2023
Louisiana Annual Monitoring Network Plan

Louisiana Department of Environmental Quality
Office of Environmental Assessment
Air Planning and Assessment Division

March 3, 2023

The Louisiana Department of Environmental Quality (LDEQ) maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A and B, utilizes the methodology provided for each monitor in accordance with Appendix C, designs its network in accordance with Appendix D, and locates its sites to meet all requirements of Appendix E. Site conditions are monitored on a weekly basis as part of required site operations. Any situation that may cause the siting criteria listed in 40 CFR Part 58 Appendix E to be in question is investigated and a solution determined at that time. The Louisiana Annual Monitoring Network Plan that follows covers the fiscal year of July 2023 through June 2024 with knowledge gained through February 2023.

LDEQ's Air Field Services section operates State and Local Ambient Monitoring Stations (SLAMS), Photochemical Assessment Monitoring Stations (PAMS), Speciation Trends Network (STN), Special Purpose Monitoring Stations (SPMS), and a National Core Network (NCore) Ambient Air Monitoring Station as a requirement of the Code of Federal Regulations (CFR), Title 40, Part 58. These stations measure ambient air concentrations of those pollutants for which standards have been established in 40 CFR Part 50. Data acquired from the stations is submitted into the EPA's Air Quality System (AQS) where it is compared to the National Ambient Air Quality Standards (NAAQS). Access to this information is available through EPA's website (www.epa.gov). Conformance of the network to 40 CFR 58 Appendix D (Network Design Criteria) and Appendix E (Probe and Path Siting Criteria) is determined using an Annual Review of the air quality surveillance system, as required for each state in 40 CFR 58.10. The review is also used to ensure that the network is continuing to meet the objectives of the air monitoring program. The three basic objectives of the air monitoring program follow:

1. Provide air pollution data to the general public in a timely manner. Data can be presented to the public in a number of different ways including through air quality maps, newspapers, internet sites, and as a part of weather forecasts and public advisories.
2. Support compliance with ambient air quality standards and emissions strategy development. Data from the monitors for NAAQS pollutants will be used for comparing an area's air pollution levels against the NAAQS. Data of various types can be used in the development of attainment and maintenance plans. Data can also be used to track trends to determine the impact of air pollution abatement control measures on improving air quality. In monitoring locations near major air pollution sources, source-oriented monitoring data can provide insight into how well industrial sources are controlling their pollutant emissions.
3. Support for air pollution research studies such as health effects assessments.

This review has several goals:

- Determine if the network requires any modifications to continue to meet its monitoring objective and data needs (through termination of existing stations, relocation of stations, or establishment of new stations); and
- Investigate ways to improve the network to ensure that it provides adequate, representative, and useful air quality data.

Monitoring Plans for July 2023-June 2024

Under EPA's NCore design guidelines, the state of Louisiana is required to operate one NCore level 2 site, which is the Capitol site (AQS# 220330009). The remaining sites in the state will all be PAMS, SLAMS, Speciation Trends Network (STN), or SPMs. Table B summarizes number and type of monitors located in each Metropolitan Statistical Area (MSA) population. Table C lists specific information about analytes monitored at each site and the MSA covered by this location. Table D lists information regarding the PAMS network. The PAMS network plan exceeds the monitoring requirements with the air monitoring stations at Capitol (AQS# 22-033-0009) and Dutchtown (AQS# 22-005-0004) as PAMS sites.

The Population Weighted Emissions Index (PWEI) is currently used to determine the number of Core Based Statistical Area (CBSA) SO_2 monitors and can be found in Table E. Per CFR 40, Part 58, Appendix D, Section 4.4.2, the PWEI is calculated by multiplying the population of each CBSA, using the most current census data or estimates, and the total amount of SO_2 in tons per year emitted within the CBSA area, using an aggregate of the most recent parish level emissions data available in the National Emissions Inventory for each parish in each CBSA. The resulting product shall be divided by one million, providing a PWEI value, the units of which are million persons-tons per year. The calculated PWEI for each CBSA can be found in Table E. For any CBSA with a calculated PWEI value equal to or greater than 1,000,000, a minimum of three SO_2 monitors are required within that CBSA. For any CBSA with a calculated PWEI value equal to or greater than 100,000, but less than 1,000,000, a minimum of two SO_2 monitors are required within that CBSA. For any CBSA with a calculated PWEI value equal to or greater than 5,000, but less than 100,000, a minimum of one SO_2 monitor is required within that CBSA.

