value from Table 6, zero FRM monitors are required. There is currently one FRM monitor, one collocated FRM monitor, and one non-FEM continuous monitor located at **MOMS, ADEM, AQS ID 01-101-1002**. The non-FEM

continuous BAM-1020 and one FRM monitor are planned to be replaced by one continuous FEM BAM 1022 PM_{2.5} monitor. One FRM monitor will remain to operate on a 1 in 6 day frequency for quality assurance. The collocated FRM may switch to a collocated FEM to meet regulatory collocation requirements as needed.

Tuscaloosa MSA

Using the Tuscaloosa MSA 2021 population base and the design value from Table 6, zero FRM monitors are required. There is currently one FRM monitor and one collocated FRM monitor located at **VA, Tuscaloosa, AQS ID 01-125-0004**. The primary FRM sampler will be replaced with an FEM BAM-1022 continuous sampler. The collocated FRM sampler at this site will be shut down on December 31, 2022, as it is no longer needed to meet regulatory collocation requirements. ADEM also proposes to move PM_{2.5} sampling in this MSA to Duncanville Middle School, AQS ID 01-125-0011 (Appendix B).

Anniston-Oxford and Auburn-Opelika MSAs

The MSAs of Anniston-Oxford and Auburn-Opelika were evaluated to determine the need for monitors during the 5-yr network review. It was determined that due to the close proximity of PM_{2.5} monitors in neighboring MSAs, additional monitors would not be needed. PM_{2.5} monitoring in the adjacent MSAs continue to provide adequate coverage. Since these areas do not have design values, no FRM monitors are required by Appendix D of 40 CFR Part 58.

PM_{2.5} Monitors not located in MSAs

Ashland, AQS ID 01-027-0001, serves as a regional transport site in between the large MSAs of Birmingham-Hoover, Alabama and Atlanta-Sandy Springs-Roswell, Georgia using one FRM monitor. The FRM monitor is planned to be replaced by a continuous FEM BAM-1022 PM_{2.5} monitor.

Crossville, AQS ID 01-049-1003, represents rural, background PM_{2.5} values for the northeast part of the state using one FRM monitor. The FRM monitor is planned to be replaced by a continuous FEM BAM-1022 PM_{2.5} monitor.

Ward, Sumter Co., AQS ID 01-119-0003, represents rural, background PM_{2.5} values for the west part of the state using one continuous FEM BAM-1022. No changes are planned.

PM₁₀ Network

PM₁₀ has been a criteria pollutant since 1987. Since that time there has been widespread monitoring of the PM₁₀ levels in Alabama. In 2006, the U.S. EPA modified the NAAQS for PM₁₀ to revoke the annual standard. Currently, there is a daily standard of 150 ug/m³ based on 3 years of data.

The Montgomery MSA has a population between 250,000 and 500,000 and PM₁₀ concentrations are less than 80% of the NAAQS daily standard. According to Table D-4 of Appendix D to Part 58, 0 to 1 PM₁₀ monitors are required. In the Montgomery MSA, ADEM operates two low-volume PM₁₀ monitors on a 1 in 6 day schedule at MOMS, ADEM, AQS ID 01-101-1002, one being the collocated quality assurance monitor. No changes are planned.

ADEM is working with EPA to fund and set up a new PM₁₀ site in the Mobile area. The new site will be suitable for NAAQS comparability and adhere to proper siting and monitoring guidelines as found in 40 CFR 58, Appendices A, C, D and E, as appropriate.

Sulfur Dioxide (SO₂) Network

Effective August 23, 2010, EPA strengthened the primary NAAQS for SO₂. EPA established a new 1-hour standard at 75 ppb, based on the 3-year average of the annual 99th percentile of 1-hour daily maximum concentrations. According to EPA, for a short-term 1-hour SO₂ standard, it is more technically appropriate, efficient, and effective to use modeling as the principal means of assessing compliance for medium to larger sources, and to rely more on monitoring for groups of smaller sources and sources not as conducive to modeling. Such an approach is consistent with EPA's historical approach and longstanding guidance for SO₂. EPA is setting specific minimum requirements that inform states on where they are required to place SO₂ monitors. The final monitoring regulations require monitors to be placed in Core Based Statistical Areas (CBSAs) based on a Population Weighted Emissions Index (PWEI) for the area. The final rule requires:

- 3 monitors in CBSAs with PWEI values $\geq 1,000,000$ or more;
- 2 monitors in CBSAs with PWEI values $< 1,000,000$ but $> 100,000$; and
- 1 monitor in CBSAs with PWEI values $> 5,000$.

According to the latest PWEI calculations listed in Table 7 only the Birmingham-Hoover MSA requires SO₂ monitoring. ADEM operates two SO₂ monitors: **Chickasaw, AQS ID 01-097-0003**, for the Mobile MSA and **Ward, Sumter Co., AQS ID 01-119-0003**, not located in an MSA, for background purposes. For more information regarding SO₂ monitoring in the Birmingham-Hoover MSA refer to the JCDH ambient air monitoring network plan.

Effective September 21, 2015, the SO₂ Data Requirements Rule (DRR) per 40 CFR Part 51, requires states to report all sources that generate $> 2,000$ tpy SO₂, not dependent upon population density. Each source in this category must characterize air quality through air quality modeling or ambient air monitoring. Sources that model must provide an annual report located in Appendix D) Each source that chooses monitoring must operate their site equivalent with the SLAMS requirements of 40 CFR Part 58. Lhoist North America of Alabama, LLC – Montevallo Plant, located within the Birmingham-Hoover MSA, has monitored SO₂ in accordance with the DRR since January 1, 2017. The site is **Lhoist, Montevallo Plant, AQS ID 01-117-9001**, and operates within ADEM's PQAQ.

Table 7 SO₂ Minimum Monitoring Site Requirements

SO₂ Population Weighted Emissions Index (PWEI) Calculations using 2020 Census Base and 2017 National Emissions Inventory (NEI) v2

CBSA Name	2017 NEI v2 SO₂ (tpy)	Population (2020)	PWEI in Million persons-tpy	Required Monitors
Birmingham-Hoover	19,971	1,115,289	22,273	2
Mobile	7,948	430,197	3,419	0
Florence-Muscle Shoals	160	150,791	24	0
Albertville	33	97,612	3	0
Anniston-Oxford- Jacksonville	141	116,441	16	0
Auburn-Opelika	155	174,241	27	0
Columbus, GA-AL	3,571	328,883	1,174	0
Cullman	62	87,866	5	0
Daphne-Fairhope- Foley	167	231,767	39	0
Decatur	1,834	156,494	287	0
Dothan	201	151,007	30	0
Enterprise	87	53,465	5	0
Gadsden	39	103,436	4	0
Huntsville	173	491,723	85	0
Montgomery	2,415	386,047	932	0
Ozark	125	49,326	6	0
Scottsboro	721	52,579	38	0
Selma	125	38,462	5	0
Talladega-Sylacauga	226	82,149	19	0
Troy	8,141	33,009	269	0
Tuscaloosa	474	268,674	127	0
Valley	88	no data	0	0

Quality Assurance

ADEM has an EPA-approved Quality Assurance Program Plan (QAPP) that details the activities used to control and document the quality of the data collected. ADEM is an independent Primary Quality Assurance Organization (PQAO) as defined by 40 CFR Part 58. Part of the EPA-required quality control program for particulate monitoring is the use of collocated particulate monitors. 40 CFR Part 58, Appendix A requires a percentage of manual particulate monitors to be collocated with FRM monitors so that quality statistics can be calculated. ADEM includes monitors for this purpose.

ADEM AAQMP Pollutant Network Tables

A description of ADEM's ambient air monitoring network, followed by detailed site evaluations, will be presented in this section.

Included will be:

- Site Common Name
- County/CBSA
- AQS ID
- Address
- Latitude and Longitude
- Monitoring Objective/Scale
- Beginning and Ending Sampling Date
- Method, Method Code and Operating Schedule
- Comparability to the NAAQS

Lead

Site Common Name	County/CBSA	AQS ID	Address	Latitude	Longitude	Monitoring Objective / Scale	Date Began	Date Ended	Method, Method Code and Schedule	NAAQS SOA/N
Troy Lead	Pike/Troy μ SA	01-109-0003	Henderson Road, Troy	31.790479	-85.978974	Highest Concentration / Neighborhood	1/1/1979	active	Hi-Vol 813, 6	Y
Hi-Vol = Hi-Volume Total Suspended Particulate G = Lead Analysis by Graphite Furnace 6 = 24 hours every 6th day										

Ozone

Site Common Name	County/CBSA	AQS ID	Address	Latitude	Longitude	Monitoring Objective / Scale	Date Began	Date Ended	Method, Method Code and Schedule	NAAQS
Fairhope	Baldwin/Daphne-Fairhope-Foley MSA	01-003-0010	Fairhope High School, Fairhope	30.497478	-87.880258	Population Exposure/ Neighborhood	3/1/2000	active	U, 087, C	Y
Wetumpka Westside Technology Park	Elmore/Montgomery MSA	01-051-0004	3148 Elmore Road, Wetumpka	32.53568	-86.255193	Highest Concentration/ Urban	3/1/2018	active	U, 087, C	Y
Southside	Etowah/Gadsden MSA	01-055-0011	1450 Parker Anderson Lane, Southside	33.904039	-86.053867	Highest Concentration/ Neighborhood	4/26/2002	active	U, 087, C	Y
Chickasaw	Mobile/Mobile MSA	01-097-0003	Iroquois and Azalea Chickasaw	30.770181	-88.087761	Population Exposure/ Neighborhood	3/2/1982	active	U, 087, C	Y
Bay Road	Mobile/Mobile MSA	01-097-2005	Bay Road, Mobile	30.474305	-88.141022	Population Exposure and Highest Concentration/	3/1/1999	active	U, 087, C	Y
MOMS, ADEM	Montgomery/ Montgomery MSA	01-101-1002	1350 Coliseum Blvd, Montgomery	32.412811	-86.263394	Population Exposure/ Neighborhood	6/2/1993	active	U, 087, C	Y
Decatur	Morgan/Decatur MSA	01-103-0011	Wallace Development Center, Decatur	34.530717	-86.967536	Population Exposure/ Urban	4/1/2000	active	U, 087, C	Y
Phenix City - South Girard	Russell/Columbus GA-AL MSA	01-113-0003	510 6th Place South, Phenix City	32.437028	-84.999653	Highest Concentration/ Urban	3/1/2018	active	U, 087, C	Y
Helena	Shelby/Birmingham-Hoover MSA	01-117-0004	Bearden Farm, Helena	33.317142	-86.825754	Population Exposure/ Urban	1/1/1983	active	U, 087, C	Y
Ward, Sumter Co.	Sumter/no MSA	01-119-0003	NNE of Ward Post Office	32.362606	-88.277992	General/Background/ Regional	3/1/2013	active	U, 087, C	Y
Duncanville, Tuscaloosa	Tuscaloosa/Tuscaloosa MSA	01-125-0010	11690 Southfork Drive, Duncanville	33.089772	-87.459733	Population Exposure/ Urban	3/1/2001	10/31/2021	U, 087, C	Y
Duncanville Middle	Tuscaloosa/Tuscaloosa MSA	01-125-0011	11205 Eagle Pkwy, Duncanville	33.095379	-87.481501	Population Exposure/ Urban	3/1/2022	active	U, 087, C	Y

U = UV Photometric Ozone Analyzer C = Continuous

PM2.5

AQS ID	Site Common Name	County/CBSA	Address	Latitude	Longitude	Monitoring Objective/Scale	Date Began	Date Ended	Method, Method Code and Schedule	NAAQS
01-003-0010	Fairhope	Baldwin/Daphne-Fairhope-Foley MSA	Fairhope High School, Fairhope	30.497478	-87.880258	Population Exposure/ Neighborhood	1/1/2000	active	L, 145, 3	Y
01-027-0001	Ashland	Clay/no MSA	Ashland Airport, Ashland	33.284928	-85.803608	Regional Transport/ Regional	1/1/1999	active	L, 145, 3	Y
01-049-1003	Crossville	DeKalb/no MSA	13112 Hwy 68, Crossville	34.288567	-85.969858	General/Background/ Neighborhood	1/1/1999	active	L, 145, 3	Y
01-055-0010	Gadsden C College ²	Etowah/ Gadsden MSA	1001 Wallace Drive, Gadsden	33.991494	-85.992647	Population Exposure/ Urban	1/1/2000	active	B, 209, C	Y
01-097-0003	Chickasaw	Mobile/Mobile MSA	Iroquois and Azalea, Chickasaw	30.770181	-88.087761	Population Exposure/ Regional	7/19/2002	active	L, 145, 3	Y
							1/1/2011	active	B, 731, C	N
01-101-0002	MOMS, ADEM	Montgomery/ Montgomery MSA	1350 Coliseum Blvd, Montgomery	32.412811	-86.263394	Population Exposure/ Neighborhood	1/16/2009	active	L, 145, 3	Y
							1/16/2009	active	L, 145, 6	Y
							4/1/2009	active	B, 731, C	N
01-103-0011	Decatur ¹	Morgan/Decatur MSA	Wallace Ctr.Hwy 31, Decatur	34.530717	-86.967536	Population Exposure/ Middle	8/7/2001	active	L, 145, 3	Y
01-113-0003	Phenix City - S. Girard School	Russell/Columbus GA-AL MSA	510 6th Place South, Phenix City	32.437028	-84.999653	Highest Concentration/ Urban	9/18/2017	active	B, 209, C	Y
							1/18/2017	active	L, 145, 6	Y
01-119-0003	Ward, Sumter Co.	Sumter/no MSA	NNE of Ward Post Office, Ward	32.362606	-88.277992	General/Background/ Regional	1/1/2021	active	B, 209, C	Y
01-125-0004	VA, Tuscaloosa	Tuscaloosa/ Tuscaloosa MSA	3701 Loop Road East, Tuscaloosa	33.189931	-87.484189	Population Exposure/ Neighborhood	10/1/2002	active	L, 145, 3	Y
							1/1/2021	active	L, 145, 6	Y

B = Beta Attenuation Monitor L = Low Volume Sequential Sampler T = T640 3 = 24 hours every 3rd day 6 = 24 hours every 6th day C = Continuous

