Jefferson County Department of Health

2025
Annual Ambient Air Monitoring Network Plan

Environmental Health Services
Air and Radiation Protection Division
1400 Sixth Avenue South
Birmingham, AL 35233

Table of Contents

Acronyms

Appendix D	Volume 40, Code of Federal Regulations, Part 58, Appendix D
AQI	Air Quality Index
AQS	Air Quality System
CASTNET	Clean Air Status and Trends Network
CBSA	Core Based Statistical Area
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CSA	Combined Statistical Area
FEM	Federal Equivalent Method
FRM	Federal Reference Method
JCDH	Jefferson County Department of Health
MSA	Metropolitan Statistical Area
µSA	Micropolitan Statistical Areas
NAAQS	National Ambient Air Quality Standards
NCore	National Core Multipollutant Monitoring Station
NO_x	Oxides of Nitrogen
NO_y	Total Reactive Nitrogen
NO_2	Nitrogen Dioxide
O_3	Ozone
PAMS	Photochemical Assessment Monitoring Station
PM	Particulate matter
$PM_{2.5}$	Particulate matter 2.5 micrometers in diameter or less
PM_{10}	Particulate matter 10 micrometers in diameter or less
$PM_{10-2.5}$	Particulate matter with a diameter between 2.5 and 10 micrometers
QAPP	Quality Assurance Project Plan
QMP	Quality Management Plan
SLAMS	State or Local Air Monitoring Station
SO_2	Sulfur Dioxide
SPM	Special Purpose Monitor
STN	Speciation Trends Network
USEPA	United States Environmental Protection Agency
VOCs	Volatile Organic Compounds

1.0 Background

Federal Regulations (40 CFR 58.10) require that State and Local Agencies operating an ambient air quality monitoring network shall review their air quality monitoring network on an annual basis. Any needed modifications to the network should be identified. A detailed monitoring network description should also be included. In addition, the plan shall be available for public comment. The Jefferson County Department of Health's (JCDH) Ambient Air Monitoring Network Plan is available on the JCDH website at:
https://www.jcdh.org/SitePages/Programs-Services/Scores-Lists/Air/AirPollutionControl.aspx?AQTab=Notices

JCDH's Ambient Air Monitoring Network Plan was placed on the website on May 2025 for a 30-day public review and comment period.

The Monitoring Network review that is specified in *40 CFR 58.10* contains the following elements that apply to each monitoring site:

- The USEPA Air Quality System (AQS) site identification number.
- The location, including street address and geographical coordinates.
- The sampling and analysis method(s) for each measured parameter.
- The operating schedules for each monitor.
- Any proposals to remove or move a monitoring station within a period of 18 months following plan submittal.
- The monitoring objective and spatial scale of representativeness for each monitor as defined in Appendix D of Part 58.
- The identification of any sites that are suitable and sites that are not suitable for comparison against the annual $PM_{2.5}$ and Ozone National Ambient Air Quality Standards (NAAQS) as described in part 58.30.
- The MSA, CBSA, CSA or other area represented by the monitor.
- The annual monitoring network plans and or periodic network assessments are subject to regional approval according to part 58.14.

2.0 Overview

The ambient air monitoring network for Jefferson County, Alabama is operated by the Jefferson County Department of Health (JCDH). Ambient air monitors in Jefferson County, Alabama are operated for a variety of monitoring objectives. These objectives include determining if Jefferson County meets the National Ambient Air Quality Standards, providing public information to US Environmental Protection Agency's (USEPA) AirNow data mapping website, Air Quality Index (AQI) reporting for public information, background data collection, spatial considerations, and special projects. The daily AQI forecast for Jefferson County, Alabama is reported on the JCDH website at:
https://www.jcdh.org/SitePages/Programs-Services/EnvironmentalHealth/Air-RadiationProtectionDivision/AirQualForecast.aspx

In addition, hourly Ozone (O_3), continuous Particulate Matter (PM_{10} and $PM_{2.5}$), Nitrogen Dioxide (NO_2), Sulfur Dioxide (SO_2), and Carbon Monoxide (CO) data is reported to the USEPA AirNow site. 40 CFR 58 has set minimum monitoring requirements for the pollutants that are to be compared with the NAAQS. These minimum requirements are based on population, the level of monitored pollutants, and Metropolitan Statistical Areas (MSA) as defined in the latest US Census information. Jefferson County has a 2020 MSA population estimate of 674,721. The Core Based Statistical Area (CBSA) is a collective term for both MSA and Micropolitan Statistical Areas (μSA). The population of the CBSA which includes the counties of Jefferson, Bibb, Blount, Chilton, Shelby, St. Clair, and Walker has a 2020 population estimate of 1,180,631.

JCDH air monitoring site data are suitable for NAAQS comparisons per appendices A, C, D, and E. JCDH's Quality Management Plan (QMP) is current with an approval date of February 13, 2025. JCDH Quality Assurance Project Plan (QAPP) for Ambient Air Quality Monitoring of Criteria and Multi-Pollutants is current with an approval date of March 27, 2025.

Based on 40 CFR part 58, Appendix D, JCDH began making Photochemical Assessment Monitoring (PAMS) measurements at the NCore site on the established begin date of June 1, 2021.

JCDH installed $PM_{2.5}$ FEMs at its sites and intends to continue coding them as SPMs as outlined in the EPA-approved 2024 Network Plan. Previous years have shown issues with the FEMs thus JCDH will operate FRMs at these sites for NAAQS comparability as well as determining if the FEMs data are comparable to the FRMs.

3.0 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 to evaluate the effectiveness of national and regional air pollution control programs. US Environmental Protection Agency sponsored CASTNET ozone monitors are Part 58 compliant, therefore the data can be used for regulatory purposes. CASTNET ozone data is now reported to the Air Quality System (AQS).

NCore – *National Core multi-pollutant monitoring station:* Sites that measure multiple pollutants at trace levels to provide support to integrated air quality management data needs. Each state is required to operate one NCore site.

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 the state of Alabama in Jefferson County.

SLAMS – ***State or Local Ambient Monitoring Station*****:** The SLAMS make up ambient air quality monitoring sites that are primarily needed for National Ambient Air Quality Standard comparisons.

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 are currently two STN sites located in Jefferson County.

Supplemental Speciation – Any $PM_{2.5}$ speciation station that is used to gain supplemental data and is not dedicated as part of the speciation trends network.

4.0 Proposed Changes for 2025/2026

- Relocation of one manual FRM $PM_{2.5}$ monitor which serves as a QA collocated FRM monitor from Wylam to North Birmingham site.
- Reclassify the spatial scale for all monitors at the Arkadelphia site from "neighborhood" to "micro."
- Removal of CO monitor from Wylam as it is not a regulatory requirement under 40 CFR part 58, and has continually reported data below NAAQS levels for the past 5 years.
- Reclassify the $PM_{2.5}$ monitor at Arkadelphia as a non-regulatory, non-NAAQS monitor for the purpose of comparison to the annual $PM_{2.5}$ NAAQS.
- JCDH formally requests for 2-year PM2.5 NAAQS exclusions for all five continuous FEM $PM_{2.5}$ monitors while they are operated as SPMs under 40 CFR 58.20 to assess the PM2.5 FEM data comparability as required by 40 CFR 58.11(e).

5.0 Monitoring Site Discussion

JCDH's ambient air monitoring network has been reviewed based on historic monitoring data, air quality monitoring regulations, data representation based on spatial considerations, special data needs, and changes needed based on the monitoring regulations. The items used in the evaluation were the following: AQS database, the 40 CFR parts 53 and 58 documents, and the census data and maps. JCDH monitors are classified as either State or Local Air Monitoring Station (SLAMS) or Special Purpose Monitor (SPM).

The following describes the purposes and any changes related to each monitor in the ambient air monitoring network in Jefferson County based on the review of the existing monitoring efforts.

1. **Leeds** (01-073-1010) – JCDH operates one O_3 monitor, one continuous FEM PM_{10} monitor, one continuous FEM $PM_{2.5}$ monitor, and one manual FRM $PM_{2.5}$ monitor. JCDH formally requests a 2-year PM2.5 NAAQS exclusion for the continuous FEM $PM_{2.5}$ monitor while it is operated as an SPM under 40 CFR 58.20 to assess the PM2.5 FEM data comparability as required by 40 CFR 58.11(e).