For this network plan, the most recent (2020) parish level emissions data from the National Emissions Inventory was used and can be found at the following web address: https://www.epa.gov/air-emissions-inventories/2020-national-emissions-inventory-nei-data

System Modifications

- The Irish Channel TLC site was shut down in July of 2021.
- New Orleans Lower Ninth Ward Site will begin operating in late spring of 2023.
- The Meraux SO_2 monitoring object classification was changed from Background to Source.
- Westlake (AQS #22-019-0008) now has a T640x monitoring $PM_{2.5}$ and PM_{10} and began polling into AQS on 4/1/2022 at 00:00 CST.
- The TEOM at Kenner (AQS #22-051-1001) has been replaced with a T640x and began polling into AQS on 6/11/2021 at 10:00 CST.
- The BAMs for $PM_{2.5}$ and PM_{10} at Chalmette Vista (AQS #22-087-0007) have been replaced by a T640x and began polling into AQS on 3/23/2022 at 10:00 CST.
- LDEQ recently received funding to upgrade most of its $PM_{2.5}$ equipment with Teledyne API's Model T640 Particulate Monitors. The $PM_{2.5}$ FRMs will operate alongside of the new T640s for comparison purposes for at least a year. The following sites will be upgraded with T640s:
    - Marrero (AQS #22-051-2001) The T640 will replace the FRM.
    - Vinton (AQS #22-019-0009) The T640 will replace the FRM.
    - Hammond (AQS #22-105-0001) The T640 will replace both FRMs. It will no longer be a collocated site.

- New Orleans I-610 Near Road (AQS #22-071-0021) The T640 will replace the FRM.
- Geismar (AQS #22-047-0005) The T640 will replace the FRM.
- Lafayette (AQS #22-055-0007) The T640X will replace the BAMS and the FRM.
- Monroe (AQS #22-073-0004) The T640 will replace the FRM.
- Houma (AQS #22-109-0001) The T640 will replace the FRM.
- Alexandria (AQS #22-079-0002) The T640 will replace the FRM.
- Port Allen (AQS #22-121-0001) The T640 will replace the FRM and become a collocated site.
- Shreveport Airport (AQS #22-015-0008) The T640X will replace the BAM and TEOM.
- NO City Park (AQS #22-071-0012) The T640x will replace the BAM and TEOM.
- Capital (AQS #22-033-0009) The T640x will replace the BAM, TEOM and FRM.
- Calumet (AQS #22-017-0008) The T640 will replace FRMs,

Additional Information

LDEQ plans to continue monitoring at the following sites due to situations in which the operation of these sites is above and beyond federal regulatory requirements due to the reasons discussed in each:

- Baker Lead (Pb) site (AQS #22-033-0014) will continue operation until the demolition and remediation activities at the nearby Exide recycle site are completed and LDEQ will keep EPA informed of the status. Any future request for a system modification under 40 CFR 58.14 will be submitted to the Region along with the appropriate technical analysis for any future planned discontinuation of the monitor.
- Continue to operate the Vinton (AQS #22-019-0009) $PM_{2.5}$ FRM to characterize regional transport. The FRM will be replaced with a Teledyne API T640.
- Continue to operate $PM_{2.5}$ FRM at Alexandria (AQS #22-079-0002) for regional background and will be replaced with a Teledyne API T640.
- Continue to operate the ozone monitor at the Monroe site (AQS #22-073-0004) to maintain ozone monitoring coverage for the Northeast regional area.
- Continue to operate the $PM_{2.5}$ FRM monitor at Geismar (AQS # 22-047-0009) due to the proximity of industry in the area to provide oversight of ambient air conditions in this industrial area. The FRM will be replaced with a Teledyne API T640.
- Continue to operate the $PM_{2.5}$ FRM monitors at Hammond (AQS #22-105-0001), Lafayette USGS (AQS # 22-055-0007), and Monroe (AQS # 22-073-0004) to provide oversight of ambient air conditions in these areas. The FRMs will be replaced with Teledyne API T640s.
- Continue to operate the PM_{10} monitor at Lafayette USGS (AQS # 22-055-0007) due to high population density since this area is close to the next bracket in 40 CFR 58, App D, Table D-4 and could result in a higher PM_{10} monitor regulatory minimum in the near future.
- Continue to operate the PM_{10} monitor at Shreveport Airport (AQS # 22-015-0008) due to high population density since this area is close to the next bracket in 40 CFR 58, App D, Table D-4 and could result in a higher PM_{10} monitor regulatory minimum in the near future.

