

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**

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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 (O₃), continuous Particulate Matter (PM₁₀ and PM_{2.5}), Nitrogen Dioxide (NO₂), Sulfur Dioxide (SO₂), 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 (NO_x) and volatile organic compounds (VOCs). PAMS monitoring requirements were revised in the 2016 ozone NAAQS rule and a PAMS site is required in 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 PM_{2.5} 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 PM_{2.5} 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 O₃ monitor, one continuous FEM PM₁₀ 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 O₃ is approximately 4.6 meters above ground level, the continuous PM₁₀ 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 O₃ monitor, one continuous FEM PM₁₀ 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 O₃ 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 O₃ monitor, one SO₂ 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 PM₁₀ monitor, and one FEM PM_{10-2.5} 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 SO₂ sample inlets are approximately 4.3 meters above ground level. The O₃ 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 PM_{2.5} 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 NO₂ 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/>).

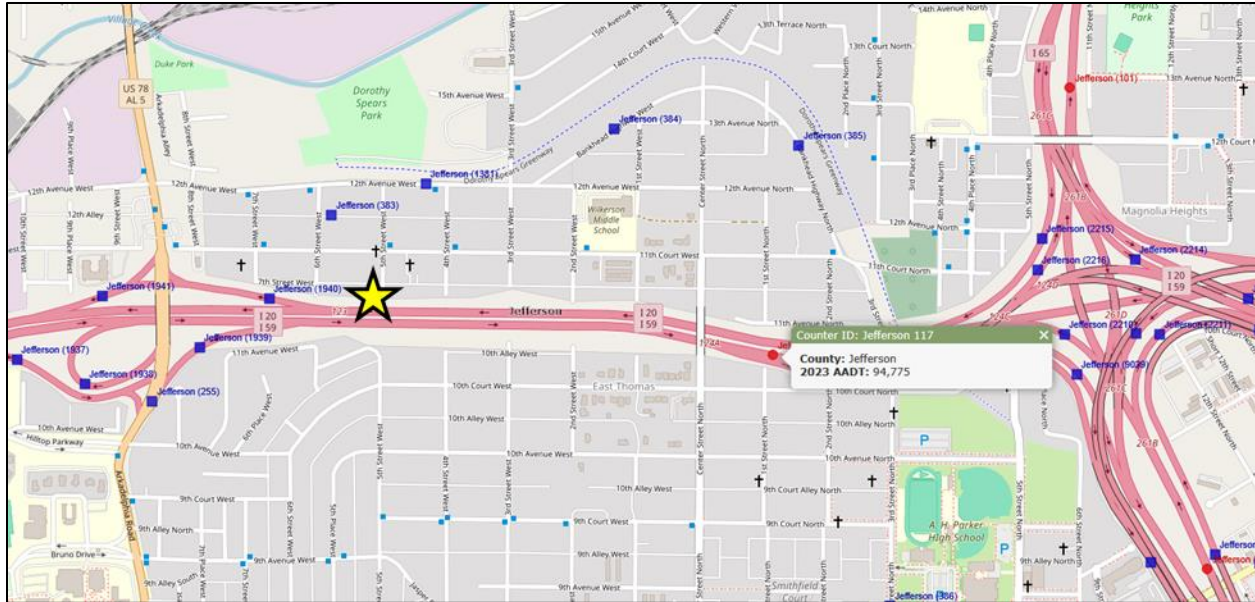


Figure 1: Traffic Count by the Arkadelphia Monitoring Site.

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 $\mu g/m^3$ **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 O₃ monitor, one continuous FEM PM₁₀ 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 O₃ 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 PM₁₀ monitor, one continuous FEM PM_{2.5} monitor, two manual FRM PM_{2.5} monitors, speciated PM_{2.5}, one O₃ monitor, one SO₂ 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 (O₃, SO₂, 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