1. Decatur - 2-year evaluation period on the T640 continuous monitor.

2. Gadsden C College - Method changed on 12/03/2021.

PM10

Site Common Name	County / CBSA	AQS ID	Address	Latitude	Longitude	Monitoring Objective / Scale	Date Began	Date Ended	Method, Method Code and Schedule	NAAQS
MOMS, ADEM	Montgomery / Montgomery MSA	01-101-1002	1350 Coliseum Blvd, Montgomery	32.412811	-86.263394	Population Exposure / Neighborhood	9/16/1993	active	L, 127, 6	Y
						Quality Assurance / Neighborhood	1/1/2013	active	L, 127, 6	Y

L = Low Volume Sequential Sampler 6 = 24 hours every 6th day

SO₂

Site Common Name	County / CBSA	AQS ID	Address	Latitude	Longitude	Monitoring Objective / Scale	Date Began	Date Ended	Method, Method Code and Schedule	NAAQS
Chickasaw	Mobile / Mobile MSA	01-097-0003	Iroquois And Azalea, Chickasaw	30.76972	-88.0875	Population Exposure / Neighborhood	1/1/2013	active	P, 100, C	Y
Lhoist	Shelby / Birmingham-Hoover MSA	01-117-9001	7444 St. Hwy 25, Calera	33.0928	-86.8072	High Concentration – SO2 DRR / Middle	1/1/2017	active	P, 100, C	Y
Ward	Sumter / no MSA	01-119-0003	NNE of Ward Post Office, Ward	32.362606	-88.277992	General/Background / Regional	1/1/2018	active	P, 100, C	Y

P = Pulsed Fluorescent C = Continuous

NO₂

Site Common Name	County / CBSA	AQS ID	Address	Latitude	Longitude	Monitoring Objective / Scale	Proposed Beginning Date	Date Ended	Method, Method Code and Schedule	NAAQS
Ward	Sumter / no MSA	01-119-0003	NNE of Ward Post Office, Ward	32.362606	-88.277992	General/Background / Regional	TBD		CAP, 212, C	N

CAP = Cavity Attenuated Phase Shift C = Continuous

Appendix A

Site Assessments

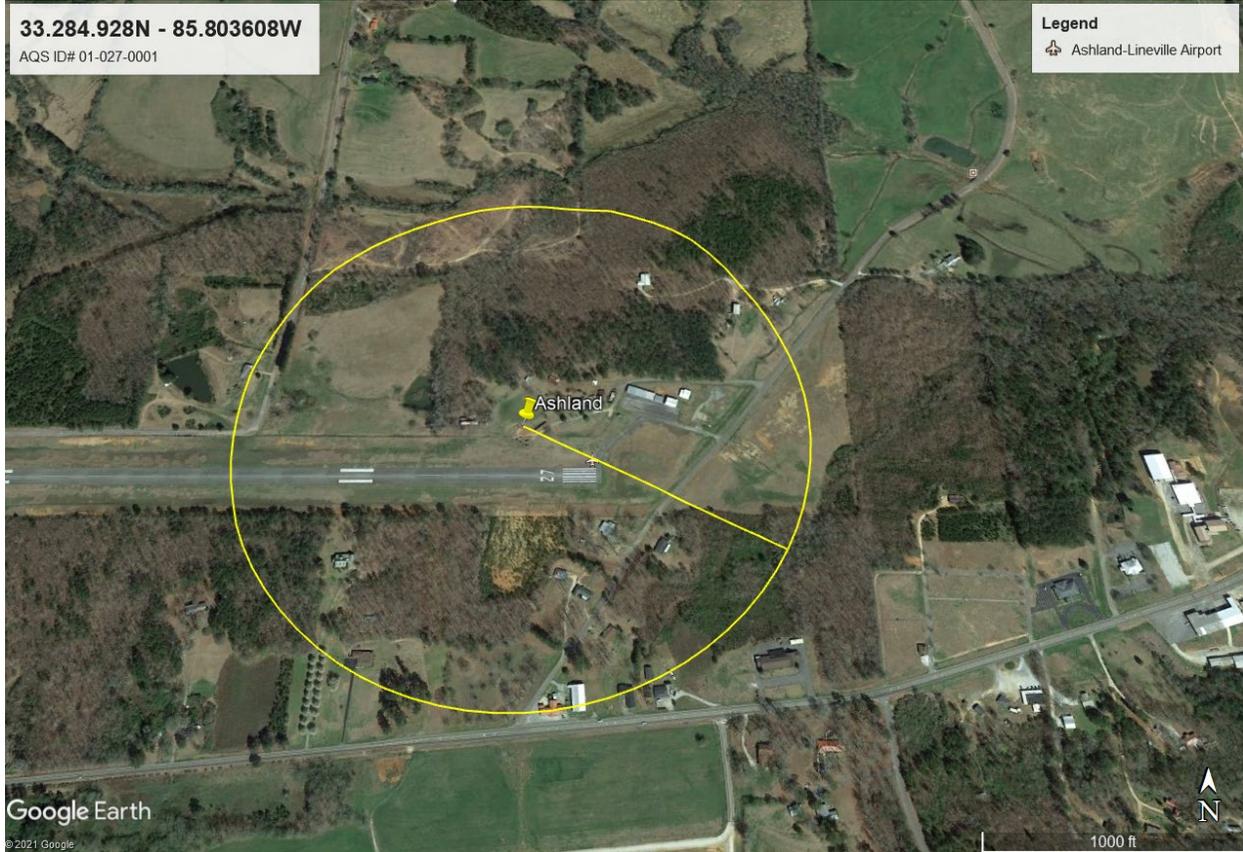
All of ADEM's sites meet the requirements of 40 CFR 58, Appendices A, C, D and E, as appropriate. The following issues were observed during site evaluations and any corrective actions noted.

Table 8 Issues observed during site assessments

Site	Issue	Correction
Chickasaw AQS ID 01-097-0003	Tree dripline was less than 10m from the PM 2.5 FRM Inlet Head	All tree foliage was removed.

ASHLAND
Ashland Airport, Ashland, Clay County

AQS ID 01-027-0001
33.284928, -85.803608



MSA: N/A

227.01 m to Airport Road

Property Type: Residential (private)

NORTH

SOUTH

EAST

WEST



Parameter	Monitoring Objective/Scale	Schedule	Start Date	AQS Method Code	Probe/Rain Shield Material	Probe Inlet Height from ground	Distance from probe to supporting structure	Distance from probe to nearest tree dripline	Height of nearest tree/ Direction from probe to tree
PM 2.5	Regional Transport/Regional	Every 3 days	01/01/1999	145	Inlet Head	2.0 m	N/A	34.01 m	11.2 m East

This site meets all requirements of 40 CFR Part 58.

Evaluation Date: 03/16/2022

BAY ROAD

Bay Road, Theodore, Mobile County

AQS ID 01-097-2005

30.474305, -88.141022



MSA: Mobile

205 m to Bay Road

Property Type: Agricultural (county)

NORTH

SOUTH

EAST

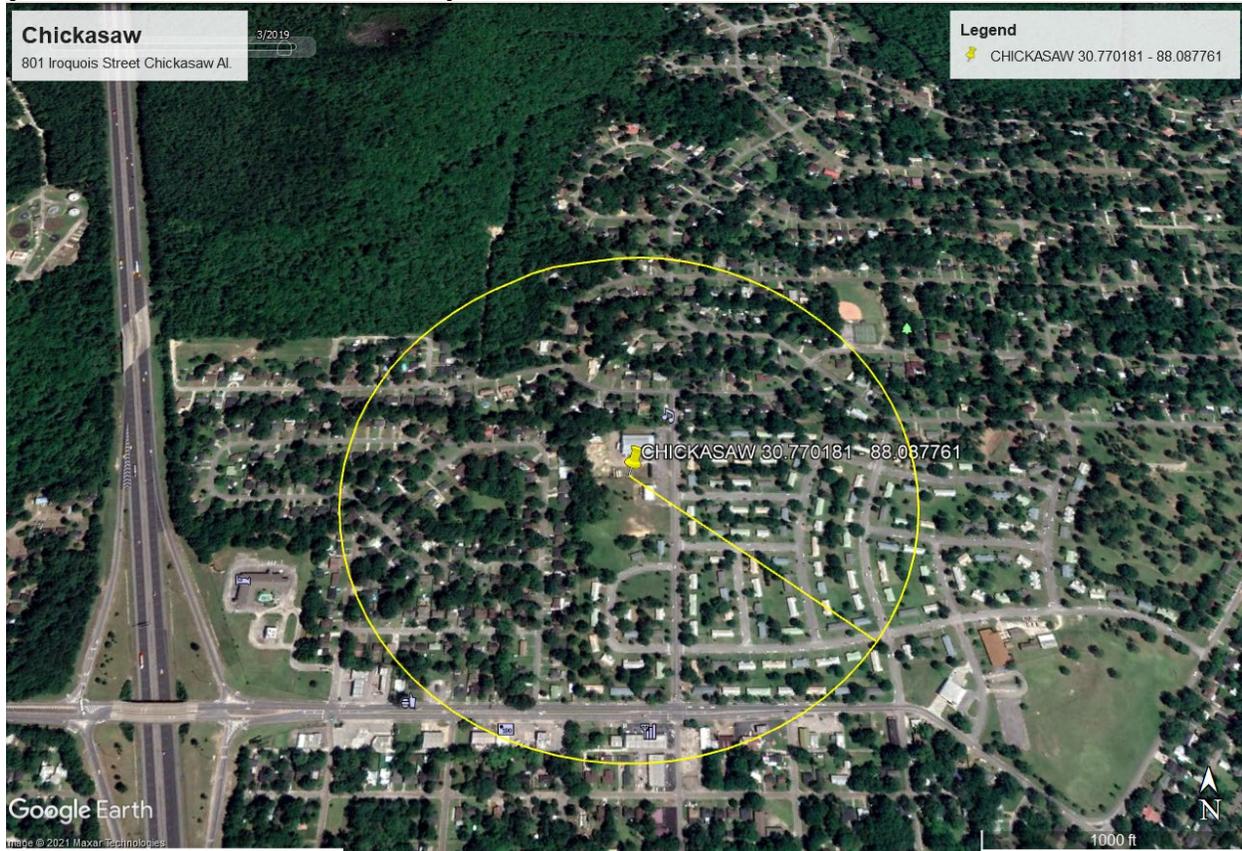
WEST



Parameter	Monitoring Objective/ Scale	Schedule	Start Date	AQS Method Code	Probe/Rain Shield Material	Probe Inlet Height from ground	Distance from probe to supporting structure	Distance from probe to nearest tree dripline	Height of nearest tree/ Direction from probe to tree
Ozone	Population Exposure and Highest Concentration/ Urban	Continuous	03/01/1999	087	Teflon	4.4m	1.2m	34.7 m	14.2 m South

This site meets all requirements of 40 CFR Part 58.

Evaluation Date: 05/05/2022



MSA: Mobile

58.9 m from Iroquois St

Property Type: Commercial (city)

NORTH

SOUTH

EAST

WEST



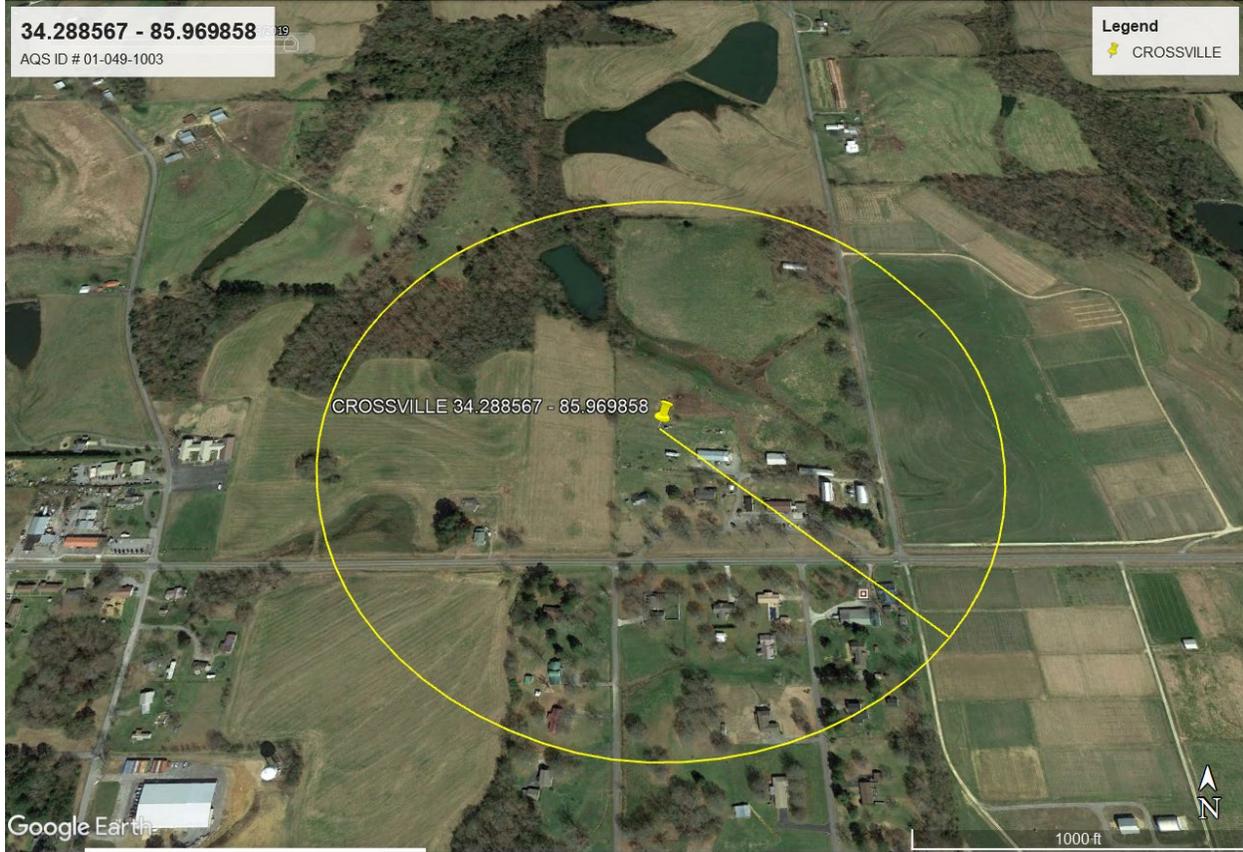
Parameter	Monitoring Objective/ Scale	Schedule	Start Date	AQS Method Code	Probe/Rain Shield Material	Probe Inlet Height from ground	Distance from probe to supporting structure	Distance from probe to nearest tree dripline	Height of nearest tree/ Direction from probe to tree
Ozone	Population Exposure/ Neighborhood	Continuous	03/02/1982	087	Teflon/ Teflon	4.3m	1.2 m	11.5 m	4.9 m Southwest
SO2			01/01/2013	100	Teflon/ Teflon	4.8m	1.7 m	14.0 m	
BAM 2.5	Population Exposure/ Regional	Continuous	01/01/2015	731	Inlet Head	5.2m	2.1 m	14.0 m	
PM 2.5		Once every 3 days	07/19/2002	145	Inlet Head	2.1m	N/A	7.3 m	

All tree foliage west of the shelter was removed within 14 days of this evaluation.