Ambient air monitoring site pictures can be found in Appendix B or at https://www.deq.louisiana.gov/page/air-monitoring-sites by clicking on the desired location on the site map.

In the event of projected budget cuts for fiscal year 2023/2024, LDEQ and EPA will work closely to minimize the impact of the cuts and to ensure continued public health.

Environmental Justice Considerations

The United States Environmental Protection Agency defines environmental justice as "…the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies." The Louisiana Department of Environmental Quality (LDEQ) has been working to promote environmental justice in Louisiana for almost 30 years. In 1999, one of our first special project monitoring sites that LDEQ established was the Southern University site. Southern University and A&M College is a public historically black land-grant university in Baton Rouge, Louisiana. This site eventually paved the way for our Temporary Located Community (TLC) Air Monitor Program. The LDEQ began fostering relationships with underserved communities by bringing them together with their industrial neighbors to listen to issues involving health, the environment, and community assistance. The Temporary Located Community (TLC) Air Monitor Program exemplifies the agency's efforts in this undertaking. This program has allowed LDEQ to expand its outreach to underserved communities and to respond meaningfully and effectively to their concerns.

TLC Air Monitors collect ambient air quality data in neighborhoods using EPA approved methods and protocols, for at least one year. The data is collected and relayed to LDEQ's website, https://airquality.deq.louisiana.gov/Data, providing real-time data on the extent of outdoor pollution and air quality pollution trends of certain regulated pollutants. TLC Air Monitors are ambient air monitoring trailers/shelters that are equipped to monitor continuously for "area-specific" regulated air pollutants and can be physically relocated to other locations across Louisiana. Unlike LDEQ's network of federally required (CFR Title 40) National Ambient Air Quality Standards (NAAQS) stationary monitoring network, TLC Air Monitors are not federally mandated.

LDEQ also deploys the Mobile Air Monitoring Lab (MAML) to support the TLC Air Monitoring Program. The MAML is a self-contained mobile laboratory capable of real-time sampling and analysis. The vehicles are mounted on a 35-foot truck chassis with a custom body equipped with several innovative technologies that enhance the Department's air monitoring resources. The MAML and TLC Air Monitors also serve as an educational opportunity for LDEQ to invite the public to tour the resources being dedicated to their community.

Community partners assist in determining which pollutants to monitor for and the site location. The Louisiana Department of Health (LDH) partners through their Environmental Public Health Tracking (EPHT), which further publicizes the data and educates the community concerning health risks.

LDEQ regularly meets with various community groups as it conducts its business of environmental stewardship. For example, in 2016, the Secretary of LDEQ initiated and held meetings with environmental interest groups to hear concerns from citizens of St. Rose, regarding their community and homes, and toured local facilities operating within or near the community. LDEQ committed to installing a temporary air monitor in their community with the assistance of local industry. The St. Rose air monitoring system began obtaining data continuously for sulfur dioxide (SO_2) and hydrogen sulfide (H_2S) and upon event for volatile organic compounds (VOCs) in May 2018. Thus, TLC Ambient Air Monitoring began. These locally-led, community-driven solutions help to improve environmental protection and have become a key component in LDEQ's mission to protect human health and the environment in Louisiana.