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Leeds

Site ID: 01-073-1010



North



South

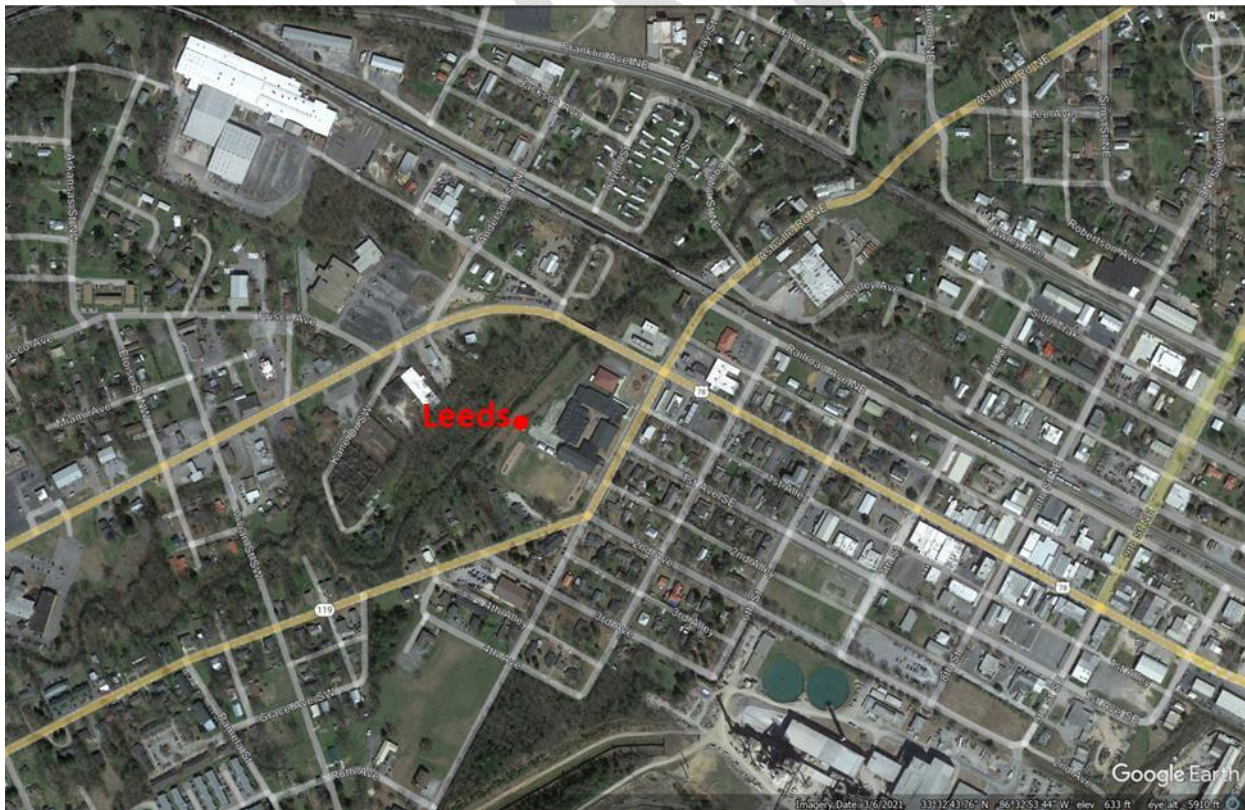


East



West





McAdory
Site ID: 01-073-1005



North



South



East



West





North Birmingham (NCore)