- **Site Approval Status:** Site and monitors meet all design criteria for the monitoring network. The sample inlet for the O_3 is approximately 4.6 meters above ground level, the continuous PM_{10} and $PM_{2.5}$ monitor is approximately 4.8 meters above ground level. No trees or obstacles impact the siting criteria for this site.

2. **McAdory** (01-073-1005) – JCDH operates one O_3 monitor, one continuous FEM PM_{10} monitor, one continuous FEM $PM_{2.5}$ monitor, and one manual FRM $PM_{2.5}$ monitor. JCDH formally requests a 2-year $PM_{2.5}$ NAAQS exclusion for the continuous FEM $PM_{2.5}$ monitor while it is operated as an SPM under 40 CFR 58.20 to assess the $PM_{2.5}$ FEM data comparability as required by 40 CFR 58.11(e).

    - **Site Approval Status:** Site and monitors meet all design criteria for the monitoring network. The sample inlet for the O_3 is approximately 4.6 meters above ground level, the continuous $PM_{2.5}$ monitor is approximately 4.7 meters above ground level, and the particulate manual monitors are approximately 5 meters above ground. No trees or obstacles impact the siting criteria for this site.

3. **North Birmingham (NCore)** (01-073-0023) – JCDH operates a NCore site which contains a full complement of instruments that includes: meteorological, IMPROVE, RADNET, and PAMS. The ambient air monitoring parameters currently include one O_3 monitor, one SO_2 monitor, one CO monitor, Nitric Oxides (NO_x and NO_y) monitors, one manual FRM $PM_{2.5}$ monitor, speciated $PM_{2.5}$, one continuous FEM $PM_{2.5}$, one continuous FEM PM_{10} monitor, and one FEM $PM_{10\text{-}2.5}$ monitor. Meteorological instruments include wind speed, wind direction, ambient temperature, barometric pressure, and relative humidity. JCDH formally requests a 2-year $PM_{2.5}$ NAAQS exclusion for the continuous FEM $PM_{2.5}$ monitor while it is operated as an SPM under 40 CFR 58.20 to assess the $PM_{2.5}$ FEM data comparability as required by 40 CFR 58.11(e). JCDH will be relocating the QA collocated FRM $PM_{2.5}$ monitor from Wylam to North Birmingham (NCore) site during summer 2025.

    - **Site Approval Status:** Site and monitors meet all design criteria for the monitoring network. The meteorological tower is approximately 30 meters above ground level. The NO_x, CO, and SO_2 sample inlets are approximately 4.3 meters above ground level. The O_3 sample inlet is approximately 4.6 meters above ground level, and PAMS is approximately 4.7 meters above ground level. The continuous particulate monitor is approximately 4.6 meters above ground level, while the manual particulate monitors and speciated $PM_{2.5}$ monitors are approximately 4 meters above ground level. IMPROVE and RADNET are operated at ground level. No trees or obstacles impact the siting criteria for this site.

4. **Arkadelphia (Near-Road)** (01-073-2059) – JCDH operates one NO_x monitor, one CO monitor, and one manual FRM $PM_{2.5}$ monitor at this site. Meteorological instruments include wind speed, wind direction, ambient temperature, barometric pressure, and relative humidity. JCDH proposes reclassifying all monitors at this site from “neighborhood” to “micro” spatial scale and the PM2.5 monitor as a non-NAAQS monitor for the purpose of comparison to the annual $PM_{2.5}$ NAAQS.

The $PM_{2.5}$ data collected at the Arkadelphia monitoring site is not representative of the overall Birmingham-Hoover MSA level of $PM_{2.5}$ exposure. The site was established in 2014 as a near-road site with the spatial scale classified as a "neighborhood" site. The site is located around 20 meters from the nearest lane of interstate, within a unique hotspot, along the corridor of Interstate 20 and Interstate 59 and experiences heavy traffic flow. The siting guidance for near-road ambient monitoring sites (Table 4.3 in *Near-road NO_2 Monitoring Technical Assistance Document, 2012*) states that the first near-road site in an MSA has to be located near the highest traffic counts in the MSA and placed "as near as practicable to the outside nearest edge of the traffic lanes of the target road segment; but shall not be located at a distance greater than 50 meters, in the horizontal, from the outside nearest edge of the traffic lanes of the target road segment."

The spatial scale of "neighborhood" is defined as "*concentrations within some extended area of the city that has relatively uniform land use with dimensions in the 0.5 to 4.0 kilometers range*" and spatial scale of "micro" is defined as "*concentrations in air volumes associated with area dimensions ranging from several meters up to about 100 meters*" (Section 6.1 of *Quality Assurance Handbook for Air Pollution Measurement Systems Volume II Ambient Air Quality Monitoring Program, January 2017*). Since the Arkadelphia monitoring site was established to be no greater than 50 meters from the outside nearest edge of traffic lanes (a unique hotspot with a monitoring objective of a source impact), all monitors at this site should be reclassified from a spatial scale of "neighborhood" to a spatial scale of "micro" since the site is under 100 meters from a source impact.

Due to the requirement of the near-road network, $PM_{2.5}$ measurements at one of the highest traffic counts in the MSA and around 20 meters to the outside nearest edge of the traffic lanes are not representative of the $PM_{2.5}$ concentrations across the Birmingham-Hoover MSA. The traffic counts along this corridor of Interstate 20 and Interstate 59 are not uniform across all of the Birmingham MSA. Therefore, the Arkadelphia $PM_{2.5}$ monitor should not be used for $PM_{2.5}$ attainment decisions for the annual $PM_{2.5}$ National Ambient Air Quality Standards (NAAQS), and should be reclassified as a non-regulatory, non-NAAQS monitor for the purpose of comparison to the annual $PM_{2.5}$ NAAQS.

Figure 1 displays the 2023 annual average daily traffic (AADT) count of 94,775 (indicated in the box) near the Arkadelphia monitoring site (indicated by the yellow star). According to the 2023 AADT data, this is one of the highest traffic count areas in Jefferson County. This information was obtained from Alabama Department of Transportation (https://aldotgis.dot.state.al.us/TDMPublic/).

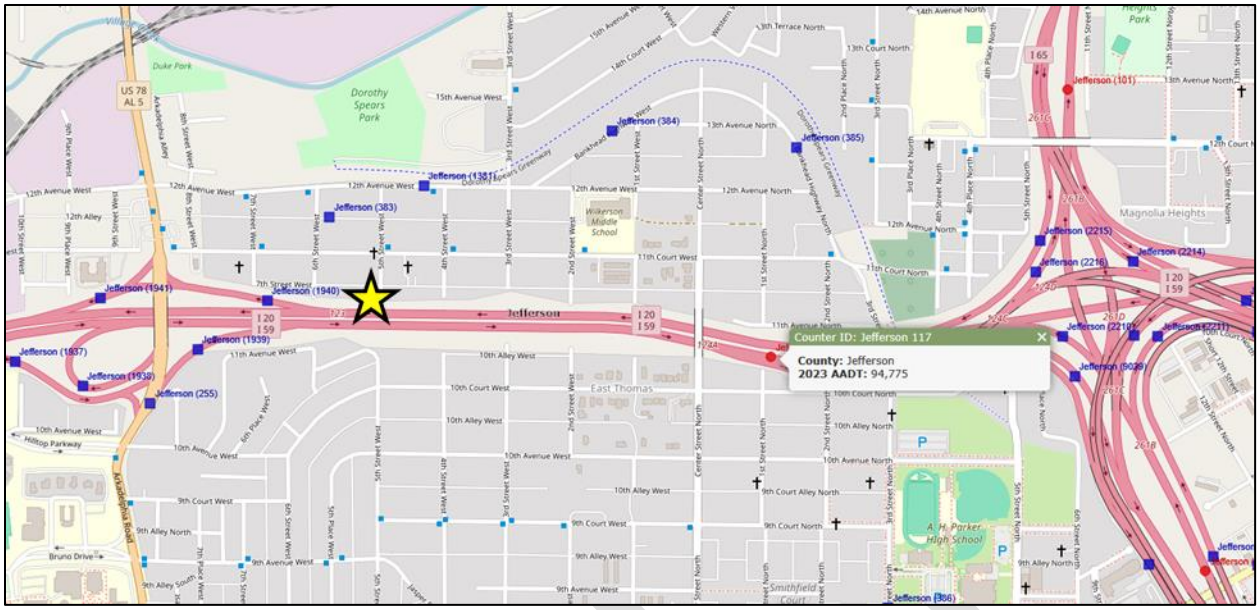


Figure 1: Traffic Count by the Arkadelphia Monitoring Site.

