

**State of Alabama
Ambient Air Monitoring
2021 Network Plan**

June 30, 2021



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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
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 2020/2021, and changes proposed to take place to the current ambient air monitoring network during 2021/2022.

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 2021, this document was placed on ADEM's website on 05/15/2021 to begin a 30-day public review period. This document can be accessed at the following link:

<http://www.adem.state.al.us/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 also 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 2021 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 2020/2021

- **Decatur, AQS ID 01-103-0011**, a FEM API T-640 replaced a non-FEM BAM-1020 for continuous PM_{2.5} monitoring which was originally scheduled for March 2020. Due to COVID related delays, the monitor replacement did not become effective until August 1, 2020.
- **Phenix City – South Girard School, AQS ID 01-113-0003**, Three monitors were used for PM_{2.5} monitoring at the site, two local FRM samplers, (primary and collocated both collecting on a 1 in 3 day schedule) and a continuous FEM BAM-1022 monitor. On January 1, 2021, only two samplers remain at the site, the continuous FEM PM_{2.5} BAM-1022 was designated as the primary PM_{2.5} SLAMS monitor and one local FRM sampler that collects on a 1 in 6 day schedule to meet the collocation requirements. The original local FRM sampler was removed.
- **VA, Tuscaloosa, AQS ID 01-125-0004**, a local FRM sampler was added to meet collocation requirements of PM_{2.5} monitoring on January 1, 2021. The primary local FRM sampler collects on a 1 in 3 day schedule and the collocated local FRM sampler collects on a 1 in 6 day schedule.
- **Ward, Sumter Co., AQS ID 01-119-0003**, On January 1, 2021, the FEM BAM-1022 PM_{2.5} SLAMS monitor replaced the non-FEM BAM-1020 for continuous PM_{2.5} monitoring. As this monitor will be the second continuous FEM monitor in the network, no collocation of a FRM is required at this site.

Summary of proposed changes for 2021/2022

- **Duncanville, Tuscaloosa, AQS ID 01-125-0010**, ADEM has lost access to the property and this ozone site is scheduled to close once the replacement site is fully operational. A new ozone monitoring site will be operational within this MSA before this site is closed.
- **Duncanville Middle School, AQS ID 01-125-0011** will replace **Duncanville, Tuscaloosa, AQS ID 01-125-0010**. The replacement site is located 1.3 miles west of the closing site. A new CAS shelter will be delivered in May and monitoring is expected to begin July 1, 2021. ADEM will request a continuation of the data for design value purposes. See Appendix B for supporting documentation.
- **Chickasaw, AQS ID 01-097-0003**, Both the primary FRM manual monitor and the non-FEM BAM 1020 will be shut down on December 31, 2021 and will be replaced by a continuous FEM BAM-1022 PM_{2.5} monitor. Beginning January 1, 2022, 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. This upgrade to continuous FEM equipment is inline with plans outlined in the 5-year Network Assessment.
- **Ward, Sumter Co., AQS ID 01-119-0003**, On January 1, 2022, ADEM is scheduled to begin monitoring NO₂ at Ward, Sumter Co. (AQS ID 01-119-0003) as a background site. The monitor will be designated as a Special Purpose Monitor (SPM).

Table 1 2021 ADEM Ambient Air Monitoring Network

ADEM Site Common Name	AQS ID	Ozone	PM2.5 Local	PM 2.5 Local Collocated	PM2.5 Speciation	PM2.5 Continuous	PM10 Lo-Vol	PM10 Lo-Vol Collocated	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									
Southside	01-055-0011	X										
Chickasaw⁴	01-097-0003	X	X ⁴			X ⁴						X
Bay Road	01-097-2005	X										
MOMS, ADEM	01-101-1002	X	X	X		X	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.³	01-119-0003	X				X					X ³	X
VA, Tuscaloosa	01-125-0004		X	X								
Duncanville, Tuscaloosa¹	01-125-0010	X ¹										
Duncanville Middle School²	01-125-0011	X ²										
1. Duncanville, Tuscaloosa will close once Duncanville Middle School is fully operational												
2. Duncanville Middle School is scheduled to begin ozone sampling 07/01/2021												
3. Ward is scheduled to begin NO ₂ sampling 01/01/2022												
4. The primary monitor will change to continuous & FRM closed on 01/01/2022												

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 2019 population estimate of 4,903,185. The initial release of the 2020 population total for Alabama is 5,030,053, but the CSA population totals have not been released yet. Alabama's Metropolitan and Micropolitan Core Based Statistical Areas with corresponding classifications as Metropolitan or Micropolitan, county names included in that area, and the 2019 population totals are listed in Table 2.

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	2019 Population Estimate	Metropolitan or Micropolitan Statistical Areas
Anniston-Oxford	Calhoun	113,605	Metropolitan
Auburn-Opelika	Lee	164,542	Metropolitan
Birmingham-Hoover	Bibb, Blount, Chilton, Jefferson, Shelby, St. Clair, Walker	1,090,435	Metropolitan
Columbus, GA-AL	Russell County in Alabama and Chattahoochee, Harris, Marion, Muscogee Counties in Georgia	321,048	Metropolitan
Daphne-Fairhope-Foley	Baldwin	223,234	Metropolitan
Decatur	Lawrence, Morgan	152,603	Metropolitan
Dothan	Geneva, Henry, Houston	149,358	Metropolitan
Florence-Muscle Shoals	Colbert, Lauderdale	147,970	Metropolitan
Gadsden	Etowah	102,268	Metropolitan
Huntsville	Limestone, Madison	471,824	Metropolitan
Mobile	Mobile	429,536	Metropolitan
Montgomery	Autauga, Elmore, Lowndes, Montgomery	373,290	Metropolitan
Tuscaloosa	Hale, Pickens, Tuscaloosa	252,047	Metropolitan
Albertville	Marshall	96,774	Micropolitan
Alexander City	Tallapoosa	51,030	Micropolitan
Atmore	Escambia	36,633	Micropolitan
Cullman	Cullman	83,768	Micropolitan
Enterprise	Coffee	52,342	Micropolitan
Eufaula, AL-GA Micro Area	Eufaula, AL-GA Micro Area	26,985	Micropolitan
Fort Payne	DeKalb	71,513	Micropolitan
Jasper, AL Micro Area	Jasper, AL Micro Area	63,521	Micropolitan
LaGrange, GA-AL Micro Area	LaGrange, GA-AL Micro Area	103,176	Micropolitan
Ozark	Dale	49,172	Micropolitan
Scottsboro	Jackson	51,626	Micropolitan
Selma	Dallas	37,196	Micropolitan
Talladega-Sylacauga	Coosa, Talladega	79,978	Micropolitan
Troy	Pike	33,114	Micropolitan

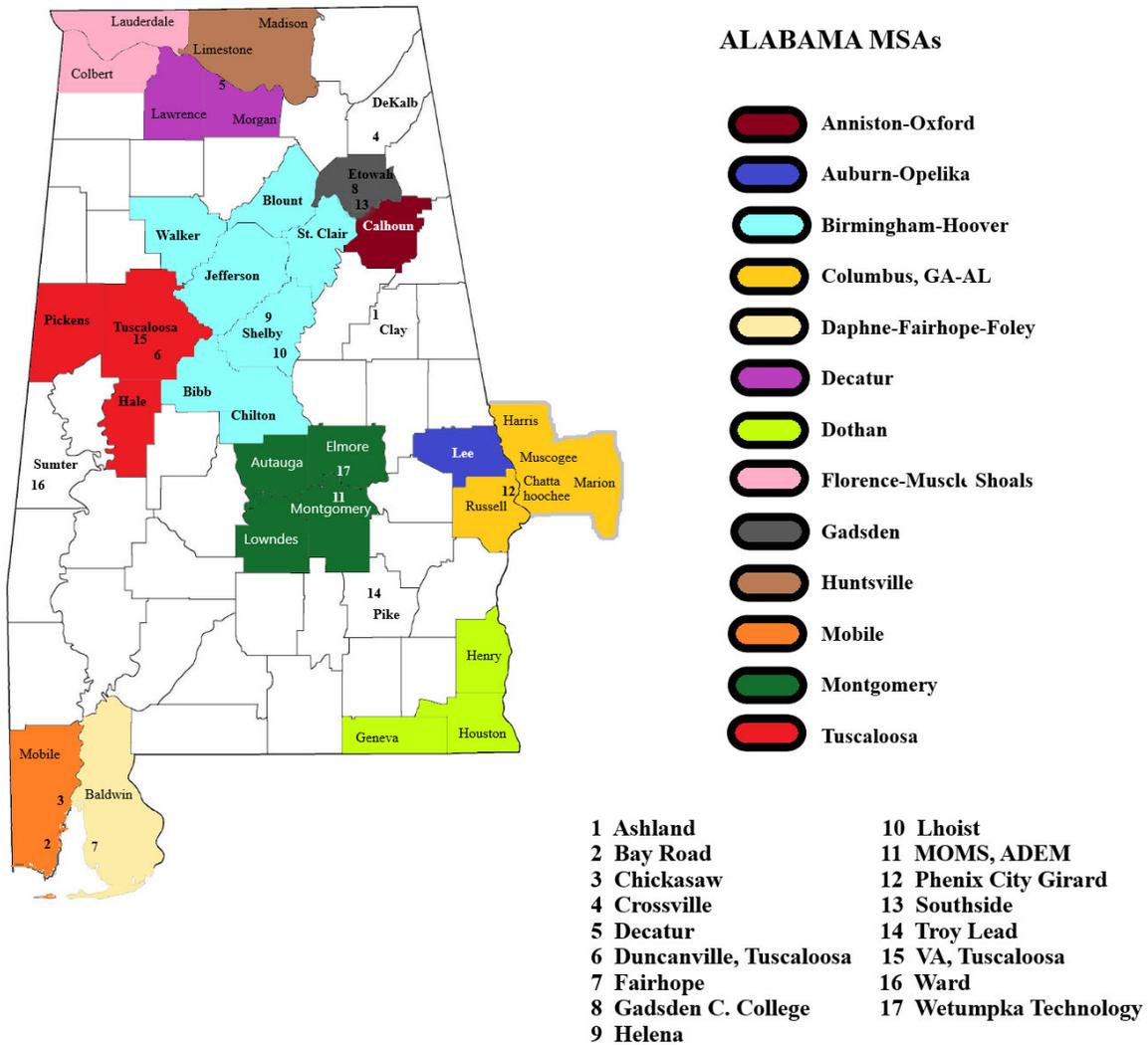


Figure 1 Alabama MSAs and ADEM Monitoring Sites

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 CASNET site in Alabama, **Sand Mountain, AQS ID 01-049-9991**, in DeKalb County, operated by an EPA contractor.