Site ID: 01-073-0023



North



South

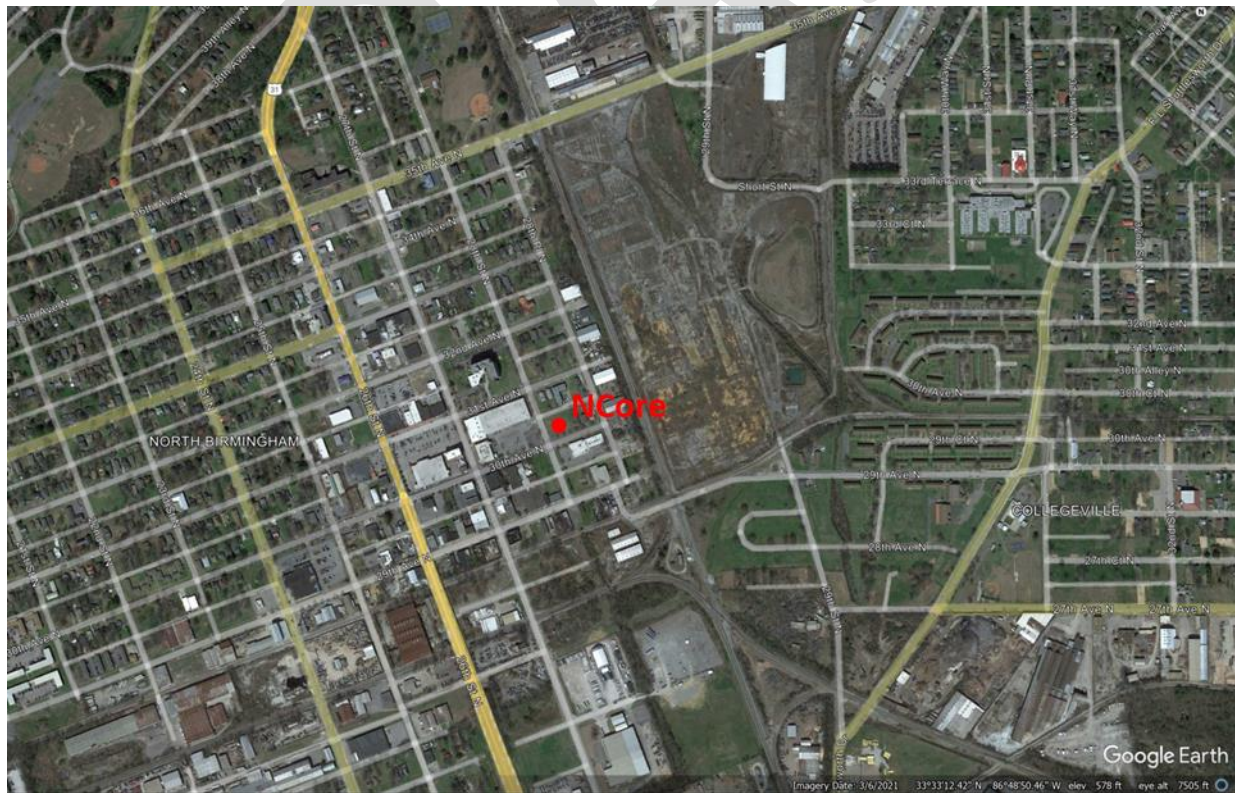
