State of Alabama
Ambient Air Monitoring
2024 Network Plan

May 23, 2024

Alabama Department of Environmental Management

Table of Contents

List of Tables

List of Figures

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	*Code of Federal Regulations*
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
m3	cubic meter
min	minute
ml	milliliter
MSA	Metropolitan Statistical Area
NAAQS	National Ambient Air Quality Standards
NCore	National Core multipollutant monitoring station
O3	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 PM2.5 Speciation monitoring carbon-specific sampler
° C	degree Celsius
$\mu g/m^3$	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 2023/2024, and changes proposed to take place to the current ambient air monitoring network during 2024/2025. Any changes made to the plan after public comment period will be found in Appendix C.

Public Review and Comment

The annual monitoring network review must be made available for public inspection for thirty (30) days prior to submission to the EPA. For 2024, this document was placed on ADEM's website on 05/23/2024 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:

Gina L. Curvin
ADEM FO MGY
P.O. Box 301463, Montgomery, AL 36130-1463
(Street address: 1350 Coliseum Boulevard, Montgomery, AL 36110-2059)
Or by e-mail at gcurvin@adem.alabama.gov

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 the 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 (NO_2), Ozone (O_3), particulate matter ($PM_{10,}$ $PM_{2.5}$), and Sulfur Dioxide (SO_2). $PM_{2.5}$ speciated compounds, a non-criteria pollutant, are 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 2024 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 2023/2024

- **Mobile PM_{10} Seals Park**, **AQS 01-097-8001**, In response to citizen concerns of fugitive dust near the downtown area, monitoring began on July 1, 2023. PM_{10} is being monitored continuously with an E-BAM Plus and a 24-hour sample is collected every 6 days with a low-volume FRM sampler.
- **Gadsden C College, AQS ID 01-055-0010,** A new air monitoring shelter was installed on the campus of Gadsden Community College in November 2023 so that ozone monitoring could be consolidated with $PM_{2.5}$ monitoring in this MSA. Due to unforeseen complications with getting power to the site, ozone monitoring did not begin until March 5, 2024.
- **Southside, AQS ID 01-055-0011,** was shut down at the end of ozone season 2023. Ozone monitoring continues in this MSA at Gadsden C College, AQS ID 01-055-0010.
- **Ward, Sumter Co., AQS ID 01-119-0003**, A new air monitoring shelter was installed in November 2023. NO_2 monitoring began April 17, 2024, and is designated as a Special Purpose Monitor (SPM) during its 2-year evaluation period.
- **Troy, AQS ID 01-109-0003,** A sample saver was installed on the primary monitor in October 2023. This device provides additional protection from the accumulation of fugitive dust in between sampling events.

Summary of proposed changes for 2024/2025

- **Chickasaw, AQS ID 01-097-0003**, will be relocated to Africatown in 2025 using IRA funding, provided a suitable site can be located. Efforts to find a new site will begin in summer 2024.
- **Bay Road, AQS ID 01-097-2005, Chickasaw, AQS ID 01-097-0003,** and **Fairhope, AQS ID 01-003-0010,** located in Mobile and Baldwin counties, ozone monitors experience higher humidity. ADEM proposes to upgrade the Teledyne API T400 ozone analyzers with Nafion dryers using IRA funding. With the addition of the dryers, ADEM hopes to increase precision and accuracy with the ozone data and minimize data loss.
- **Helena, AQS ID 01-117-0004, and Wetumpka Westside Technology Park, AQS ID 01-051-0004,** ADEM proposes to replace these monitoring shelters in 2025using IRA funding.

Table 1 2024 ADEM Ambient Air Monitoring Network

ADEM Site Common Name	AQS ID	Ozone	PM 2.5 Local	PM 2.5 Local Collocated	PM2.5 Speciation	PM2.5 Continuous	PM10 Lo-Vol	PM10 Lo-Vol Collocated	PM10 Continuous	Lead TSP	Lead TSP Collocated	NO2	SO2
Fairhope	01-003-0010	X				X							
Ashland	01-027-0001					X							
Crossville	01-049-1003					X							
Wetumpka Westside Technology	01-051-0004	X											
Gadsden C College	01-055-0010	X				X							
Chickasaw	01-097-0003	X				X							X
Bay Road	01-097-2005	X											
Seals Park	01-097-8001						X		X				
MOMS, ADEM	01-101-1002	X		X		X	X	X					
Decatur	01-103-0011	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	X
Duncanville Middle School	01-125-0011	X				X							

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 the 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 40 CFR part 58 Appendix D.
    j. Any source-oriented monitors for which a waiver has been requested or granted by the EPA Regional Administrator as allowed for under paragraph 4.5(a)(ii) of 40 CFR part 58 Appendix D.
    k. Any source-oriented or non-source-oriented site for which a waiver has been requested or granted by the EPA Regional Administrator for the use of Pb-PM_{10} 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 NO_2 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 $PM_{2.5}$ or FEMs 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 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 2023 population estimate of 5,108,468. 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 2023 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 (µSA).

Table 2 Alabama CBSAs

Alabama Core Based Statistical Area	Counties in MSA	2020 Population Base	2023 Population Estimate	Statistical Area
Anniston-Oxford-Jacksonville	Calhoun	116,441	116,429	Metropolitan
Auburn-Opelika	Lee, Macon	193,774	201,585	Metropolitan
Birmingham-Hoover	Bibb, Blount, Chilton, Jefferson, Shelby, St. Clair, Walker	1,180,632	1,184,290	Metropolitan
Columbus, GA-AL	Russell County in Alabama and Chattahoochee, Harris, Marion, Muscogee, Stewart, Talbot Counties in Georgia	328,887	323,768	Metropolitan
Daphne-Fairhope-Foley	Baldwin	231,768	253,507	Metropolitan
Decatur	Lawrence, Morgan	156,498	158,635	Metropolitan
Dothan	Geneva, Henry, Houston	151,001	153,349	Metropolitan
Florence-Muscle Shoals	Colbert, Lauderdale	150,794	155,175	Metropolitan
Gadsden	Etowah	103,434	103,241	Metropolitan
Huntsville	Limestone, Madison	491,719	527,254	Metropolitan
Mobile	Mobile	414,809	411,640	Metropolitan
Montgomery	Autauga, Elmore, Lowndes, Montgomery	386,062	385,480	Metropolitan
Tuscaloosa	Greene, Hale, Pickens, Tuscaloosa	268,686	278,290	Metropolitan
Albertville	Marshall	97,611	100,756	Micropolitan
Alexander City	Tallapoosa	41,309	40,677	Micropolitan
Cullman	Cullman	87,857	92,016	Micropolitan
Enterprise	Coffee	53,459	55,643	Micropolitan
Eufaula, AL-GA Micro Area	Barbour County, AL and Quitman County, GA	27,466	26,865	Micropolitan
Fort Payne	DeKalb	71,617	72,569	Micropolitan
LaGrange, GA-AL Micro Area	Chambers County, AL and Troup County, GA	104,198	104,821	Micropolitan
Ozark	Dale	49,322	49,871	Micropolitan
Russellville	Franklin	32,112	31,802	Micropolitan
Scottsboro	Jackson	52,579	53,467	Micropolitan
Selma	Dallas	38,458	36,165	Micropolitan
Talladega-Sylacauga	Coosa, Talladega	92,527	91,400	Micropolitan
Troy	Pike	33,002	33,137	Micropolitan