Since the near-road Arkadelphia monitoring site should be classified as having a spatial scale of "micro," it then should not be eligible for comparison to the annual $PM_{2.5}$ NAAQS per 40 CFR 58.30:

58.30 Special considerations for data comparisons to the NAAQS.

(a) ***Comparability of*** *$PM_{2.5}$ data. The primary and secondary annual and 24-hour $PM_{2.5}$ NAAQS are described in part 50 of this chapter. Monitors that follow the network technical requirements specified in § 58.11 are eligible for comparison to the NAAQS subject to the additional requirements of this section. $PM_{2.5}$ measurement data from all eligible monitors are comparable to the 24-hour $PM_{2.5}$ NAAQS. $PM_{2.5}$ measurement data from all eligible monitors that are representative of area-wide air quality are comparable to the annual $PM_{2.5}$ NAAQS. Consistent with appendix D to this part, section 4.7.1, when micro- or middle-scale $PM_{2.5}$ monitoring sites collectively identify a larger region of localized high ambient $PM_{2.5}$ concentrations, such sites would be considered representative of an area-wide location and, therefore, eligible for comparison to the annual $PM_{2.5}$ NAAQS. $PM_{2.5}$ measurement data from monitors that are not representative of area-wide air quality but rather of relatively unique micro-scale, or localized hot spot, or unique middle-scale impact sites are* ***not*** *eligible for comparison to the annual $PM_{2.5}$ NAAQS. $PM_{2.5}$ measurement data from these monitors are eligible for comparison to the 24-hour $PM_{2.5}$ NAAQS. For example, if a micro- or middle-scale $PM_{2.5}$ monitoring site is adjacent to a unique dominating local $PM_{2.5}$ source, then the $PM_{2.5}$ measurement data from such a site would only be eligible for comparison to the 24-hour $PM_{2.5}$ NAAQS. Approval of sites that are suitable and sites that are not suitable for comparison with the annual $PM_{2.5}$ NAAQS is provided for as part of the annual monitoring network plan described in § 58.10.*

Outside of the historically highest $PM_{2.5}$ monitor in the Birmingham-Hoover MSA (North Birmingham), for the 2021-2023 design values, the Arkadelphia site is 0.7 to 1.1 μgm^3 **higher** than other $PM_{2.5}$ monitors in the Birmingham-Hoover MSA. Also, the Arkadelphia site is not

representative of other areas along the interstate because the site location was chosen near one of the highest traffic counts in the MSA making it "*adjacent to a unique dominating local $PM_{2.5}$ source*." Therefore, the Arkadelphia site is not representative of area-wide air quality in the Birmingham-Hoover MSA and is not eligible for comparison to the annual $PM_{2.5}$ NAAQS.

- **Site Approval Status:** Site and monitors meet all design criteria for the monitoring network. The meteorological tower is approximately 30 meters above ground level. The NO_x and CO sample inlets are approximately 4.2 meters above ground level. The manual particulate monitor is approximately 4.8 meters above ground level. A tree is located west of the site, approximately 10.7 meters. There are no other trees or obstacles that would impact the siting criteria for this site.

5. **Tarrant** (01-073-6002) – JCDH operates one O_3 monitor, one continuous FEM PM_{10} monitor, one manual FRM $PM_{2.5}$ monitor, and one continuous FEM $PM_{2.5}$ monitor at this site. A new shelter building was installed for this site in Q1 of 2025. JCDH formally requests a 2-year $PM_{2.5}$ NAAQS exclusion for the continuous FEM $PM_{2.5}$ monitor while it is operated as an SPM under 40 CFR 58.20 to assess the $PM_{2.5}$ FEM data comparability as required by 40 CFR 58.11(e).

   - **Site Approval Status:** The O_3 monitor sample inlet is approximately 4.3 meters above ground level. The continuous particulate monitor is approximately 4.4 meters above ground level. A tree is located north of the site, at approximately 11 meters. Another tree is located northeast of the site, at approximately 10 meters. No trees or obstacles impact the siting criteria for this site.

6. **Wylam** (01-073-2003) – JCDH operates one continuous FEM PM_{10} monitor, one continuous FEM $PM_{2.5}$ monitor, two manual FRM $PM_{2.5}$ monitors, speciated $PM_{2.5}$, one O_3 monitor, one SO_2 monitor, and one CO monitor at this site. EPA special study sampling of Cr6+ ended in summer 2024 and a risk assessment is being completed by EPA. All monitors at the former Fairfield monitoring site (O_3, SO_2, and CO) were moved to the Wylam site during Summer 2024. JCDH formally requests a 2-year $PM_{2.5}$ NAAQS exclusion for the continuous FEM $PM_{2.5}$ monitor while it is operated as an SPM under 40 CFR 58.20 to assess the $PM_{2.5}$ FEM data comparability as required by 40 CFR 58.11(e). JCDH will be relocating the QA collocated FRM $PM_{2.5}$ monitor from Wylam to North Birmingham site during summer 2025. JCDH intends to discontinue CO monitoring at Wylam in 2025 in accordance with 40 CFR monitoring requirements. JCDH has recorded concentrations from this monitor which are far below NAAQS standards. The CO monitor shows data completeness for 2019-2024 over 95%, with annual mean concentrations under 0.5 PPM during that timeframe. This monitor also did not record maximum hourly concentrations for 1-HR standard above 1.8PPM and 8-HR Standard above 1.4PPM throughout a five-year period. With the NAAQS Standard for CO set at 9PPM and 35PPM for the 8-Hr and 1-HR levels respectively, this monitor is routinely far below the NAAQS. As this monitor is not a regulatory requirement, we intend to remove it from Wylam according to 40 CFR part 58.

   - **Site Approval Status:** The sample inlets for the continuous particulate monitors are approximately 4.5 meters above ground level. The manual particulate monitors are

approximately 5 meters above ground level, and the sample inlet for the speciated $PM_{2.5}$ is approximately 4.8 meters above ground level. No trees or obstacles impact the siting criteria for this site.

6.0 Monitoring Site Location Coordinates

Site Name	Site ID	Address	Latitude	Longitude
Arkadelphia	01-073-2059	1110 5th Street West, Birmingham, AL	33.5215	-86.8444
Leeds	01-073-1010	201 Ashville Road, Leeds, AL	33.5394	-86.5518
McAdory	01-073-1005	4821 McAdory School Road, McCalla, AL	33.3316	-87.0001
North Birmingham	01-073-0023	3009 28th Street North, Birmingham, AL	33.5530	-86.8147
Tarrant	01-073-6002	1269 Portland St, Tarrant, AL	33.5783	-86.7738
Wylam	01-073-2003	1242 Jersey St, Birmingham, AL	33.4997	-86.9241