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 will be 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**, began monitoring PM_{2.5} continuously with an API T-640 on 08/01/2020 and **Ward, Sumter Co., AQS ID 01-119-0003**, will begin monitoring NO₂ on 01/01/2022 with TBD equipment. Both will be labeled as SPM while they undergo 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. Each source that chooses monitoring must operate their 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**, which began monitoring on January 1, 2017 and is 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 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. 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**, on January 1, 2022 for the purpose of collecting background data. ADEM will request 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 2018-2020 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	2018-2020 Design Values	MSA	MSA MAX DV ²	2019 population estimate
Helena ¹	01-117-0004	0.065	Birmingham-Hoover	0.067	1,090,435
Phenix City - South Girard School ¹	01-113-0003	0.058	Columbus, GA-AL	0.058	321,048
Fairhope	01-003-0010	0.061	Daphne-Fairhope-Foley	0.061	223,234
Decatur	01-103-0011	0.062	Decatur	0.062	152,603
Southside	01-055-0011	0.060	Gadsden	0.060	102,268
Chickasaw	01-097-0003	0.059			
Bay Road ⁴	01-097-2005	Incomplete	Mobile	0.059	429,536
Wetumpka Westside Technology ⁴	01-051-0004	Incomplete			
MOMS, ADEM	01-101-1002	0.058	Montgomery	0.058	373,290
Duncanville, Tuscaloosa	01-125-0010	0.058	Tuscaloosa	0.058	252,047
Ward, Sumter Co.	01-119-0003	0.056	not in MSA	N/A	NA
Sand Mountain ³	01-049-9991	0.061	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

³ CASTNET site operated by EPA contractor

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 2019 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**, because it is located 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 are planned.

Columbus, GA-AL MSA

Using the Columbus GA-AL MSA 2019 population estimate and the design value from Table 4, zero Ozone monitors are required for this MSA. ADEM operates **Phenix City-South Girard School, AQS ID 01-113-0003**, in Russell County, Alabama. For more information regarding 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 2019 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**. No changes are planned.

Decatur MSA

Using the Decatur MSA 2019 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**. No changes are planned.

Gadsden MSA

Using the Gadsden MSA 2019 population estimate and the design value from Table 4, one Ozone monitor is required for this MSA. There is currently one Ozone site, **Southside, AQS ID 01-055-0011**. No changes are planned.

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 2019 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**. External factors beyond the control of the ADEM caused significant data loss at the Bay Road site over the past two years. If the issues persisted into 2021, the site would need to be moved; however, at this time the site is expected to meet completeness for 2021 and no changes are planned.

Montgomery MSA

Using the Montgomery MSA 2019 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 and Wetumpka Westside Technology Park, AQS ID 01-051-0004**. No changes are planned.

Tuscaloosa MSA

Using the Tuscaloosa MSA 2019 population estimate and design value from Table 4, zero Ozone monitors are required for this MSA. There is currently one Ozone site, **Duncanville, Tuscaloosa, AQS ID 01-125-0010**. ADEM will move this site to a new ozone monitoring site, located 1.3 miles west of the current location. The new site **Duncanville Middle School, AQS ID 01-125-0011**, will begin collecting ozone data before this one is closed.

Anniston-Oxford and Auburn-Opelika MSAs

The MSAs of Auburn-Opelika and Anniston-Oxford were evaluated by ADEM. 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.

Sand Mountain, AQS ID 01-049-9991, is a CASTNET site operated by an EPA contractor.

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 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 2018-2020 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 are operated to 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	PM2.5 24 hr DV 2018- 2020	PM2.5 Annual DV 2018- 2020	MSA	24hr MSA MAX DV ²	Annual MSA MAX DV ²	2019 Pop Est
Phenix City - South Girard School ¹	01-113-0001	18	9.1	Columbus GA-AL	22	9.1	321,048
Fairhope	01-003-0010	16	7.5	Daphne-Fairhope-Foley	16	7.5	223,234
Decatur	01-103-0011	15	7.3	Decatur	15	7.3	152,603
Gadsden C College	01-055-0010	18	8.0	Gadsden	18	8.0	102,268
Chickasaw	01-097-0003	17	8.1	Mobile	17	8.1	429,536
MOMS, ADEM	01-101-1002	19	8.4	Montgomery	19	8.4	373,290
VA, Tuscaloosa	01-125-0004	16	7.7	Tuscaloosa	16	7.7	252,047
Ashland (Background/Regional Transport)	01-027-0001	15	7.0	Not in MSA	15	7.0	NA
Crossville (Background)	01-049-1003	16	7.2	Not in MSA	16	7.2	NA

DV ≥ 85% of the NAAQS

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¹ Only site within MSA operated by ADEM

² 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 2019 population estimate 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 2019 population estimate 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**. No changes are planned.

Decatur MSA

Using the Decatur MSA 2019 population estimate 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 began its 2-year evaluation period on August 1, 2020.

Gadsden MSA

Using the Gadsden MSA 2019 population estimate and the design value from Table 6, zero FRM monitors are required. There is currently one FRM 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 2019 population estimate 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 monitors will be replaced by one continuous FEM BAM 1022 PM_{2.5} monitor effective January 1, 2022. This is just a change of equipment, PM will continue to be monitored at this site.

Montgomery MSA

Using the Montgomery MSA 2019 population estimate 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**. No changes are planned.

Tuscaloosa MSA

Using the Tuscaloosa MSA 2019 population estimate 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**. 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. 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. No changes are planned.

Crossville, AQS ID 01-049-1003, represents rural, background PM_{2.5} values for the northeast part of the state using one FRM monitor. No changes are planned.

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.

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. 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 RequirementsSO₂ Population Weighted Emissions Index (PWEI) Calculations using 2019 Census Estimates and 2017 National Emissions Inventory (NEI) v2

CBSA Name	2017 NEI v2 SO₂ (tpy)	Population (2019)	PWEI in Million persons-tpy	Required Monitors
Birmingham-Hoover	19,971	1,090,435	21,777	2
Mobile	7,948	429,536	3,414	0
Florence-Muscle Shoals	160	147,970	24	0
Albertville	33	96,774	3	0
Anniston-Oxford- Jacksonville	141	113,605	16	0
Auburn-Opelika	155	164,542	26	0
Columbus, GA-AL	3,571	321,048	1,146	0
Cullman	62	83,768	5	0
Daphne-Fairhope- Foley	167	223,234	37	0
Decatur	1,834	152,603	280	0
Dothan	201	149,358	30	0
Enterprise	87	52,342	5	0
Gadsden	39	102,268	4	0
Huntsville	173	471,824	82	0
Montgomery	2,415	373,290	901	0
Ozark	125	63,521	8	0
Scottsboro	721	51,626	37	0
Selma	125	37,196	5	0
Talladega-Sylacauga	226	79,978	18	0
Troy	8,141	33,114	270	0
Tuscaloosa	474	252,047	119	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
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	2/1/2001	active	U, 087, C	Y
U = UV Photometric Ozone Analyzer C = Continuous										

PM2.5

Site Common Name	County/CBSA	AQS ID	Address	Latitude	Longitude	Monitoring Objective/Scale	Date Began	Date Ended	Method, Method Code and Schedule	NAAQS
Fairhope	Baldwin/ Daphne-Fairhope-Foley MSA	01-003-0010	Fairhope High School, Fairhope	30.497478	-87.880258	Population Exposure/ Neighborhood	1/1/2000	active	L, 145, 3	Y
Ashland	Clay/no MSA	01-027-0001	Ashland Airport, Ashland	33.284928	-85.803608	Regional Transport/ Regional	1/1/1999	active	L, 145, 3	Y
Crossville	DeKalb/no MSA	01-049-1003	13112 Hwy 68, Crossville	34.288567	-85.969858	General/Background/ Neighborhood	1/1/1999	active	L, 145, 3	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	L, 145, 3	Y
Chickasaw	Mobile/Mobile MSA	01-097-0003	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
							1/16/2009	active	L, 145, 3	Y
MOMS, ADEM	Montgomery/ Montgomery MSA	01-101-0002	1350 Coliseum Blvd, Montgomery	32.412811	-86.263394	Population Exposure/ Neighborhood	1/16/2009	active	L, 145, 6	Y
							4/1/2009	active	B, 731, C	N
Decatur ¹	Morgan/Decatur MSA	01-103-0011	Wallace Ctr.Hwy 31, Decatur	34.530717	-86.967536	Population Exposure/ Middle	8/7/2001	active	L, 145, 3	Y
							8/1/2020	active	T, 236, C	N
Phenix City - S. Girard	Russell/Columbus GA-AL MSA	01-113-0003	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
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
VA, Tuscaloosa	Tuscaloosa/Tuscaloosa MSA	01-125-0004	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 - Began 2-year evaluation period on the T640 continuous monitor.

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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	1/1/2022		CAP, 212, C	N

CAP = Cavity Attenuated Phase Shift C = Continuous

*Method listed is proposed dependent on procurement of equipment

Appendix A

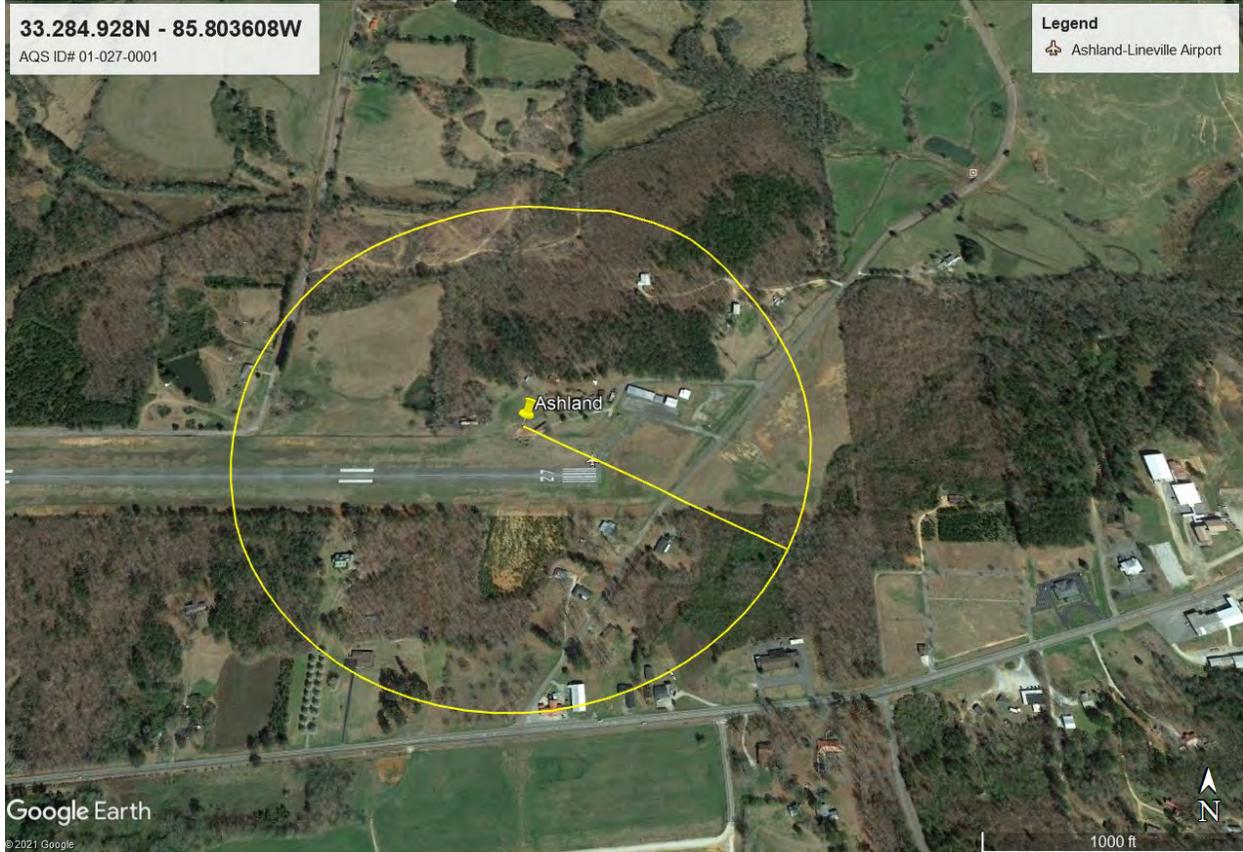
Site Assessments

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.