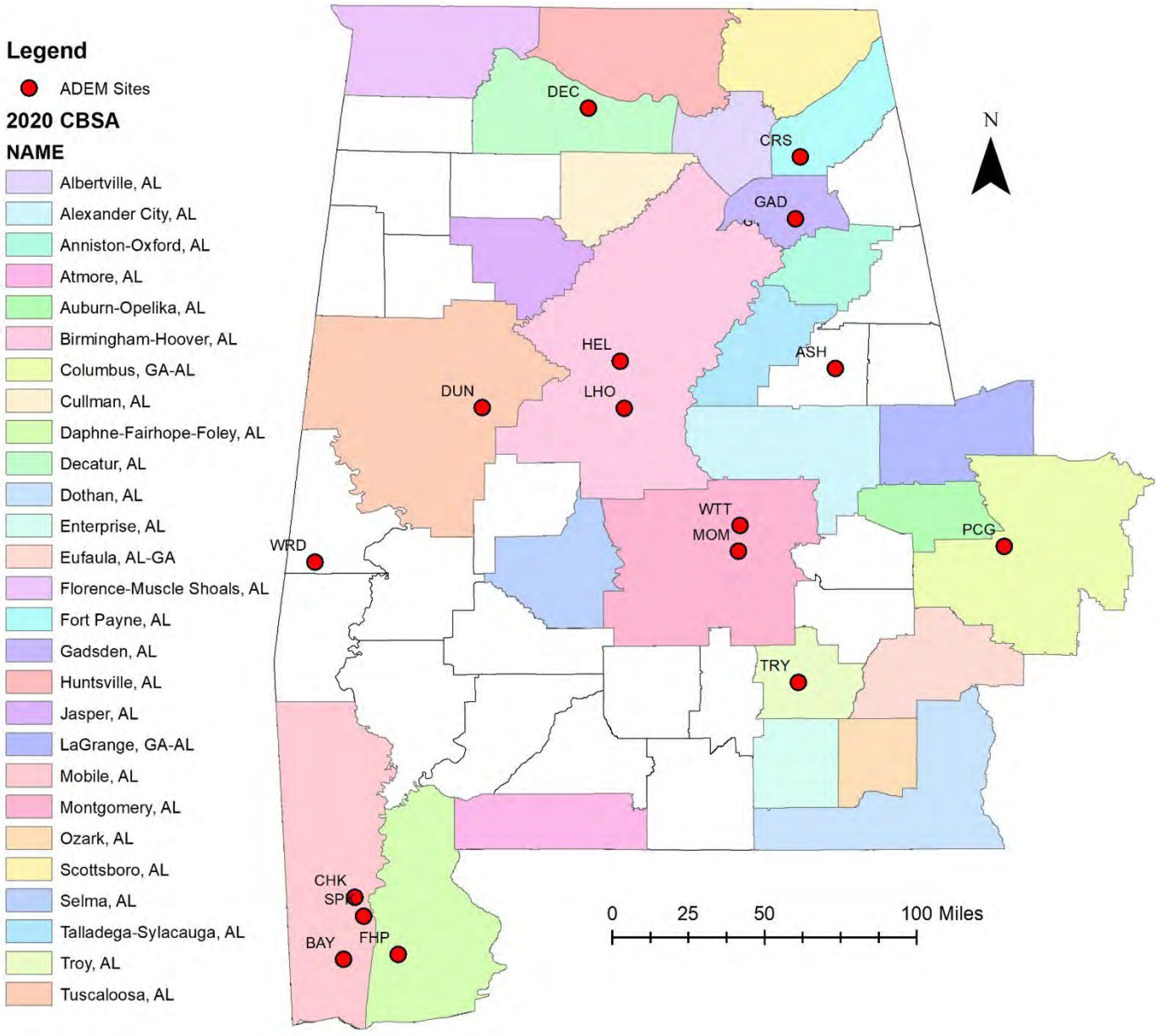


Figure 1 Alabama MSAs and ADEM Monitoring Sites

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 the 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 (NOx) 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:* **Ward, Sumter Co., AQS ID 01-119-0003**, began its 24-month evaluation period for NO_2 with a Teledyne N500, CAPS NO_2 Analyzer on April 17, 2024. **Seals Park, AQS ID 01-097-8001**, began sampling on July 1, 2024, with two special purpose monitors for PM_{10} with an FRM local sampler and an FEM E-BAM continuous sampler for the purpose of calculating a valid design value for PM_{10} in the MSA.

SO_2 DRR - *SO_2 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 SO_2, 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 . The source that chooses monitoring must operate a site equivalent to the SLAMS requirements of 40 CFR Part 58. Alabama has one DRR SO_2 monitoring site, **Lhoist, Montevallo Plant, AQS ID 01-117-9001**, operated by a Lhoist contractor within the ADEM PQAO. The Lhoist-Montevallo facility was designated attainment/unclassifiable on March 26, 2021, under Round IV of the SO_2 DRR, based on 2017-2019 monitoring data [FR16055 2021-05397.pdf (govinfo.gov)].

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, the EPA issued a final rule that retained the existing NAAQS for Carbon Monoxide (CO) and made changes to the ambient air monitoring requirements. The EPA revised the minimum requirements for CO monitoring by requiring CO monitors to be collocated with one required near-road NO_2 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, the EPA revised the NAAQS for lead (Pb). The Pb standard was lowered from 1.5 ug/m^3 for a quarterly average to 0.15 ug/m^3 based on the highest rolling 3-month average over a 3-year period. The 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, the EPA revised the Pb rule to require source-oriented monitors for sources greater than 0.5 ton per year (tpy) and stated that population oriented monitors would be located at NCore sites. In March 2016, the 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. Since then, updated emissions inventories have reduced that to one identified source, Sanders Lead Company, Inc., located in Troy, Pike County, a Micropolitan statistical area, which emits greater than 0.5 ton of Pb per year. **Troy, 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.

Ozone (O_3) 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 2021-2023 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 O3	Most recent 3-year design value concentrations <85% of any O3
MSA population[1, 2]	NAAQS[3]	NAAQS[3,4]
>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	2021-2023 Design Values	MSA	MSA MAX DV	2023 Population Base
Helena[1]	01-117-0004	0.063	Birmingham-Hoover[3]	0.068	1,184,290
Phenix City - South Girard School[1]	01-113-0003	0.061	Columbus, GA-AL	0.061	323,768
Fairhope	01-003-0010	0.061	Daphne-Fairhope-Foley	0.061	253,507
Decatur	01-103-0011	0.064	Decatur	0.064	158,635
Southside[2]	01-055-0011	0.061	Gadsden	0.061	103,241
Chickasaw	01-097-0003	0.060	Mobile	0.060	411,640
Bay Road	01-097-2005	0.058			
Wetumpka Westside Technology	01-051-0004	0.057	Montgomery	0.062	385,480
MOMS, ADEM	01-101-1002	0.062			
Duncanville Middle School	01-125-0011	0.058	Tuscaloosa	0.058	278,290
Ward, Sumter Co.	01-119-0003	0.055	not in MSA	N/A	NA
DV ≥ 85% of the NAAQS					

1 Only site within MSA operated by ADEM. MSA MAX DV may be obtained from monitors not operated by ADEM.

2 Closed 11/1/23. Ozone monitoring in Gadsden MSA continued at Gadsden Community College, AQS 01-055-0010.

3 One Jefferson County monitor lacks enough valid data to meet completeness requirements to calculate design value.

Ozone Monitoring Requirements for Alabama MSAs

Birmingham-Hoover MSA

Using the Birmingham-Hoover MSA 2023 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. ADEM is planning to upgrade the shelter at this site in 2025 using IRA funding.

Columbus, GA-AL MSA

Using the Columbus GA-AL MSA 2023 population estimate and the design value from Table 4, one Ozone monitor is required for this MSA. ADEM operates one ozone monitor at **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 2023 population estimate and the design value from Table 4, one Ozone monitor is required for this MSA. There is currently one Ozone site, **Fairhope, AQS ID 01-003-0010** in Baldwin County, Alabama. ADEM plans to update the ozone analyzer at this site in 2025 using IRA funding with one equipped with a Nafion dryer, to remove moisture from the humid air which will increase precision and accuracy and decrease data loss.

Decatur MSA

Using the Decatur MSA 2023 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 2023 population estimate and the design value from Table 4, one Ozone monitor is required for this MSA. There is currently one Ozone site in Etowah County, Alabama. ADEM closed **Southside, AQS ID 01-055-0011** site at the end of the 2023 ozone season. Ozone was consolidated with the $PM_{2.5}$ site and continues in this MSA at **Gadsden Community College, AQS ID 01-055-0010**.

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 2023 population estimate and the design value from Table 4, two Ozone monitors are 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. ADEM plans to update the ozone analyzer at these sites in 2025 using IRA funding with one equipped with a Nafion dryer, to remove moisture from the humid air which will increase precision and accuracy and decrease data loss. ADEM is proposing to move **Chickasaw, AQS ID 01-097-0003** to Africatown. Efforts to find a new site will begin in summer 2024.

Montgomery MSA

Using the Montgomery MSA 2023 population estimate and the design value from Table 4, two Ozone monitors are 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. ADEM is planning to upgrade the shelter at Wetumpka in 2025 using IRA funding.

Tuscaloosa MSA

Using the Tuscaloosa MSA 2023 population estimate and design value from Table 4, no Ozone monitors are required for this MSA. There is currently one Ozone site, **Duncanville Middle School, AQS ID 01-125-0011** in Tuscaloosa County, Alabama. 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.

Nitrogen Dioxide (NO_2) Network

On January 22, 2010, the EPA finalized the monitoring rules for Nitrogen Dioxide (NO_2). The rules require the placement of NO_2 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 NO_2 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 NO_2 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. **Ward, Sumter Co., AQS ID 01-119-0003**, began its 24-month evaluation period for NO_2 with a Teledyne N500, CAPS NO_2 Analyzer on April 17, 2024**,** 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.

$PM_{2.5}$ 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 Near road site by January 1, 2017. ADEM does not operate an 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 2021-2023 data. Design values must be less than **29.75** ug/m^3 (85% of the NAAQS) to meet the 24-hour standard of 35 ug/m^3 and less than **10.2** ug/m^3 (85% of the 2012 NAAQS) to meet the annual standard of 12 ug/m^3. Effective May 6, 2024, the annual standard of the NAAQS for $PM_{2.5}$ was changed from 12 to 9 ug/m^3 and design values will have to the be less than **7.65** ug/m^3 (85% of the 2024 NAAQS) to meet the annual standard. Efforts are currently underway to designate each MSA under the new standard. Currently all areas of Alabama are designated attainment for the 2012 annual $PM_{2.5}$ standard because the national standards are being met.

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 an 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 the EPA Region IV.

Under the 2012 NAAQS, there are no MSA's in ADEM's network that meet the population and design value criteria to require $PM_{2.5}$ FRM monitoring. 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. This will change on the next plan when MSA monitoring requirements will be evaluated against the new standards and designations. Continuous $PM_{2.5}$ monitors satisfy the reporting requirement to AirNow.

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	PM2.5 24 hr DV 2021-2023	PM2.5 Annual DV 2021-2023	MSA	24hr MSA MAX DV	Annual MSA MAX DV	2023 Population Base
Phenix City - South Girard School[1]	01-113-0003	25	9.5	Columbus, GA-AL	27	10.0	323,768
Fairhope	01-003-0010	16	7.4	Daphne-Fairhope-Foley	16	7.4	253,507
Decatur	01-103-0011	18	7.8	Decatur	18	7.8	158,635
Gadsden C College	01-055-0010	20	8.8	Gadsden	20	8.8	103,241
Chickasaw	01-097-0003	17	8.1	Mobile	17	8.1	411,640
MOMS, ADEM	01-101-1002	18	8.6	Montgomery	18	8.6	385,480
Duncanville Middle School	01-125-0011	19	7.8	Tuscaloosa	19	7.8	278,290
Ashland (Regional Transport)	01-027-0001	17	7.3	Not in MSA	NA	NA	NA
Crossville (Background)	01-049-1003	18	7.8	Not in MSA	NA	NA	NA
Ward (Background)	01-119-0003	16	6.2	Not in MSA	NA	NA	NA
DV ≥ 85% of the 2012 NAAQS							

[1] Only site within MSA operated by ADEM. MSA MAX DV may be obtained from monitors not operated by ADEM.