Starting in the spring of 2023, LDEQ will collect data in three neighborhood locations, including St. Rose, Marrero and the Lower Ninth Ward New Orleans

St. Rose Site, St. Rose, LA

St. Rose is a census-designated place (CDP) in St. Charles Parish, Louisiana. St. Rose is on the east bank of the Mississippi River, two miles (3 km) north of the Jefferson Parish border and is part of the Greater New Orleans metropolitan area. The area is comprised of the properties of several former plantations. St. Rose derived its name from St Rose Plantation, located near the present-day intersection of River Road and Louisiana Highway 626. Further down River Road was Cedar Grove Plantation, which once stood at the present site of International Matex Tank Terminals. Others include Fairfield, Patterson, Luke, and LaBranche Plantations. The population for the CDP was 8,122 in the 2010 census although the American Community Survey (ACS) estimates (2013-2017) shows it as 7,965. Of the population 48% are White, 46% are Black, and 6% are other race. 14% are Hispanic. 17.5% live in poverty. Of the very poor residents (below half the poverty level), 48.3% are 17 years or younger and 15.2% are over the age of 65. EJ Indexes for the state percentile range from 73 to 95 with the highest being the index for Hazardous Waste Proximity (92 Regional and 88 National).

The primary issue concerns pungent, acrid odors that reportedly caused burning of eyes, nose and throat; nausea; headaches; fainting; and epileptic-like tremors among other things. This has also caused the community to be concerned about what other chemicals are present that they are breathing but cannot smell. One facility, a tank terminal operation, is suspected to be the main source of the odors. The primary goal is to bring an end to the odors. This continuous monitoring is always vigilant and allows for backtracking analysis of odor events. The meteorological data provides inspectors accurate localized wind conditions at the time of an odor complaint. The community is provided with an in-depth analysis of the air toxics found in their community. As the odors and fears are abated the communities experience an increase to their quality of life.

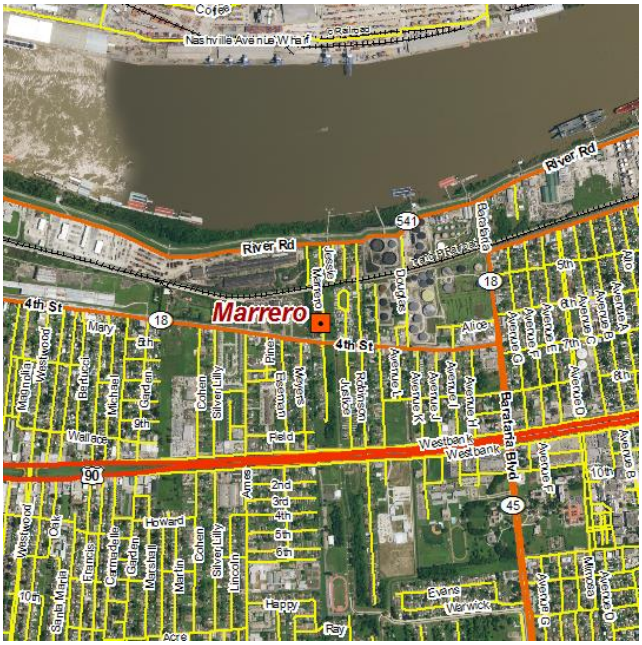
This site monitors H_2S, SO_2, Methane/NMOC, VOCs, wind speed and direction.

Marrero Site, Marrero, LA

Marrero is a CDP in Jefferson Parish, LA. Marrero is on the south side (referred to as the "West Bank") of the Mississippi River, within the Greater New Orleans MSA. It is home to the Barataria Preserve of Jean Lafitte National Historical Park & Preserve. Marrero was named in honor of the Louisiana politician and founder of Marrero Land Company, Louis H. Marrero. The area was originally referred to and shown on maps as "Amesville", after the Boston businessman Oakes Ames, who purchased much of the land following the Civil War. In February 1916, the U.S. Postmaster officially changed the name of the Post Office to "Marrero". The population was 33,141 at the 2010 census. Of the population for the CDP 40% are White, 52% are Black, and 8% are other race. 5% are Hispanic. 47% are low income. Of the very poor residents (below half the poverty level), 58.5% are 17 years or younger and 10.0% are over the age of 65. EJ Indexes for the state percentile range from 70 to 92 with the highest being the index for Risk Management Plan (RMP) Proximity (87 Regional and 92 National).