Evaluation Date: 05/04/2022

CROSSVILLE
 13112 Highway 68, Crossville, DeKalb County

AQS ID 01-049-1003
 34.288567, -85.969858



μSA: Fort Payne

172.2 m from Hwy 68

Property Type: Agricultural

NORTH

SOUTH

EAST

WEST



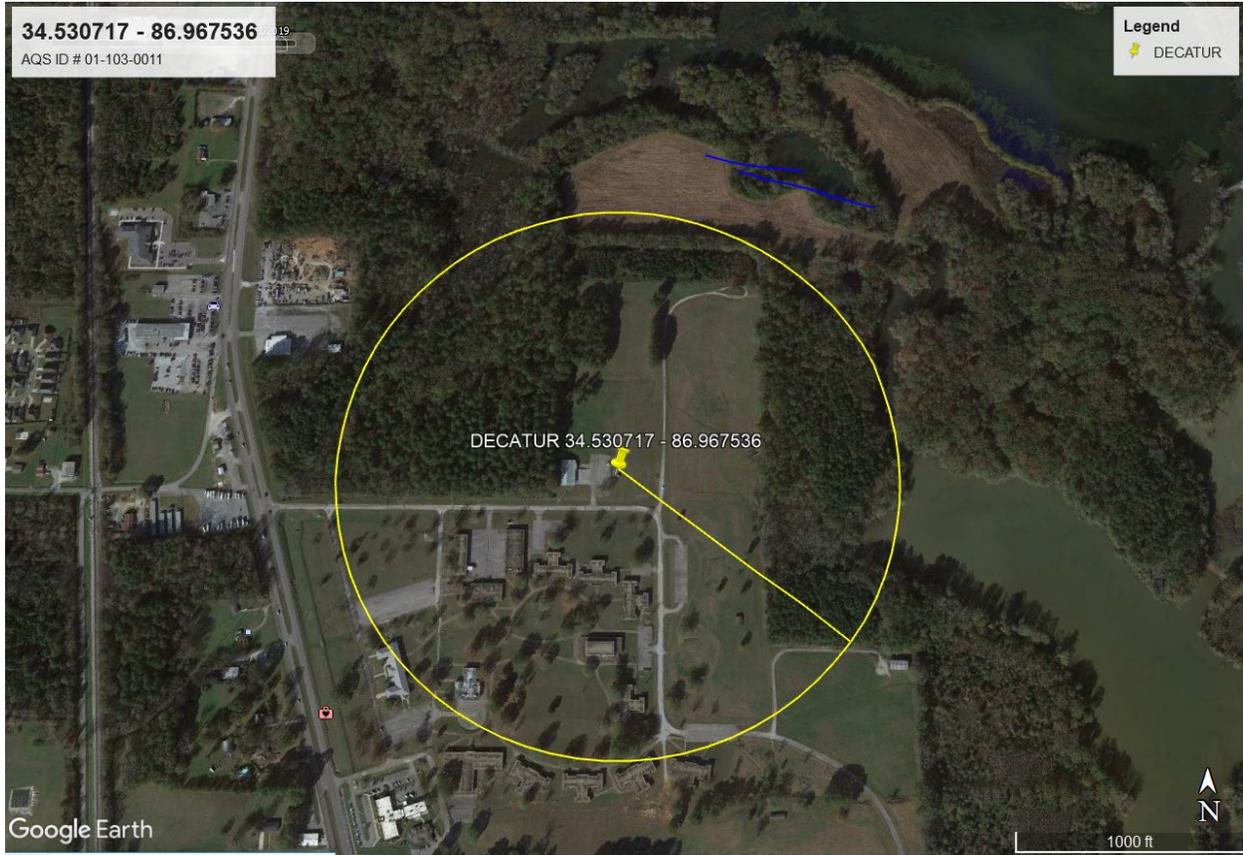
Parameter	Monitoring Objective/ Scale	Schedule	Start Date	AQS Method Code	Probe/Rain Shield Material	Probe Inlet Height from ground	Distance from probe to supporting structure	Distance from probe to nearest tree dripline	Height of nearest tree/ Direction from probe to tree
PM 2.5	General Background/ Neighborhood	Every 3 days	10/01/2002	145	Inlet Head	2.0 m	N/A	23.1 m	11.0 m East

This site meets all requirements of 40 CFR Part 58.

Evaluation Date: 04/13/2022

DECATUR
JH Crow Drive, Decatur, Morgan County

AQS ID 01-103-0011
34.530717, -86.967536



MSA: Decatur
NORTH

43m to Private Drive 507.37 m to Hwy 31
SOUTH

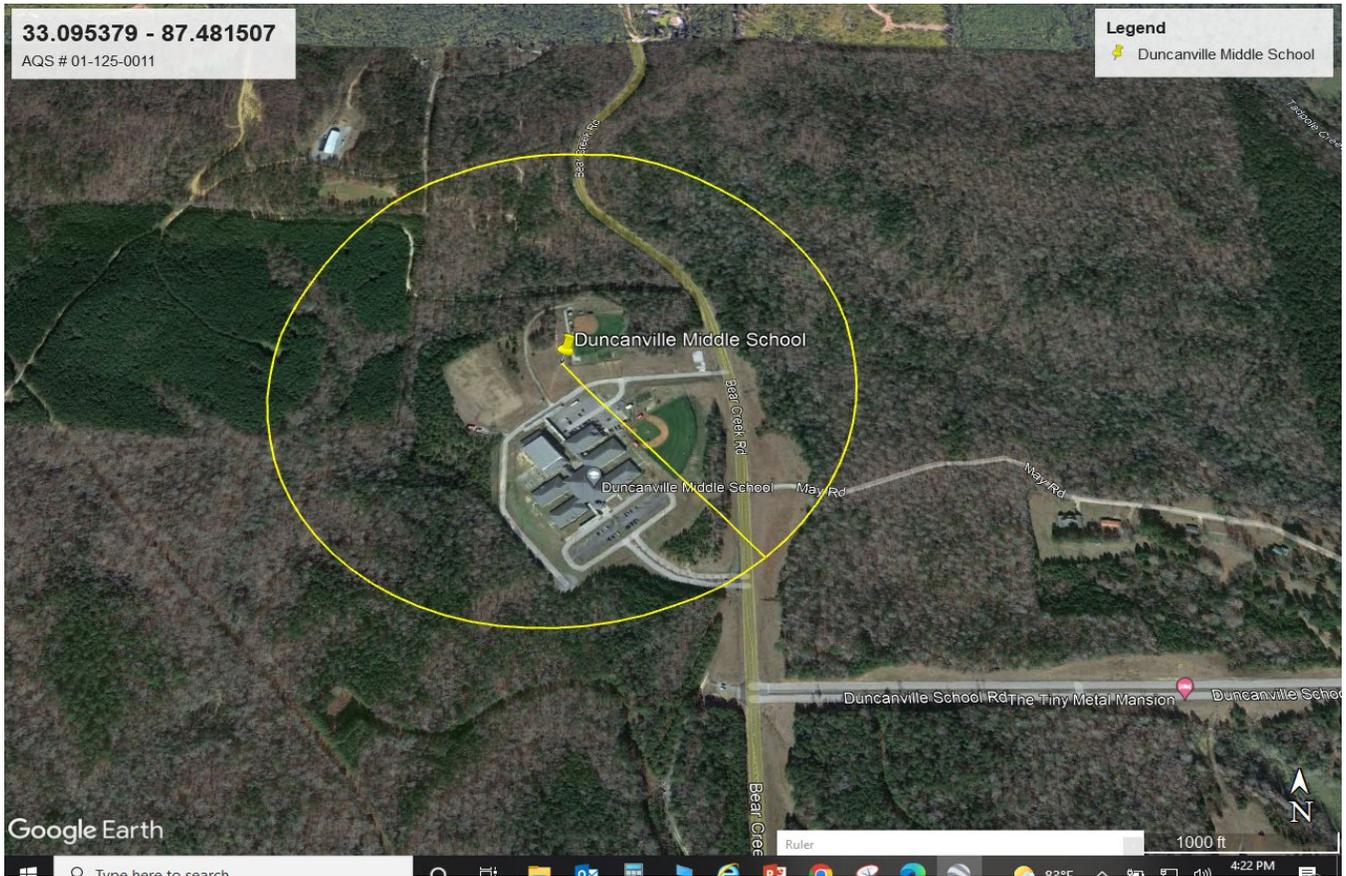
EAST **WEST**
 Property Type: Commercial



Parameter	Monitoring Objective/ Scale	Schedule	Start Date	AQS Method Code	Probe/Rain Shield Material	Probe Inlet Height from ground	Distance from probe to supporting structure	Distance from probe to nearest tree dripline	Height of nearest tree/ Direction from probe to tree
Ozone	Population Exposure/Urban	Continuous	04/01/2000	047	Teflon/ Teflon	4.3 m	1.7 m	21.7m	14.8 m Southwest
T640 2.5	Population Exposure/Middle	Continuous	08/01/2020	236	Inlet Head	4.7 m	2.1 m	24.1m	
PM 2.5		Every 3 days	08/07/2001	145	Inlet Head	4.6 m	2.1 m	23.2 m	

This site meets all requirements of 40 CFR Part 58.

Evaluation Date: 04/13/2022



MSA: Tuscaloosa

43m to school drive 200+m to Bear Creek Road

Property Type: Commercial

NORTH

SOUTH

EAST

WEST



Parameter	Monitoring Objective/ Scale	Schedule	Start Date	AQS Method Code	Probe/Rain Shield Material	Probe Inlet Height from ground	Distance from probe to supporting structure	Distance from probe to nearest tree dripline	Height of nearest tree/ Direction from probe to tree
Ozone	Population Exposure/ Urban	Continuous	03/02/2022	087	Teflon	4.43 m	1.68 m	28.27 m	7.6 m Northwest

This site meets all requirements of 40 CFR Part 58.

Evaluation Date: 3-28-2022

FAIRHOPE

1 Pirate Drive, Fairhope, Baldwin County

AQS ID 01-003-0010

30.497478, -87.880258



MSA: Daphne-Fairhope-Foley

438.0 m from Pirate Drive

Property Type: Commercial (county)

NORTH

SOUTH

EAST

WEST



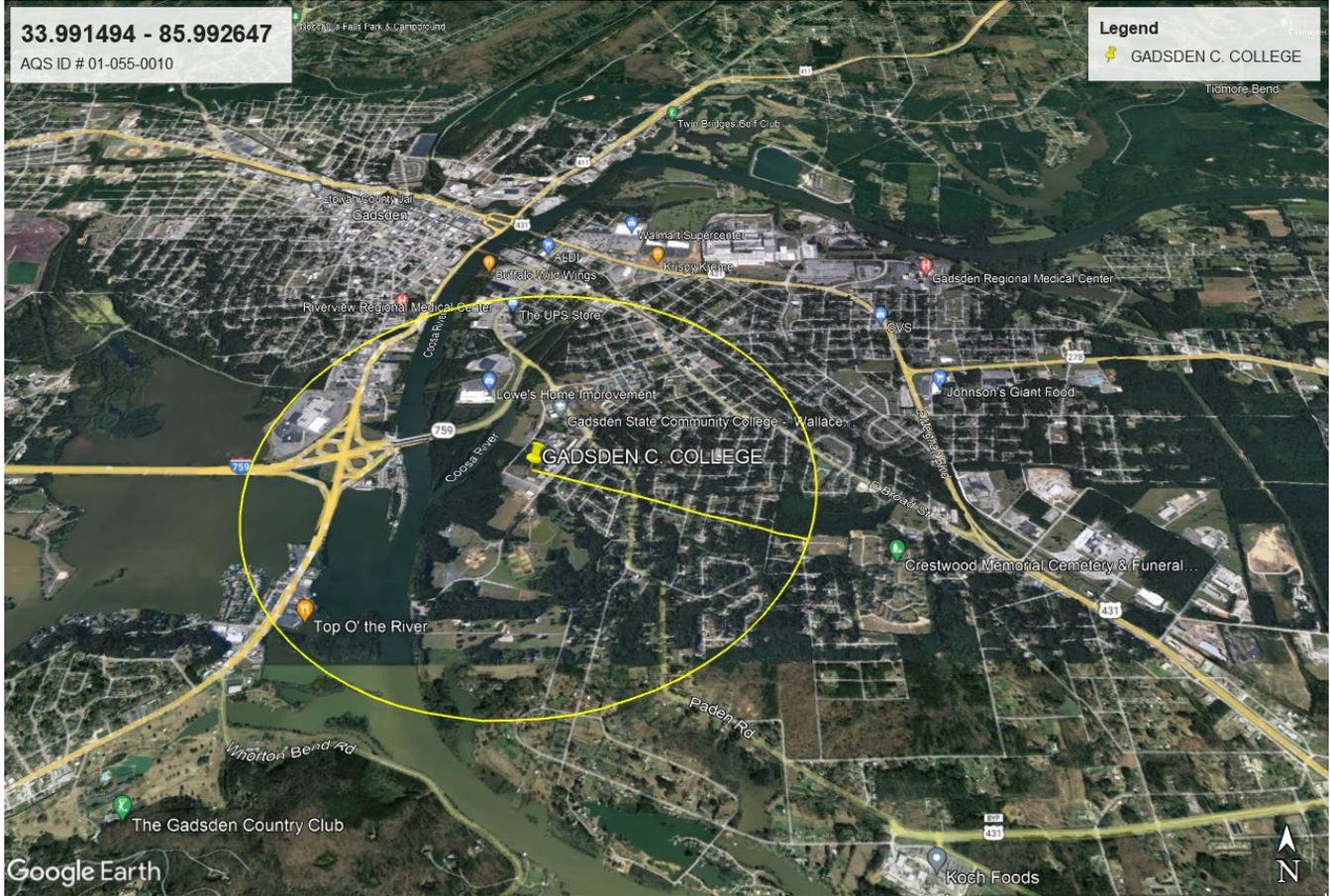
Parameter	Monitoring Objective/ Scale	Schedule	Start Date	AQS Method Code	Probe/Rain Shield Material	Probe Inlet Height from ground	Distance from probe to supporting structure	Distance from probe to nearest tree dripline	Height of nearest tree/ Direction from probe to tree
Ozone	Population Exposure/ Neighborhood	Continuous	03/01/2000	087	Teflon	4.4 m	1.8 m	21.9 m	7.2 m
PM 2.5		Every 3 days	01/01/2000	145	Inlet Head	2.0 m	N/A	25.6 m	Northeast

This site meets all requirements of 40 CFR Part 58.