$PM_{2.5}$ 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 2023 population base and the design value from Table 6 against the 2012 NAAQS, no FRM monitors are required. This MSA is currently being evaluated for compliance with the new standard. ADEM operates one FRM monitor on a 1 in 3 day frequency, one collocated FRM monitor on a 1 in 6 day frequency for quality assurance, and one speciation monitor at **Phenix City – South Girard School, AQS ID 01-113-0003**. No changes are planned. 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 2023 population base and the design value from Table 6 against the 2012 NAAQS, no FRM monitors are required. No change is expected under the 2024 NAAQS. There is currently one FEM BAM-1022 $PM_{2.5}$ continuous monitor located at **Fairhope, AQS ID 01-003-0010**. No changes are planned.

Decatur MSA

Using the Decatur MSA 2023 population base and the design value from Table 6 against the 2012 NAAQS, no FRM monitors are required. One monitor will be required under the 2024 NAAQS. There is currently one FEM BAM-1022 $PM_{2.5}$ continuous monitor located at **Decatur, AQS ID 01-103-0011**. No changes are planned.

Gadsden MSA

Using the Gadsden MSA 2023 population base and the design value from Table 6 against the 2012 NAAQS, no FRM monitors are required. One monitor will be required under the 2024 NAAQS. There is currently one FEM BAM-1022 $PM_{2.5}$ continuous monitor 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 2023 population base and the design value from Table 6 against the 2012 NAAQS, no FRM monitors are required. One monitor will be required under the 2024 NAAQS. There is currently one FEM BAM-1022 $PM_{2.5}$ continuous monitor located at **Chickasaw, AQS ID 01-097-0003**. ADEM is proposing to move **Chickasaw, AQS ID 01-097-0003** to Africatown. Efforts to find a new site will begin in summer 2024.

Montgomery MSA

Using the Montgomery MSA 2023 population base and the design value from Table 6 against the 2012 NAAQS, no FRM monitors are required. One monitor will be required under the 2024 NAAQS. There is currently one FEM BAM-1022 $PM_{2.5}$ continuous monitor and one collocated FRM $PM_{2.5}$ monitor on a 1 in 3 day frequency for quality assurance located at **MOMS, ADEM, AQS ID 01-101-1002**. No changes are planned.

Tuscaloosa MSA

Using the Tuscaloosa MSA 2023 population base and the design value from Table 6 against the 2012 NAAQS, no FRM monitors are required. One monitor will be required under the 2024 NAAQS. There is currently one FEM BAM-1022 continuous monitor located at **Duncanville Middle School, AQS ID 01-125-0011**. No changes are planned.

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 continues to provide adequate coverage. Since these areas do not have design values and their population is less than 500,000, 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 continuous FEM BAM-1022 $PM_{2.5}$ monitor. No changes are planned.

Crossville, **AQS ID 01-049-1003**, represents rural, background $PM_{2.5}$ values for the state using one continuous FEM BAM-1022 $PM_{2.5}$ monitor. No changes are planned.

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

PM_{10} Network

PM_{10} has been a criteria pollutant since 1987. Since that time there has been widespread monitoring of the PM_{10} levels in Alabama. In 2006, the EPA modified the NAAQS for PM_{10} 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 PM_{10} concentrations are less than 80% of the NAAQS daily standard. According to Table D-4 of Appendix D to Part 58, 0 to 1 PM_{10} monitors are required.

Montgomery MSA

ADEM operates two low-volume PM_{10} 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.

Mobile MSA

ADEM set up a new PM_{10} site at **Seals Park, AQS ID 01-097-8001.** This site became operational 7/1/2023 and has two Special Purpose Monitors, a low-volume PM_{10} monitor run on a 1 in 3 day schedule and an FEM E-BAM PLUS continuous PM_{10} monitor. A third monitor collects filters used for particle analysis. No changes are planned.

Sulfur Dioxide (SO_2) Network

Effective August 23, 2010, the EPA strengthened the primary NAAQS for SO_2. The 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 the EPA, for a short-term 1-hour SO_2 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 the EPA's historical approach and longstanding guidance for SO_2. The EPA is setting specific minimum requirements that inform states on where they are required to place SO_2 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 ≥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 SO_2 monitoring**.** For more information regarding SO_2 monitoring in the Birmingham-Hoover MSA refer to the JCDH ambient air monitoring network plan.

ADEM operates two SO_2 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. ADEM and EPA are proposing to move **Chickasaw, AQS ID 01-097-0003** to Africatown. Efforts to find a new site will begin in summer 2024.

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 SO_2, 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 B) 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 SO_2 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 PQAO.

Table 7 SO_2 Minimum Monitoring Site Requirements

SO2 Population Weighted Emissions Index (PWEI) Calcuations using 2023 Census Estimates and 2020 National Emissions Inventory (NEI) v2				
CBSA Name	**2020 NEI v2 SO2 (tpy)**	**Population Est (2023)**	**PWEI in Million persons-tpy**	**Required Monitors**
Birmingham-Hoover	12,680	1,184,290	15,017	2
Mobile	4,233	411,640	1,742	0
Florence-Muscle Shoals	181	155,175	28	0
Albertville	122	100,756	12	0
Anniston-Oxford	197	116,429	23	0
Auburn-Opelika	217	201,585	44	0
Columbus, GA-AL	2,480	323,768	803	0
Cullman	81	92,016	7	0
Daphne-Fairhope-Foley	233	253,507	59	0
Decatur	398	158,635	63	0
Dothan	303	153,349	46	0
Enterprise	118	55,643	7	0
Gadsden	52	103,241	5	0
Huntsville	256	527,254	135	0
Montgomery	1,402	385,480	540	0
Ozark	94	49,871	5	0
Scottsboro	733	53,467	39	0
Selma	192	36,165	7	0
Talladega-Sylacauga	184	91,400	17	0
Troy	501	33,137	17	0
Tuscaloosa	696	278,290	194	0
LaGrange, GA-AL	242	104,821	25	0

Quality Assurance

The ADEM has an EPA-approved Quality Assurance Program Plan (QAPP) and Quality Management Plan (QMP) 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

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
Gadsden C College[1]	Etowah/Gadsden MSA	01-055-0010	1001 Wallace Drive, Gadsden	33.991494	-85.992647	Population Exposure/ Urban	3/6/2024	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	10/31/2023	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 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

[1]Continued from Southside 01-155-0011

$PM_{2.5}$

Site Common Name	County/CBSA	AQS ID	Address	Latitude	Longitude	Monitoring Objective/Scale	Date Began	Date Ended	Method, Method Code and Schedule	NAAQS
Fairhope[1]	Baldwin/Daphne-Fairhope-Foley MSA	01-003-0010	Fairhope High School, Fairhope	30.497478	-87.880258	Population Exposure/ Neighborhood	1/1/2023	active	B, 209, C	Y
Ashland[1]	Clay/no MSA	01-027-0001	Ashland Airport, Ashland	33.284928	-85.803608	Regional Transport/ Regional	1/1/2023	active	B, 209, C	Y
Crossville[1]	DeKalb/no MSA	01-049-1003	13112 Hwy 68, Crossville	34.288567	-85.969858	General/Background/ Neighborhood	1/1/2023	active	B, 209, C	Y
Gadsden C College	Etowah/ Gadsden MSA	01-055-0010	1001 Wallace Drive, Gadsden	33.991494	-85.992647	Population Exposure/ Urban	1/1/2000	active	B, 209, C	Y
Chickasaw[1]	Mobile/Mobile MSA	01-097-0003	Iroquois and Azalea, Chickasaw	30.770181	-88.087761	Population Exposure/ Regional	1/1/2023	active	B, 209, C	Y
MOMS, ADEM[1]	Montgomery/ Montgomery MSA	01-101-0002	1350 Coliseum Blvd, Montgomery	32.412811	-86.263394	Population Exposure/ Neighborhood	2/14/2023	active	B, 209, C	Y
							1/16/2009	active	L, 145, 3	Y
Decatur	Morgan/Decatur MSA	01-103-0011	Wallace Ctr.Hwy 31, Decatur	34.530717	-86.967536	Population Exposure/ Middle	2/1/2023	active	B, 209, C	Y
Phenix City - S. Girard School[1]	Russell/Columbus GA-AL MSA	01-113-0003	510 6th Place South, Phenix City	32.437028	-84.999653	Highest Concentration/ Urban	2/17/2023	active	L, 145, 3	Y
							1/18/2017	active	L, 145, 6	Y
Ward, Sumter Co.	Sumter/no MSA	01-119-0003	NNE of Ward Post Office, Ward	32.362606	-88.277992	General/Background/ Regional	1/1/2021	active	B, 209, C	Y
Duncanville Middle School[3]	Tuscaloosa/ Tuscaloosa MSA	01-125-0011	11205 Eagle Pkwy, Duncanville	33.095379	-87.481501	Population Exposure/ Urban	1/1/2023	active	B, 209, C	Y
B = Beta Attenuation Monitor; L = Low Volume Sequential Sampler; 3 = 24 hours every 3rd day; 6 = 24 hours every 6th day; C = Continuous										
1 Method changed 2023										

PM_{10}

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, 3	Y
						Quality Assurance/ Neighborhood	1/1/2013	active	L, 127, 6	Y
Seals Park	Mobile/Mobile MSA	01-097-8001	540 Texas St, Mobile, AL 36603	30.679499	-88.04658	Population Exposure/ Neighborhood	7/1/2023	active	L, 127, 3	N
							7/1/2023	active	B, 226, C	N
L = Low Volume Sequential Sampler; B = Beta Attenuation Monitor; 3= 24 hours every 3rd day; 6 = 24 hours every 6th day; C= continuous										

SO_2

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										

Lead

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

NO2

Site Common Name	County / CBSA	AQS ID	Address	Latitude	Longitude	Monitoring Objective / Scale	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	4/17/2024	active	CAP, 212, C	N
CAP = Cavity Attenuated Phase Shift C = Continuous										

Appendix A

Site Assessments with EJ Screening

All of ADEM's sites were evaluated for compliance and were found to meet the requirements of 40 CFR 58, Appendices A, C, D and E, as appropriate. Environmental Justice (EJ) screening, using EPA's EJ Screen: Environmental Justice Screening and Mapping Tool, must be conducted when moving sites or starting new sites. EJ metrics will be considered when determining the final placement of the new Africatown site. No additional EJ screening was conducted this year.