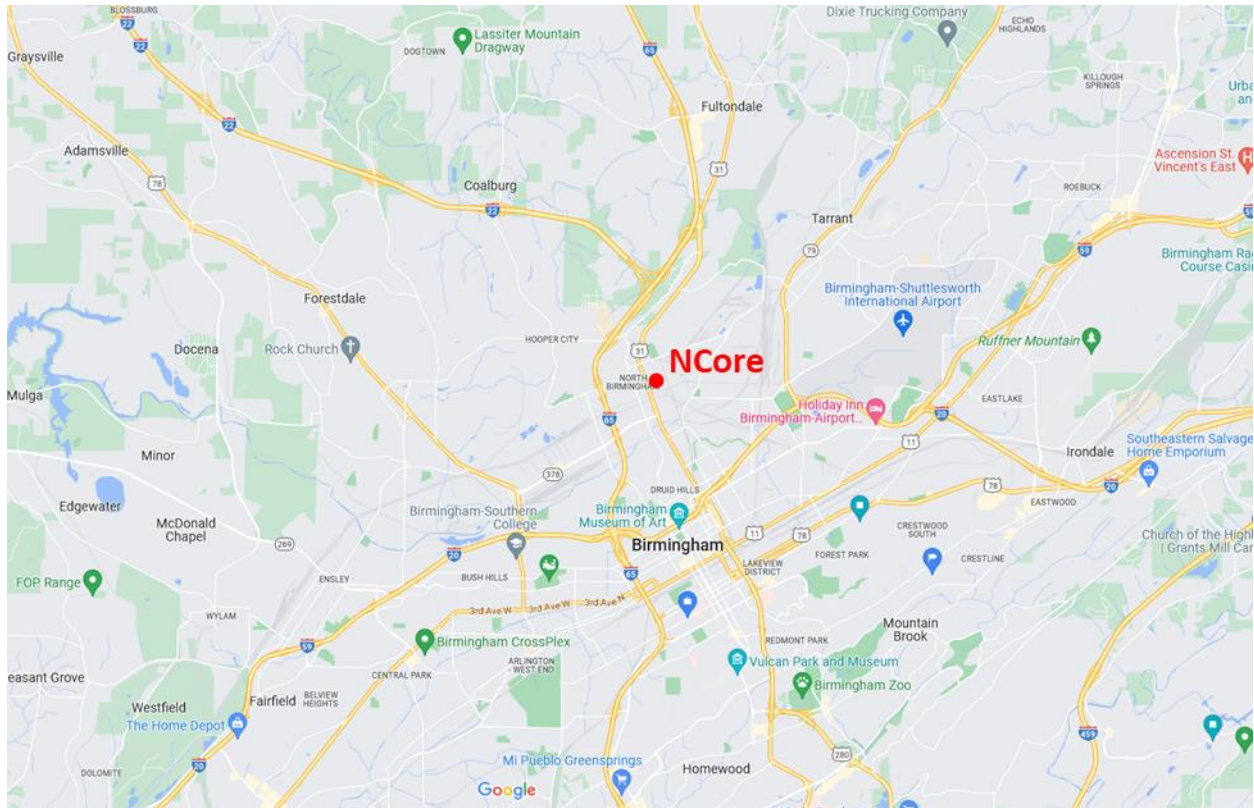