Evaluation Date: 05/05/2022

GADSDEN C COLLEGE
 1001 George Wallace Drive, Gadsden, Etowah County

AQS ID 01-055-0010
 33.991494, -85.992647



MSA: Gadsden

445m from George Wallace Drive

Property Type: Commercial (college)

NORTH

SOUTH

EAST

WEST



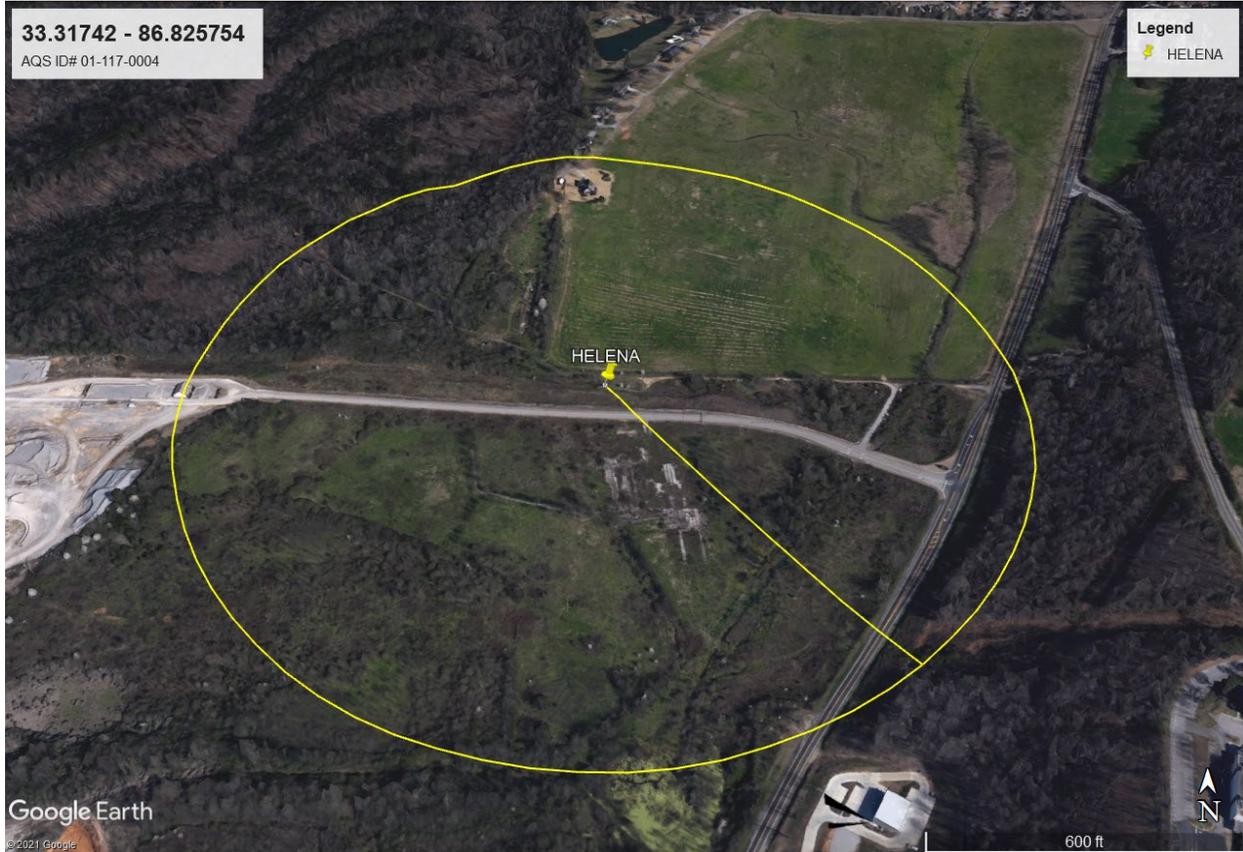
Parameter	Monitoring Objective/ Scale	Schedule	Start Date	AQS Method Code	Probe/Rain Shield Material	Probe Inlet Height from ground	Distance from probe to supporting structure	Distance from probe to nearest tree dripline	Height of nearest tree/ Direction from probe to tree
BAM2.5	Population Exposure/ Urban	Continuous	12-3-21	731	Inlet Head	2.1m	N/A	13.7m	6.6mN
PM 2.5		Every 3 days	10-01-02 to 12-2-21	145					

This site meets all requirements of 40 CFR Part 58.

Evaluation Date: 02-10-2022

HELENA
237 Limestone Drive, Helena, Shelby County

AQS ID 01-117-0004
33.317142, -86.825754



MSA: Birmingham-Hoover

33.5m to Limestone Drive

Property Type: Agricultural (private)

NORTH

SOUTH

EAST

WEST



Parameter	Monitoring Objective/ Scale	Schedule	Start Date	AQS Method Code	Probe/Rain Shield Material	Probe Inlet Height from ground	Distance from probe to supporting structure	Distance from probe to nearest tree dripline	Height of nearest tree/ Direction from probe to tree
Ozone	Population Exposure/ Urban	Continuous	01/01/1983	087	Teflon/ Teflon	4.4 m	1.6 m	13.0 m	5.0 m East

This site meets all requirements of 40 CFR Part 58.

Evaluation Date: 04/14/2022



MSA: Montgomery NORTH 285.75 m to Coliseum Boulevard SOUTH Property Type: Commercial (state) EAST WEST



Parameter	Monitoring Objective/ Scale	Start Date	AQS Method Code	Probe/Rain Shield Material	Probe Inlet Height from ground	Distance from probe to supporting structure	Distance between collocated samplers	Distance from probe to nearest tree dripline	Height of nearest tree/ Direction from probe to tree
Ozone - continuous	Population Exposure/ Neighborhood	06/02/1993	087	Teflon/ Teflon	4.6 m	1.9 m	N/A	63.3 m	10.2 m West
BAM 2.5 - continuous		01/01/2015	731	Inlet Head	5.1 m	2.4 m		64.5 m	
PM 2.5 – 1 in 3 days		01/16/2009	145		4.8 m	N/A	1.9 m	65.8 m	
PM 2.5 Co – 1 in 6 days		09/16/1993	127	3.3 m	1.3 m	57.0 m			
PM 10 – 1 in 6 days	QA/ Neighborhood	01/01/2013						58.6 m	
PM 10 Co – 1 in 6 days									

This site meets all requirements of 40 CFR Part 58.

PHENIX CITY-SOUTH GIRARD SCHOOL
 510 6th Place South, Phenix City, Russell County

AQS ID 01-113-0003
 32.437028, -84.999653



MSA: Columbus GA-AL 108.24 m to 6th Place South Property Type: Commercial (city)

NORTH

SOUTH

EAST

WEST



Parameter	Monitoring Objective/ Scale	Schedule	Start Date	AQS Method Code	Probe/Rain Shield Material	Probe Inlet Height from ground	Distance from probe to supporting structure	Distance between collocated samplers	Distance from probe to nearest tree dripline	Height of nearest tree/ Direction from probe to tree
Ozone	Highest Concentration/ Urban	Continuous	03/01/2018	087	Teflon/Teflon	4.5 m	1.8 m	N/A	53.5 m	9.6 m Southeast
BAM 2.5			09/18/2017	209	Inlet	4.8 m	2.1 m		44.8 m	
PM 2.5 Co.		1/6 day	01/18/2017	145	Inlet	4.7 m	N/A	1.27 m	43.7 m	
Carbon Speciation Supplemental		1/6 day	06/12/2017	811	N/A	4.7 m		N/A	42.2 m	
PM 2.5 Speciation		1/6 day		812	N/A	4.3 m		42.2 m		

This site meets all requirements of 40 CFR Part 58.

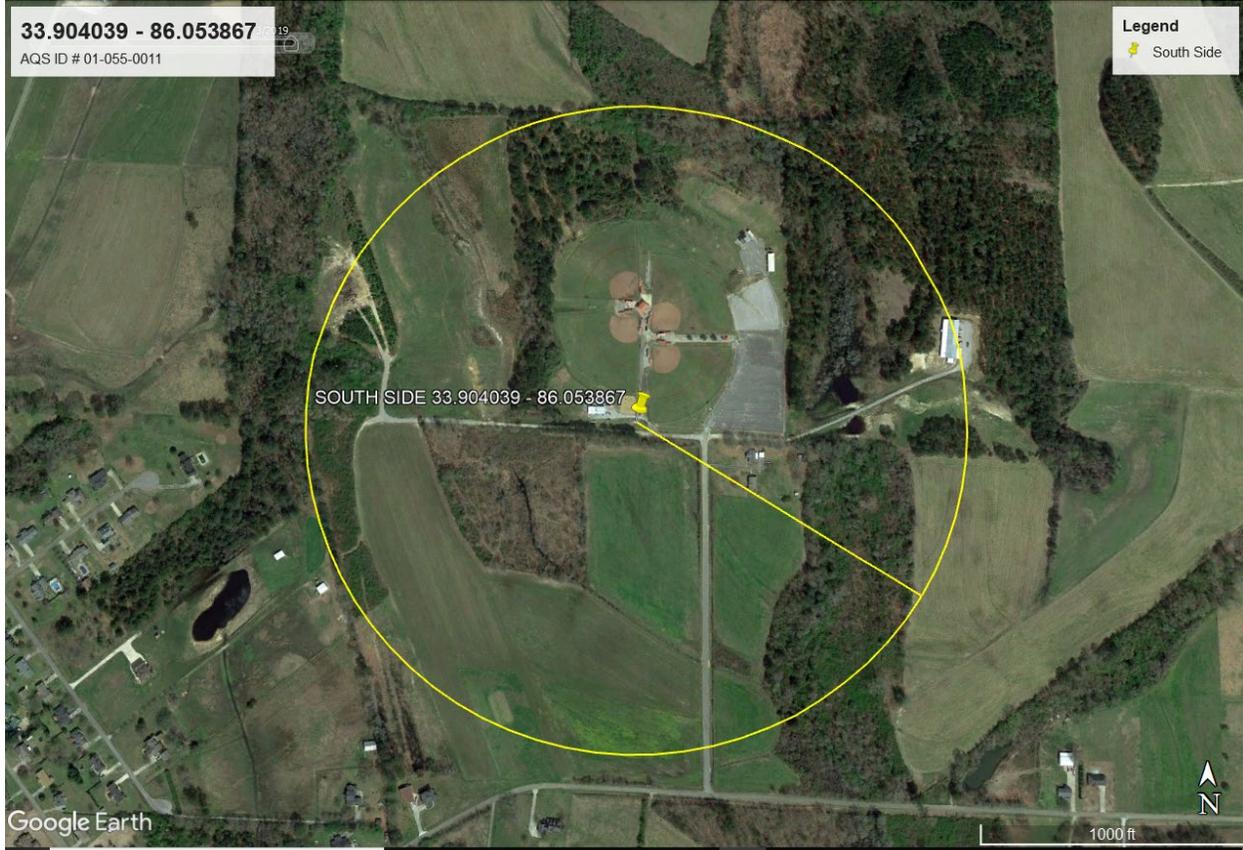
Evaluation Date: 03/21/2022

SOUTHSIDE

1450 Parker Anderson Lane, Southside, Etowah County

AQS ID 01-055-0011

33.904039, -86.053867



MSA: Gadsden

83.8 m from Parker Anderson Lane

Property Type: Agricultural (city)

NORTH

SOUTH

EAST

WEST



Parameter	Monitoring Objective/Scale	Schedule	Start Date	AQS Method Code	Probe/Rain Shield Material	Probe Inlet Height from ground	Distance from probe to supporting structure	Distance from probe to nearest tree dripline	Height of nearest tree/ Direction from probe to tree
Ozone	Highest Concentration/Neighborhood	Continuous	04/26/2002	047	Teflon	4.1 m	1.7 m	12.5 m	15.2 m Southwest

This site meets all requirements of 40 CFR Part 58.

Evaluation Date: 04/13/2022

TROY LEAD
Henderson Road, Troy, Pike County

AQS ID 01-109-0003
31.790479, -85.978974



μSA: Troy 15.2 m Henderson Road Property Type: Industrial (private)
NORTH **SOUTH** **EAST** **WEST**



Parameter	Monitoring Objective/ Scale	Schedule	Start Date	AQS Method Code	Probe Inlet Height from ground	Distance between collocated samplers	Distance from probe to nearest tree dripline	Height of nearest tree/ Direction from probe to tree
Lead TSP	Highest Concentration/ Neighborhood	Every 6 days	01/01/2009	044	2.1 m	2.08 m	19.2 m	14.8 m Northeast
Lead TSP Co					2.1 m	2.08 m	16.7 m	14.8 m Northeast

This site meets all requirements of 40 CFR Part 58.