The following issues were observed during site evaluations and any corrective actions noted.

Table 8 Issues observed during site assessments

Site	Issue	Correction
Troy AQS ID 01-109-0003	Tree dripline was 10.6m from the air inlet.	A large tree will need to be delimbed or removed soon.
Seals Park AQS ID 01-097-8001	Fence posts have settled since installation creating a bigger gap at the lock.	A chain will be installed to ensure lock integrity.

ASHLAND **AQS ID 01-027-0001**

Ashland Airport, Ashland, Clay County **33.284928, -85.803608**

MSA: N/A 227m to Airport Road Property Type: Residential

NORTH

SOUTH

EAST

WEST

Parameter/ Monitor Type	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
BAM-1022/ SLAMS	Regional Transport/ Regional	Continuous	12/20/2022	209	Inlet Head	2.0 m	N/A	33.5 m	11.4 m Southeast

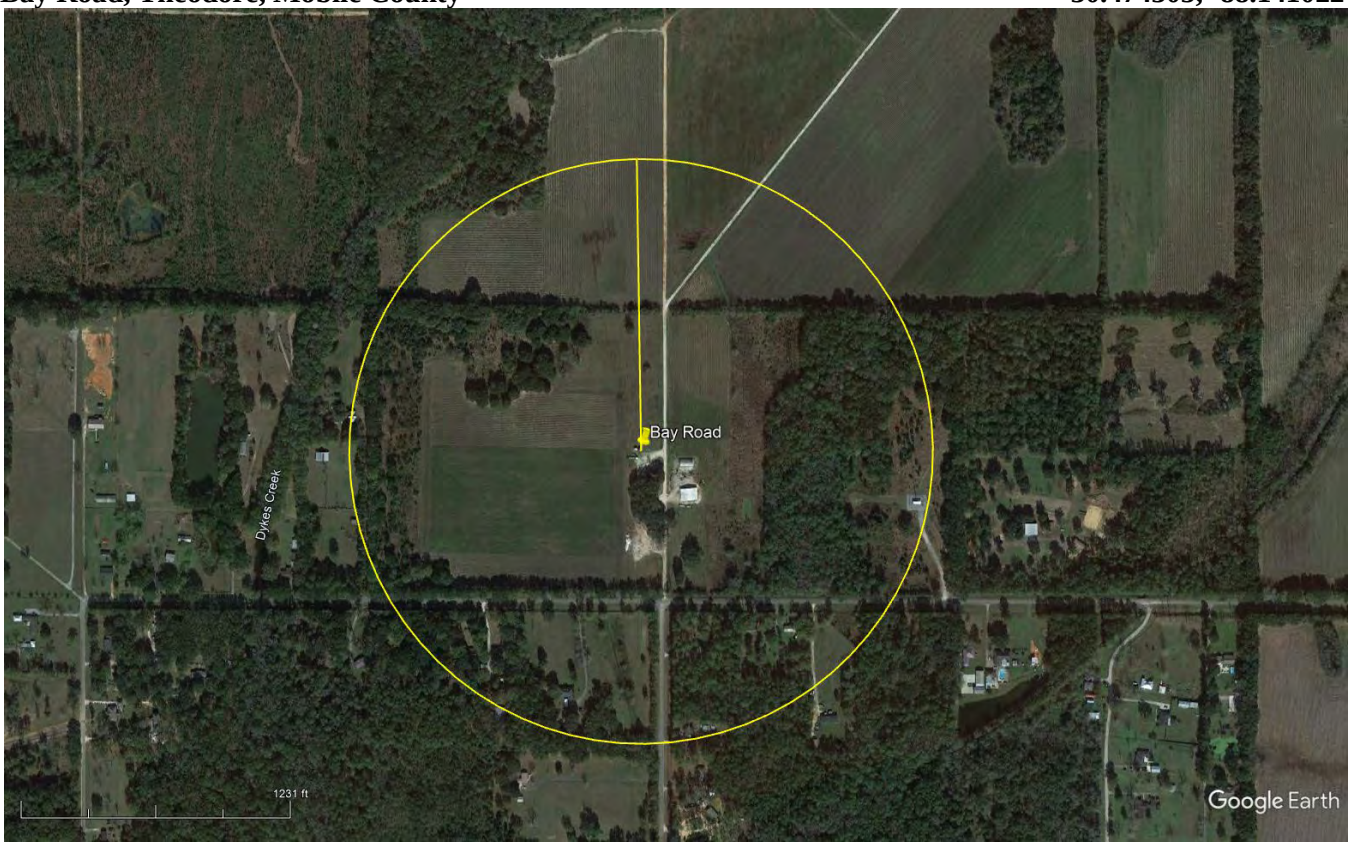
This site meets all requirements of 40 CFR Part 58. Evaluation Date: 03/10/2023

BAY ROAD

AQS ID 01-097-2005

Bay Road, Theodore, Mobile County

30.474305, -88.141022



MSA: Mobile | 68 m to Bay Road | Property Type: Agricultural

NORTH

SOUTH

EAST

WEST

Parameter/ Monitor Type	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/ SLAMS	Population Exposure and Highest Concentration/ Urban	Continuous	03/01/1999	087	Teflon	4.4m	1.2m	34.4 m	13.8 m South

This site meets all requirements of 40 CFR Part 58. Evaluation Date: 05/10/2024

CHICKASAW **AQS ID 01-097-0003**

801 Iroquois St., Chickasaw, Mobile County **30.770181, -88.087761**

MSA: Mobile 58.9 m from Iroquois St Property Type: Commercial

NORTH

SOUTH

EAST

WEST

Parameter/ Monitor Type	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/ SLAMS	Population Exposure/ Neighborhood	Continuous	03/02/1982	087	Teflon/ Teflon	4.3m	1.2 m	12.8 m	4.4 m Southwest
SO2/ SLAMS			01/01/2013	100	Teflon/ Teflon	4.8m	1.7 m	15.2 m	
BAM-1022/ SLAMS	Population Exposure/ Regional		01/01/2023	209	Inlet Head	2.0 m	2.1 m	7.9 m	

This site meets all requirements of 40 CFR Part 58. Evaluation Date: 04/23/2024

CROSSVILLE

AQS ID 01-049-1003

13112 Highway 68, Crossville, DeKalb County

34.288567, -85.969858

µSA: Fort Payne

172 m from Hwy 68

Property Type: Agricultural

NORTH

SOUTH

EAST

WEST

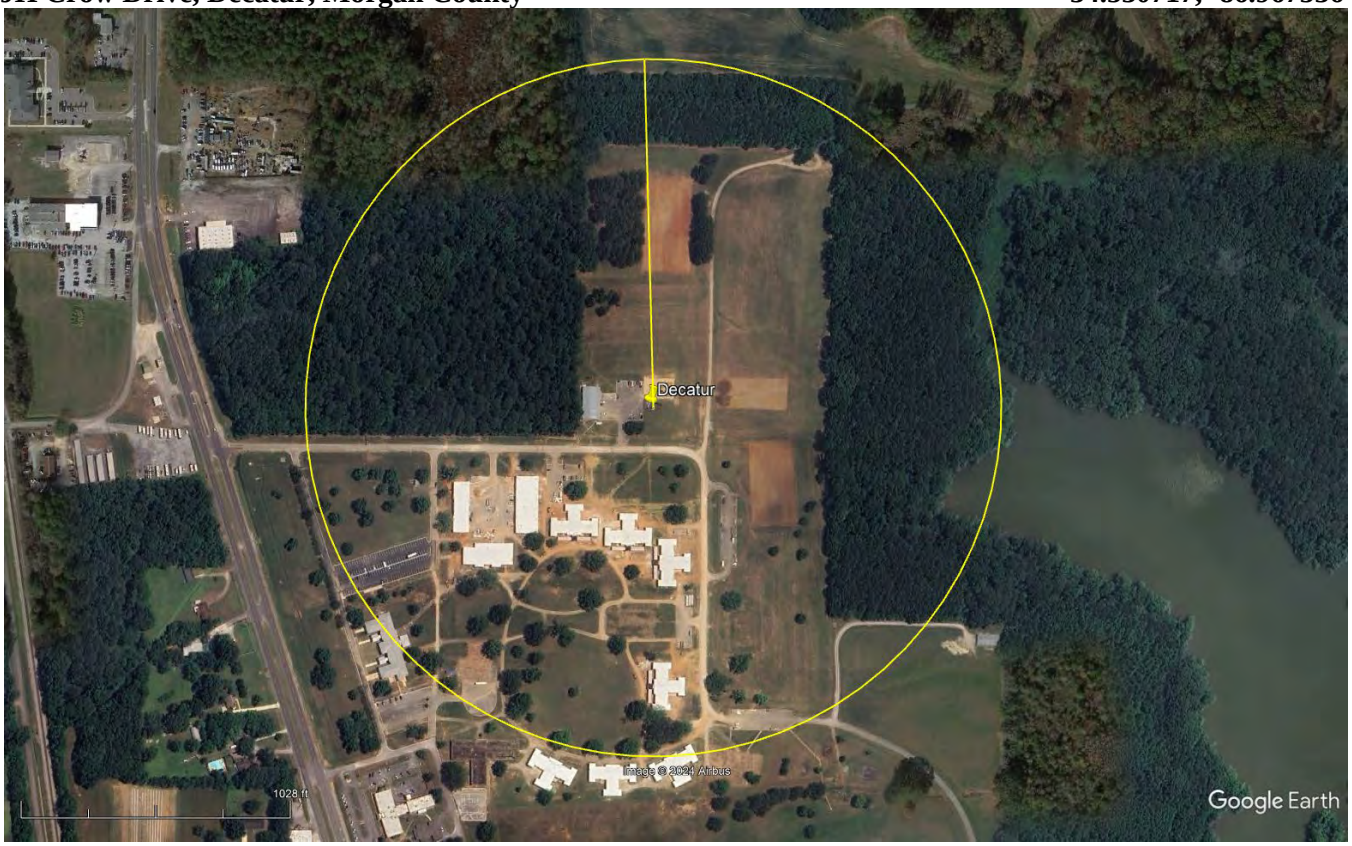
Parameter/ Monitor Type	Monitoring Objective/ Scale	Schedule	Start Date	AQS Method Code	Probe/Rain Shield Material	Probe Inlet Height from ground	Distance from probe to supporting structure	Distance from probe to nearest tree dripline	Height of nearest tree/ Direction from probe to tree
BAM-1022/ SLAMS	General Background/ Neighborhood	Continuous	01/01/2023	209	Inlet Head	2.0 m	N/A	22.9 m	9.8 m East