7.0 Monitoring Network Assessment

MONITORING NETWORK ASSESSMENT									
Leeds 01-073-1010									
Parameter	**Code**	**POC**	**Method**	**Method Description**	**Manual/Continuous**	**Site Type**	**Siting Scale**	**Monitor Objective**	**Monitor Type**
O_3	44201	1	087	UltraViolet Absorption	Continuous	Population Oriented	Neighborhood	Population Exposure	SLAMS
$PM_{2.5}$	88101	1	145	VSCC Gravimetric	Manual	Population Oriented	Neighborhood	Population Exposure	SLAMS
PM_{10}	81102	4	639	Broadband Spectroscopy	Continuous	Population Oriented	Neighborhood	Population Exposure	SLAMS
$PM_{2.5}$	88101	3	638	Broadband Spectroscopy	Continuous	Population Oriented	Neighborhood	Population Exposure	SPM
McAdory 01-073-1005									
Parameter	**Code**	**POC**	**Method**	**Method Description**	**Manual/Continuous**	**Site Type**	**Siting Scale**	**Monitor Objective**	**Monitor Type**
O_3	44201	1	087	UltraViolet Absorption	Continuous	Population Oriented	Neighborhood	Population Exposure	SLAMS
$PM_{2.5}$	88101	1	145	VSCC Gravimetric	Manual	Population Oriented	Neighborhood	Population Exposure	SLAMS
$PM_{2.5}$	88101	2	638	Broadband Spectroscopy	Continuous	Population Oriented	Neighborhood	Population Exposure	SPM
North Birmingham (NCore) 01-073-0023									
CO	42101	2	093	Gas Filter Correlation	Continuous	Population Oriented	Neighborhood	Population Exposure	SLAMS
SO_2	42401	2	100	UltraViolet Fluorescence	Continuous	Population Oriented	Neighborhood	Population Exposure	SLAMS
NO_2	42602	2	200	Photolytic Chemiluminescence	Continuous	Population Oriented	Neighborhood	Population Exposure	SLAMS
O_3	44201	1	087	UltraViolet Absorption	Continuous	Population Oriented	Neighborhood	Population Exposure	SLAMS
$PM_{2.5}$	88101	1	145	VSCC Gravimetric	Manual	Population Oriented	Neighborhood	Highest Concentration/Pop Exp	SLAMS
PM_{10}	81102	4	639	Broadband Spectroscopy	Continuous	Population Oriented	Neighborhood	Population Exposure	SLAMS
$PM_{2.5}$	88101	3	638	Broadband Spectroscopy	Continuous	Population Oriented	Neighborhood	Highest Concentration/Pop Exp	SPM
Arkadelphia (Near-Road) 01-073-2059									
Parameter	**Code**	**POC**	**Method**	**Method Description**	**Manual/Continuous**	**Site Type**	**Siting Scale**	**Monitor Objective**	**Monitor Type**
CO	42101	1	093	Gas Filter Correlation	Continuous	Population Oriented	Microscale	Source Oriented	SLAMS
NO_2	42602	1	200	Photolytic Chemiluminescence	Continuous	Population Oriented	Microscale	Source Oriented	SLAMS
$PM_{2.5}$	88101	1	145	VSCC Gravimetric	Manual	Population Oriented	Microscale	Source Oriented	SLAMS

MONITORING NETWORK ASSESSMENT									
Tarrant 01-073-6002									
Parameter	**Code**	**POC**	**Method**	**Method Description**	**Manual/Continuous**	**Site Type**	**Siting Scale**	**Monitor Objective**	**Monitor Type**
O_3	44201	1	087	UltraViolet Absorption	Continuous	Population Oriented	Neighborhood	Highest Concentration	SLAMS
$PM_{2.5}$	88101	1	145	VSCC Gravimetric	Manual	Population Oriented	Neighborhood	Population Exposure	SLAMS
PM_{10}	81102	3	639	Broadband Spectroscopy	Continuous	Population Oriented	Neighborhood	Population Exposure	SLAMS
$PM_{2.5}$	88101	2	638	Broadband Spectroscopy	Continuous	Population Oriented	Neighborhood	Population Exposure	SPM
Wylam 01-073-2003									
Parameter	**Code**	**POC**	**Method**	**Method Description**	**Manual/Continuous**	**Site Type**	**Siting Scale**	**Monitor Objective**	**Monitor Type**
CO	42101	1	093	Gas Filter Correlation	Continuous	Population Oriented	Neighborhood	Population Exposure	SLAMS
O_3	44201	1	087	UltraViolet Absorption	Continuous	Population Oriented	Neighborhood	Population Exposure	SLAMS
$PM_{2.5}$	88101	1	145	VSCC Gravimetric	Manual	Population Oriented	Neighborhood	Population Exposure	SLAMS
$PM_{2.5}$	88101	2	145	VSCC Gravimetric	Manual	Population Oriented	Neighborhood	Population Exposure	SLAMS
PM_{10}	81102	2	639	Broadband Spectroscopy	Continuous	Population Oriented	Neighborhood	Population Exposure	SLAMS
$PM_{2.5}$	88101	3	638	Broadband Spectroscopy	Continuous	Population Oriented	Neighborhood	Population Exposure	SPM
SO_2	42401	1	100	UltraViolet Fluorescence	Continuous	Population Oriented	Neighborhood	Population Exposure	SLAMS

Appendix A:
Monitoring Site Photos and Maps

Leeds

Site ID: 01-073-1010

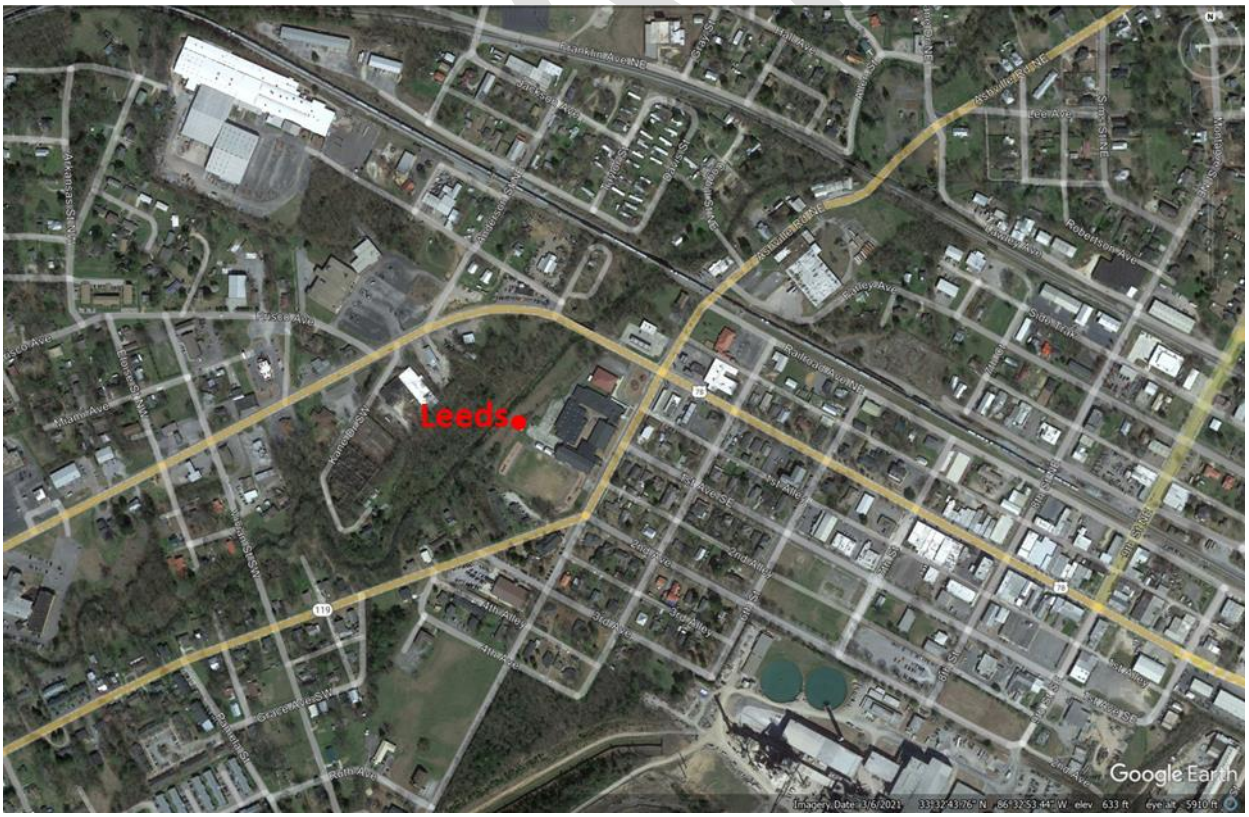
North

South

East

West


Trussville Country Club
WHITES CHAPEL
Moody
Alton
Publix Super Market at The Village at Moody
Leeds
Leeds
JEFFERSON PARK
Leeds Memorial Park
Barber Vintage Motorsports Museum
OVERTON
Vandiver Church of God
Google