Site	Issue	Correction
Chickasaw AQS ID 01-097-0003	Tree dripline was less than 10m west of the PM 2.5 FRM Inlet Head	All tree foliage west of the PM 2.5 FRM Inlet Head was removed.
Gadsden C College AQS ID 01-055-0010	Volunteer shrub was less than 10m north of the PM 2.5 FRM Inlet Head	The shrub was removed.
Helena AQS ID 01-117-004	Tree dripline was less than 10m northwest of the Ozone Inlet	The tree was removed.

ASHLAND
Ashland Airport, Ashland, Clay County

AQS ID 01-027-0001
33.284928, -85.803608



MSA: N/A 420m from Hwy 9 AADT 6180 (2017) 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	33.8m	11.2m East

This site meets all requirements of 40 CFR Part 58.

Evaluation Date: 03/12/2021

BAY ROAD

Bay Road, Theodore, Mobile County

AQS ID 01-097-2005

30.474305, -88.141022



MSA: Mobile 68.5 m to Bay Road Property Type: Agricultural (county)

NORTH

SOUTH

EAST

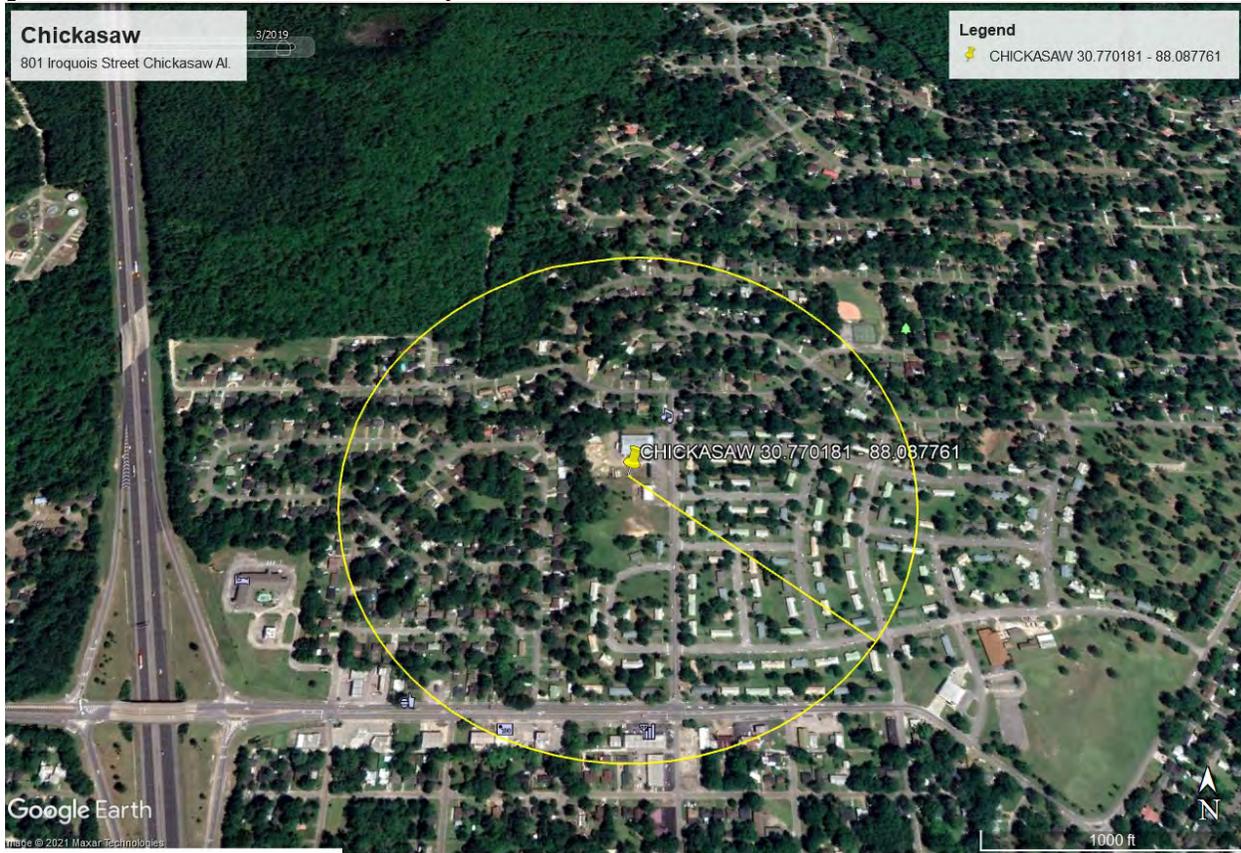
WEST



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	31.0m	14.4m South

This site meets all requirements of 40 CFR Part 58.

Evaluation Date: 03/19/2021



MSA: Mobile 56.8 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	1.2m	12.0m	4.8m Southwest
SO2			01/01/2013	100	Teflon/ Teflon	4.8m	1.7m	15.7m	
BAM 2.5	Population Exposure/ Regional	Continuous	01/01/2015	731	Inlet Head	5.2m	2.1m	14.6m	
PM 2.5		Once every 3 days	07/19/2002	145	Inlet Head	2.1m	N/A	8.1m	

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

Evaluation Date: 03/19/2021

CROSSVILLE
 13112 Highway 68, Crossville, DeKalb County

AQS ID 01-049-1003
 34.288567, -85.969858



USA: Fort Payne 172.2 m from Hwy 68 AADT 5980 (2017) Property Type: Agricultural (Auburn University)

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	8.4 m East

This site meets all requirements of 40 CFR Part 58.

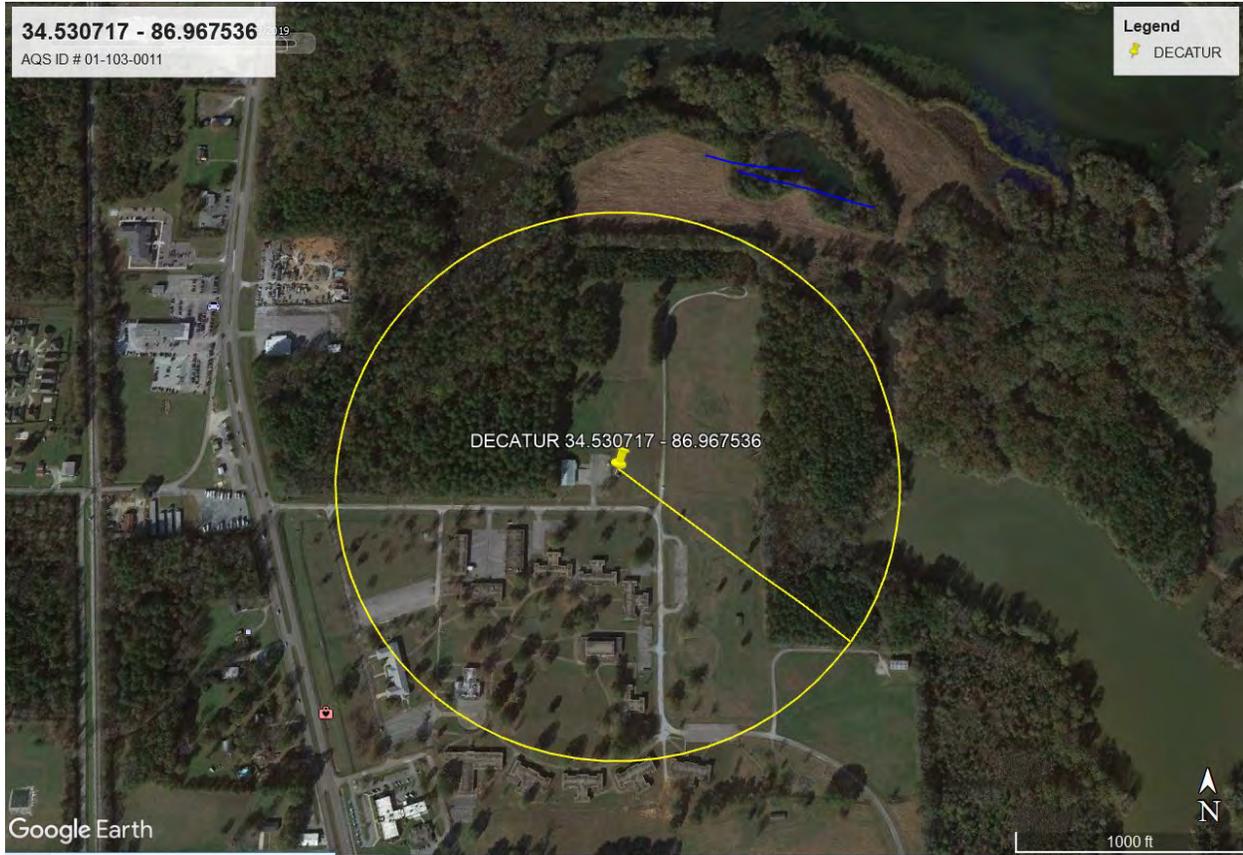
Evaluation Date: 03/31/2021

DECATUR

JH Crow Drive, Decatur, Morgan County

AQS ID 01-103-0011

34.530717, -86.967536



MSA: Decatur 525.9 m from Hwy 31 AADT 16,650 (2017) Property Type: Commercial (Armory Comm. of Alabama)

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	04/01/2000	047	Teflon/ Teflon	4.3 m	1.7 m	21.7m	11.8 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: 04/01/2021