This site meets all requirements of 40 CFR Part 58.

Evaluation Date: 03/19/2024

DECATUR **AQS ID 01-103-0011**

JH Crow Drive, Decatur, Morgan County **34.530717, -86.967536**



MSA: Decatur 507 m to Hwy 31 Property Type: Commercial

NORTH

SOUTH

EAST

WEST

Parameter/ Monitor Type	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/ SLAMS	Population Exposure/Urban	Continuous	04/01/2000	087	Teflon/ Teflon	4.3 m	1.7 m	20.6 m	13.6 m Southwest
BAM-1022/ SLAMS	Population Exposure/Middle		01/23/2023	209	Inlet Head	4.6 m	2.1 m	22.2 m	

This site meets all requirements of 40 CFR Part 58. Evaluation Date: 03/21/2024

Duncanville Middle School

AQS ID 01-125-0011

11205 Eagle Parkway, Duncanville, Tuscaloosa County

33.095379, -87.481507

MSA: Tuscaloosa

Property Type: Commercial

NORTH

SOUTH

EAST

WEST

Parameter/ Monitor Type	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/ SLAMS	Population Exposure/ Urban	Continuous	03/02/2022	087	Teflon	4.4 m	1.6m	28.3 m	7.6 m NW
BAM-1022/ SLAMS			12/8/2022	209	Inlet	4.7 m	2.0 m	30.9 m	

This site meets all requirements of 40 CFR Part 58.

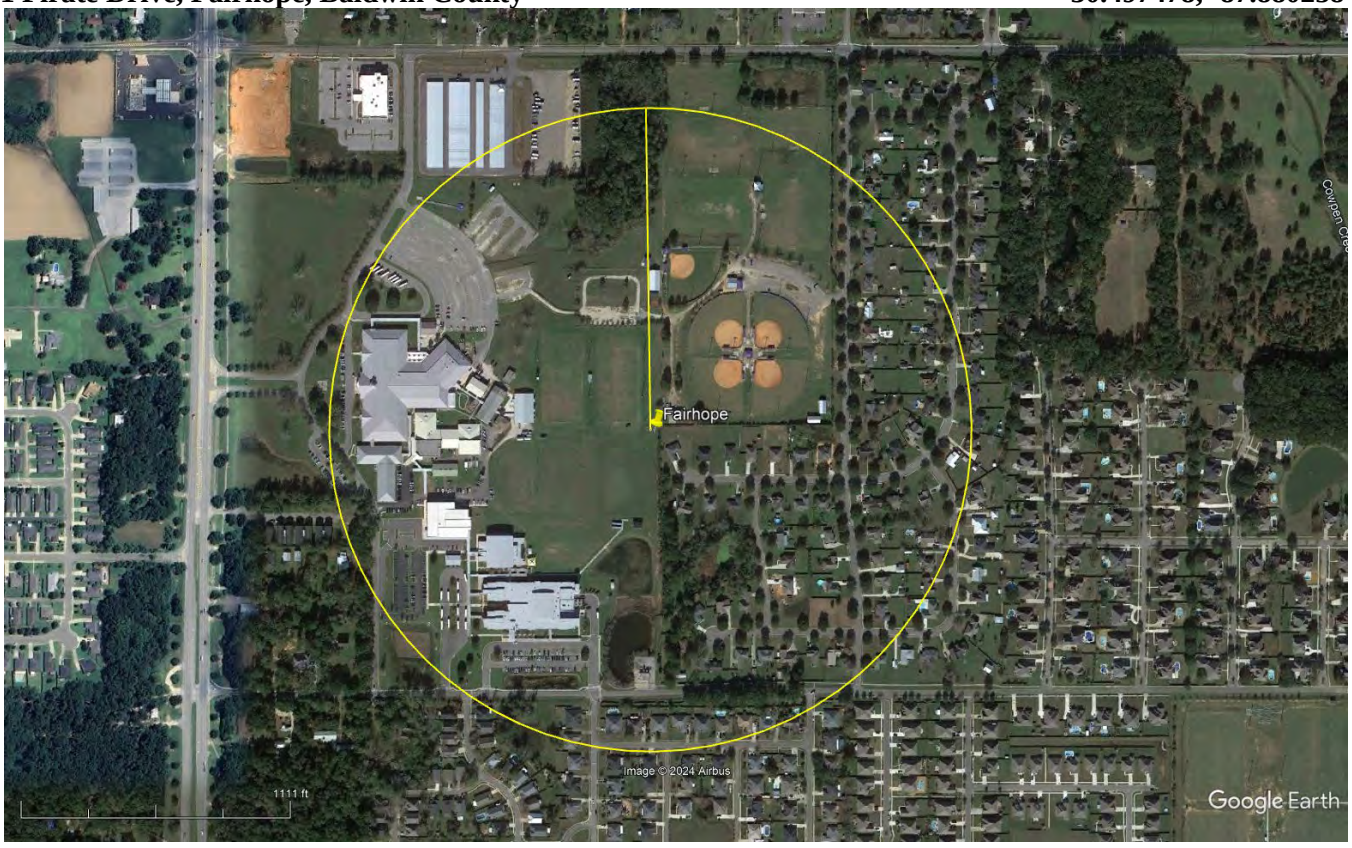
Evaluation Date: 04/26/2024

FAIRHOPE

AQS ID 01-003-0010

1 Pirate Drive, Fairhope, Baldwin County

30.497478, -87.880258



MSA: Daphne-Fairhope-Foley | 549 m from Pirate Drive | Property Type: Commercial

NORTH

SOUTH

EAST

WEST

Parameter/ Monitor Type	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/ SLAMS	Population Exposure/ Neighborhood	Continuous	03/01/2000	087	Teflon	4.4 m	1.8 m	21.9 m	7.2 m Northeast
BAM-1022/ SLAMS			01/26/2023	209	Inlet Head	2.0 m	N/A	21.3 m	