Leeds
Google Earth

McAdory

Site ID: 01-073-1005

North

South

East

West


McAdory
Middlebrooks GARAGE
Lowe's Home Improvement
Lipscomb
Bessemer
Shannon
Hoover
Aux Home Services
Alabama Adventure & Splash Adventure
Temporarily closed
Riverchase Galleria
Adger
Dogwood Grove Baptist Church
North Johns
Ebenezer Missionary Baptist
Old Blue Creek Church
McCalla
Hoover Metropolitan Complex
Bent Brook
Drummond Mining - Mr. Tom
Publix Super Market at Morgan Road Plaza
Helena
Pelham
Abernant
Lake View
Shiloh Missionary Baptist Church
Mc Calla
Tannehill Ironworks Historical State Park
Mareno Construction
Cahaba River WMA Shooting Range
Alabaster
Google


McAdory
McAdory School Rd
Google Earth

North Birmingham (NCore)

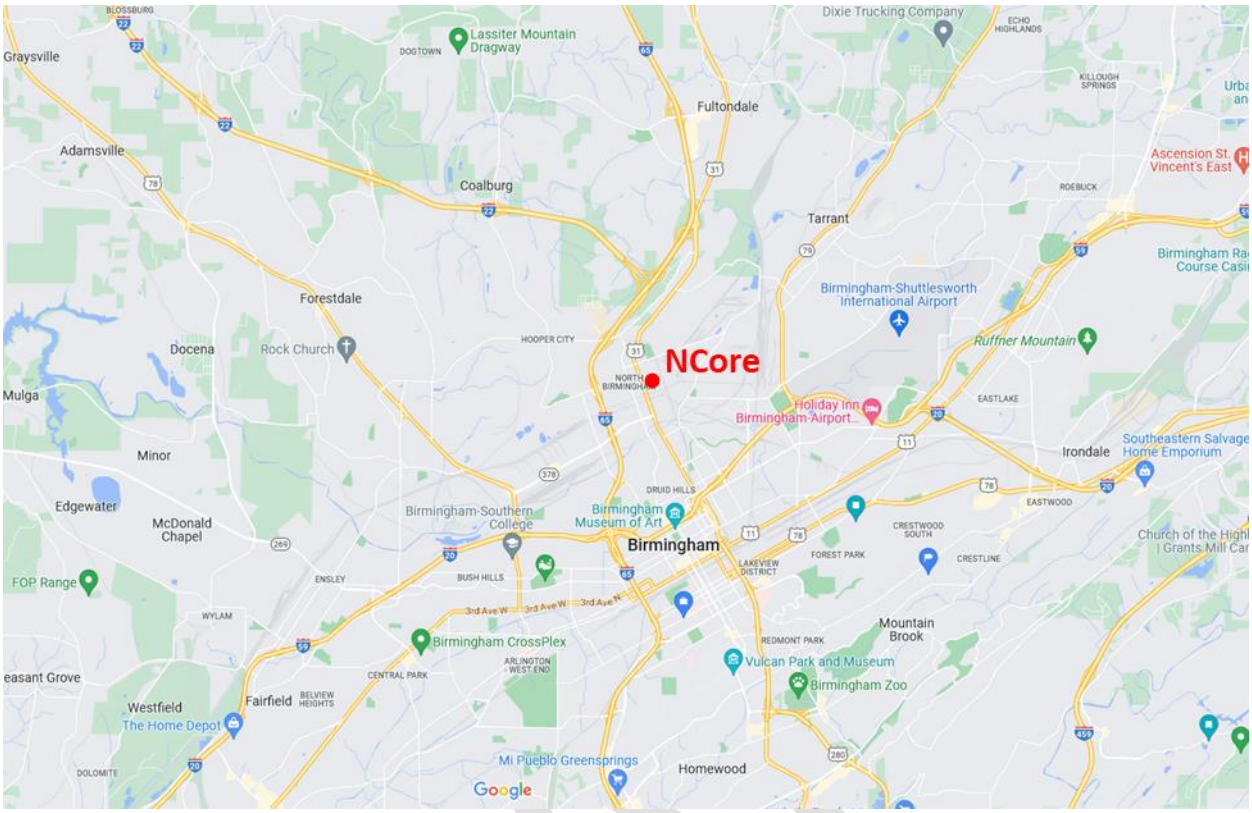
Site ID: 01-073-0023

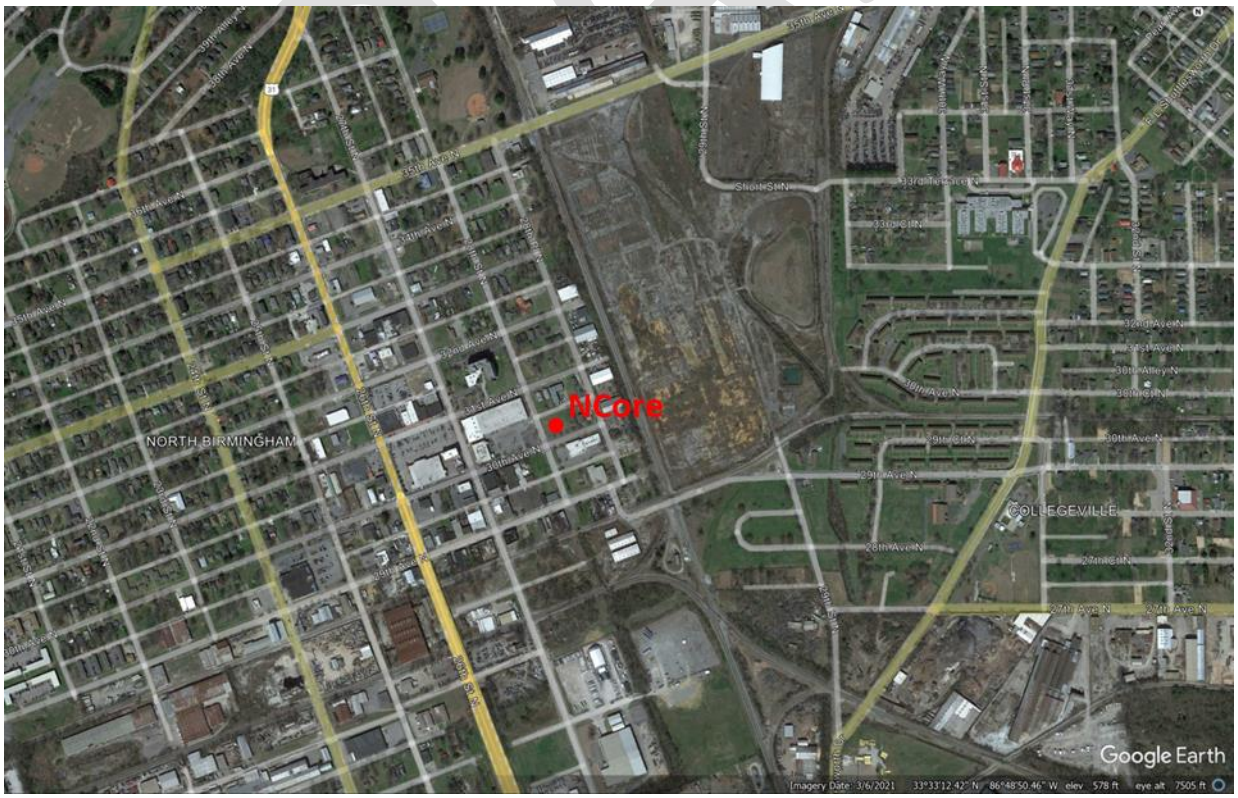
North

South

East

West


NCore
Graysville
Adamsville
Coalburg
Fultondale
Dixie Trucking Company
Lassiter Mountain Dragway
Tarrant
Forestdale
Docena
Rock Church
Mulga
Minor
Edgewater
McDonald Chapel
Birmingham-Southern College
Birmingham Museum of Art
Birmingham
Birmingham-Shuttlesworth International Airport
Ruffner Mountain
Holiday Inn Birmingham-Airport
Irondale
Southeastern Salvage Home Emporium
Ascension St. Vincent's East
FOP Range
Birmingham CrossPlex
Mountain Brook
Vulcan Park and Museum
Birmingham Zoo
Westfield
The Home Depot
Fairfield
Mi Pueblo Greenspring
Homewood
Google


NCore
NORTH BIRMINGHAM
COLLEGEVILLE
Google Earth

Arkadelphia (Near-Road)