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



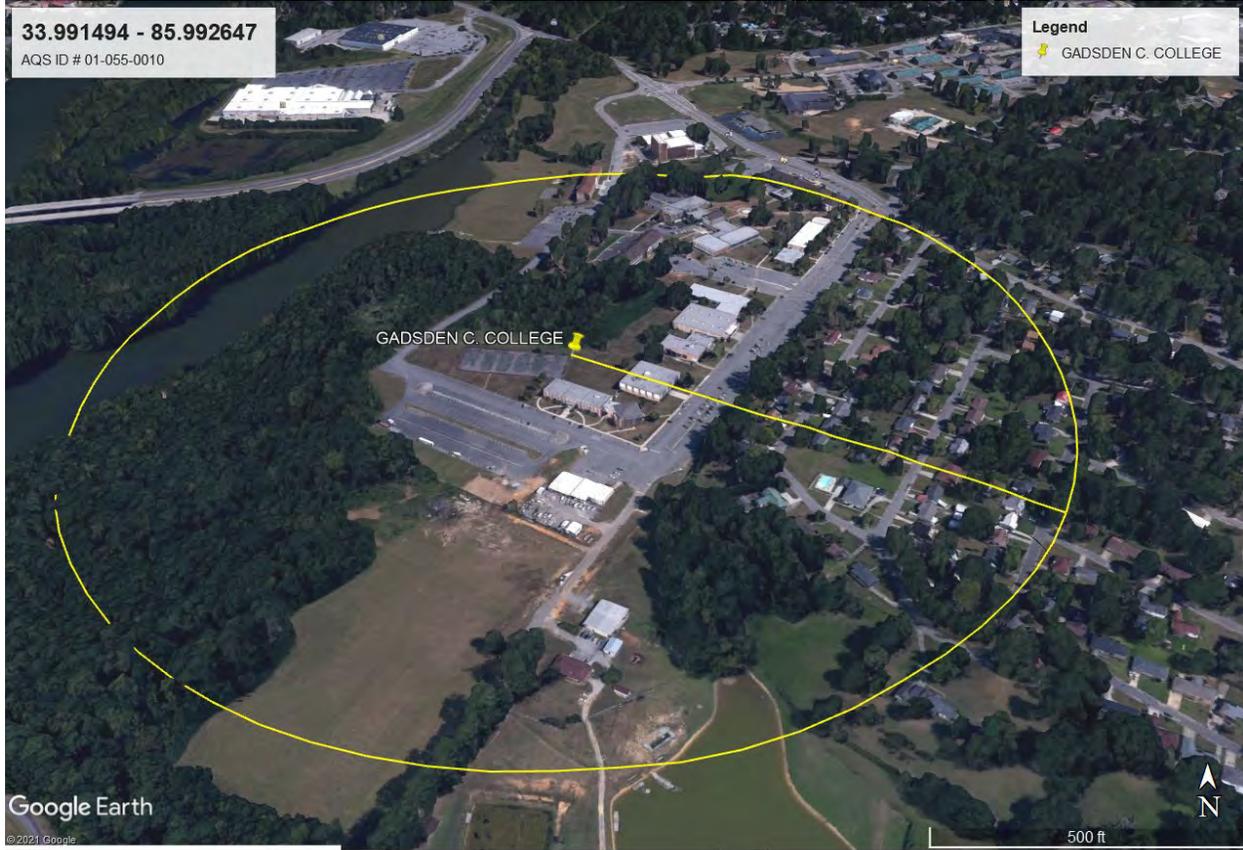
Parameter	Monitoring Objective/ Scale	Schedule	Start Date	AQS Method Code	Probe/Rain Shield Material	Probe Inlet Height from ground	Distance from probe to supporting structure	Distance from probe to nearest tree dripline	Height of nearest tree/ Direction from probe to tree
Ozone	Population	Continuous	03/01/2000	087	Teflon	4.4 m	1.8 m	24.9 m	6.8 m East
PM 2.5	Exposure/ Neighborhood	Every 3 days	01/01/2000	145	Inlet Head	2.0 m	N/A	21.9 m	

This site meets all requirements of 40 CFR Part 58.

Evaluation Date: 03/19/2021

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 Dr. 21,120 AADT (2017) 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
PM 2.5	Population Exposure/ Urban	Every 3 days	10/01/2002	145	Inlet Head	2.0 m	N/A	18.2m	6.6 m North

This site meets all requirements of 40 CFR Part 58.

Evaluation Date: 03/31/2021

HELENA
 237 Limestone Drive, Helena, Shelby County

AQS ID 01-117-0004
 33.317142, -86.825754



MSA: Birmingham-Hoover 30.4 m 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	9.1 m See Field Notes	4.8 m Northwest

This site meets all requirements of 40 CFR Part 58.

Evaluation Date: 03/31/2021

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

AQS ID 01-017-9001
 33.0928, -86.8072



MSA: Birmingham-Hoover 22m from Hwy 25 AADT 8270 (2017) 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	3.5 m	1.5 m	17.6m	3.9 m Southwest

This site meets all requirements of 40 CFR Part 58.

Evaluation Date: 04/08/2021



MSA: Montgomery 290.8 m to Coliseum Boulevard Property Type: Commercial (state)

NORTH

SOUTH

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	9.8 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							58.6 m		
PM 10 Co – 1 in 6 days	QA/ Neighborhood						01/01/2013		

This site meets all requirements of 40 CFR Part 58.

Evaluation Date: 04/05/2021

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 108.2 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	11.4 m Southeast
BAM 2.5			09/18/2017	209	Inlet	4.8 m	2.1 m		44.8 m	
PM 2.5 Co.			01/18/2017	145	Inlet	4.7 m	N/A		43.7 m	
Carbon Speciation Supplemental	Population Exposure/ No scale	1/6 day	06/12/2017	811	N/A	4.7 m	N/A	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.

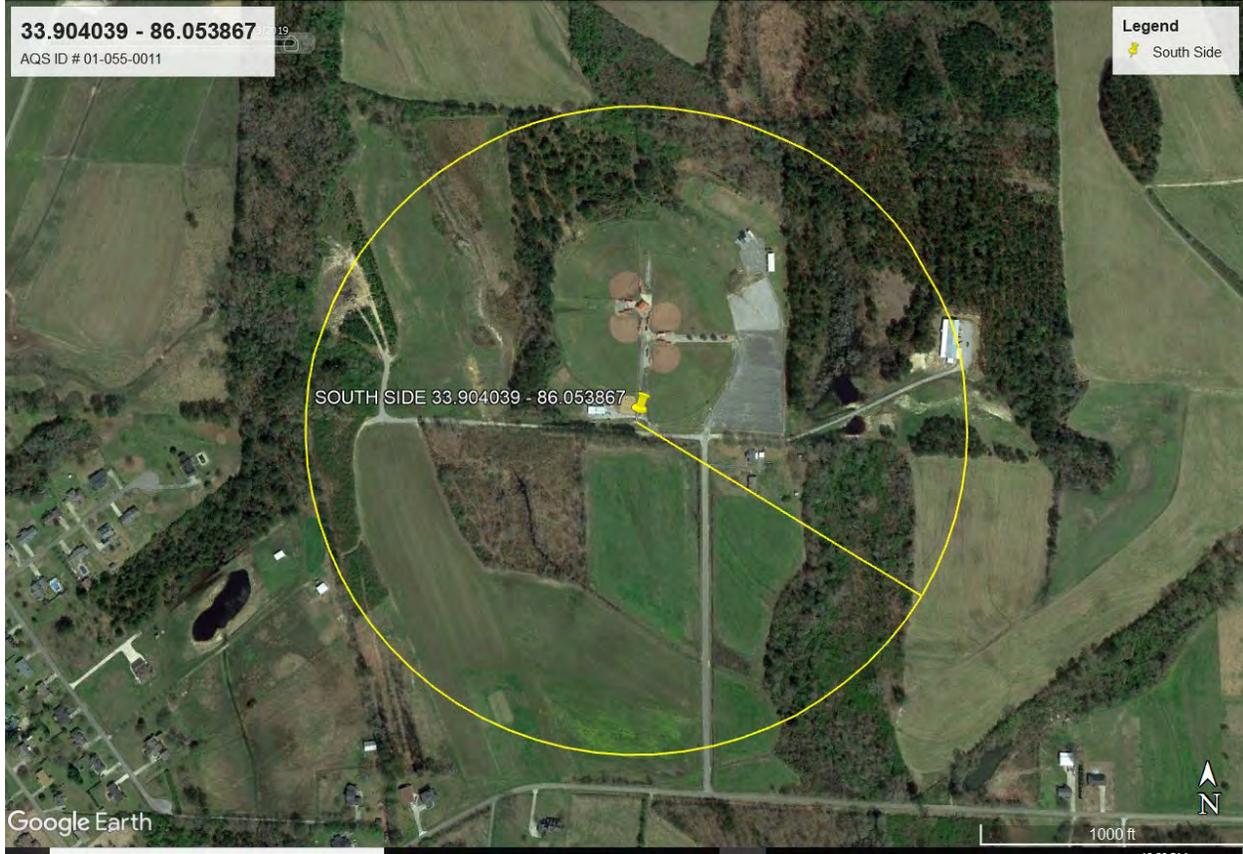
Evaluation Date: 03/12/2021

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	4.2 m	1.7 m	12.5 m	15.2 m Southwest

This site meets all requirements of 40 CFR Part 58.

Evaluation Date: 03/31/2021

TROY LEAD
Henderson Road, Troy, Pike County

AQS ID 01-109-0003
31.790479, -85.978974



USA: 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: 01/21/2021

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

AQS ID 01-125-0004
33.189931, -87.484189



MSA: Tuscaloosa 41.4 m from nearest parking lot and 500+m from Loop Rd Property Type: Residential (USA)

NORTH

SOUTH

EAST

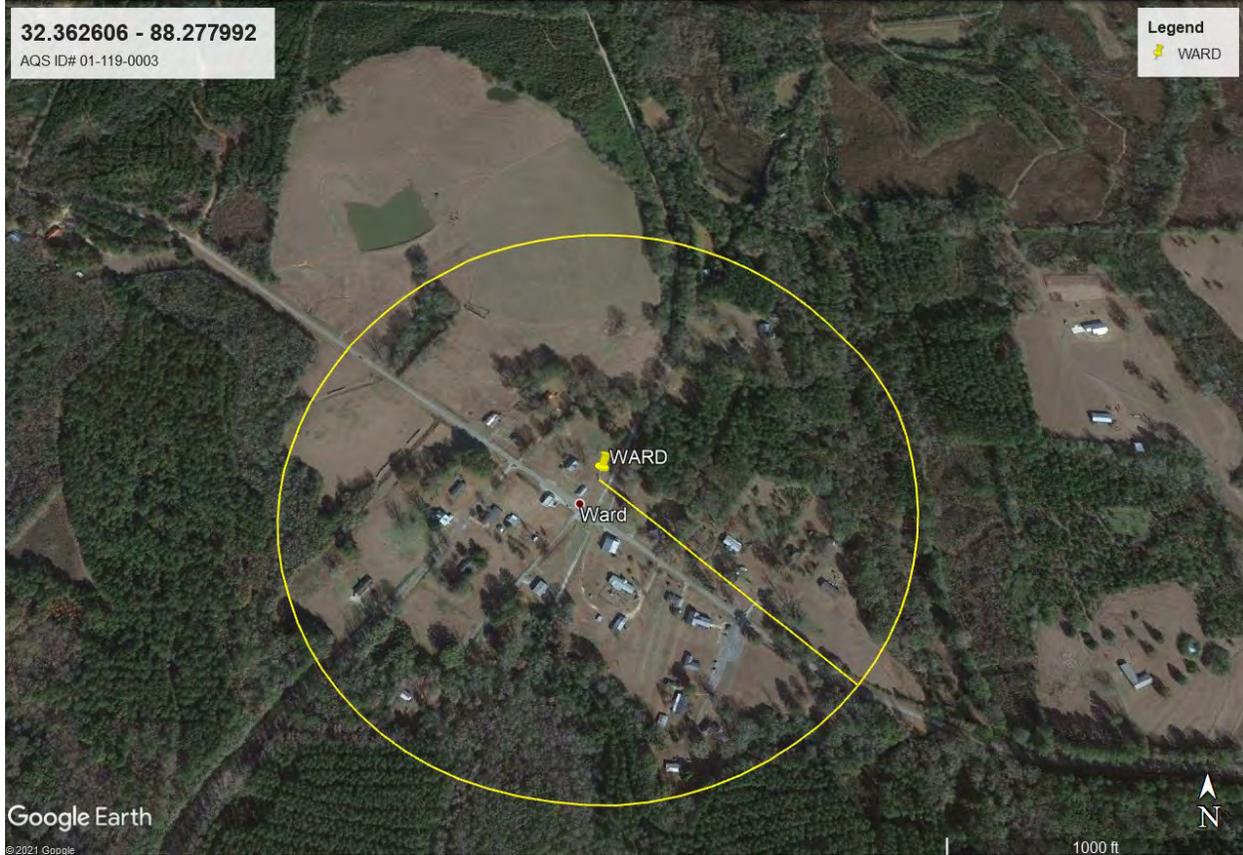
WEST



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	17.5 m	7.6 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	7.6 m South

This site meets all requirements of 40 CFR Part 58.