This site meets all requirements of 40 CFR Part 58. Evaluation Date: 04/23/2024

GADSDEN C COLLEGE

AQS ID 01-055-0010

314 College Dr, Gadsden, Etowah County

33.988210, -85.992556

MSA: Decatur

Property Type: Commercial

NORTH

SOUTH

EAST

WEST

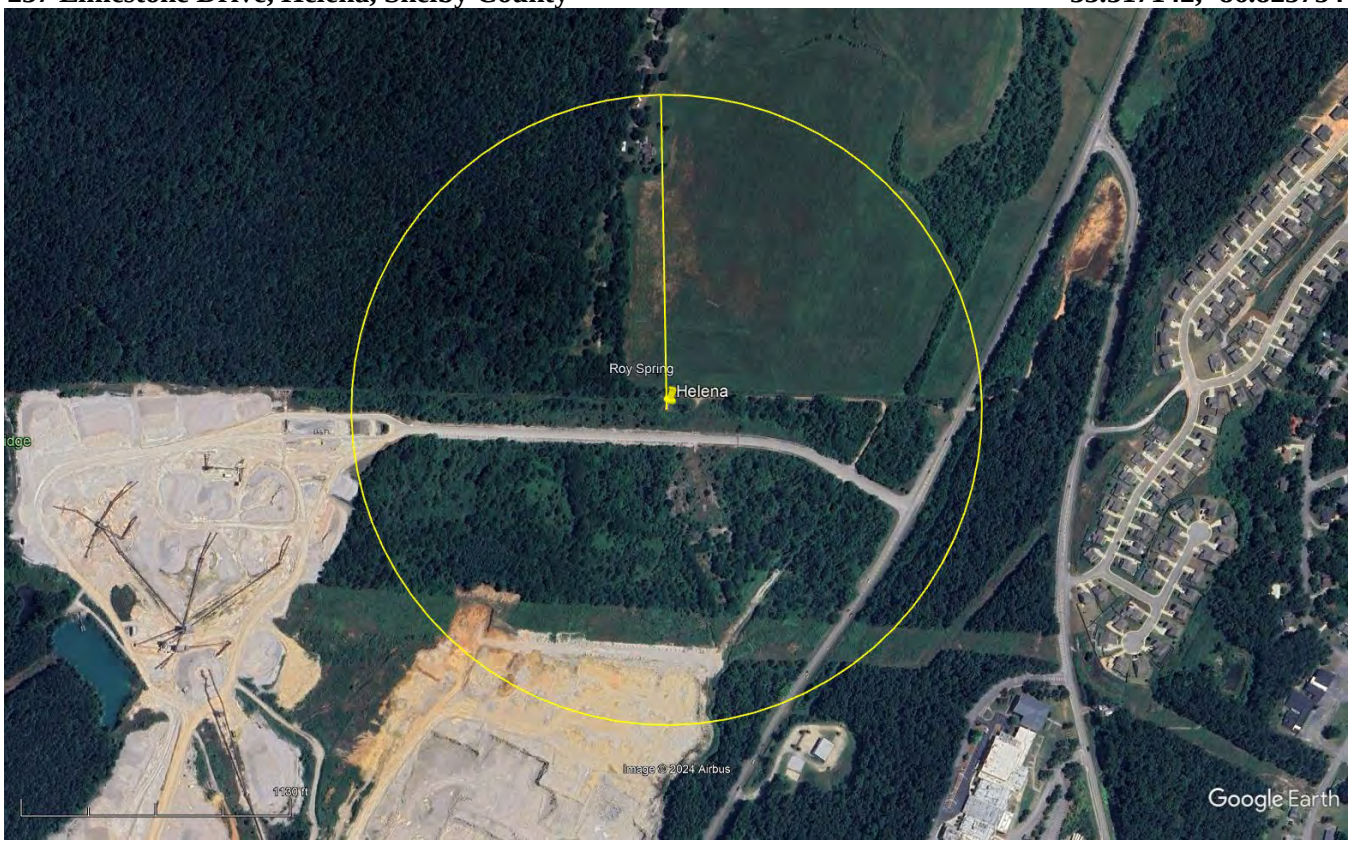
Parameter/ Monitor Type	Monitoring Objective/ Scale	Schedule	Start Date	AQS Method Code	Probe/Rain Shield Material	Probe Inlet Height from ground	Distance from probe to supporting structure	Distance from probe to nearest tree dripline	Height of nearest tree/ Direction from probe to tree
Ozone/ SLAMS	Population Exposure/Urban	Continuous	03/04/2024	087	Teflon	4.83 m	1.83 m	23.17 m	6.4 m West
BAM-1022/ SLAMS	Population Exposure/Middle		03/19/2024	209	Inlet Head	4.57 m	2.08 m	24.99 m	

This site meets all requirements of 40 CFR Part 58

Evaluation Date: 03/192024

HELENA **AQS ID 01-117-0004**

237 Limestone Drive, Helena, Shelby County **33.317142, -86.825754**



MSA: Birmingham-Hoover 33.5m to Limestone Drive Property Type: Industrial

NORTH

SOUTH

EAST

WEST

Parameter/ Monitor Type	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/ SLAMS	Population Exposure/ Urban	Continuous	01/01/1983	087	Teflon	4.4 m	1.6 m	16.2 m	13 m North

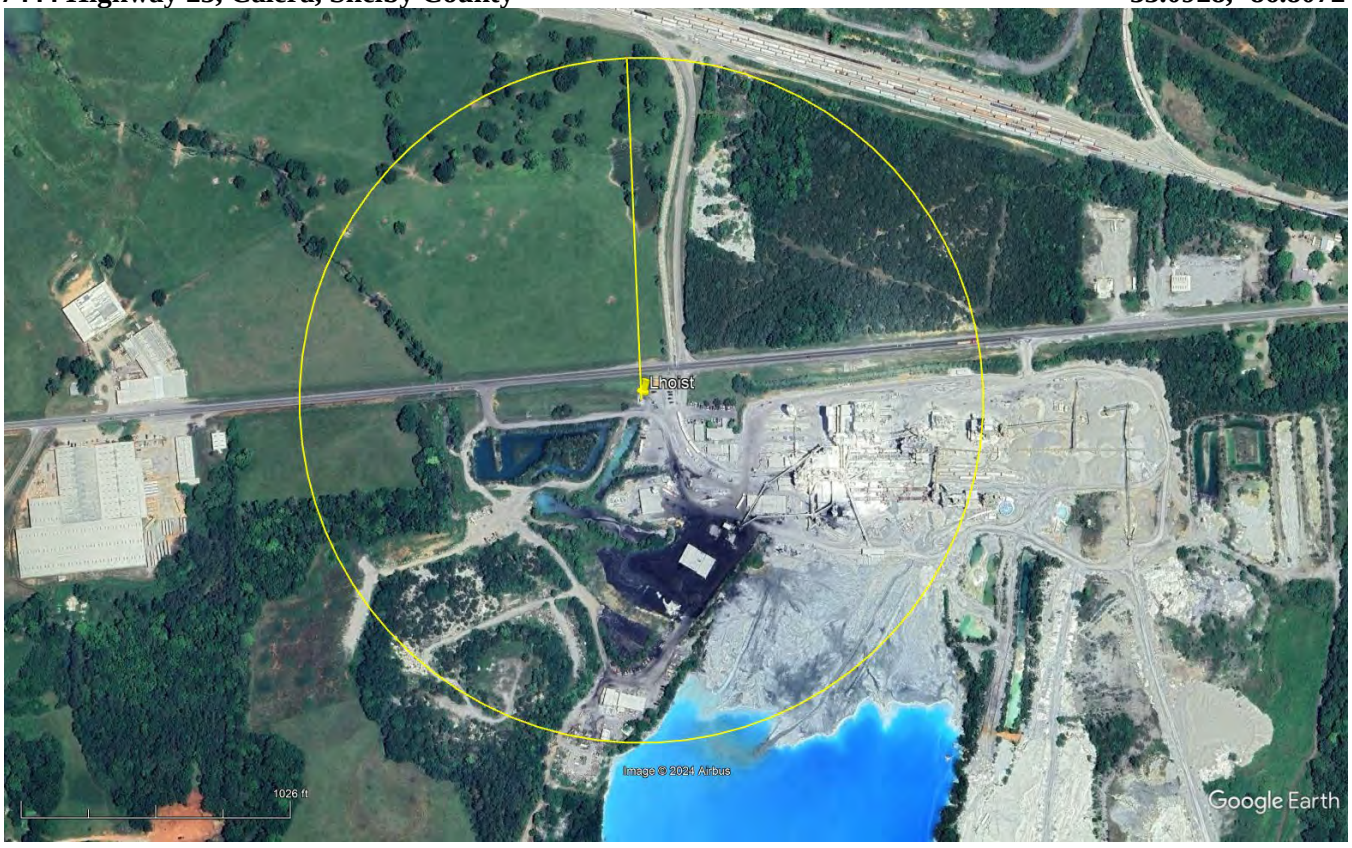
This site meets all requirements of 40 CFR Part 58. Evaluation Date: 03/21/2024