As with St. Rose, the predominate issue are odors. In this case, the possible offending facility is one that processes used motor oil. LDEQ inspection personnel and the LDEQ MAML has responded on numerous occasions to these odor complaints. LDEQ with the cooperation of industry worked to alleviate the problem and worked with the community to establish a TLC monitoring site. This site, with the help of industry and guidance from the community began collecting data in December 2017 and continues today.

This site monitors H_2S, SO_2, Methane/NMOC, VOCs, $PM_{2.5}$, wind speed and wind direction.



New Orleans Lower Ninth Ward

During the 19th century, sugar plantations stretched from the Mississippi River to Lake Ponchartrain over what is today the Lower Ninth Ward. The neighborhood is currently listed on the National Register (since 1986) and designated a Local Historic District (since 1990). The area experienced major flooding and damage during Hurricane Katrina.

We are working with local environmental groups in the area to address the environmental concerns of the community. The community is concerned about VOCs from shipping along the river and the potential for the increase of particulates caused by the planned expansion of the Industrial Canal nearby. The site should begin operating during the early spring of 2023. EJ Indexes for the state percentile range from 65 to 97, with the highest being an index of 97 for Super Fund Proximity and Diesel Particulates.

The site will monitor wind speed/direction, $PM_{2.5}$, SO_2, H2S, Methane/NMOC and VOCs.

Future TLC Sites

LDEQ was awarded two American Rescue Plan (ARP) grants. The grants will be used to install two TLC air-monitoring sites. One will be located in St. James Parish and the second will be located in the City of Alexandria. LDEQ will begin the purchasing of the equipment for these sites once the funding is release by the EPA and anticipates that these sites will be operational in 2024.

Table A: Current TLC Air Monitor Locations

LDEQ Monitor ID (Name)	**Monitor Location**	**Demographic & Environmental Indicators*** *(within 1 mi radius of monitor)*
St. Rose Monitor	302 Adams St. St. Rose, LA 70087 (St. Charles Parish)	Population: 3,917 57% Minority Population 29% Low Income 29% 17 years and younger 13% over the age of 65 EJ Indexes Range: 65 – 89 State Percentile NATA Cancer Risk: 92 State Percentile NATA Respiratory Index: 92 State Percentile Hazardous Waste Proximity: 95 State Percentile
Marrero Monitor	328 Marrero Rd. Marrero, LA 70072 (Jefferson Parish)	Population: 8,045 58% Minority Population 50% Low Income 31% 17 years and younger 18% over the age of 65 EJ Indexes Range: 67 - 91 State Percentile NATA Cancer Risk: 33 State Percentile NATA Respiratory Hazard Index: 12 State Percentile Hazardous Waste Proximity: 91 State Percentile
Lower Ninth Ward	Site location yet to be finalized.	Population: 7,123 88% Minority Population 35% Low Income 25% 17 years and younger 1412% over the age of 65 EJ Indexes Range: 80-95 State Percentile NATA Cancer Risk: 95 State Percentile NATA Respiratory Hazard Index: 96 State Percentile Hazardous Waste Proximity: 92 State Percentile
*Data collected using EJScreen 1 mile parameter of monitor location's center and https://www.census.gov for future monitoring locations.		