Evaluation Date: 05/13/2022

VA, TUSCALOOSA
3701 Loop Road East, Tuscaloosa, Tuscaloosa County

AQS ID 01-125-0004
33.189931, -87.484189



MSA: Tuscaloosa 41.4 m from private drive 5229.2m from Loop Rd Property Type: Residential

NORTH

SOUTH

EAST

WEST



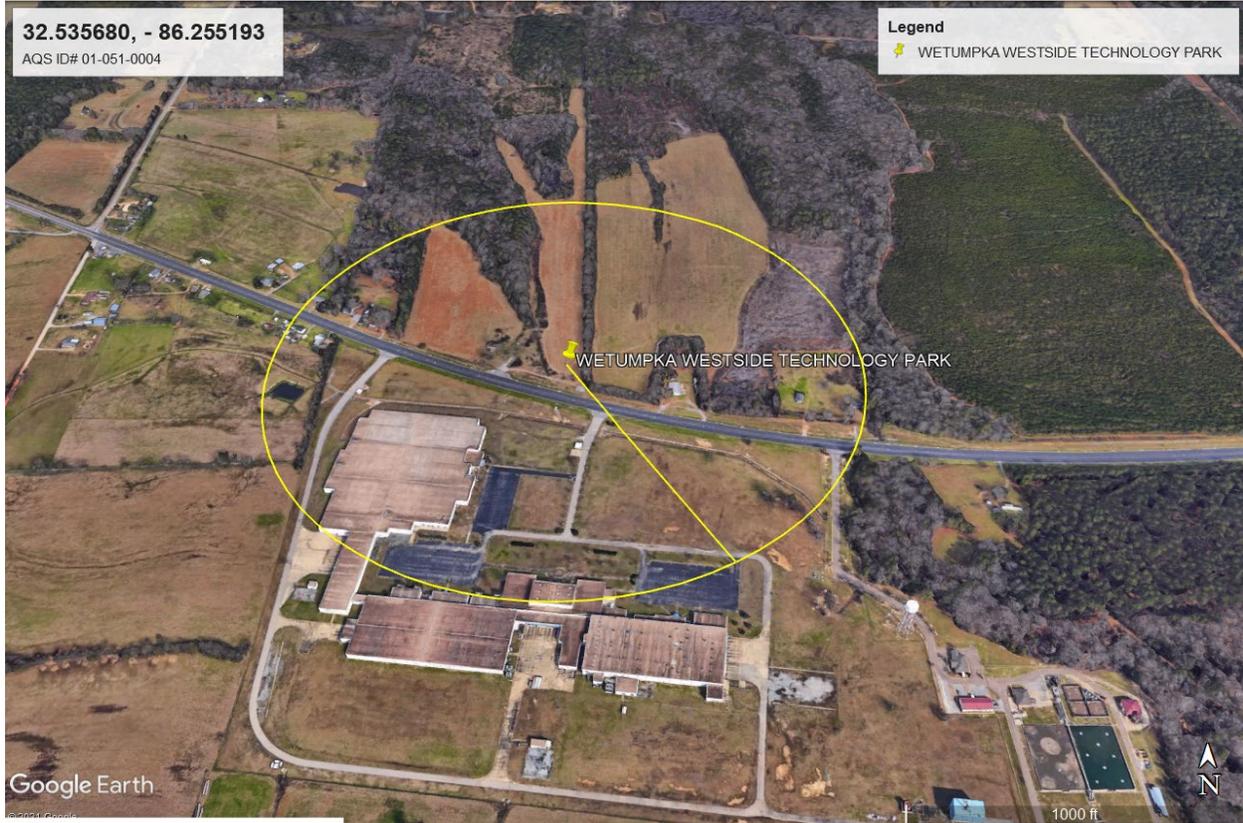
Parameter	Monitoring Objective/ Scale	Schedule	Start Date	AQS Method Code	Probe/Rain Shield Material	Probe Inlet Height from ground	Distance from probe to supporting structure	Distance between collocated samplers	Distance probe to nearest tree dripline	Height of nearest tree/ Direction from probe to tree
PM 2.5 Main	Population Exposure/ Neighborhood	Every 3 days	10/01/2002	145	Inlet Head	2.0 m	N/A	1.75m	17.6 m	6.4 m South
PM 2.5 Co-located	Population Exposure/ Neighborhood	Every 6 days	01/10/2021	145	Inlet Head	2.0 m	N/A		15.8 m	6.4 m South

This site meets all requirements of 40 CFR Part 58.

Evaluation Date: 04-14-2022

WETUMPKA WESTSIDE TECHNOLOGY PARK
 3148 Elmore Road, Wetumpka, Elmore County

AQS ID 01-051-0004
 32.535680, -86.255193



MSA: Montgomery

56.08 m to Hwy 14

Property Type: Industrial (city)

NORTH

SOUTH

EAST

WEST



Parameter	Monitoring Objective/ Scale	Schedule	Start Date	AQS Method Code	Probe/Rain Shield Material	Probe Inlet Height from ground	Distance from probe to supporting structure	Distance from probe to nearest tree dripline	Height of nearest tree/ Direction from probe to tree
Ozone	Highest Concentration/ Urban	Continuous	03/20/2018	087	Teflon / Teflon	4.0 m	1.4 m	21.6 m	5.6 m Southeast

This site meets all requirements of 40 CFR Part 58.

Evaluation Date: 03/16/2022

LHOIST, MONTEVALLO PLANT
 7444 Highway 25, Calera, Shelby County

AQS ID 01-117-9001
 33.0928, -86.8072



MSA: Birmingham-Hoover

22 m from Hwy 25

Property Type: Industrial (private)

NORTH

SOUTH

EAST

WEST



Parameter	Monitoring Objective/ Scale	Schedule	Start Date	AQS Method Code	Probe/Rain Shield Material	Probe Inlet Height from ground	Distance from probe to supporting structure	Distance from probe to nearest tree dripline	Height of nearest tree/ Direction from probe to tree
SO2	Highest Concentration/ Middle	Continuous	01/01/2017	100	Teflon	3.9 m	1.5 m	17.83 m	4.0 m Southwest

This site meets all requirements of 40 CFR Part 58.

Evaluation Date: 05/26/2022

Appendix B

Notice of Site Consolidation

When relocating a site, Alabama works diligently to find a suitable monitoring location to operate the ambient air monitoring equipment. Parameters of concern, monitoring scale and objective, obstructions, distances from roadways, nearest road AADT data, power availability, and access for staff are all considered when considering the feasibility of a potential site. All Alabama AAQMP sites must be selected such that the requirements of 40 CFR 58, Appendix E are met upon the site being commissioned.

Tuscaloosa VA (TSV AQS: 01-125-0004) PM_{2.5} monitoring site

Executive Summary

In early 2020, ADEM noticed additional building activity around the property where TSV (AQS ID 01-125-0004) PM_{2.5} monitoring site is located. At one point, the power line was severed and the monitors were forced to run off of two extension cords for nearly six months while the VA repaired the line. It appears that continued development around the site can be expected. Because of this and the installation of a new shelter at Duncanville (AQS ID 01-125-0011), ADEM will consolidate sampling and move PM_{2.5} monitoring in the MSA to the new site.

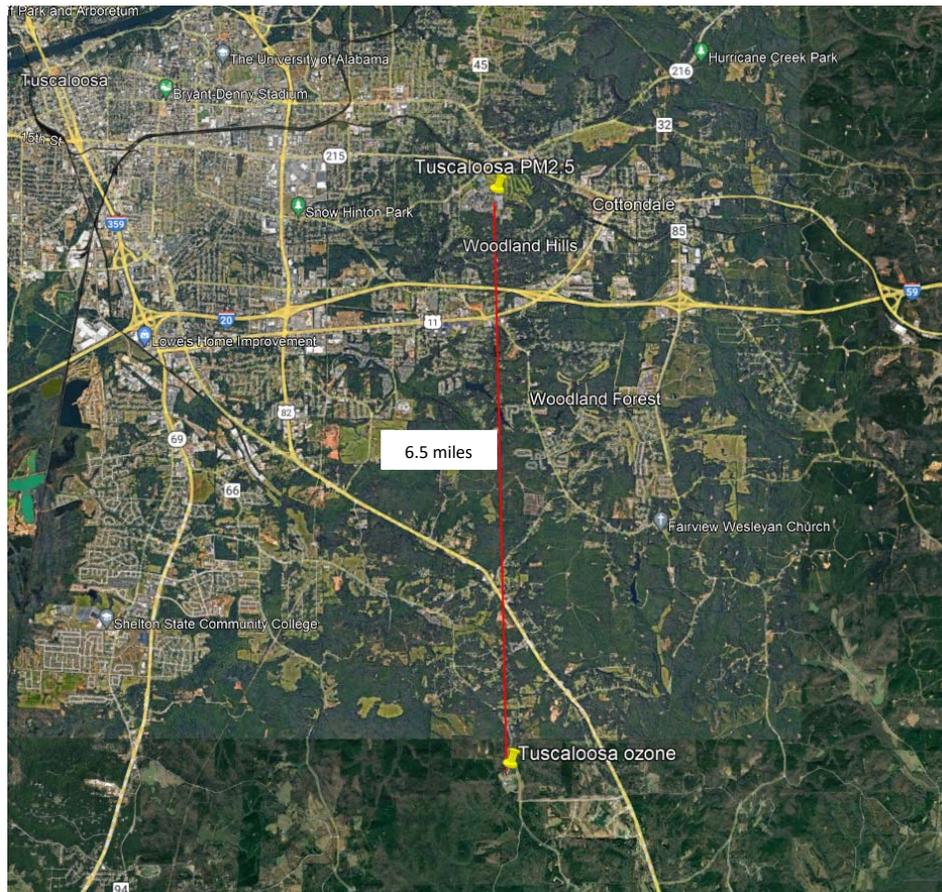


Figure 2 Distance between TSV and DUN

Current Site Analysis



Figure 3 Tuscaloosa VA Site in the Tuscaloosa MSA

In accordance with 40 CFR 58.10 regarding relocation requests for State or Local Air Monitoring Stations (SLAMS), ADEM provides the following documentation in support of moving the Tuscaloosa VA (TSV) ambient air monitoring site (AQS ID 01-125-0004).

TSV is located in the suburbs of Tuscaloosa, an area of high population density. The site encounters a higher traffic count than the proposed new location; however, concentrations have been about the same for several years now and are generally lower than other locations across the state.

The Tuscaloosa site is located within Tuscaloosa County in the Tuscaloosa MSA and only monitors PM_{2.5}. The existing Tuscaloosa VA site was evaluated for regulatory compliance on 4/14/2022. The results are included on the following page. Note the high amount of storage surrounding the site.

Relocation for TSV to Duncanville (AQS ID 01-125-0011) in the Tuscaloosa MSA

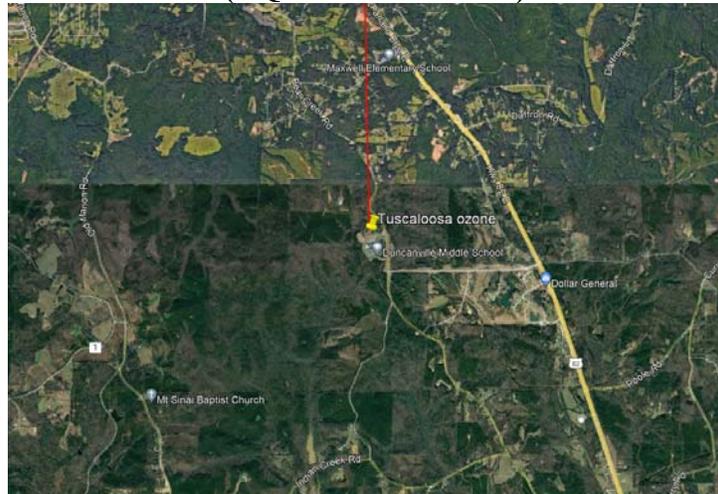
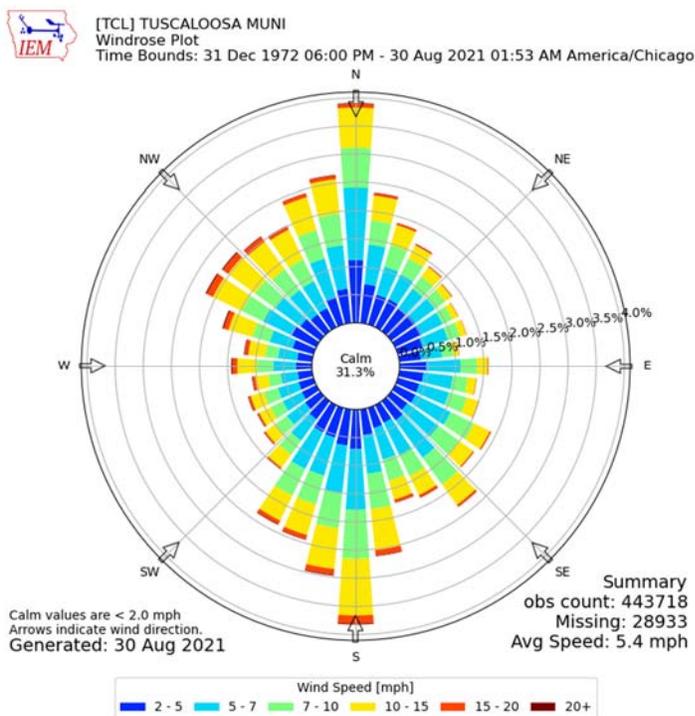


Figure 4 Duncanville Site in the Tuscaloosa MSA

The proposed new location, Duncanville site (DUN) is more rural and has exposure to less traffic. However, previous modeling has indicated that the wind flow out of Birmingham aligns with the terrain from northeast to southwest at this point. Relocating the site to DUN may actually see higher concentrations on those days. The new site is located 6.5 miles south of the old site. The new site meets all requirements of 40 CFR Part 58.



Looking at this wind rose, northerly winds are one of the two dominant wind directions in Tuscaloosa. This shows the possibility of PM_{2.5} being transported from the city to the new PM_{2.5} monitor location to the south.

Figure 5 Tuscaloosa Wind Rose

PM_{2.5} concentrations at TSV have been stable and well below the NAAQS. No monitor is required within the MSA. To allow ADEM to continue to monitor within the MSA, maximize efficiency, and better utilize our resources, ADEM will consolidate all monitoring to Duncanville (DUN) at the end of 2022.