Evaluation Date: 01/20/2021



MSA: N/A 44.8 m to County Rd. 16 / 10 Property Type: Agricultural (private)

NORTH

SOUTH

EAST

WEST



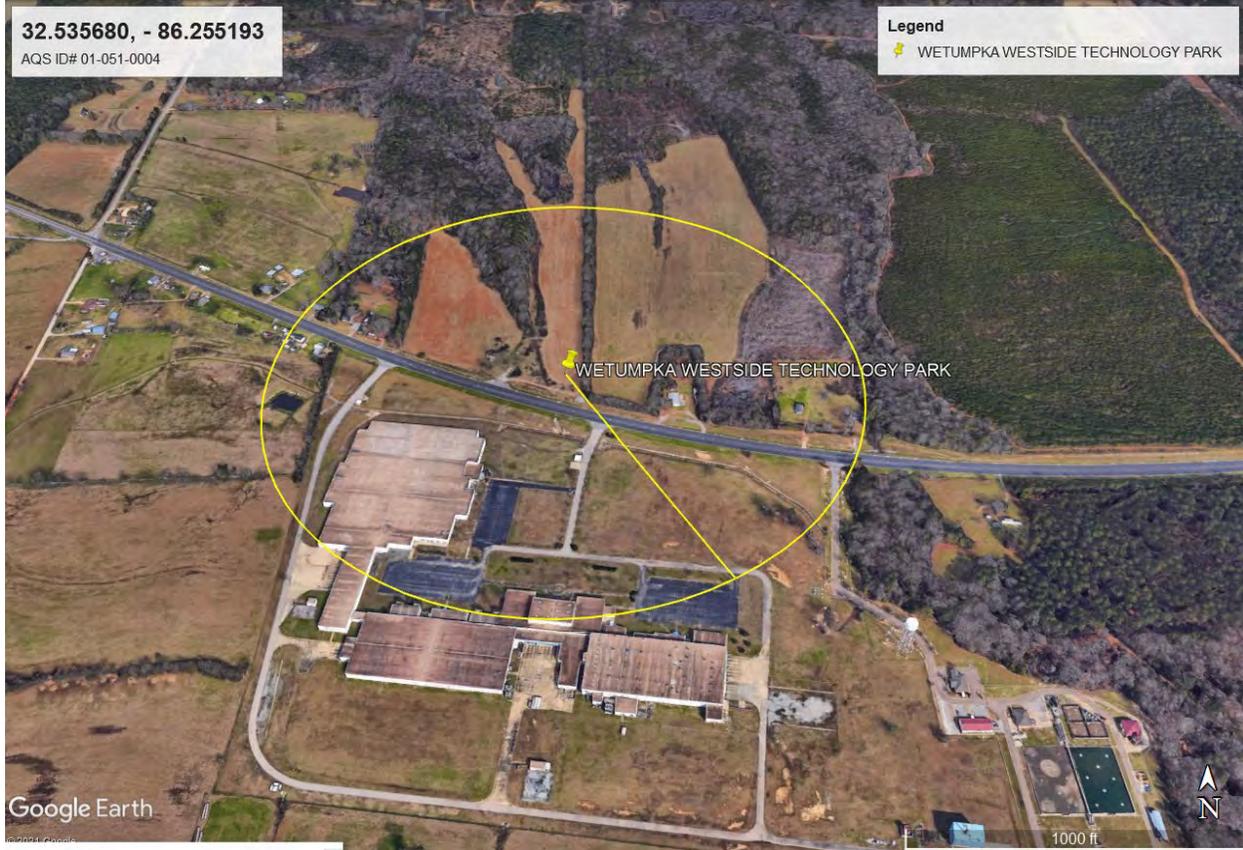
Parameter	Monitoring Objective/ Scale	Schedule	Start Date	AQS Method Code	Probe/Rain Shield Material	Probe Inlet Height from ground	Distance from probe to supporting structure	Distance from probe to nearest tree dripline	Height of nearest tree/ Direction from probe to tree
BAM 2.5	General Background/ Regional	Continuous	01/01/2021	209	Inlet Head	4.7 m	2.0 m	24.3 m	16.6 m East
Ozone			03/01/2013	087	Teflon/ Teflon	3.9 m	1.0 m	25.6 m	
SO2			01/04/2018	100	Teflon/ Teflon	3.9 m	1.1 m	25.6 m	

This site meets all requirements of 40 CFR Part 58.

Evaluation Date: 03-16-2021

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

AQS ID 01-051-0004
 32.535680, -86.255193



MSA: Montgomery 54.5 m to Hwy 14 AADT 11,710 (2017) 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	4.2 m	1.4 m	21.3 m	5.4 m East

This site meets all requirements of 40 CFR Part 58.

Evaluation Date: 03/13/2021

Appendix B

Notice of Site Relocation:

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 Duncanville (TSC AQS: 01-125-0010) Ozone monitoring site

Executive Summary

In early 2020, the property where the TSC (AQS ID 01-125-0010) Ozone monitoring site is located, was sold. The volunteer fire department adjacent to the shelter has already vacated the property and the air site must also be relocated. While the new property owners have plans to develop the site, they have allowed us to begin the 2021 Ozone monitoring season at the current location. This allowed ADEM time to complete a thorough site analysis and the ability to set up the replacement site with minimal loss of data.

Since TSC is the only Ozone monitoring site in the Tuscaloosa MSA, it must be located in an area predicted to capture the highest ozone concentrations in the MSA. In the search for a new site, ADEM completed an in-depth wind analysis and reviewed CMAQ models provided by EPA. This analysis confirmed that ozone concentrations measured at TSC are heavily influenced by transport from Birmingham and wind patterns that follow Interstate I-59. Continuing to monitor southeast of Tuscaloosa, in the vicinity of the current site, will capture the highest predicted ozone and will also maintain continuity of data.

ADEM selected a site 1.35 miles to the West, to a property owned by the Tuscaloosa County School system, at Duncanville Middle School. ADEM is investing significant resources in the new site, upgrading to a commercial grade air monitoring shelter, ensuring this will be a stable location, for years to come.



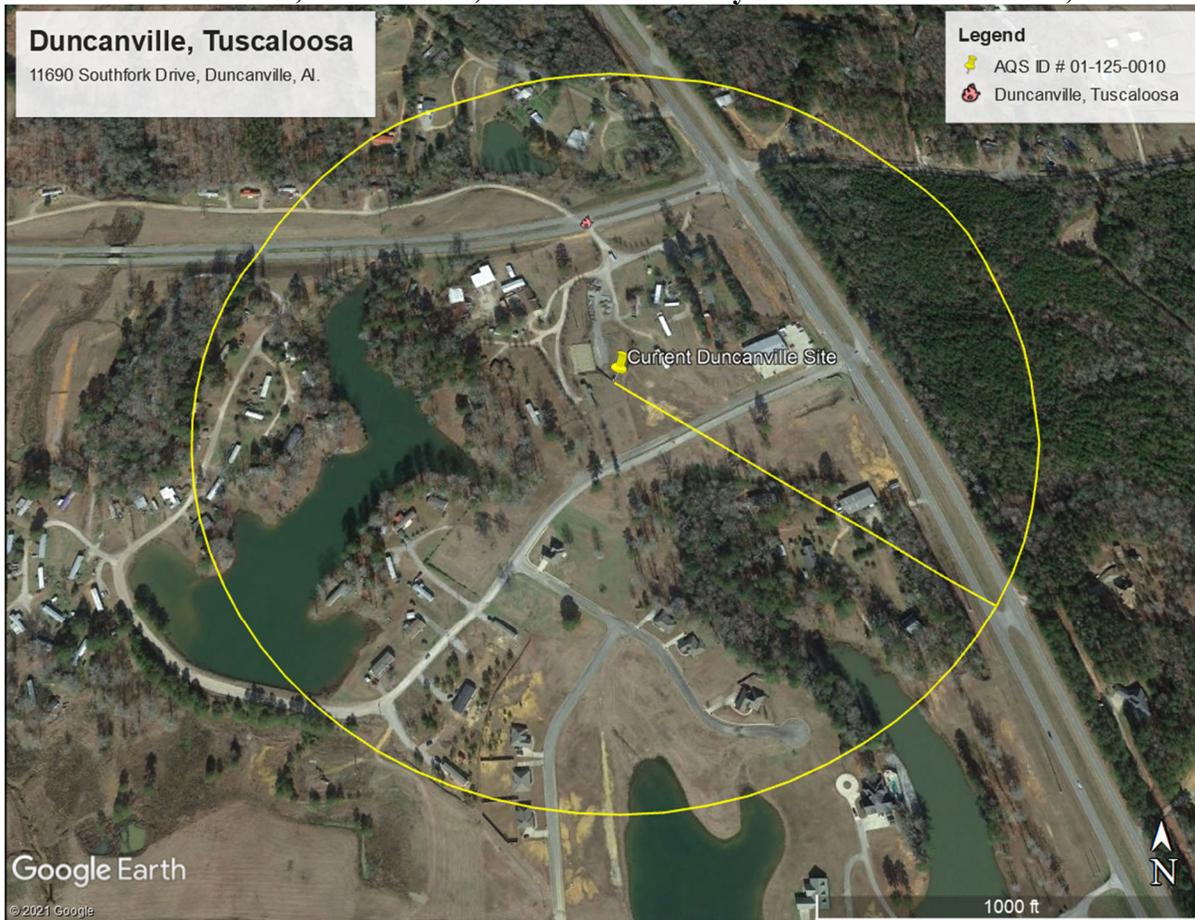
Current Site Analysis

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 Duncanville (TSC) ambient air monitoring site (AQS ID 01-125-0010).

The Duncanville site is located within Tuscaloosa County in the Tuscaloosa MSA and only monitors Ozone. The existing Duncanville site was evaluated for regulatory compliance on 3/25/2021. The results are included on the following page.

DUNCANVILLE, TUSCALOOSA (TSC)
11690 Southfork Drive, Duncanville, Tuscaloosa County

AQS ID 01-125-0010
33.089772, -87.459733



MSA: Tuscaloosa 73.7 m from S. Fork Circle Rd. Property Type: Commercial (private)



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	02/01/2001	087	Teflon	4.06 m	1.29 m	19.50 m	5.6 m / North

This site meets all requirements of 40 CFR Part 58.