LHOIST, MONTEVALLO PLANT

AQS ID 01-017-9001

7444 Highway 25, Calera, Shelby County

33.0928, -86.8072



MSA: Birmingham-Hoover | 22 m from Hwy 25 | Property Type: Industrial

NORTH

SOUTH

EAST

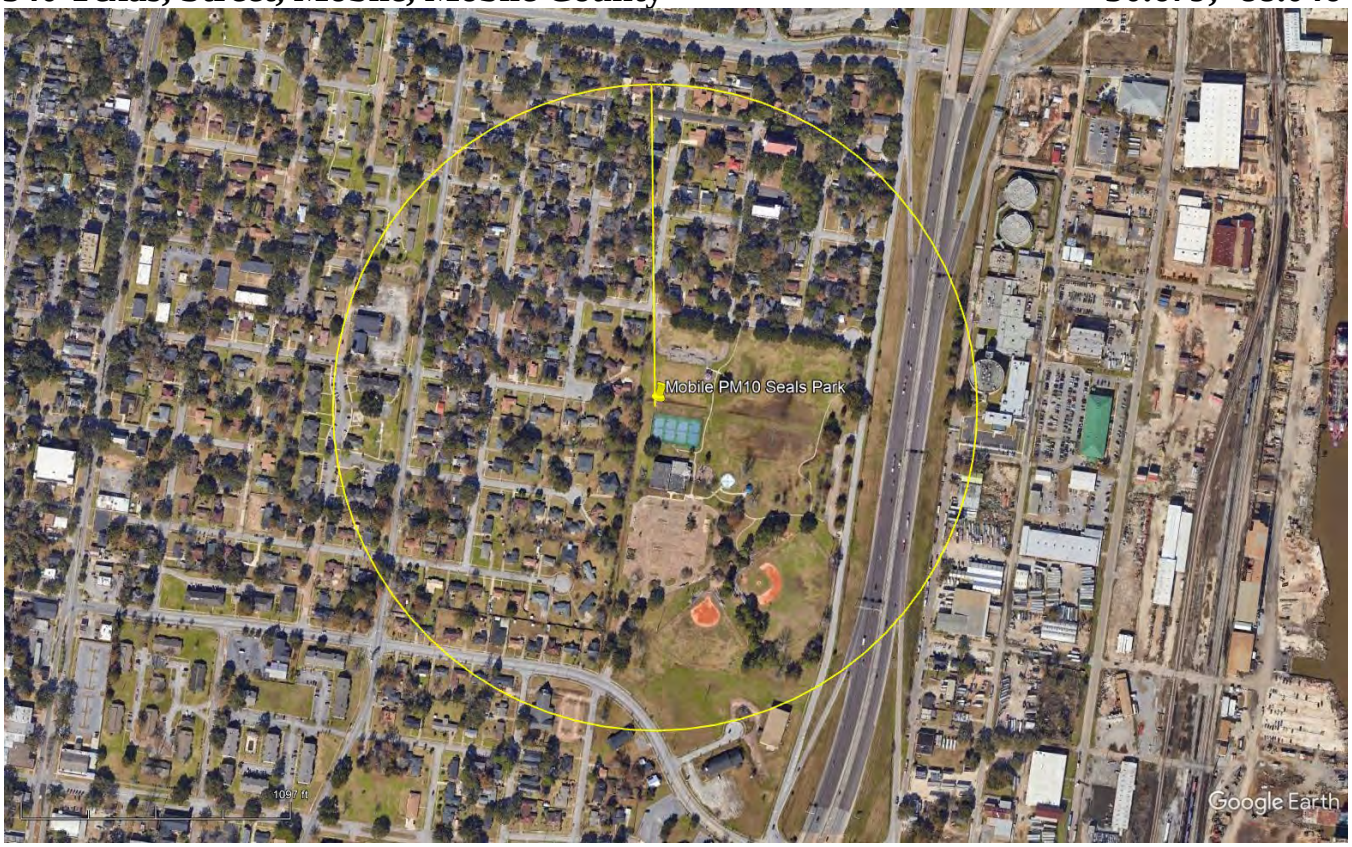
WEST

Parameter/ Monitor Type	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/ SLAMS	Highest Concentration/ Middle	Continuous	01/01/2017	100	Teflon	3.9 m	1.5 m	17.7 m	15.5 m Southwest

This site meets all requirements of 40 CFR Part 58. Evaluation Date: 04/26/2024

Mobile PM10 Seals Park **AQS ID 01-097-8001**

540 Texas, Street, Mobile, Mobile County **30.679, -88.046**



MSA: Mobile 117 m to August Street Property Type: Park

NORTH

SOUTH

EAST

WEST

Parameter/ Monitor Type	Monitoring Objective / Scale	Schedule	Start Date	AQS Method Code	Probe / Rain Shield Material	Monitor Inlet Height from ground.	Distance from Inlet to supporting Structure	Distance from inlet to nearest tree dripline	Height of nearest tree & direction from inlet
PM10/ SPM	Source Oriented/ Neighborhood	1/6 day	07/01/23	127	Inlet	2.4 m	2.1 m	18.0 m	12.4 m West
E-BAM PLUS/ SPM		Continuous		226					
Mini- Vol	N/A	1/6 day		N/A				15.2 m	

This site meets all requirements of 40 CFR Part 58. Evaluation Date: 05/15/2024

MOMS, ADEM

AQS ID 01-101-1002

1350 Coliseum Boulevard, Montgomery, Montgomery County

32.412811, -86.263394

MSA: Montgomery | 285 m to Coliseum Boulevard | Property Type: Commercial

NORTH

SOUTH

EAST

WEST

Parameter/ Monitor Type	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/SLAMS	Population Exposure/ Neighborhood	Continuous	06/02/1993	087	Teflon	4.3 m	1.8 m	N/A	68.2 m	10 m West
BAM-1022/ SLAMS			01/01/2015	209	Inlet Head	4.7 m	2.1 m	1.1 m	69.8 m	
PM2.5CO/SLAMS		1/3 day	01/16/2009	145					68.2 m	
PM10/SLAMS		1/6 day	09/16/1993	127		3.2 m		1.3 m	58.8 m	
PM 10CO/SLAMS			01/01/2013					1.3 m	58.5 m	

This site meets all requirements of 40 CFR Part 58. Evaluation Date: 05/16/2024

PHENIX CITY-SOUTH GIRARD SCHOOL

AQS ID 01-113-0003

510 6th Place South, Phenix City, Russell County

32.437028, -84.999653

MSA: Columbus GA-AL

108 m to 6th Place South

Property Type: School

NORTH

SOUTH

EAST

WEST

Parameter/ Monitor Type	Monitoring Objective/ Scale	Schedule	Start Date	AQS Method	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 nearest tree/ Direction
Ozone/ SLAMS	Highest Concentration	Continous	3/1/18	087	Teflon	4.5 m	1.8 m	N/A	48.8 m	9.8 m South
PM 2.5/ SLAMS		1/3 day	1/31/23	145	Inlet	4.7 m	2.0 m	1.3 m	45.4 m	
PM2.5CO/ SLAMS		1/6 day	1/18/17	145	Inlet	4.7 m	2.0 m		46.8 m	
SASS/ Supplemental Speciation	Population Exposure	1/6 day	6/12/17	811	Inlet	4.3 m	1.6 m	N/A	44.8 m	
URG/ Supplemental Speciation		1/6 day	6/12/17	812	Inlet	4.7m	2.0 m	N/A	45.2 m	

This site meets all requirements of 40 CFR Part 58.

Evaluation Date: 03/08/2024

TROY LEAD

AQS ID 01-109-0003

Henderson Road, Troy, Pike County

31.790479, -85.978974

µSA: Troy

15 m Henderson Road

Property Type: Industrial

NORTH

SOUTH

EAST

WEST

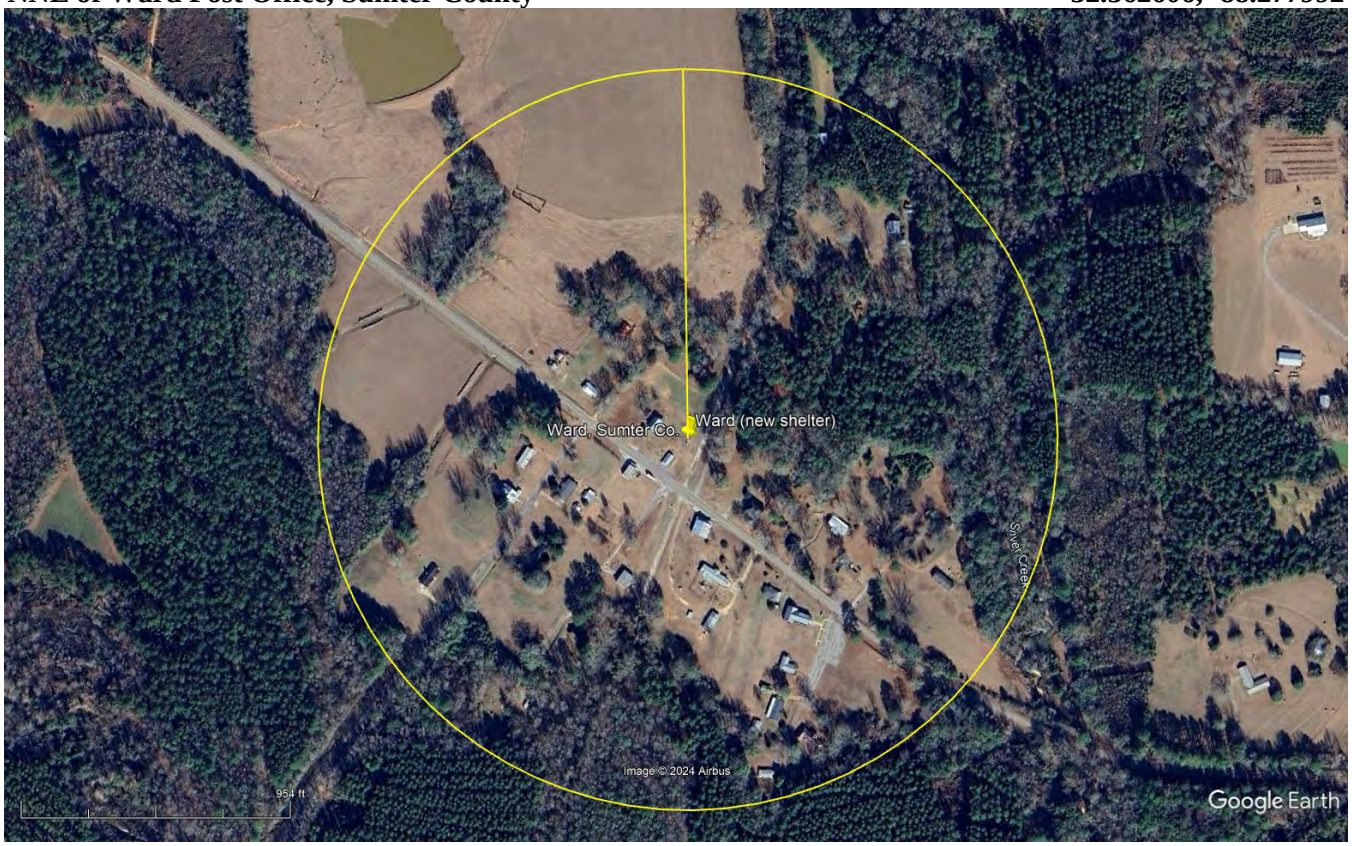
Parameter/ Monitor Type	Monitoring Objective/ Scale	Schedule	Start Date	AQS Method Code	Probe Inlet Height from ground	Distance between collocated samplers	Distance from probe to nearest tree dripline	Height of nearest tree/ Direction from probe to tree
Lead TSP/ SLAMS	Highest Concentration/ Neighborhood	Every 6 days	01/01/2009	044	2.1 m	2.0 m	13.1 m	14.4 m North
Lead TSPCO/ SLAMS							11.2 m	

This site meets all requirements of 40 CFR Part 58.