East



West





Arkadelphia (Near-Road)

Site ID: 01-073-2059



North



South

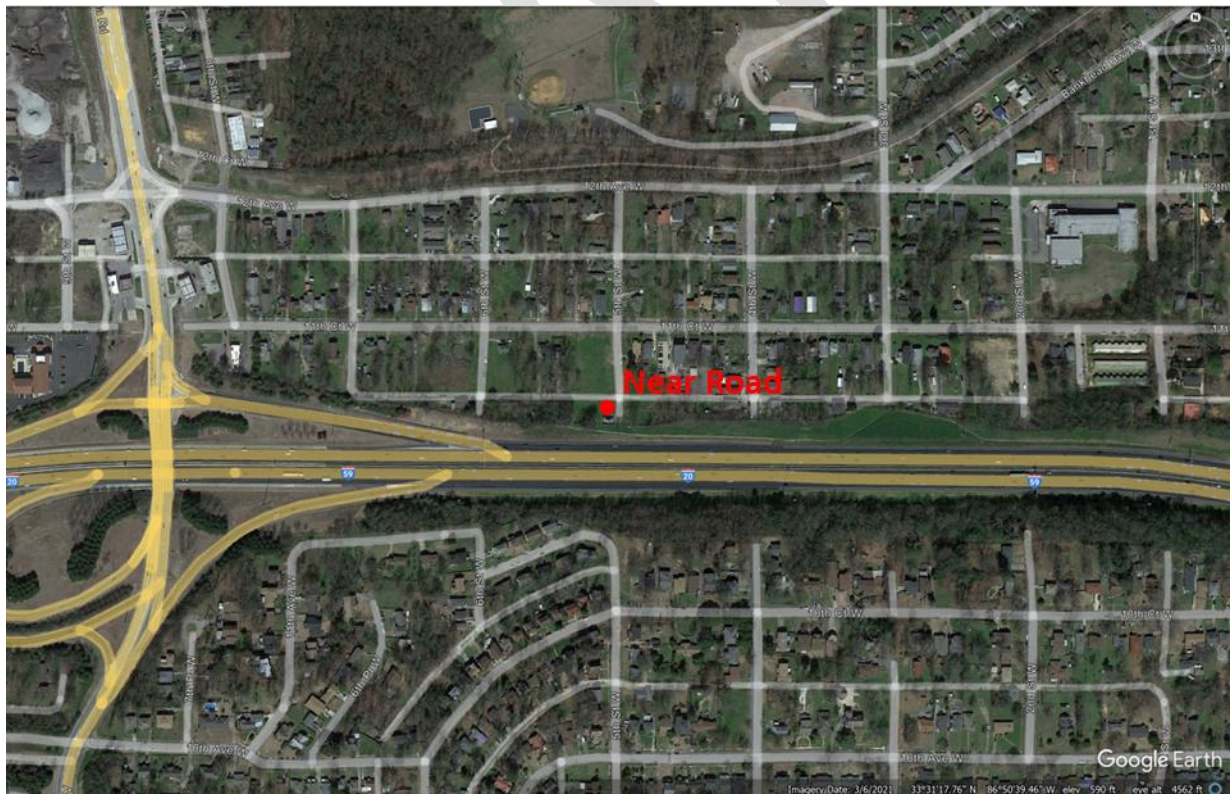
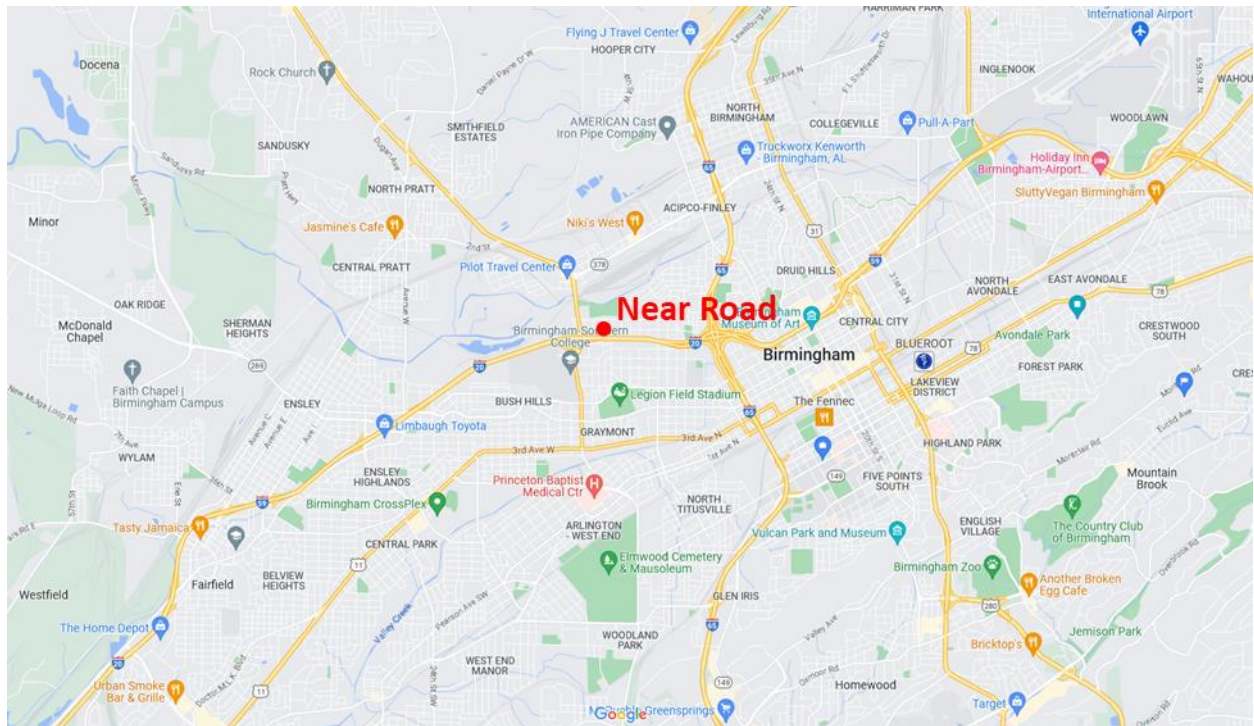