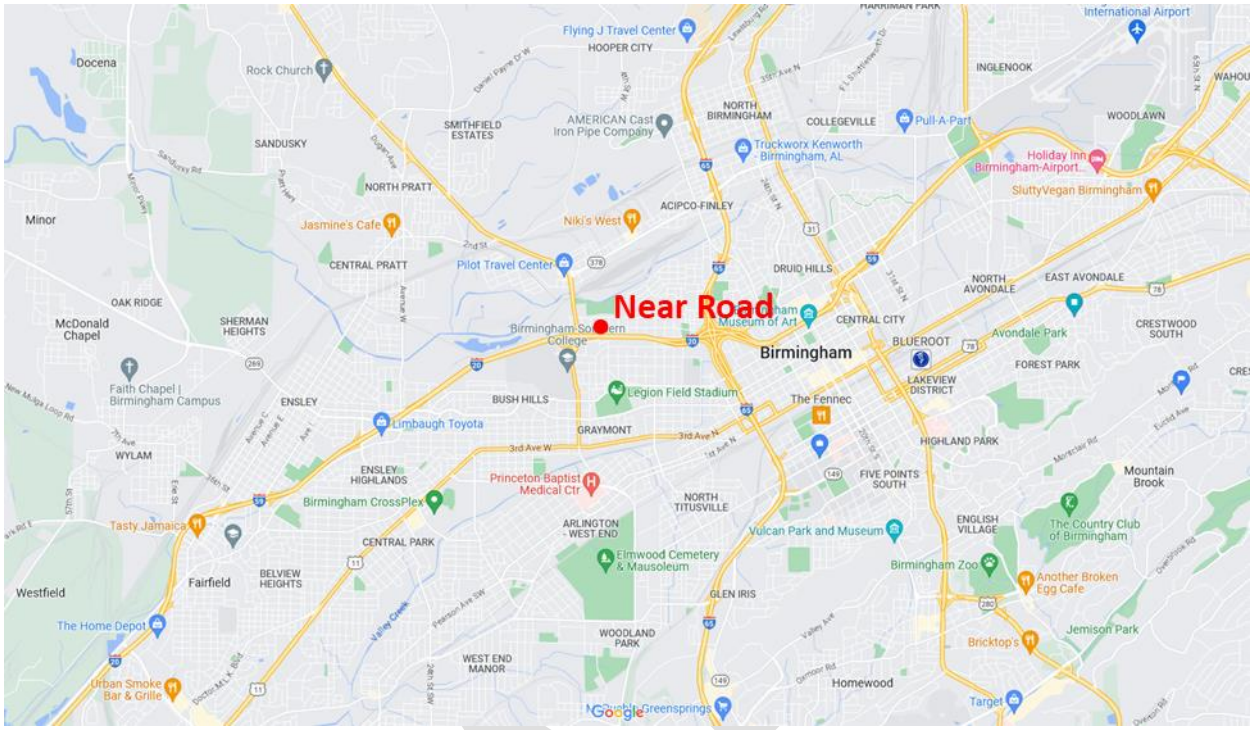
Site ID: 01-073-2059

North

South

East

West


Near Road
Birmingham
Flying J Travel Center
HOOPER CITY
International Airport
Docena
Rock Church
INGLENOOK
SMITHFIELD ESTATES
AMERICAN Cast Iron Pipe Company
NORTH BIRMINGHAM
COLLEGEVILLE
Pull-A-Part
WOODLAWN
SANDUSKY
Truckworx Kenworth - Birmingham, AL
Holiday Inn Birmingham-Airport...
NORTH PRATT
SluttyVegan Birmingham
Minor
Jasmine's Cafe
Niki's West
ACIPCO-FINLEY
CENTRAL PRATT
Pilot Travel Center
DRUID HILLS
NORTH AVONDALE
EAST AVONDALE
OAK RIDGE
McDonald Chapel
SHERMAN HEIGHTS
Birmingham Southern College
Museum of Art
CENTRAL CITY
Avondale Park
CRESTWOOD SOUTH
BLUEROOT
FOREST PARK
Faith Chapel | Birmingham Campus
LAKEVIEW DISTRICT
ENSLEY
BUSH HILLS
Legion Field Stadium
The Fennec
Limbaugh Toyota
GRAYMONT
HIGHLAND PARK
WYLAM
ENSLEY HIGHLANDS
Princeton Baptist Medical Ctr
FIVE POINTS SOUTH
Mountain Brook
Birmingham CrossPlex
NORTH TITUSVILLE
Tasty Jamaica
ARLINGTON - WEST END
Vulcan Park and Museum
ENGLISH VILLAGE
The Country Club of Birmingham
CENTRAL PARK
Elmwood Cemetery & Mausoleum
Birmingham Zoo
Another Broken Egg Cafe
Fairfield
BELVIEW HEIGHTS
Westfield
GLEN IRIS
The Home Depot
WOODLAND PARK
Jemison Park
WEST END MANOR
Bricktop's
Homewood
Urban Smoke Bar & Grille
Target
Google