Table B: Type and Number of Monitors per Metropolitan Statistical Area (MSA)

MSA/CSA Population[1]	MSA	Number of Monitors Currently Required	Number of Existing Monitors	Proposed Network
1,000,000-4,000,000	***New Orleans*** *(population est. 1,261,726)*			
	Ozone	2	5	5
	Nitrogen Oxides	2	2	2
	Sulfur Dioxide	3	3	3
	Carbon Monoxide	1	1	1
	$PM_{2.5}$	2	4	4
	$PM_{2.5}$ Continuous	1	4	4
	PM_{10}	2-4	2	2
	Lead	2	2	2
350,000-1,000,000	***Baton Rouge*** *(population est. 871,905)*			
	Ozone	6	9	9
	Nitrogen Oxides	4	6	6
	Trace Level reactive Nitrogen Oxides; NOy	2	2	2
	Sulfur Dioxide	1	1	1
	Trace Level Sulfur Dioxide	1	1	1
	$PM_{2.5}$	1	4	4
	$PM_{2.5}$ Continuous	1	2	2
	$PM_{2.5}$ Speciation – *URG and SASS*	2	2	2
	PM_{10}	1-2	1	1
	PM Coarse	1	1	1
	Lead	1	1	1
	Trace Level Carbon Monoxide	1	1	1
	PAMS	0	2	2

[1]Metropolitan Statistical Area, 2021 Population Estimate, United States Census Bureau https://www.census.gov/data/tables/time-series/demo/popest/2020s-total-metro-and-micro-statistical-areas.html

NOTE: The LDEQ $PM_{2.5}$ network operates continuous monitors while reporting them as non-NAAQS data while operating under a FEM method due to exclusion of the comparison of the data from $PM_{2.5}$ continuous BAM monitors to the NAAQS standards granted by EPA, Region 6 in a letter dated March 27, 2014. The BAM 1020 $PM_{2.5}$ at AQS#22-033-0009 is the only one comparable to the NAAQS.

Table B: Type and Number of Monitors per Metropolitan Statistical Area (MSA) (cont.)

MSA/CSA Population[1]	MSA	Number of Monitors Currently Required	Number of Existing Monitors	Proposed Network
350,000-1,000,000	***Shreveport*** *(population est. 389,155)*			
	Ozone	2	2	2
	Sulfur Dioxide	1	1	1
	$PM_{2.5}$	0	2	2
	$PM_{2.5}$ Continuous	1	1	1
	PM_{10}	0-1	1	1
350,000-1,000,000	***Lafayette*** *(population est. 479,212)*			
	Ozone	2	2	2
	$PM_{2.5}$	0	1	1
	$PM_{2.5}$ Continuous	0	1	1
	PM_{10}	0-1	1	1
50,000-350,000	***Lake Charles*** *(population est. 210,362)*			
	Ozone	1	2	2
	Nitrogen Oxides	1	1	1
	Sulfur Dioxide	1	1	1
	$PM_{2.5}$	0	1	1
	$PM_{2.5}$ Continuous	0	1	1
	PM_{10}	0	1	1
50,000-350,000	***Alexandria*** *(population est. 150,890)*			
	$PM_{2.5}$	0	1	1
50,000-350,000	***Monroe*** *(population est. 204,884)*			
	Ozone	0	1	1
	$PM_{2.5}$	0	1	1
50,000-350,000	***Houma / Thibodaux*** *(population est. 206,212)*			
	Ozone	1	1	1
	$PM_{2.5}$	0	1	1
	$PM_{2.5}$ continuous - *non-NAAQS*	0	1	1
50,000-350,000	***Hammond*** *(population est. 135,217)*			
	$PM_{2.5}$ FRM - *NAAQS*	0	2	2

[1]Metropolitan Statistical Area, July 1, 2019, United States Census Bureau https://www.census.gov/data/tables/time-series/demo/popest/2020s-total-metro-and-micro-statistical-areas.html

NOTE: The LDEQ $PM_{2.5}$ network operates continuous monitors while reporting them as non-NAAQS data while operating under a FEM method due to exclusion of the comparison of the data from $PM_{2.5}$ continuous BAM monitors to the NAAQS standards granted by EPA, Region 6 in a letter dated March 27, 2014. The BAM 1020 $PM_{2.5}$ at AQS#22-033-0009 is the only one comparable to the NAAQS.