Evaluation Date: 03-25-2021

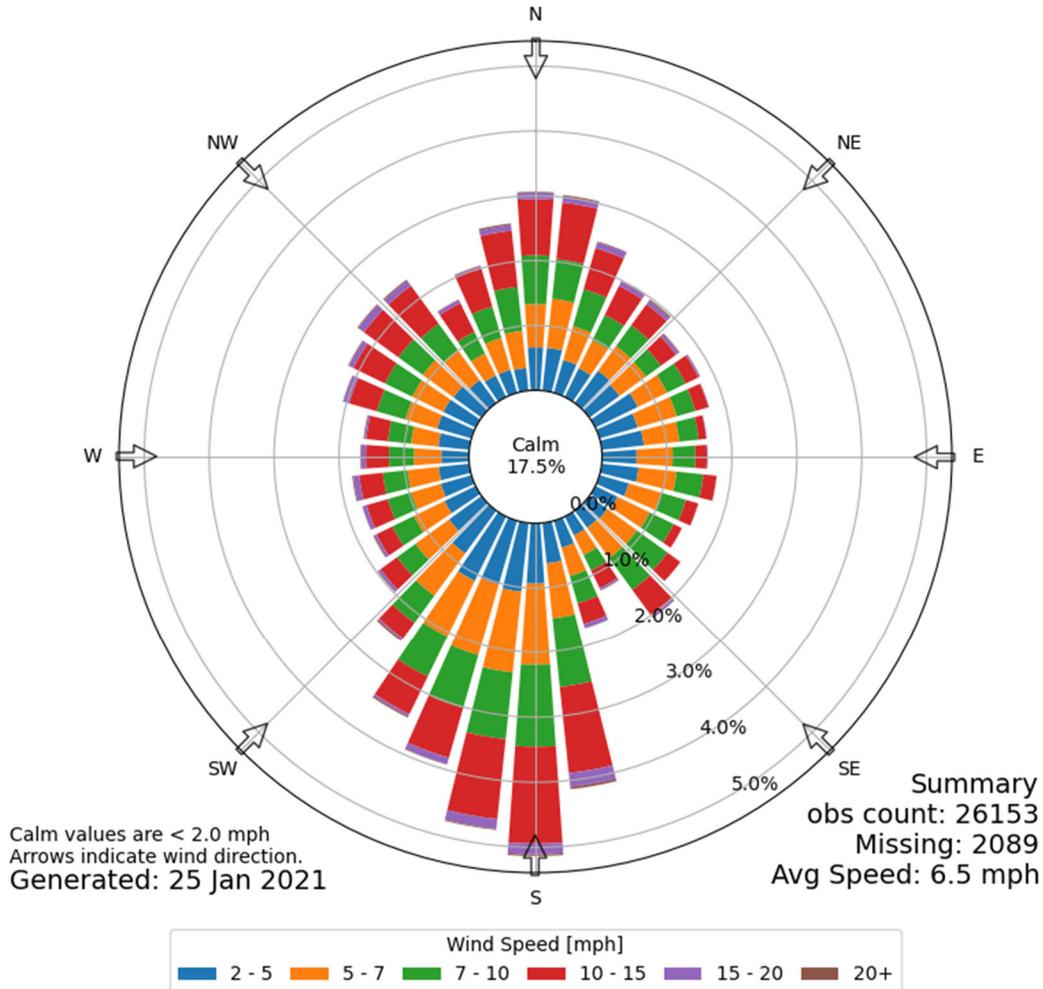
Relocation for TSC in the Tuscaloosa MSA

Due to sale of the property in 2020 and proposed re-development of the area, the Duncanville site (TSC) must be relocated. The current owners have allowed monitoring to continue until the new site can be established. An extensive search was conducted to find a suitable site that met all regulatory requirements. The new site is located behind Duncanville Middle School, 1.35 miles to the west of the old site. The new site meets all requirements of 40 CFR Part 58.

Initially, the 2016-2020 average wind rose was considered when selecting the new site near Duncanville Middle School. With predominant winds from the south, the wind rose alone could not confirm the new site should be southeast of Tuscaloosa. To ensure proper placement of the new site, further analysis was conducted.



[TCL] TUSCALOOSA MUNI
 Windrose Plot [Time Domain: 6 AM-5 PM]
 Time Bounds: 01 Apr 2016 06:06 AM - 30 Sep 2020 05:53 PM America/Chicago



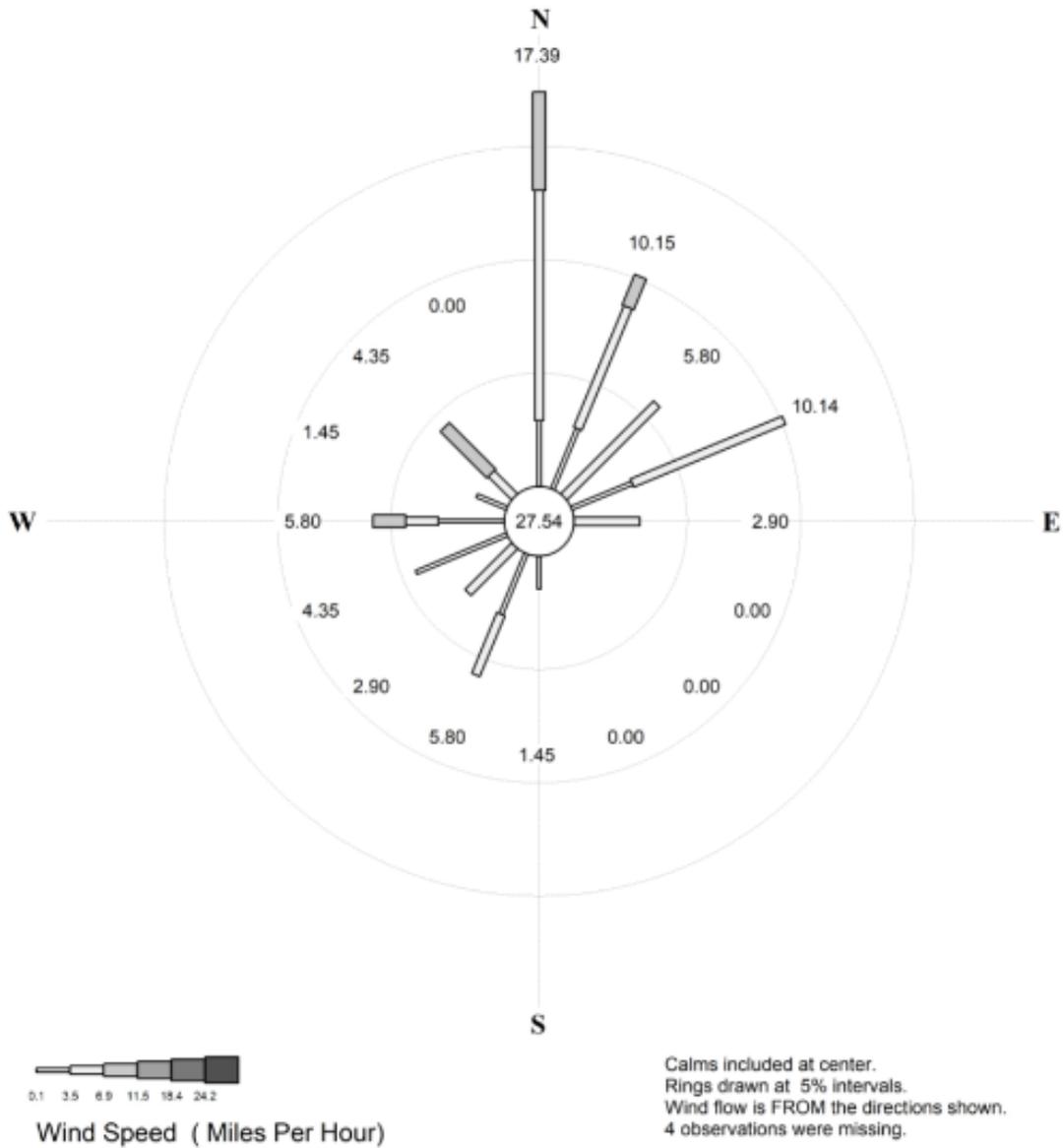
All of the highest ozone days from 2016 through 2019 were identified and listed in the table below. Back trajectories were conducted on these days to determine the most likely cause and direction of the elevated concentrations.

Tuscaloosa High Ozone Days (2016-2019)
Days > =65 ppb

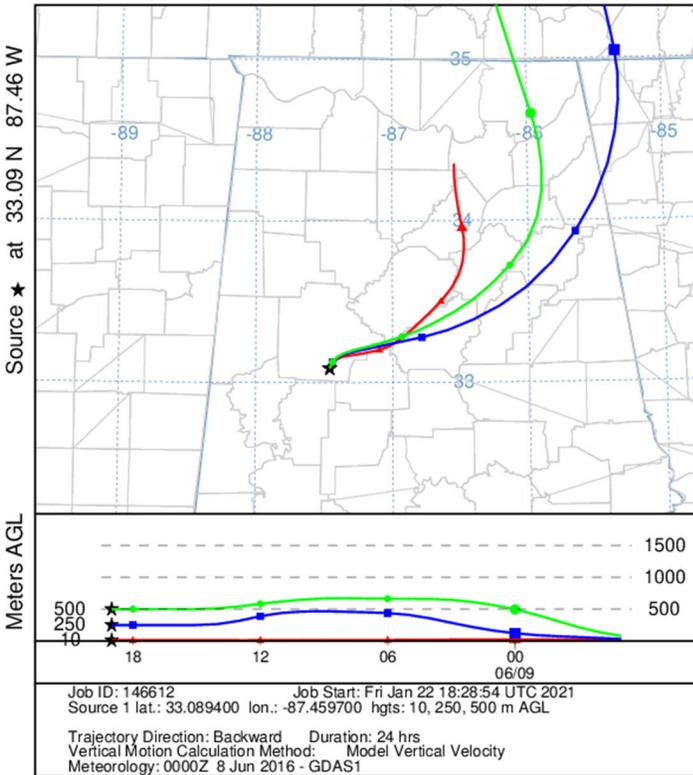
Date	Concentration (ppb)	Source
6/9/2016	0.07	BHM
7/1/2016	0.065	Regional/Transport from North
5/8/2017	0.065	BHM
6/6/2018	0.065	Regional/Transport from North
6/7/2018	0.075	Regional/Transport from North/BHM
6/8/2018	0.065	Regional/Transport from North/BHM
9/16/2019	0.066	BHM

When the wind rose is evaluated just using the high ozone days through the identified period, it is clear that the air driving the elevated concentrations is coming from the north-northeast direction. This wind rose confirms a site location south, southeast of Tuscaloosa will capture the highest Ozone in the MSA. To further confirm our analyses, back trajectories were mapped for each identified high Ozone day. The results of all analyses are illustrated below.