Near Road
Google Earth

Tarrant

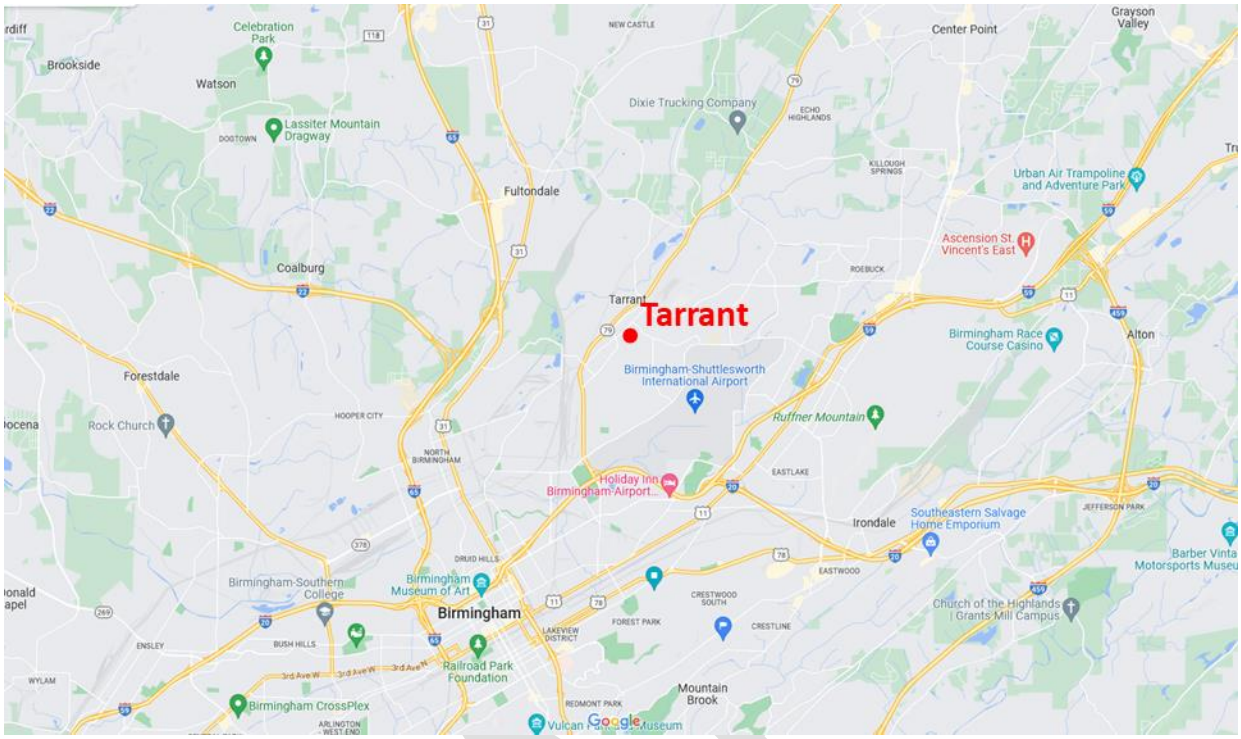
Site ID: 01-073-6002

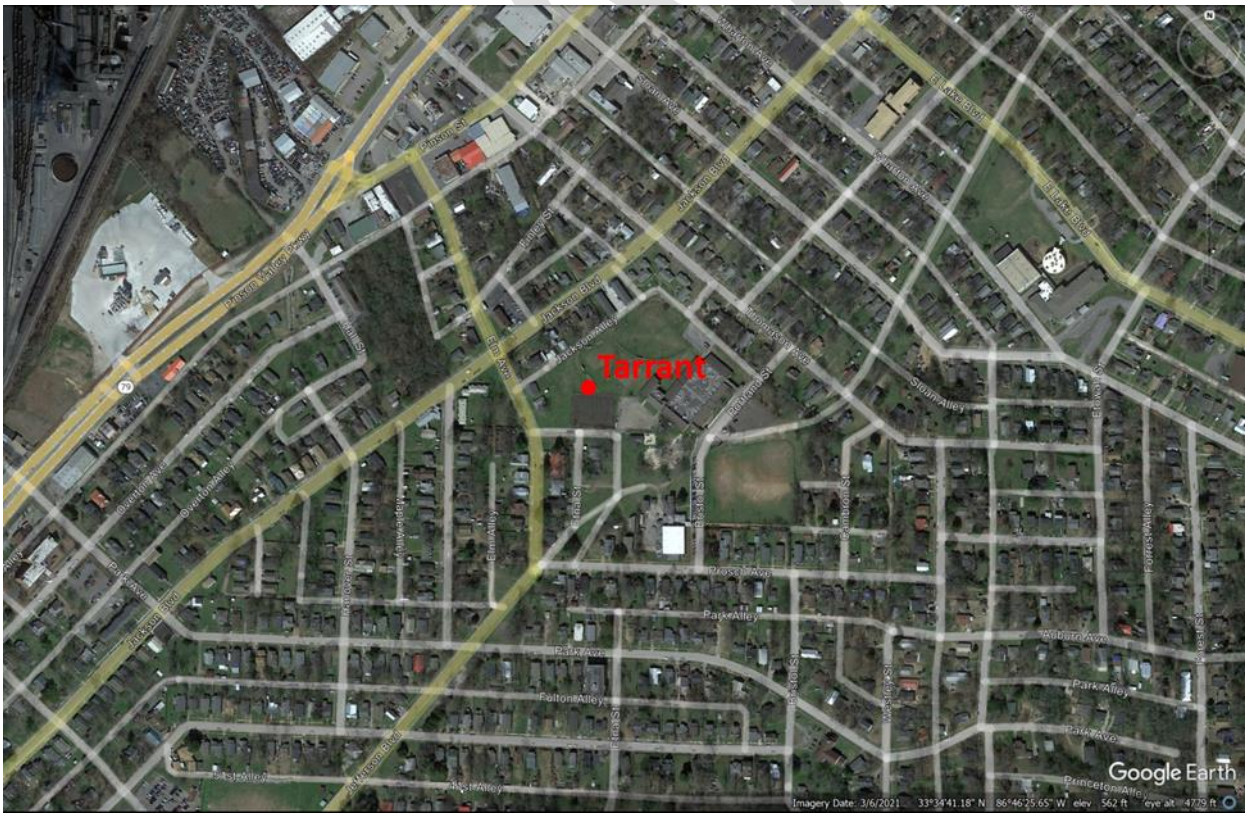
North

South

East

West


Tarrant
Celebration Park
Brookside
Watson
Lassiter Mountain Dragway
Dixie Trucking Company
Center Point
Grayson Valley
Fultondale
Urban Air Trampoline and Adventure Park
Ascension St Vincent's East
Coalburg
Tarrant
Birmingham Race Course Casino
Alton
Forestdale
Birmingham-Shuttlesworth International Airport
Rock Church
Ruffner Mountain
Holiday Inn Birmingham-Airport
Irondale
Southeastern Salvage Home Emporium
Birmingham-Southern College
Birmingham Museum of Art
Birmingham
Church of the Highlands Grants Mill Campus
Railroad Park Foundation
Birmingham CrossPlex
Mountain Brook
Google