East



West





Tarrant
Site ID: 01-073-6002



North



South

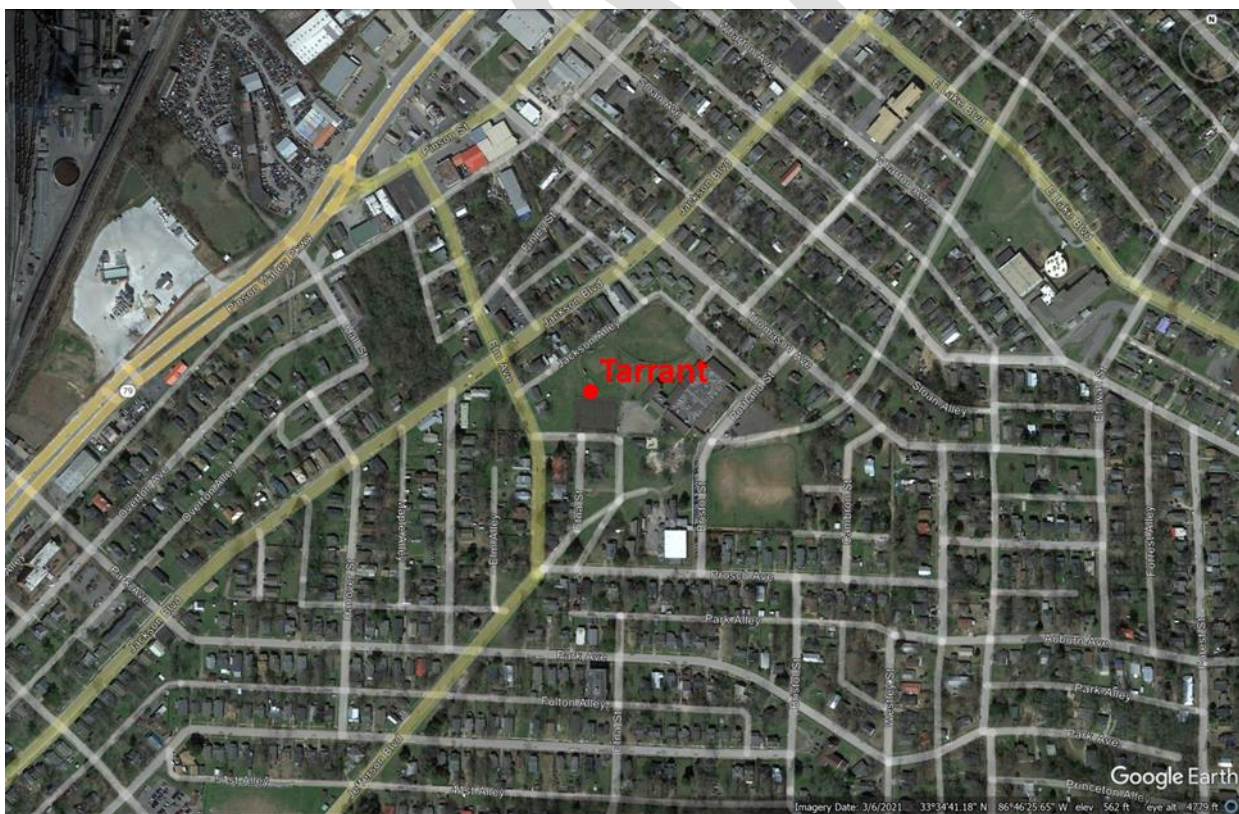
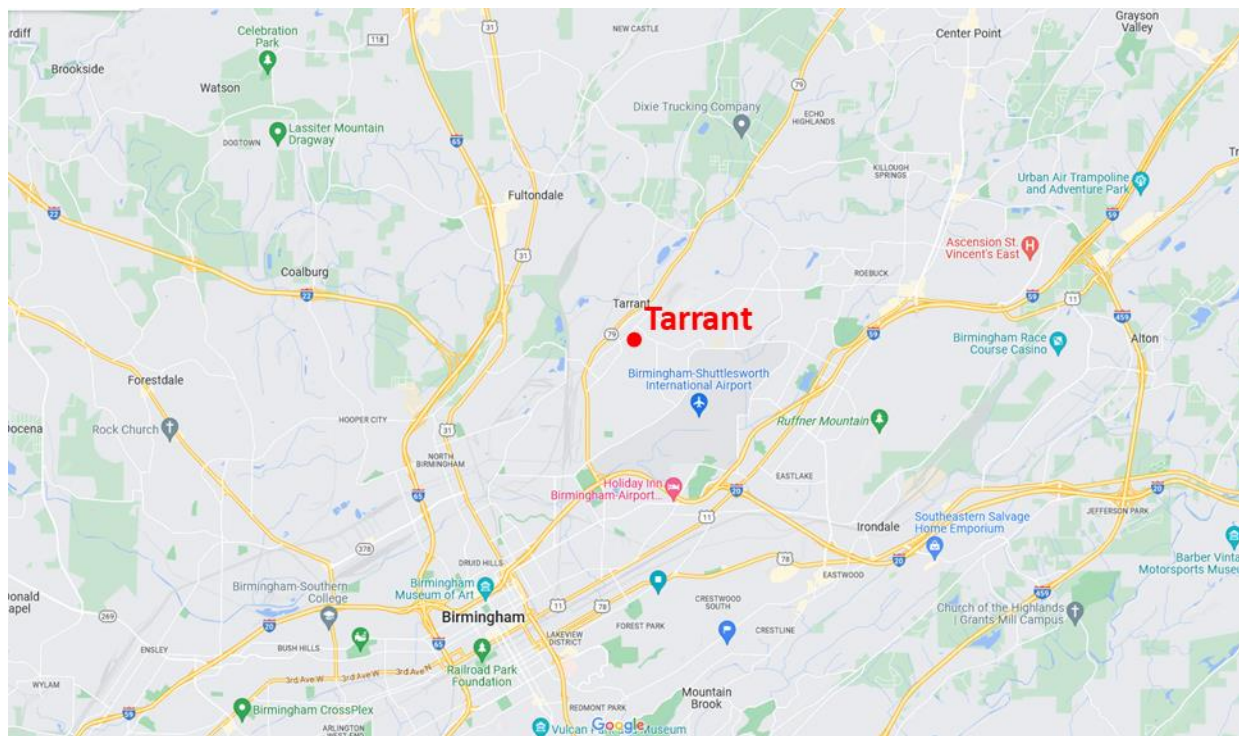