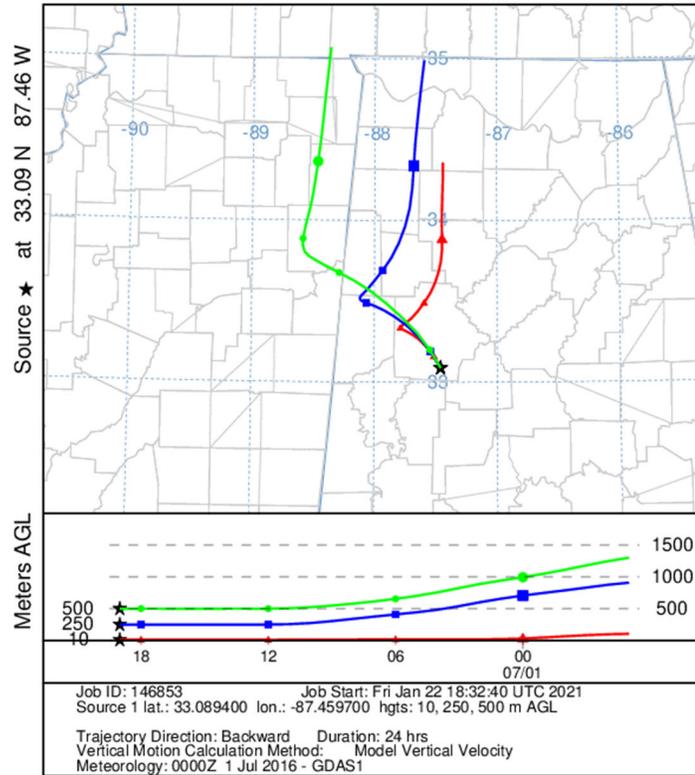
**Wind Rose for Tuscaloosa, AL (KTCL) on the Tuscaloosa Ozone Monitor
High Ozone Days (≥ 65 ppb) from 6 AM - 6 PM**



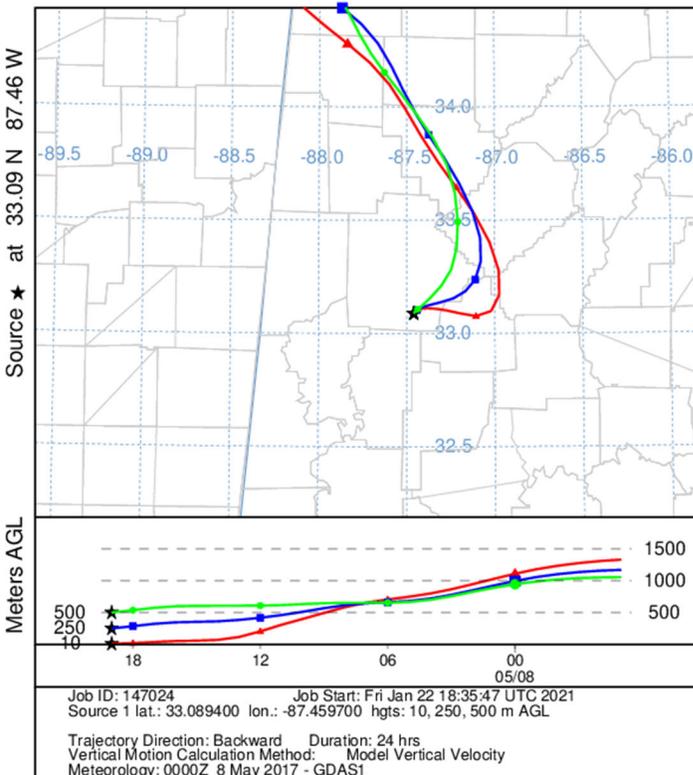
NOAA HYSPLIT MODEL
 Backward trajectories ending at 1900 UTC 09 Jun 16
 GDAS Meteorological Data



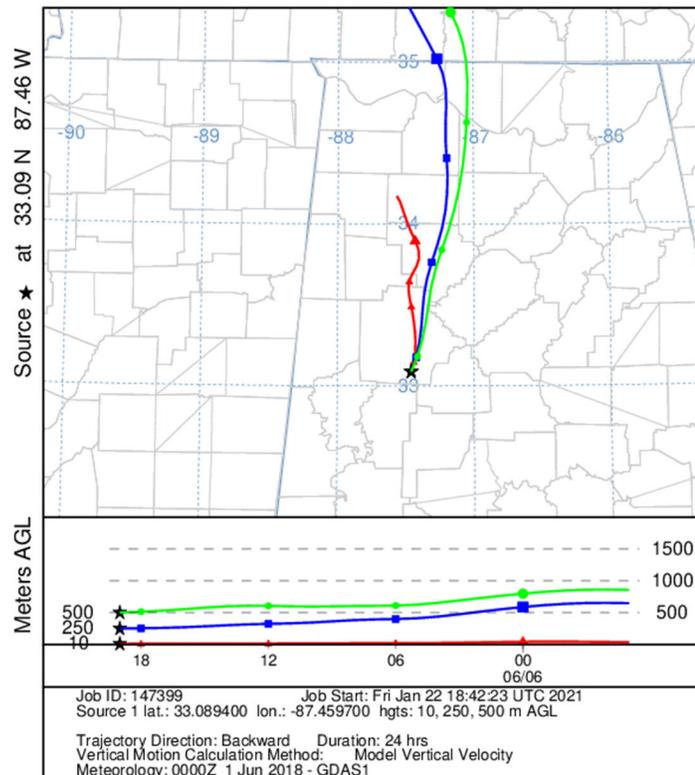
NOAA HYSPLIT MODEL
 Backward trajectories ending at 1900 UTC 01 Jul 16
 GDAS Meteorological Data



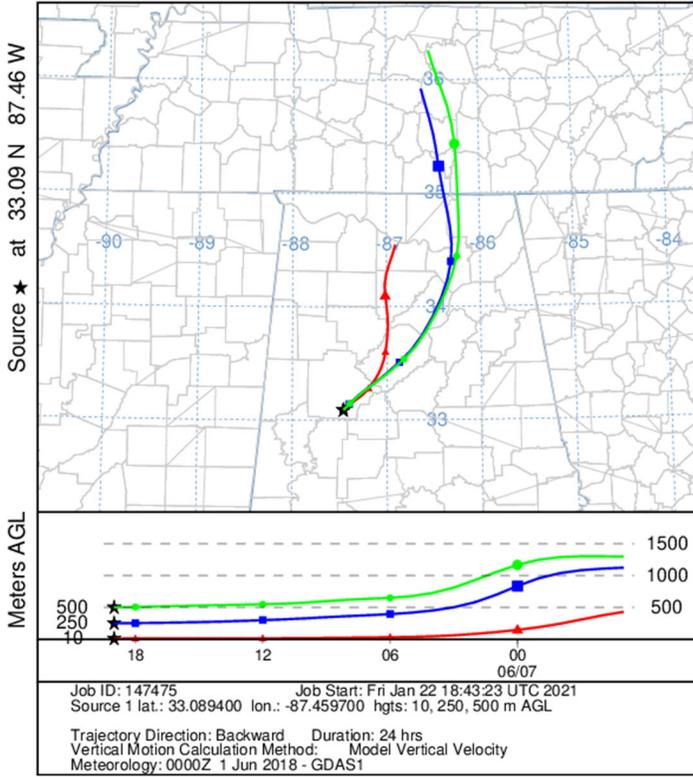
NOAA HYSPLIT MODEL
 Backward trajectories ending at 1900 UTC 08 May 17
 GDAS Meteorological Data



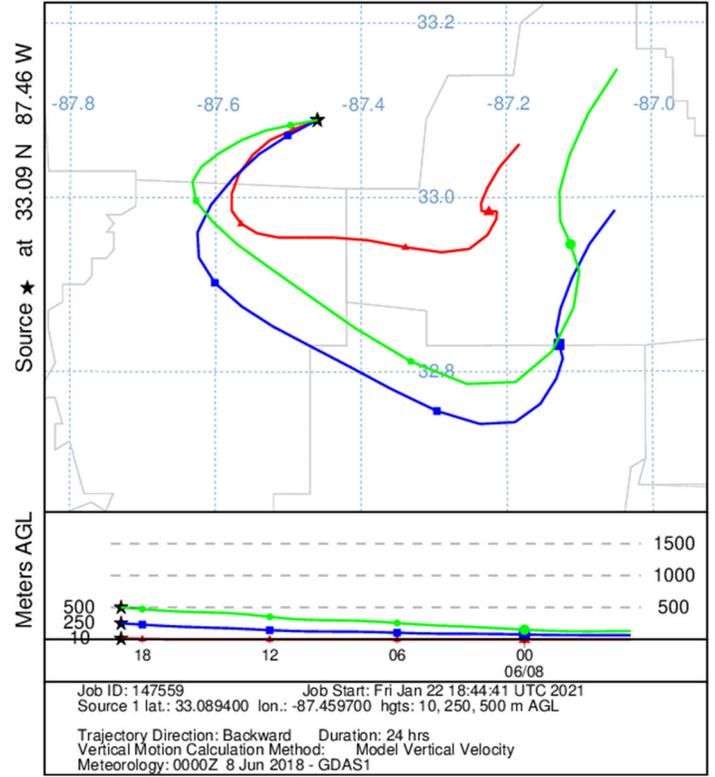
NOAA HYSPLIT MODEL
 Backward trajectories ending at 1900 UTC 06 Jun 18
 GDAS Meteorological Data



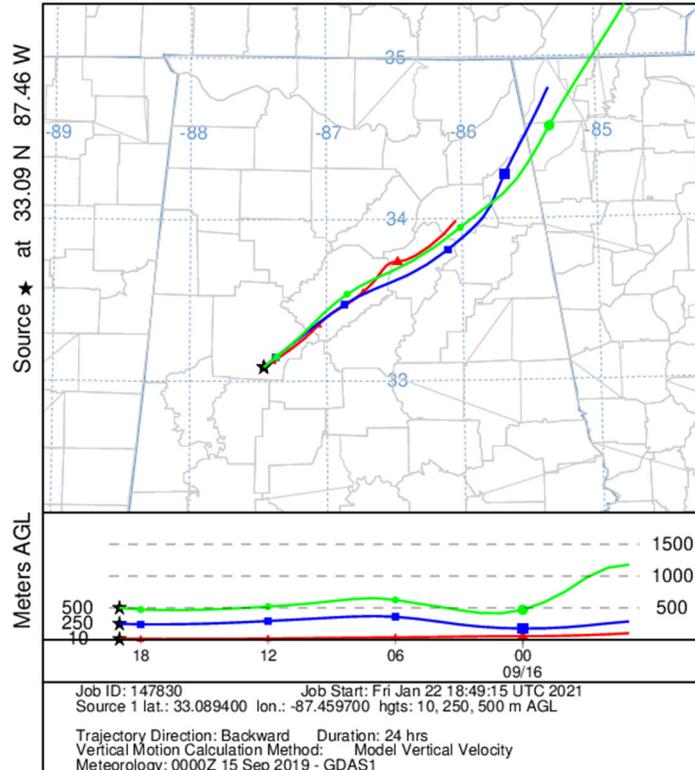
NOAA HYSPLIT MODEL
Backward trajectories ending at 1900 UTC 07 Jun 18
GDAS Meteorological Data