Evaluation Date: 04/29/2024

WARD, SUMTER CO. **AQS ID 01-119-0003**

NNE of Ward Post Office, Sumter County **32.362606, -88.277992**



MSA: N/A 44.8 m to County Rd. 10 Property Type: Agricultural

NORTH

SOUTH

EAST

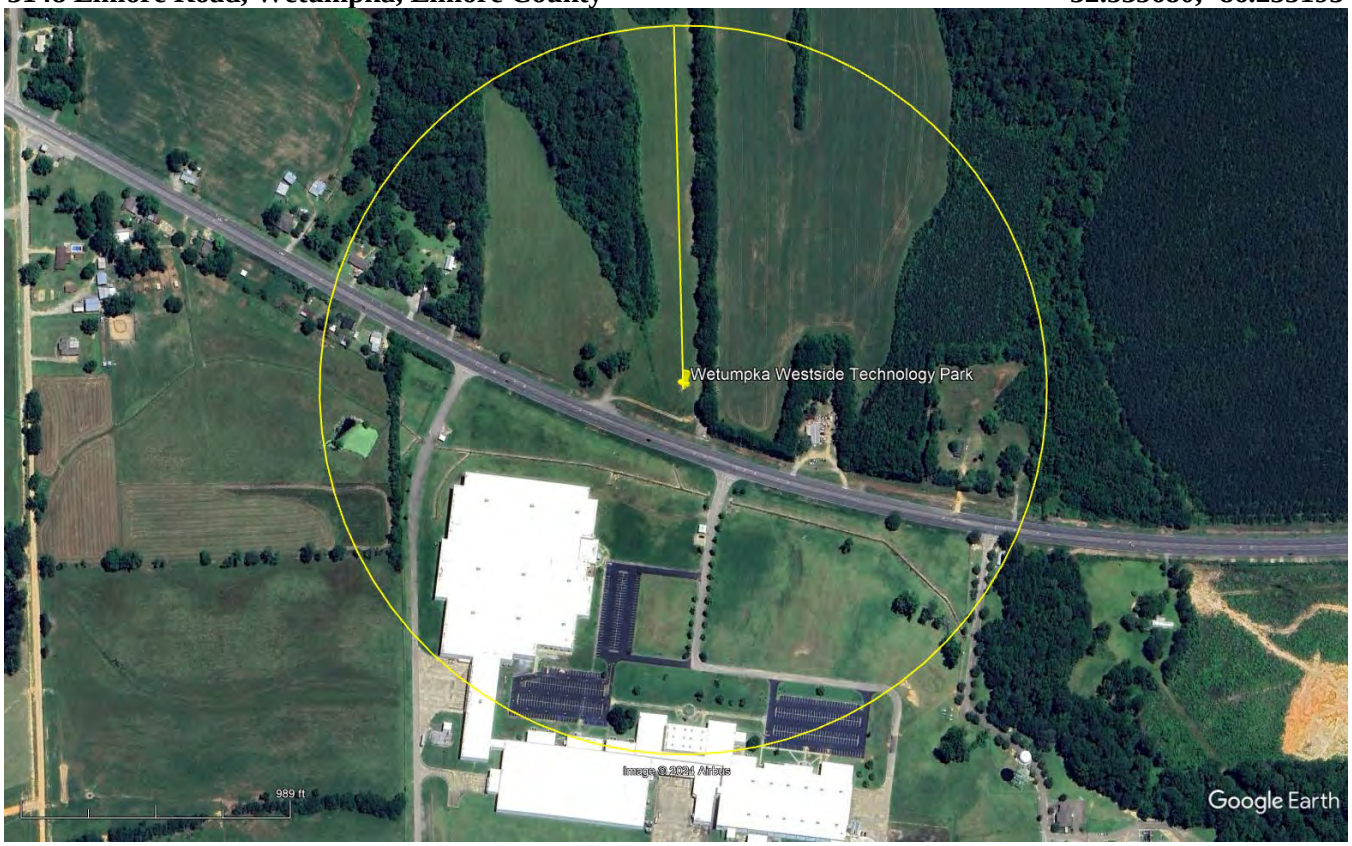
WEST

Parameter/ Monitor Type	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
BAM-1022/ SLAMS	General Background/ Regional	Continuous	01/01/2021	209	Inlet Head	4.7 m	2.1 m	31.1 m	20.8 m Southwest
Ozone/SLAMS			03/01/2013	087	Teflon/ Teflon	4.6 m	1.9 m	28.7 m	
SO2/SLAMS			01/04/2018	100		4.6 m	1.9 m	31.4 m	
NO2/ SPM			4/17/2024	212					

This site meets all requirements of 40 CFR Part 58. Evaluation Date: 04/30/2024

WETUMPKA WESTSIDE TECHNOLOGY PARK — AQS ID 01-051-0004

3148 Elmore Road, Wetumpka, Elmore County — **32.535680, -86.255193**



MSA: Montgomery — 56m to Hwy 14 — Property Type: Industrial

NORTH

SOUTH

EAST

WEST

Parameter/ Monitor Type	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/ SLAMS	Highest Concentration/ Urban	Continuous	03/20/2018	087	Teflon / Teflon	4.0 m	1.4 m	21.3 m	5.7 m East

This site meets all requirements of 40 CFR Part 58. Evaluation Date: 02/29/2024

Appendix B
DRR SO_2 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 (SO_2) 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 SO_2 emissions serve[s] as the basis for designating such area as attainment for the 2010 SO_2 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 SO_2 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 SO_2 DRR Sources

Facility No.	Plant Name
201-0001	International Paper Company- Prattville Mill

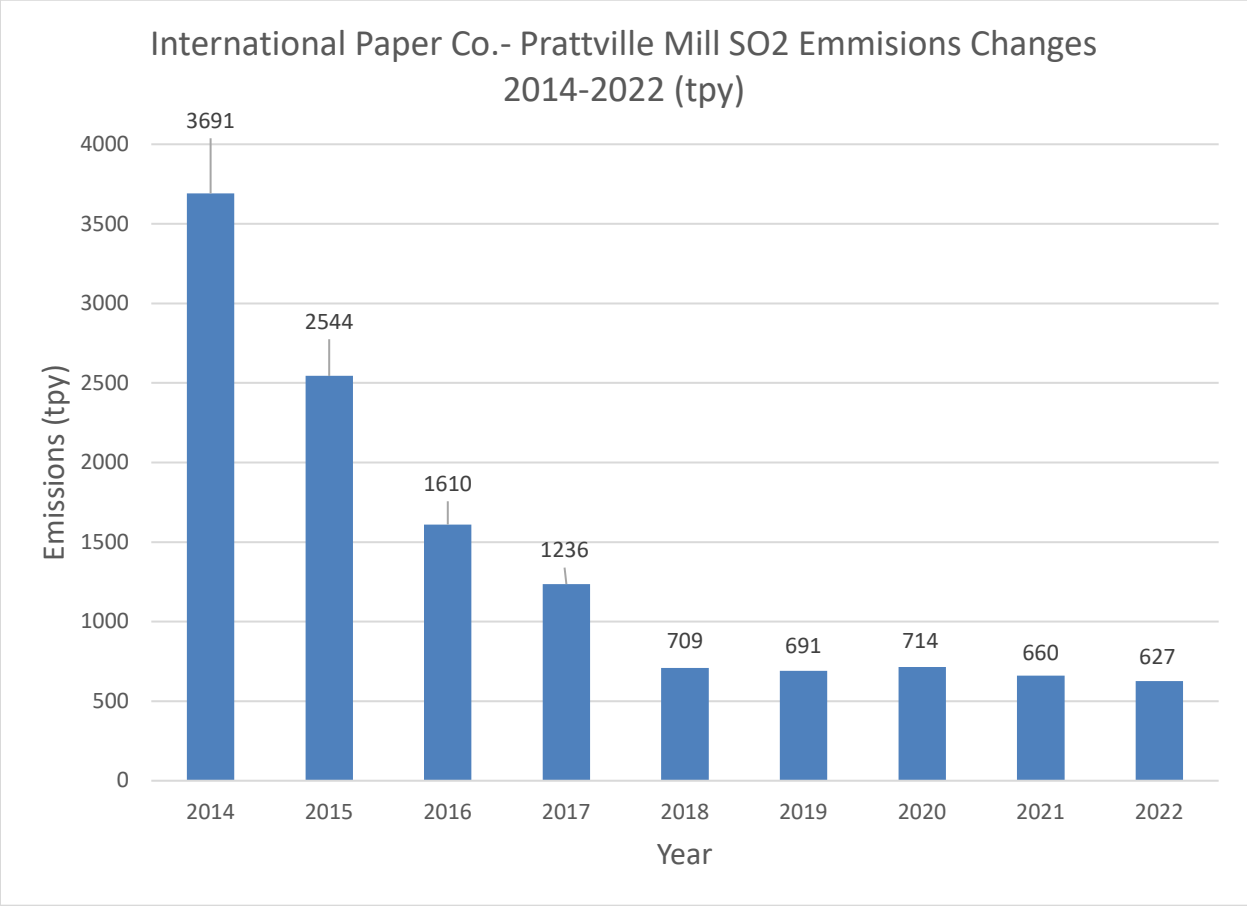
International Paper Company- Prattville Mill

For this review, actual emissions from the last nine Title V reporting periods were compared (2014-2022) to assess possible increases in SO_2 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 2022, the International Paper- Prattville facility shows a continued decrease in SO_2 emissions. This decrease in emissions represents a reduction of 81% from the base year of 2014. Accordingly, there will be no future reporting for the International Paper Company- Prattville Mill.

Table A-2: International Paper Co- Prattville Mill SO_2 Emissions (2014-2022)

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
		2021	660
		2022	627

Figure A-1: International Paper- Prattville Mill SO_2 Emissions 2014- 2022



Based on the analysis of 2022 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 for International Paper- Prattville. The existing modeling was approved by EPA in its attainment/unclassifiable determination for Autauga County and can still be relied on to demonstrate that the 1-hour SO_2 NAAQS continues to be met in this area. Based on sustained significant reductions in SO_2 from the Mill, there will be no future reporting for the facility.

Appendix C
Comments

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

Page	Change