PM_{2.5} Annual Design Value Data

	3 Yr Averages					Annual Values						
	2019-2021	2018-2020	2017-2019	2016-2018	2015-2017	2021	2020	2019	2018	2017	2016	2015
Ashland	7.0	7.0	7.4	7.4	7.9	6.8	6.7	7.4	7.0	7.9	7.4	8.3
Chickasaw	8.0	8.1	8.1	8.1	8.0	7.7	8.0	8.3	8.1	8.0	8.1	8.0
Childersburg					9.1					8.7	8.6	10.0
Columbus Airport	8.4	8.3	8.6	8.6	8.9	8.5	8.1	8.7	8.2	9.0	8.7	8.9
Crossville	7.4	7.2	7.5	7.6	8.3	7.7	7.1	7.5	7.0	8.0	7.7	9.0
Decatur	7.3	7.4	7.5	7.5	7.9	7.5	6.9	7.6	7.4	7.7	7.4	8.8
Dothan			8.1	7.8	7.7			8.1	7.7	8.6	7.1	7.3
Fairhope	7.6	7.5	7.3	7.3	7.7	7.3	7.9	7.5	7.1	7.4	7.2	8.6
Gadsden	8.2	8.0	8.3	8.3	8.7	8.3	7.9	8.3	7.8	8.9	8.2	9.1
Huntsville	7.3	7.3	7.4	7.5	7.7	7.4	7.1	7.4	7.4	7.5	7.5	8.2
Montgomery 1&2	8.3	8.4	8.8	8.6	8.8	7.9	7.9	9.0	8.4	8.9	8.5	8.9
Muscle Shoals				7.5	7.9				7.5	7.4	7.5	8.7
Phenix City	9.3	9.1				9.8	8.5	9.5	9.1			
Tuscaloosa	7.8	7.7	8.0	7.8	8.1	7.9	7.5	7.9	7.7	8.2	7.4	8.7
Sumter(Ward)						6.3						
Jefferson County Monitors Only												
	3 Yr Averages					Annual Values						
	2019-2021	2018-2020	2017-2019	2016-2018	2015-2017	2021	2020	2019	2018	2017	2016	2015
Leeds	8.2	8.6	8.8	9.1	9.4	8.0	8.2	8.3	9.2	8.9	9.3	10.1
McAdory	8.4	8.5	8.8	8.7	9.0	8.2	8.2	8.7	8.7	8.9	8.5	9.6
NBHM	11.0	10.0	10.0	10.0	10.4	12.6	10.1	10.4	9.6	10.2	10.3	10.8
Wylam	8.4	8.5	9.0	9.0	9.5	8.7	8.0	8.6	8.8	9.5	8.7	10.3
W BHM	9.6	9.8	10.0	10.5		9.5	9.8	9.3	10.2	10.3	10.8	
	Exceeds the standard of 12ug/m3											
	Incomplete data (over 12 consecutive quarters)											

PM_{2.5} 24-hr Design Value Data

	3 Year Averages					24-Hr Values						
	2019-2021	2018-2020	2017-2019	2016-2018	2015-2017	2021	2020	2019	2018	2017	2016	2015
Ashland	15	15	16	15	18	15.9	14.2	15.1	14.8	16.8	13.1	25.1
Chickasaw	16	17	17	17	17	15.5	16.3	16.6	16.9	17.4	15.7	19.0
Childersburg					18					18.8	13.9	21.6
Crossville	17	16	16	15	16	17.8	16.6	15.1	15.8	16.9	13.4	18.5
Decatur	14	15	15	15	15	14.3	13.7	14.4	16.3	15.5	13.3	17.4
Dothan			17	16	15			16.8	16.5	18.3	13	14.9
Fairhope	15	16	17	17	17	14.6	16.7	15.1	17.1	18.9	13.8	18
Gadsden	20	18	16	16	17	21.1	22.7	15.7	14.9	17.5	14.2	18.2
Huntsville	16	16	16	15	16	16.6	17.1	14.4	15.9	16.8	12.5	17.2
Montgomery 1&2	19	19	19	19	20	17.5	23.9	16.1	18.4	22.1	17.7	18.7
Muscle Shoals				16	16				16.2	15.5	15.8	16.2
Phenix City (new)	23	18	18	18		30.4	19.4	18.6	20.8			
Columbus Airport	21	18	19	18	19	24.4	19	19.2	16.5	20.5	16.5	20.9
Tuscaloosa	17	16	17	16	16	19.6	16.6	15.4	17	18.4	13.2	17.1
Sumter(Ward)						15.5						
Jefferson County Monitors Only												
	3 Year Averages					24-Hr Values						
	2019-2021	2018-2020	2017-2019	2016-2018	2015-2017	2021	2020	2019	2018	2017	2016	2015
Leeds	16	17	18	18	17	15.8	15.4	15.3	21.6	15.6	15.7	19.9
McAdory	17	16	18	17	18	20.2	14.4	16	17.5	19.6	14.4	18.5
NBHM	25	22	21	21	22	29.7	23.8	21.3	21.4	21.7	20.2	22.8
Wylam	18	18	17	18	18	18.1	19.4	16.1	17	19.1	16.8	18.6
W BHM	22	22	21	22	22	20.1	25.4	19.1	22.2	21.2	21.4	23.6
	Incomplete data (over 12 consecutive quarters)											

Appendix C

Notice of Site Closure

Southside (STH AQS: 01-055-0011) Ozone monitoring site

In completing the annual analysis of sites, ADEM identified MSAs where multiple pollutants were monitored at separate sites to see if they could be consolidated for improved efficiency. After reviewing the data for Southside Ozone site (AQS ID 01-055-0011) and Gadsden CC PM_{2.5} site (AQS ID 01-055-010), ADEM noticed redundancy of monitoring in the area. The CASTNET site in Alabama, **Sand Mountain (SND 152), AQS ID 01-049-9991**, in DeKalb County, operated by EPA is in close proximity to ADEM's STH site in Etowah County. They are approximately 27 mi apart. Both sites are located in rural, agricultural areas, monitor for ozone and were established at least 20 years ago.

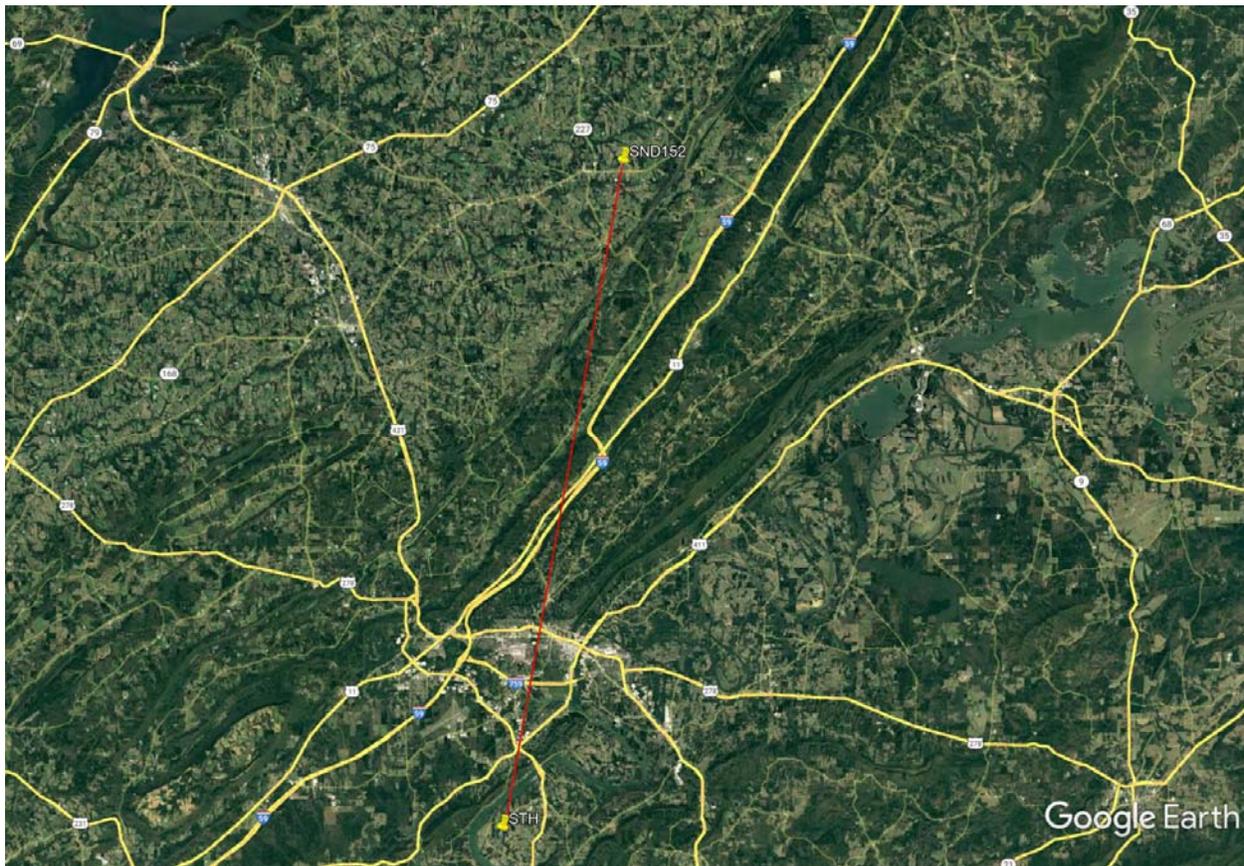


Figure 6 CASTNET and Southside Air Monitoring Sites

CASTNET sites provide long-term monitoring of air quality in rural areas to determine trends in regional atmospheric nitrogen, sulfur, and ozone concentrations and deposition fluxes of sulfur and nitrogen pollutants in order to evaluate the effectiveness of national and regional air pollution control programs. EPA-sponsored CASTNET ozone monitors are Part 58 compliant, therefore the data can be used for regulatory purposes. CASTNET Ozone data is reported to AQS.

In accordance with 40 CFR 58.10 regarding requests for changes to State or Local Air Monitoring Stations (SLAMS), ADEM provides the following documentation in support of closing the Southside (STH) ambient air monitoring site (AQS ID 01-055-0011).

Using population estimates and Table 3 (provided previously), the Gadsden MSA does not require any ozone monitoring. The average design value is below 85% of the NAAQS and appears to have a decreasing trend (Table 9).

Table 9 Alabama 8-Hour Ozone Design Value Data

	3 Yr Avg.			4th High Values					2021 Top 4 8hr Max O3				2022
	19-21	18-20	17-19	2021	2020	2019	2018	2017	1st	2nd	3rd	4th	4th High to Exceed 70ppb
Bay Road	57	60	62	54	57	60	64	63	56	54	54	54	102
Chickasaw	56	59	63	55	54	59	65	65	57	57	56	55	104
Fairhope	58	61	63	56	57	63	64	64	57	56	56	56	100
Wetumpka	53	55		54	48	59	60		66	62	56	54	111
Sumter Co.	54	56	57	54	51	57	60	54	57	56	54	54	108
Montgomery	56	58	59	57	53	60	62	57	68	58	57	57	103
Huntsville	61	61	63	64	57	63	65	63	72	71	64	64	92
Decatur	60	62	63	59	57	64	66	60	68	61	60	59	97
HSV (Capshaw)	59	59	62	61	54	62	63	61	62	62	61	61	98
Tuscaloosa	55	58	60	54	52	60	63	58	67	59	55	54	107
SouthSide	58	60	62	58	53	63	64	61	60	59	59	58	102
Phenix City	56	58	60	55	54	61	61	59	67	58	55	55	104
Muscle Shoals			57			56	60	56					
Dothan			57			57	61	55					
Helena	63	65	66	61	59	70	67	61	62	61	61	61	93
Fairfield	66	67	67	62	62	74	65	64	64	62	62	62	89
McAdory	64	66	66	61	61	72	66	62	65	63	63	61	91
Tarrant	62	66	66	57	62	67	70	61	62	61	59	57	94
Corner	60	61	62	61	57	64	63	61	67	62	62	61	95
North Bham	66	67	66	63	64	71	67	60	73	68	66	63	86
Leeds	62	63	64	64	59	63	69	62	65	65	64	64	90
Castnet (DeKalb)	58	60	61	58	56	62	64	58	65	62	59	58	99

*Exceeds the 70ppb NAAQS standard.

Preliminary analysis show the two sites have reported very similar results over the past six years (Table 10 and Figure 7, respectively). The calculated average 3-yr design value over this time period is exactly the same with very similar standard deviations. Both sites have shown an overall negative trend, indicating that both sites will likely remain <85% of the NAAQS. When several weeks of data from the two sites were compared, they had a 93% correlation indicating the CASTNET site represents the area well given that ozone in this area is not driven by local sources and is more region wide.

Since CASTNET sites are reported to AQS and will adequately cover the ozone monitoring for the region, and since no monitor is required for the Gadsden MSA, ADEM requests EPA use its discretion to eliminate redundant monitoring and grant permission to shut down the STH site at the end of ozone season 2022.

Table 10 Ozone 3-yr design value for STH and SND152

	STH	SND152
	3-Yr DV	3-Yr DV
2016	0.061	0.063
2017	0.061	0.062
2018	0.063	0.062
2019	0.062	0.061
2020	0.06	0.061
2021	0.058	0.059
Average Design Value	0.061	0.061
SD	0.002	0.001

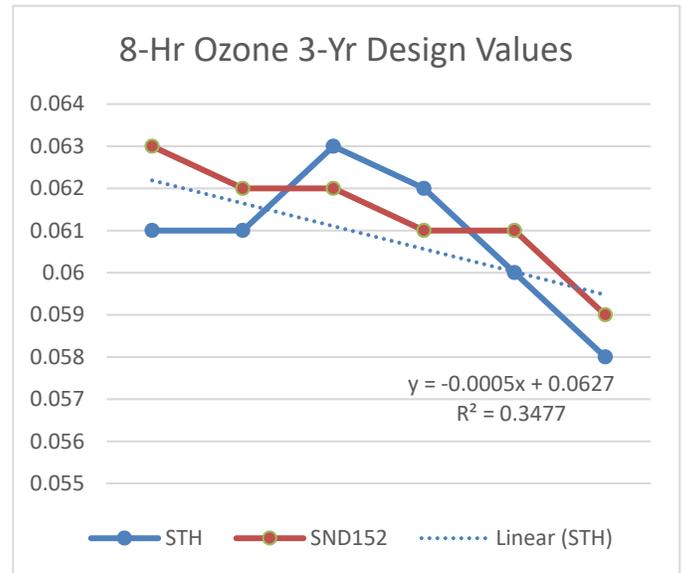


Figure 7 Comparison of Ozone Design Values



[GAD] GADSDEN MUNI (AWOS)