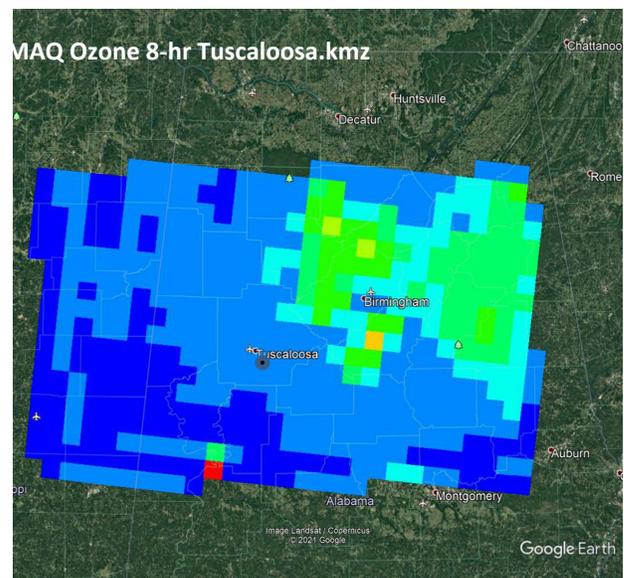
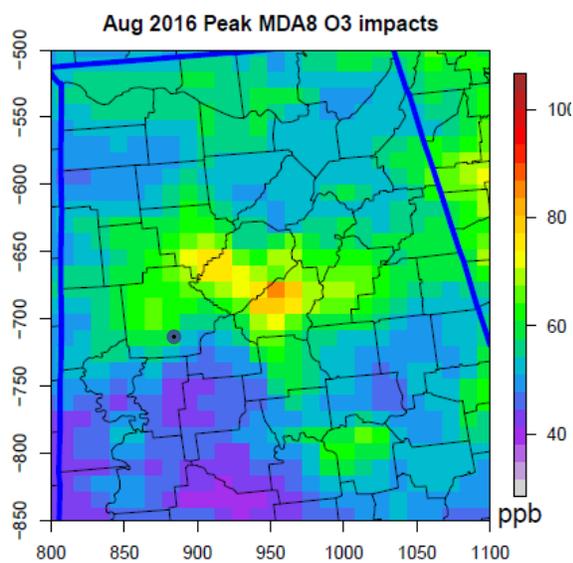
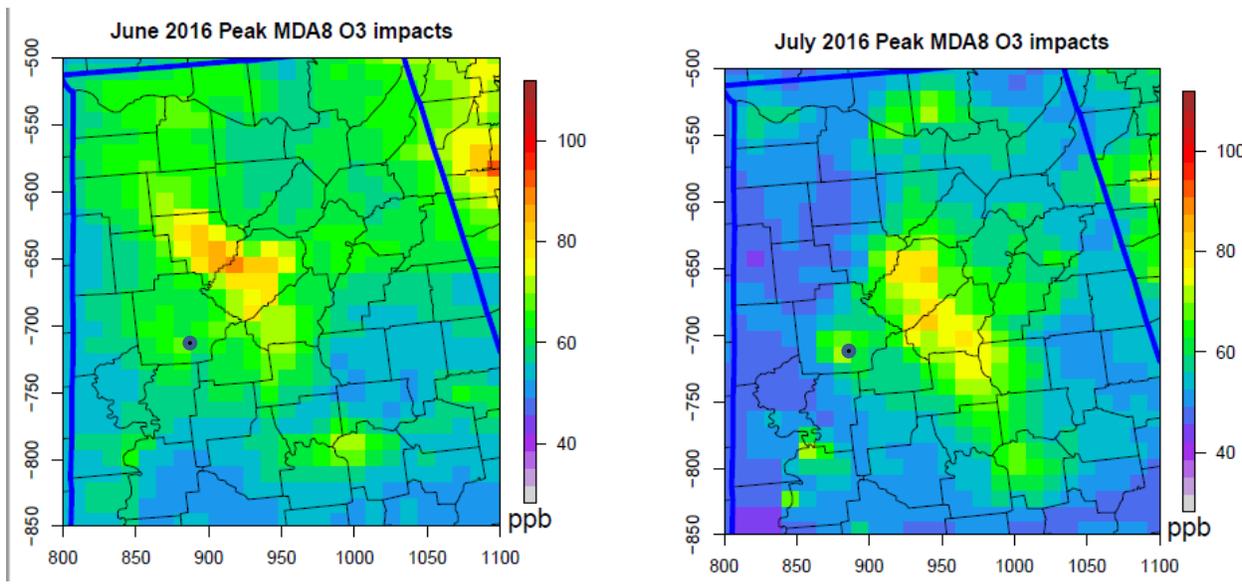
NOAA HYSPLIT MODEL
Backward trajectories ending at 1900 UTC 08 Jun 18
GDAS Meteorological Data



NOAA HYSPLIT MODEL
Backward trajectories ending at 1900 UTC 16 Sep 19
GDAS Meteorological Data



EPA also provided additional CMAQ modeling to aid in the relocation analysis. Results indicated peak Ozone impacts occur southeast of downtown Tuscaloosa, in the vicinity of the current Ozone monitor location. ADEM’s proposed monitor location is 1.35 miles west of the current monitor, which would put it closer to the highest modeled impacts. The CMAQ modeled results on Google Earth for 2016 show uniform concentrations across all of Tuscaloosa County, including downtown Tuscaloosa and surrounding areas to the northeast and southeast. ADEM concluded while these concentrations were slightly higher than actual, observed values, the highest modeled concentrations were located near the current and proposed monitor locations in all additional analyses. The selected site at Duncanville Middle School is located in the best area to capture the highest potential Ozone concentrations in the county (Black dot illustrates approximate area of site).



New Site Description

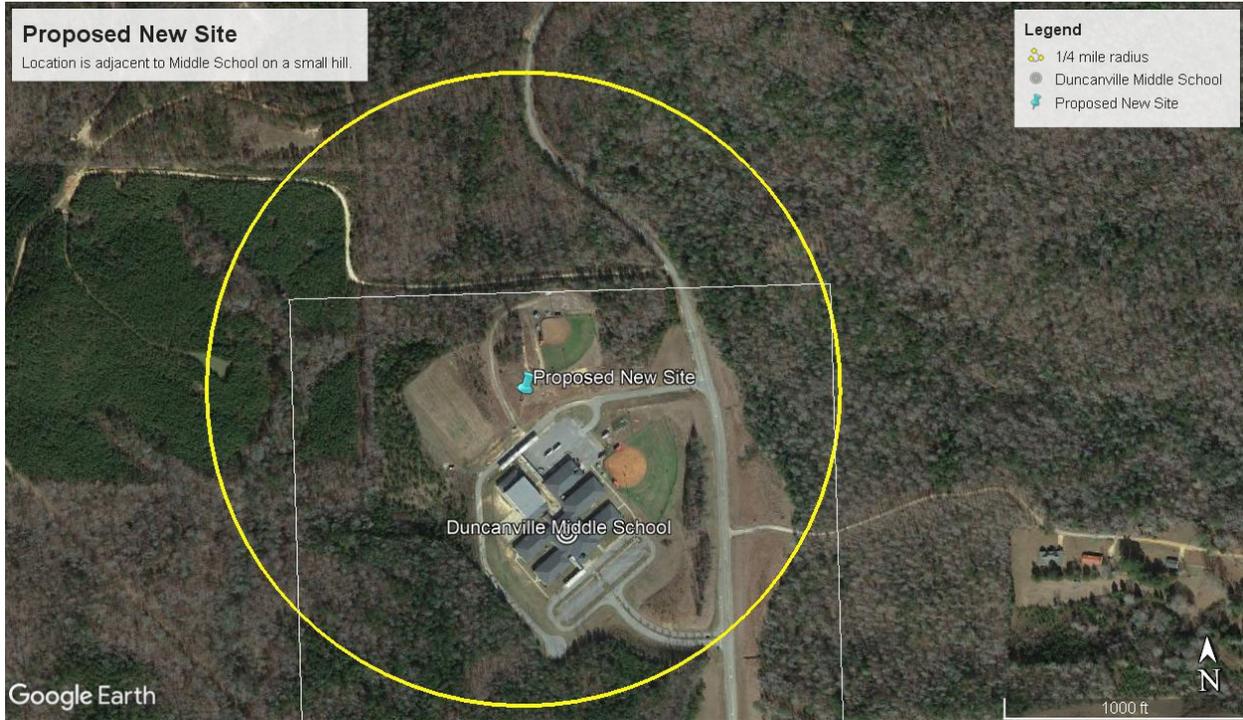
The new Duncanville site property, which will be known as “Duncanville Middle School (DUN)”, is located 1.35 miles west of the previous site property, and is owned by the Tuscaloosa County School Board. The actual placement on the property is on a small hill, adjacent to the Duncanville Middle School softball field. The current average annual daily traffic for the nearest portion of Bear Creek Road is <1,000. The shelter will be at a higher elevation than all local traffic, more than 200 meters from the nearest traffic lane and more than 40 meters from the school bus lane. The air inlet will be located more than 20 meters from the drip line from any tree and more than 2 times the height of any obstacles. The only possible obstacle at this location other than trees is the school. If we conservatively estimate the school building to be 10 meters tall, the air monitoring inlet should be at least 20 meters away. The school is located over 75 meters and downward grade from the proposed site location. In addition, Appendix E states the site must have unrestricted airflow 270 degrees around the probe or sampler; allows for obstacles within a 90-degree radius if it is not between the probe and the primary source of emissions. This site would meet all requirements. The monitoring objective will continue to be Highest Concentration of Ozone in the Tuscaloosa Statistical Area on an Urban scale.

Because this location meets all siting criteria and is only 1.35 miles from the previous TSC site, it will continue to represent the highest concentration site for the MSA and future site concentrations should be similar. ADEM requests EPA link the data from the new DUN site (AQS ID 01-125-0011) to the TSC site (AQS ID 01-125-0010) so that the 3-year design value will be derived using data from both sites.



DUNCANVILLE MIDDLE SCHOOL (DUN)
Duncanville, Tuscaloosa County

AQS ID 01-125-0011
33.095379, -87.481507



MSA: Tuscaloosa

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	Proposed 07/01/2021	087	Teflon	---	---	≈21.64m	≈19.81m - North

This site will meet all requirements of 40 CFR Part 58.

Evaluation Date: 3-29-2021

Timeline

Currently, the site is being prepared for delivery of the new shelter in late May. The 2021 Ozone monitoring season for the Tuscaloosa MSA began at TSC (AQS ID 01-125-0010) on March 1 and will continue until the successful set-up of the new site, at which time the TSC site will be shut down and data collection moved to the new location. Since the two sites are close, ADEM will request the two sites be linked in AQS so the data will be continuous. Anticipated start date of DUN (AQS ID 01-125-0011) is July 1, 2021.

Appendix C

Comments

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

Page	Change
3	Summary of changes in 2020/2021 – Bullets 1 and 2; Clarified monitor language Summary of proposed changes in 2021/2022 – Bullet 3; Added “will”
9	SO2 DRR – removed reference to “second 3-yr cycle”
10	Lead (Pb) Network – See Appendix D
12	Mobile MSA – inserted missing word “...expected to meet...”
44	2 nd paragraph – corrected spelling of predominant

Appendix D

Lead (Pb) Network Updated

Except from pg 10 of the plan.

ADEM's Monitoring Networks by Pollutant

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. No additional changes are proposed for this network.