East



West





Wylam

Site ID: 01-073-2003



North



South

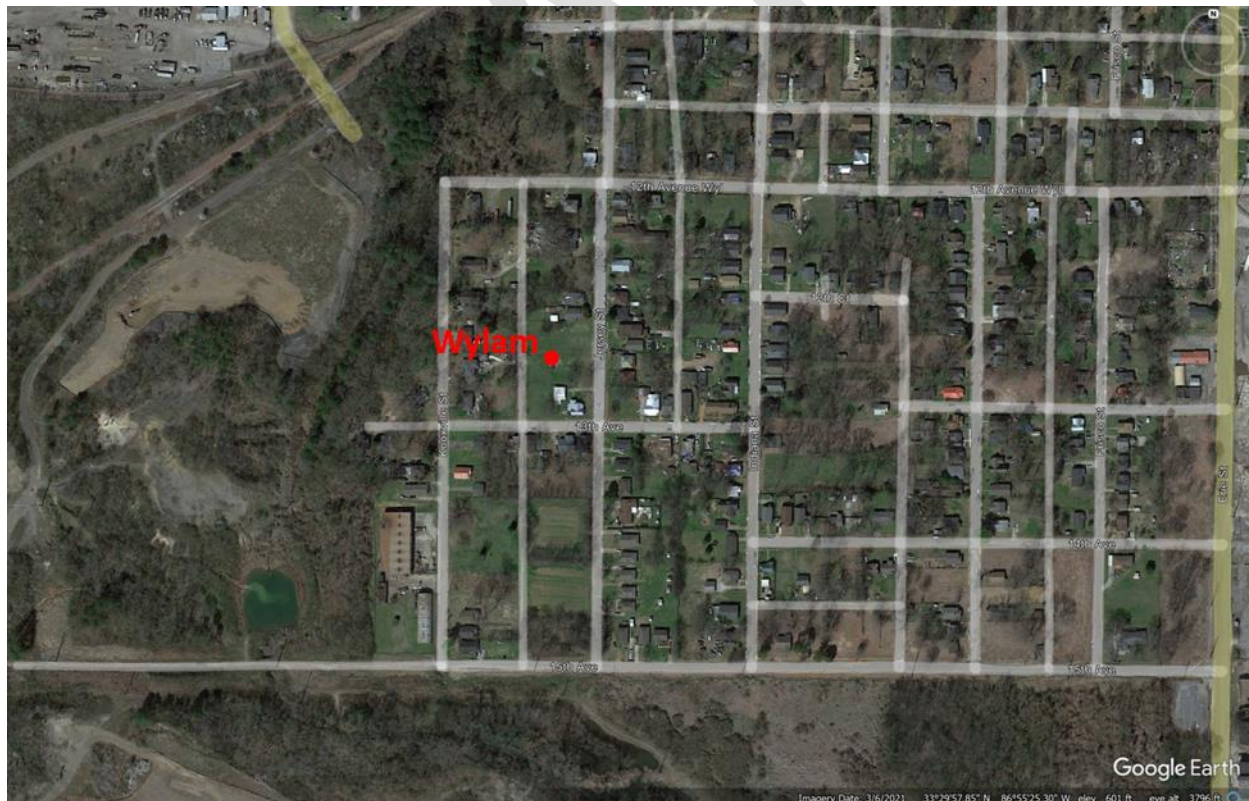
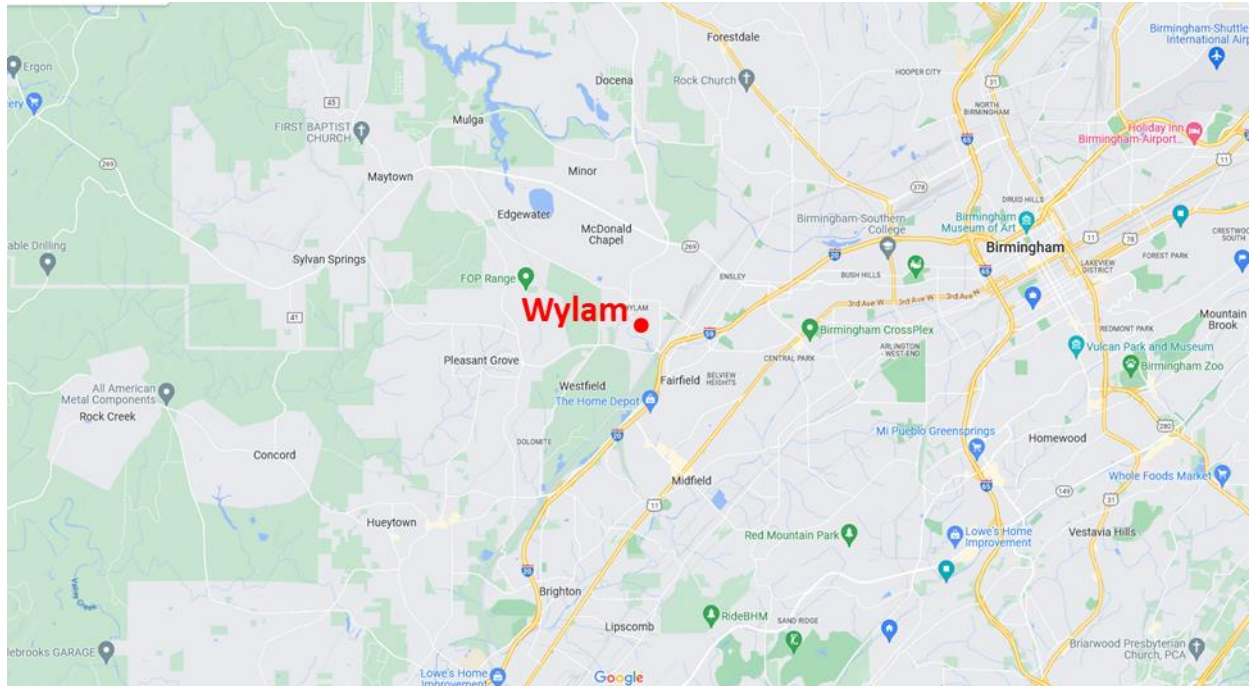


East



West





Appendix B: Inventory of Monitoring Equipment

DRAFT

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
NO _y Analyzer	Teledyne	T200U	288	Good
NO _x 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
NO _x 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	Agilair	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.