Windrose Plot

Time Bounds: 01 Jan 1973 10:00 AM - 30 Aug 2021 01:56 AM America/Chicago

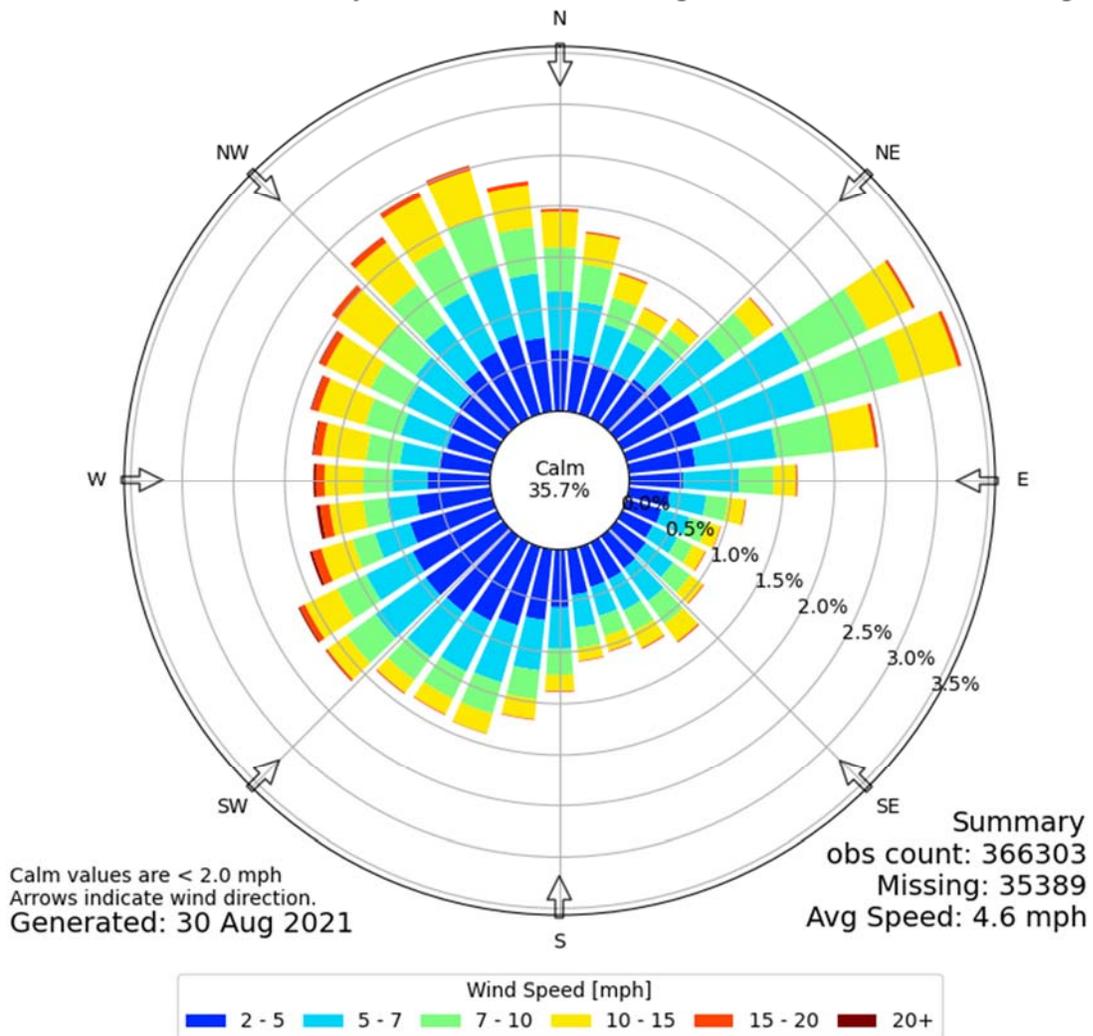


Figure 8 Gadsden Wind Rose

Appendix D

DRR SO₂ Annual Report

The Alabama Department of Environmental Management (ADEM) submits this annual assessment pursuant to the United States Environmental Protection Agency’s (EPA) Data Requirements Rule (DRR) for the 2010 1 hour Sulfur Dioxide (SO₂) Primary National Ambient Air Quality Standard (NAAQS). Specifically, Title 40 of the Code of Federal Regulation (CFR), Part 51.1205(b) states, “For any area where modeling of actual SO₂ emissions serve[s] as the basis for designating such area as attainment for the 2010 SO₂ NAAQS, the air agency shall submit an annual report to the EPA Regional Administrator by July 1 of each year.... that is available for public inspection, that documents the annual SO₂ emissions of each applicable source in each such area and provides an assessment of the cause of any emissions increase from the previous year.” This report satisfies this requirement.

Table A-1: Alabama SO₂ DRR Sources

Facility No.	Plant Name
201-0001	International Paper Company- Prattville Mill
414-0001	Alabama Power Company- Plant Gorgas
211-0003	Continental Carbon- Carbon Black plant

Continental Carbon- Carbon Black plant

Per the DRR Rule, any source which models using allowable/potential emissions and shows compliance with the 1 hour SO₂ NAAQS is not subject to the Annual Reporting process. In Alabama, this applies to Continental Carbon- Carbon Black plant (211-0003) in Russell County, Alabama. As a result, annual reporting for Continental Carbon is not included in this assessment.

Alabama Power Company- Plant Gorgas

At the time of the DRR submittal, the Gorgas facility consumed 33.6% of the SO₂ 1-hour NAAQS standard. As of April 2019, the Alabama Power Company- Plant Gorgas facility has shutdown. Since the shutdown, ADEM re-accomplished the modeling submitted for the original DRR analysis. With the Gorgas facility emissions set to 0, the analysis demonstrated that the project consumes 33.5% of the 1-hour SO₂ NAAQS standard. This is well below the 50% required by the rule to have this source removed from the data reporting analysis. Therefore, annual reporting for Gorgas is not included in this assessment.

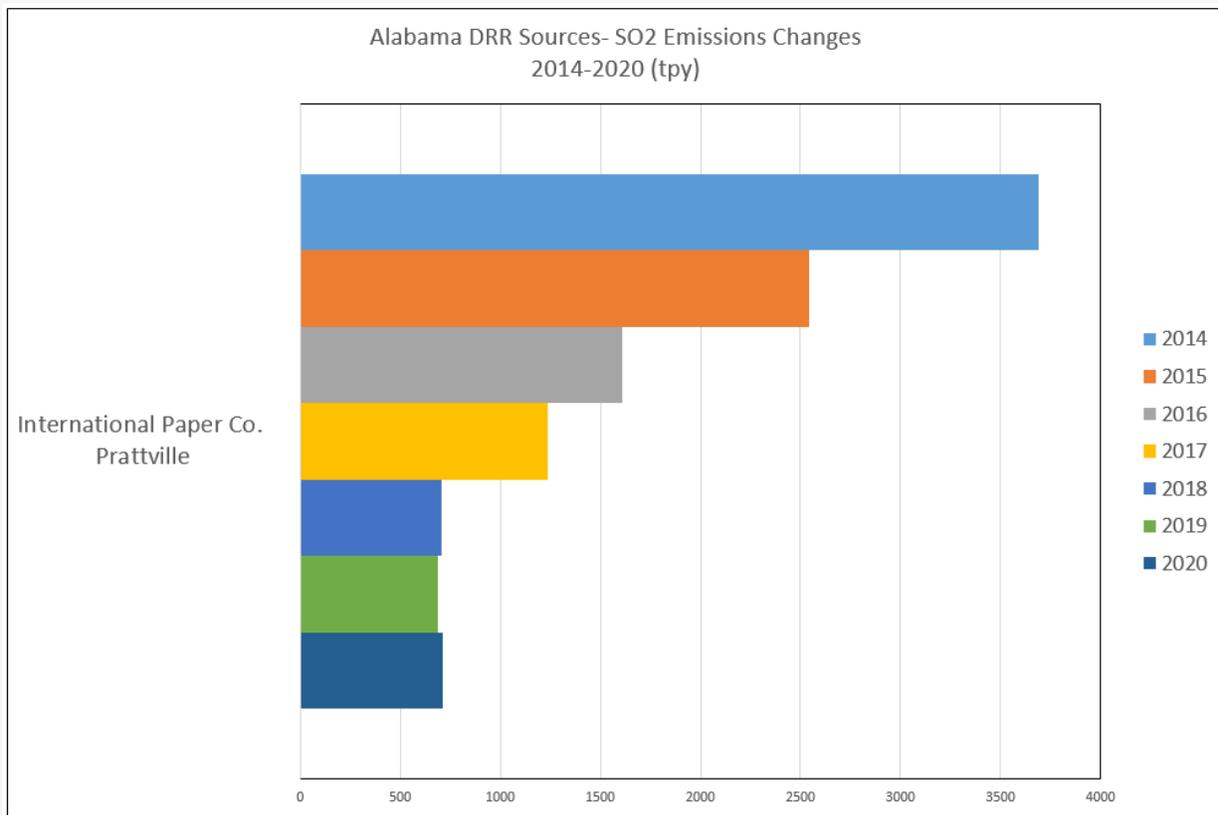
International Paper Company- Prattville Mill

For this review, actual emissions from the last seven Title V reporting periods were compared (2014-2020) to assess possible increases in SO₂ emissions. This data is presented both graphically and in table form below. (Table A-2 and Figure A-1, respectively). Between the base year of 2014 and 2020, the International Paper- Prattville facility showed a continued decrease in SO₂ emissions.

Table A-2: International Paper Co- Prattville Mill SO₂ Emissions (2014-2020)

Facility No.	Plant Name	Year	SO ₂ Emissions (tpy)
201-0001	International Paper- Prattville Mill	2014	3691
		2015	2544
		2016	1610
		2017	1236
		2018	709
		2019	691
		2020	714

Figure A-1: International Paper- Prattville Mill SO₂ Emissions 2014- 2020



Based on the analysis of 2020 emissions compared to previous year’s emissions, which were the basis of the modeled emissions, it is reasonable to conclude that no additional modeling is necessary. The existing modeling was approved by EPA in its attainment/unclassifiable determinations for the affected counties, and can still be relied on to demonstrate that the NAAQS continues to be met in these areas.

Appendix E

Comments

The following table contains changes made to the plan after the public comment period.

Page	Change
2, 3, 12,14	Made minor typographical corrections
9, 47, 48	Corrected spelling of “CASTNET”
6	Fixed broken reference to Table 2
18	PM10 Network expansion in Mobile
42	Added missing site evaluation for Lhoist (AQS 01-117-9001)



June 27, 2022

Ms. Gina Curvin, Chief
Ambient Air Quality Monitoring Program Manager
Field Operations Division – Montgomery Branch
Alabama Department of Environmental Management
1350 Coliseum Boulevard
Montgomery, Alabama 36110-2059
gcurvin@adem.alabama.gov

RE: Comments on ADEM’s State of Alabama 2022 Ambient Air Monitoring 2022 Network Plan

Dear Ms. Curvin:

The Southern Environmental Law Center (SELC)¹ and GASP² respectfully submit the following comments on the Alabama Department of Environmental Management’s (ADEM’s) State of Alabama Ambient Air Monitoring 2022 Network Plan (the “2022 Network Plan”). These comments discuss, among other issues, the need for additional monitoring in the Mobile area and the need to continue monitoring at the Southside site. We look forward to reviewing ADEM’s response to our comments.

I. Background

As SELC and GASP have addressed in past comment letters, ADEM has significantly reduced the number of ambient air monitors in its network over the past two decades.³ In the 2022 Network Plan, ADEM is yet again proposing to close monitors. In the current plan, ADEM proposes to close the Southside ozone monitor in Etowah County.⁴ It also proposes to close the VA, Tuscaloosa PM_{2.5} monitor and move the Tuscaloosa Metropolitan Statistical Area (MSA) PM_{2.5} monitoring to Duncanville.⁵ Instead of continuing to shrink the statewide monitoring

¹ The Southern Environmental Law Center is a non-profit, regional environmental organization dedicated to protecting natural resources, preserving special places, and promoting vibrant communities throughout the Southern. See <https://www.southernenvironment.org/>.

² GASP is a non-profit health advocacy organization fighting for healthy air in Alabama. We strive to reduce air pollution through education and advocacy—because Alabamians deserve clean, healthy air. See <http://www.gaspgroup.org>.

³ See, e.g., SELC and GASP’s Comments on ADEM’s 2021 Ambient Air Monitoring Plan, at 1-2 (June 15, 2021) [hereinafter SELC/GASP 2021 Comments].

⁴ ADEM, State of Alabama Ambient Air Monitoring 2022 Network Plan, at 3 (May 25, 2022) [hereinafter 2022 Network Plan].

⁵ *Id.*

network, SELC and GASP encourage ADEM to enhance the air monitoring network and ensure Alabamians are protected from air pollution.

II. ADEM should not discontinue monitoring at the Southside site.

In its “Summary of proposed changes for 2022/2023,” ADEM proposes to shut down the Southside site (“Southside”), which monitors for ozone, on November 11, 2022.⁶ The agency “requests EPA use its discretion to eliminate redundant monitoring and grant permission to shut down the [Southside] site at the end of ozone season 2022.”⁷ The reasoning behind this planned closure is 1) “[the] ozone monitor is not required in the MSA” and 2) it “is in close proximity to the CASTNET site in Crossville operated by EPA.”⁸ The monitoring conducted at Southside is not redundant, and EPA should not allow ADEM to shut down the site.

ADEM supports its request to close the Southside monitor because of noted redundancies between the ozone monitor at that site and the Clean Air Status and Trends Network (CASTNET) monitor at Sand Mountain: “Both sites are located in rural agricultural areas, monitor for ozone and were established at least 20 years ago.”⁹ The agency states that the sites, which are 27 miles apart, “have reported very similar results over the past six years The calculated average 3-year design value over this time period is exactly the same with very similar standard deviations.”¹⁰ ADEM reasons that because “ozone in this area is not driven by local sources and is more region wide,” a 93% correlation between the two sites supports a finding of redundancy.¹¹

As ADEM notes, the Sand Mountain and Southside monitors are 27 miles apart.¹² However, proximity to another monitor is not a reason to shut down a monitor.¹³ These two monitors are on opposite sides of Gadsden, the primary city in the Gadsden MSA. The Alabama Power Gadsden Generating Plant (“Gadsden Plant”) sits 19 miles from Sand Mountain and 9 miles from Southside. This is relevant because the Gadsden Plant emits nitrogen oxides (NOx), which react with sunlight to form ozone, into the air. In 2020, the plant emitted 112,046 pounds (56 tons) of NOx.¹⁴ This analysis brings into question ADEM’s statement that “ozone in this area is not driven by local sources and is more region wide.”¹⁵ The differences in geographic

⁶ 2022 Network Plan at 3.

⁷ *Id.* at 48.

⁸ *Id.* at 3.

⁹ *Id.* at 47.

¹⁰ *Id.* at 48.

¹¹ *Id.*

¹² *Id.* at 47.

¹³ Several monitors are located within 20 miles of one another. *See, e.g.*, Wetumpka Westside Technology Park site and MOMS, ADEM site, which are 9 miles apart.