Tarrant
Google Earth

Wylam

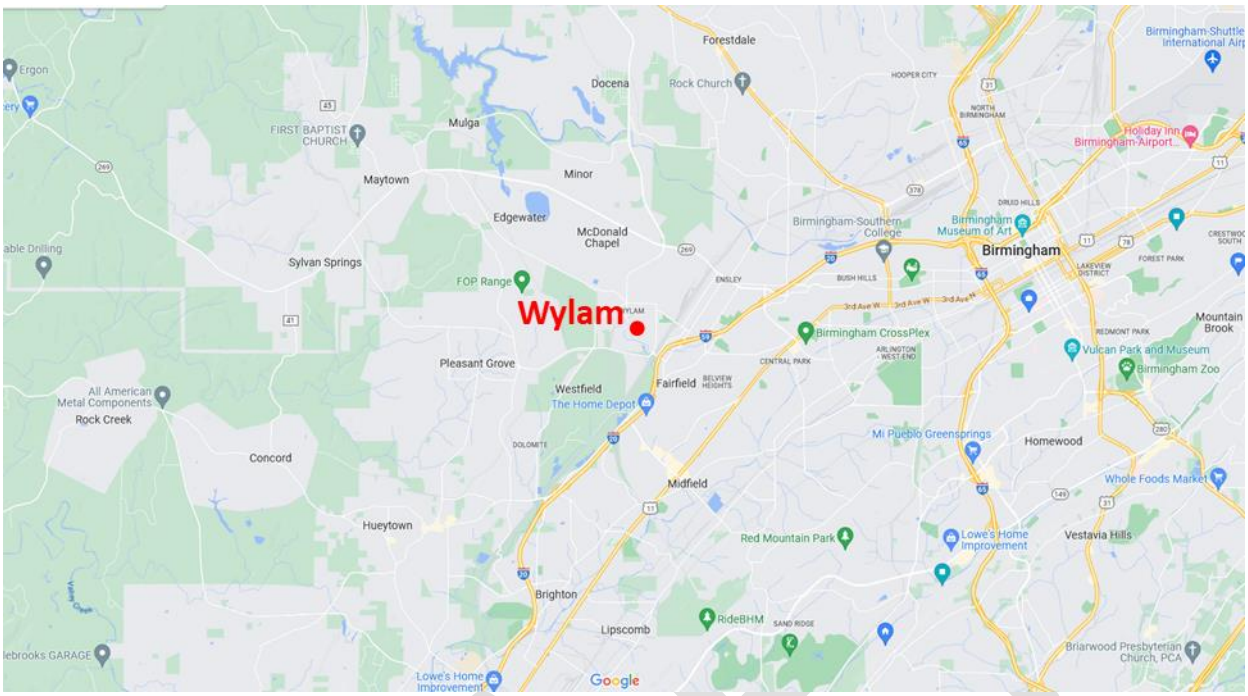
Site ID: 01-073-2003

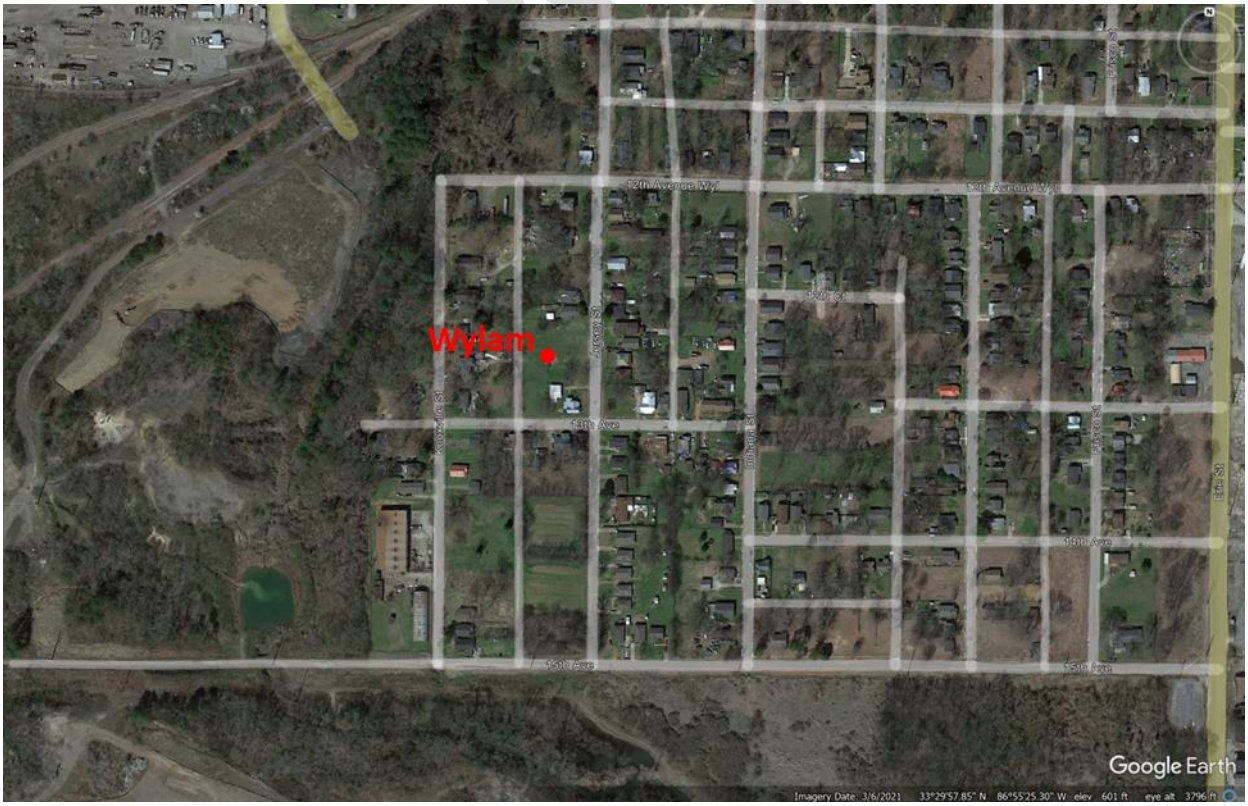
North

South

East

West


Wylam
Forestdale
Docena
Rock Church
Mulga
FIRST BAPTIST CHURCH
Maytown
Minor
Edgewater
McDonald Chapel
Sylvan Springs
FOP Range
Pleasant Grove
Westfield
The Home Depot
Fairfield
Birmingham CrossPlex
Birmingham
Birmingham Museum of Art
Birmingham-Southern College
Vulcan Park and Museum
Birmingham Zoo
Mountain Brook
Homewood
Mi Pueblo Greensprings
Whole Foods Market
Midfield
Red Mountain Park
Lowe's Home Improvement
Vestavia Hills
Hueytown
Concord
Rock Creek
All American Metal Components
Brighton
Lipscomb
RideBHM
Briarwood Presbyterian Church, PCA
Google


Wylam
Google Earth

Appendix B:
Inventory of Monitoring Equipment

Inventory of Monitoring Equipment				
Leeds 01-073-1010				
Item Description	**Manufacturer**	**Model**	**Serial Number**	**Condition**
PM Manual Instrument	Thermo	2025i	21681	Good
PM Continuous Instrument	Teledyne	T640x	1278	Good
Ozone Analyzer	Teledyne	T400	6419	Good
Zero Air Generator	Teledyne	701	4657	Good
Calibrator	Teledyne	T703	957	Good
Data Logger	Agilaire	8872	1018	Good
McAdory 01-073-1005				
PM Manual Instrument	Thermo	2025i	21687	Good
PM Continuous Instrument	Teledyne	T640x	514	Poor
Ozone Analyzer	Teledyne	T400	6420	Good
Zero Air Generator	Teledyne	701	5676	Good
Calibrator	Teledyne	703E	959	Good
Data Logger	Agilaire	8872	1268	Good
North Birmingham (NCore) 01-073-0023				
PM Manual Instrument	Thermo	2025i	21685	Good
PM Continuous Instrument	Teledyne	T640x	947	Good
Ozone Analyzer	Teledyne	T400	6993	Good
CO Analyzer	Teledyne	T300U	384	Good
SO_2 Analyzer	Teledyne	T100U	318	Good
NOy Analyzer	Teledyne	T200U	288	Good
NOx Analyzer	Teledyne	T200UP	83	Good
Zero Air Generator	Teledyne	701H	750	Good
Calibrator	Teledyne	T700U	803	Good
Data Logger	Agilaire	8872	1017	Good
Rain Gauge	MetOne	370	P17785	Good
Ceiliometer	Vaisala	CL51	P1750410	Good
Wind Sensor	MetOne	50.5	411556	Good
Temp Sensor	MetOne	BX-597A	B17168	Good
Solar Sensor	Licor	Li-200R	Py-113347	Good
SASS	MetOne	Super Sass	X22221	Good
URG	MetOne	URG-300N	3N-B0160	Good
PAMS	-	-	-	Good
IMPROVE	-	-	BIRM1	Good
RADNET	HI-a	Hvp-4004 BL-S	16145	Good
Arkadelphia (Near-Road) 01-073-2059				
PM Manual Instrument	Thermo	2025i	21682	Good
CO Analyzer	Teledyne	T300U	584	Good
NOx Analyzer	Teledyne	T200UP	197	Good
Zero Air Generator	Teledyne	701H	1910	Good
Calibrator	Teledyne	T700U	199	Good
Data Logger	Agilaire	8872	1266	Good
Wind Sensor	MetOne	50.5H	P17504	Good
Temp/BP/RH Sensor	MetOne	BX 597A	C14318	Good
Solar Sensor	LiCor	LI-200R	PY116632	Good
Rain Gauge	MetOne	370	A5752	Good

Inventory of Monitoring Equipment				
Tarrant 01-073-6002				
Item Description	**Manufacturer**	**Model**	**Serial Number**	**Condition**
PM Manual Instrument	Thermo	2025i	21833	Good
PM Continuous Instrument	Teledyne	T640	1766	Good
Ozone Analyzer	Teledyne	T400	6994	Good
Zero Air Generator	Teledyne	701	5786	Good
Calibrator	Teledyne	T703	958	Good
Wylam 01-073-2003				
PM Manual Instrument	Thermo	2025i	21683	Good
PM Manual Instrument	Thermo	2025i	21684	Good
PM Continuous Instrument	Teledyne	T640x	1765	Good
Data Logger	Agilaire	8872	1265	Good
URG	MetOne	URG-300N	B0454	Good
SASS	MetOne	Super Sass	A3075	Good
Ozone Analyzer	Teledyne	T400	4285	Good
SO_2 Analyzer	Teledyne	T100U	509	Good
CO Analyzer	Teledyne	T300	3377	Good
Zero Air Generator	Teledyne	T701H	234	Good
Calibrator	Teledyne	T700U	332	Good

Inventory of Backup Monitoring Equipment				
Located at Shop				
Item Description	**Manufacturer**	**Model**	**Serial Number**	**Condition**
CO Analyzer	Teledyne	T300U	582	Fair
CO Analyzer	Teledyne	T300U	382	Poor
CO Analyzer	Teledyne	T300U	134	Fair
Ozone Analyzer	Teledyne	T400	1803	Good
SO2 Analyzer	Teledyne	T100U	284	Good
SO2 Analyzer	Teledyne	T100U	298	Fair
SO2 Analyzer	Teledyne	T100U	188	Poor
PM Continuous Instrument	Teledyne	T640X	1277	Good
NOx Analyzer	Teledyne	T200UP	69	Fair
NOx Analyzer	Teledyne	T200UP	156	Fair
Zero Air Generator	Teledyne	T701	1911	Fair
Zero Air Generator	Teledyne	701	4528	Fair
Zero Air Generator	Teledyne	701	5596	Poor
Zero Air Generator	Teledyne	751H	419	Good
Zero Air Generator	Teledyne	701	5677	Good
Zero Air Generator	Teledyne	701	5595	Good
Zero Air Generator	Teledyne	701	1909	Fair
Zero Air Generator	Teledyne	701	4658	Good
Calibrator	Teledyne	750U	69	Fair
Calibrator	Teledyne	T700U	169	Fair
Calibrator	Teledyne	703E	857	Good
Ozone Lvl 2 SRP Calibrator	Thermo	49 C	75470	Fair/Good
Ozone Lvl 2 SRP Calibrator	Thermo	iQ49	6852	Good
Ozone Lvl 2 SRP Calibrator	Thermo	iQ49	6851	Good
Data Logger	Agilaire	8872	0615	Good
Data Logger	Agilaire	8872	1267	Good
Data Logger	Agilaire	8872	823	Good
Data Logger	Agilaire	8872	418	Good
Data Logger	Agilaire	8872	1315	Good
Data Logger	Agilaire	8872	1269	Good

All listed equipment in this Appendix is as of May 2025.