¹⁴ *Air Pollutant Report: ALABAMA POWER COMPANY PLANT GADSDEN*, EPA Enforcement and Compliance History Online, <https://echo.epa.gov/air-pollutant-report?fid=110000368183> (last visited June 24, 2022).

¹⁵ 2022 Network Plan at 48.

proximity to the city of Gadsden and to the Gadsden Plant make Southside and Sand Mountain distinguishable.

Southside and Sand Mountain are distinct sites with different purposes, located in areas with notable differences in population. A five-mile radius around Sand Mountain has a population of 5,871,¹⁶ whereas a five-mile radius around Southside has a population of 21,575¹⁷ — four times the population in the vicinity of Sand Mountain. The CASTNET monitor at Sand Mountain measures on a regional scale (50+ km) while the monitor at Southside measures on a neighborhood scale (500 m - 4 km).¹⁸ A CASTNET monitoring station “provides long-term monitoring of air quality in rural areas to determine trends in regional atmosphere nitrogen, sulfur, and ozone concentrations [...] in order to evaluate the effectiveness of national and regional air pollution control programs.”¹⁹ However, Southside is a State or Local Ambient Monitoring Station (SLAMS), which means it is “primarily needed for NAAQS comparisons.”²⁰ The evaluation of trends over time requires a different focus than an evaluation of whether ozone levels are currently above or below the NAAQS. Closing down Southside will not only mean that that area of Alabama no longer has a dedicated small-scale monitoring station, it means that ADEM will be relying on a station with a regional mission to make up for a lack of local data.

The correlation between the data from Southside and from Sand Mountain does not necessarily mean that there is redundancy in monitoring ozone in both locations. ADEM notes that the Design Values of the Southside monitor and the Sand Mountain monitor in Table 10 are “exactly the same” when averaged, but this averaging obscures the fact that there are differences year over year between the two sites.²¹ Regardless of its statistical relationship to the Sand Mountain monitor, the ozone design value for Southside of .058 is significant: only two monitoring sites in the ADEM network, Helena and Decatur, have higher values.²² The closure of Southside would mean the loss of significant air monitoring data.

As GASP and SELC have previously stated, we contend that a robust ambient air monitoring network is most protective of human health and gives the most accurate depiction of air quality throughout the state. EPA has offered assistance with monitoring requirements, as explained below, so ADEM may not have to shut down air monitors that provide valuable information. As such, and for the reasons discussed below, we oppose the closure of the Southside site.

¹⁶ EJ Screen - 5-mile report centered at 34.288992,-85.970078 (Sand Mountain), EPA, <https://ejscreen.epa.gov/mapper/> (last visited June 23, 2022).

¹⁷ EJ Screen - 5-mile report centered on 33.904037,-86.053864 (Southside), EPA, <https://ejscreen.epa.gov/mapper/> (last visited June 23, 2022).

¹⁸ *AirData Air Quality Monitors*, EPA, <https://epa.maps.arcgis.com/apps/webappviewer/index.html?id=5f239fd3e72f424f98ef3d5def547eb5&extent=-146.2334,13.1913,-46.3896,56.5319> (last visited June 27, 2022).

¹⁹ 2022 Network Plan at 9

²⁰ *Id.*

²¹ *See id.* at 49.

²² *Id.* at 11.

III. ADEM should install additional PM₁₀ monitoring in the Mobile area.

Once again, SELC and GASP strongly urge ADEM to install more monitoring, particularly PM₁₀ monitoring, in the Mobile Bay area. As addressed in detail in last year's comments, the environmental justice communities of Prichard, Chickasaw, Crichton and Africatown have some of the worst air quality in the state.²³ ADEM currently operates only two ambient air monitoring sites in the Mobile MSA, one of which only monitors ozone.²⁴ ADEM shut down its last PM₁₀ monitor in Mobile in 2014.²⁵

PM₁₀ is airborne particulate matter that is less than 10 millimeters in diameter, as opposed to PM_{2.5}, which is particulate matter that is less than 2.5 millimeters in diameter.²⁶ Currently, the EPA has primary and secondary standards for PM_{2.5} and PM₁₀.²⁷ While PM₁₀ is not small enough to pass through the alveoli of the lungs into the bloodstream like PM_{2.5}, it can be inhaled into the lungs and is a serious health concern. Exposure to particles less than 10 micrometers in diameter can affect a person's lungs and heart. According to the EPA, "[n]umerous scientific studies have linked particle pollution exposure to a variety of health problems, including: premature death in people with heart or lung disease[;] nonfatal heart attacks[;] irregular heartbeat[;] aggravated asthma[;] decreased lung function[;] and increased respiratory symptoms, such as irritation of the airways, coughing or difficulty breathing."²⁸ Particles can be carried over long distances by wind and then settle on ground or water.²⁹

The Alabama State Docks McDuffie Island Coal Terminal is one of the largest coal terminals in the country.³⁰ It has a ground capacity of 2.3 million tons and an annual throughput capacity of 30 million tons.³¹ For over a decade, ADEM has received complaints about the coal dust from Mobile's coal terminals. For instance, in 2018, ADEM received the following complaint: "A large cloud of what appeared to be coal dust was observed originating from the McDuffie Coal Terminal as a storm approached from the Eastern Shore of Mobile Bay."³² The complaint included a photograph (see Attachment 1) that shows the described dust cloud. In 2016, ADEM received a letter from the Mobile City Council because it had received several

²³ SELC/GASP 2021 Comments at 5-7.

²⁴ See 2022 Network Plan at Table 1 and Figure 1.

²⁵ Letter from Ronald W. Gore, ADEM, to Christina Tidwell, SELC, and Haley Lewis, GASP, at 1 (March 30, 2022) [hereinafter Response to 2021 Comments].

²⁶ *Inhalable Particulate Matter and Health*, California Air Resources Board, <https://ww2.arb.ca.gov/resources/inhalable-particulate-matter-and-health> (last visited June 24, 2022).

²⁷ See 40 C.F.R. § 50.6, National Primary and Secondary ambient air quality standards for PM₁₀.

²⁸ *Particulate Matter (PM) Pollution*, EPA (May 26, 2021), <https://www.epa.gov/pm-pollution/health-and-environmental-effects-particulate-matter-pm>.

²⁹ *Id.*

³⁰ *Port of Mobile*, Alabama State Port Authority, <https://www.alports.com/cargo/coal/> (last visited June 24, 2022).

³¹ *McDuffie Coal Terminal*, Blue Water Shipping, <https://www.bluewatershipping.com/locationdetails.php?id=167> (last visited June 24, 2022).

³² Attach. 1, ADEM, Record of Complaint, Number 7E-006PQ6L36 (Aug. 7, 2018). The attachment includes a photograph showing the dust cloud.

complaints from downtown residents about fugitive coal dust.³³ It is important to note that these complaints were received *after* ADEM discontinued all PM₁₀ monitoring in the area.

Furthermore, according to a recent search of ADEM's eFile system, it appears that ADEM has not conducted an inspection of the McDuffie Island Coal Terminal since late 2020, over 1.5 years ago.³⁴ While inspections certainly do not replace the data that would be obtained from a PM₁₀ monitor, the lack of recent inspections by ADEM is concerning.

SELC and GASP have been calling on ADEM to install PM₁₀ monitoring in the Mobile area for years, but ADEM has refused, asserting that it does not have the funding to install additional monitoring. In its response to SELC and GASP's 2021 comments, ADEM stated that "the Air Division has no funding available to install additional air quality monitors."³⁵ However, in EPA's comments on ADEM's 2021 Network Plan, EPA states that it "encourages the ADEM to install PM₁₀ monitoring in this area. The EPA would work with the ADEM to help fund this monitoring."³⁶ And this is not the first time that EPA has offered to help fund PM₁₀ monitoring in Mobile. In 2018, "EPA offered . . . to loan ADEM a continuous PM₁₀ monitor and provide \$9,240 in additional grant funding to cover the installation and additional equipment costs."³⁷ Furthermore, in December 2021, EPA announced millions of dollars in available funding for enhancing air quality monitoring throughout the United States.³⁸ EPA's funding offer and the availability of additional grant funding present an opportunity for ADEM to enhance its air quality network and ensure that citizens are protected from harmful air pollutants, rather than continue to shrink the already sparse network. SELC and GASP strongly urge ADEM to use these resources to create a more robust monitoring network.

SELC and GASP also urge ADEM to participate in EPA Region 4's air sensor loan program to measure PM concentrations in the Mobile area, which EPA discussed in its comments on the 2022 Network Plan:

[T]he EPA Region 4 is starting an air sensor loan program in 2022. Region 4 will loan PM air sensors for community projects to measure PM_{2.5} and PM₁₀. The EPA would be willing to work with the ADEM and the community to design a study and to collect air sensor data for screening level measurements of PM₁₀ and PM_{2.5} concentrations in the Mobile area. These measurements could not be compared to

³³ See Letter from Gina Gregory, Council President, and Levon C. Manzie, Councilmember, Mobile City Council, to Lance R. LeFleur, ADEM (May 24, 2016).

³⁴ ADEM eFile searches were conducted using the Alabama State Dockets McDuffie Island Coal Terminal's Master ID 677 and the Terminal's air permit number 503-8011.

³⁵ Response to 2021 Comments at 1.

³⁶ U.S. EPA, CY 2021 State of Alabama Ambient Air Monitoring Network Plan, U.S. EPA Comments and Recommendations (June 6, 2022) [hereinafter EPA Comments on 2021 Network Plan].

³⁷ U.S. EPA, CY 2021 State of Alabama Ambient Air Monitoring Network Plan, U.S. EPA Comments and Recommendations, at 2 (March 22, 2022).

³⁸ *Id.*

the NAAQS but would give an indication of the general PM₁₀ levels in the absence of any regulatory PM₁₀ monitoring.³⁹

Other EPA regions operate similar air sensor loan programs. For instance, in EPA Region 9, “[a]ir sensors measuring PM_{2.5} will be available at select branches of the Los Angeles Public Library for free checkout, similar to checking out a book The sensor loan program will help the public learn more about air quality in their communities and take actions to protect their health and the environment.”⁴⁰ While participating in an air sensor loan program is not a substitute for installing network monitors, having additional data on particulate matter in the Mobile area would help inform residents about their air quality.

IV. ADEM must update the Network Plan to include monitoring of SO₂ around Plant Barry.

EPA has not approved ADEM’s 2021 Network Plan for SO₂. Instead, EPA “determined that more information is needed to characterize 1-hour SO₂ concentrations near Alabama Power James M. Barry Electric Generating Plant.”⁴¹ To comply with EPA’s SO₂ requirements, ADEM “must provide either an SO₂ modeling analysis for the area that meets the EPA requirements and guidance, or a proposal to install a SLAMS SO₂ monitor. This information must be submitted in an addendum to the 2021 Network Plan or in the 2022 Network Plan.”⁴² We look forward to reviewing the required addendum to the Network Plan once ADEM has published it.

V. Requests for Clarification

Finally, GASP and SELC request that ADEM clarify several changes that were outlined in the 2022 Network Plan.

- ADEM is proposing to replace several FRMs with FEM BAM-1022 continuous samplers.⁴³ Why is ADEM replacing these monitors? What are the advantages and disadvantages to using FEM BAM-1022s instead of FRMs?
- At the Chickasaw and MOM monitoring sites, the Network Plan states that “both the primary FRM manual monitor and the non-FEM BAM 1020 will be shut down and replaced by a continuous FEM BAM-1022 PM_{2.5} monitor as equipment becomes available.”⁴⁴ Please confirm that there will be no gap in monitoring as a result of shutting down and replacing the monitors.

³⁹ EPA Comments on 2021 Network Plan at 2.

⁴⁰ *Air Sensor Loan Programs*, EPA, <https://www.epa.gov/air-sensor-toolbox/air-sensor-loan-programs> (last visited June 23, 2022).

⁴¹ Letter from Caroline Freeman, EPA Air and Radiation Division Director, to Ron Gore, Air Division Chief, ADEM (June 6, 2022).

⁴² EPA Comments on 2021 Network Plan at 3.

⁴³ 2022 Network Plan at 3.

⁴⁴ *Id.*

VI. Conclusion

For years, SELC and GASP have asked ADEM to expand its statewide air monitoring network so that Alabamians can be informed about the air they breathe. We urge ADEM to take advantage of opportunities discussed in EPA's comments on the 2021 Network Plan and install additional monitoring throughout the state, instead of continuing to erode the current network. Thank you for your consideration of these comments.

Respectfully submitted,



Christina Andreen Tidwell
Senior Attorney
Southern Environmental Law Center



Mary Claire Kelly
Climate Justice Legal Fellow
GASP

ATTACHMENT 1

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

***** RECORD OF COMPLAINT *****

Generated 1/15/2019 2:42:46 PM

Complaint #: 7E-006PQ6L36 Assigned to Air: Debra Spencer
Method Received: Web Assigned to Land: _____
Date Received: 8/8/2018 4:24 PM Assigned to Water: _____
Received By: Web Complaint Assigned to Coastal: _____
Date Observed: 8/7/2018 Complaint Issues: Air - Dust

DESCRIPTION: A large cloud of what appeared to be coal dust was observed originating from the McDuffie Coal Terminal as a storm approached from the Eastern Shore of Mobile Bay.; Observed: August 7th at approximately 2:30 PM.

LOCATION: MOBILE County LAT LON
Mcduffie Coal Terminal
1768 Yeend Loop
Mobile AL 36603

COMPLAINANT:
Cade Kistler 2514334229 (H)
AL ckistler@mobilebaykeeper.org

POTENTIAL SOURCE(S): *None listed.*

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

******* RECORD OF COMPLAINT *******

Generated 1/15/2019 2:42:47 PM

ACTIONS TAKEN

Air **Evaluated/Investigated on 1/15/2019**

8/9/2018: Phone Call to Potential Sources
performed by Debra Spencer

I called Mr. Brad Ojard and Ms. Pam hunt emailed Brad Ojard, Scott Wallace, and Scott Bernard (McDuffie Management) the picture submitted by the complainant. Mr Ojard stated that the personnel and management had noted the situation when it happened on August 7 at approximately 2:30. Mr. Ojard stated that the wind came up suddenly out of the south east and picked up some ground dust from the coal terminal and some dust near the construction area where the new container terminal is being built and it became airborne. The staff tuned on the water suppression system manually before it automatically turned on in response to the increased wind speed. Mr Ojard stated that Mr. Wallace is looking into any potential problems with the automated wet suppression system and they will review the suppression log and send a copy for our review. We expect that additional information will be submitted in the next couple of days as it becomes available.