Table C: Site Specific Monitor Information

Site Name AQS ID #	Address/ Location	Latitude/ Longitude Coordinates	Pollutant Measured	Station Type	Sampling Method	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comparable	MSA Represented
Alexandria 22-079-0002	8105 Tom Bowman Dr	Lat = 31.177660 Long = -92.410600	$PM_{2.5}$	SLAMS	Sequential FRM R&P Partisol Plus Model 2025i Meth. Code: 145	24 hrs every 3rd day	General Background	Regional	Yes	Alexandria
Baker LSP 22-033-0014	1400 West Irene Rd	Lat = 30.593966 Long = -91.251946	Lead	SLAMS	Gravimetric	Every 6th day	Source Oriented	Neighbor-hood	Yes	Baton Rouge
Bayou Plaquemine 22-047-0009	65180 Belleview Rd.	Lat = 30.221021 Long = -91.315297	Ozone	SLAMS	U.V. Absorption	Continuous	High Concentration	Neighbor-hood	Yes	Baton Rouge
			NOx	SLAMS	Chemilumin-escence	Continuous	High Pop. Density		Yes	
			NOy Trace-level	SLAMS	Chemilumin-escence	Continuous	High Pop. Density		No	
Capitol 22-033-0009	1061-A Leesville Ave.	Lat = 30.461981 Long = -91.179219	$PM_{2.5}$	SLAMS NCORE	Sequential FRM R&P Partisol Plus Model 2025i Meth. Code: 145	24 hrs every day	High Pop. Density	Neighbor-hood	Yes	Baton Rouge
			$PM_{2.5}$	SLAMS	Sequential FRM (Collocated) R&P Partisol Plus Model 2025i Meth. Code: 145	24 hrs every 12th day	High Pop. Density		Yes	
			$PM_{2.5}$	SLAMS NCORE	*Continuous BAM 1020 Meth. Code: 170	Continuous	High Pop. Density		Yes	
			PM_{10}	SLAMS	*Continuous BAM 1020 Meth. Code: 122	Continuous	High Pop. Density		Yes	

*There are two BAM 1020 monitors at the Capitol Site (AQS # 22-033-0009), one that collects $PM_{2.5}$ data and the other that collects PM_{10} data. The PM Coarse pollutant listed below is calculated using these two monitors.

Table C: Site Specific Monitor Information (cont.)

Site Name AQS ID #	Address/ Location	Latitude/ Longitude Coordinates	Pollutant Measured	Station Type	Sampling Method	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comparable	MSA Represented
Capitol (cont.)	1061-A Leesville Ave.	Lat = 30.461981 Long = -91.179219	$PM_{2.5}$	STN NCORE	Chemical Speciation SASS Teflon Gravimetric, Meth. Code 810 URG 3000N Meth. Code 839	24 hrs every 3rd day	High Pop. Density	Neighbor-hood	No	Baton Rouge
			SO_2 Trace-level	SLAMS NCORE	U.V. Fluorescence	Continuous	High Pop. Density		Yes	
			Ozone	SLAMS NCORE	U.V. Absorption	Continuous	High Pop. Density		Yes	
			CO Trace-level	PAMS NCORE	Nondispersive Infrared	Continuous	High Pop. Density		No	
			NOx	SLAMS NCORE	Chemilumin-escence	Continuous	High Pop. Density RA40		Yes	
			NOy Trace-level	PAMS NCORE	Chemilumin-escence	Continuous	High Pop. Density		No	
			VOC	PAMS SLAMS	Canisters; Trigger Canisters	8 3-hr samples daily during ozone season and every 6th day otherwise, also 24 hrs every 6th day; 25 min when triggered	High Pop. Density		No	
			PM Coarse	SLAMS NCORE	*Continuous BAM 1020 Meth. Code: 185	Continuous	High Pop. Density		No	
Carlyss 22-019-0002	Hwy 27 & Hwy 108	Lat= 30.140031 Long = -93.368268	Ozone	SLAMS	U.V. Absorption	Continuous	General Background	Neighbor-hood	Yes	Lake Charles
Carville 22-047-0012	5445 Point Clair Rd.	Lat= 30.203984 Long = -91.125925	Ozone	SLAMS	U.V. Absorption	Continuous	General Background	Regional	Yes	Baton Rouge

*There are two BAM 1020 monitors at the Capitol Site (AQS # 22-033-0009), one that collects $PM_{2.5}$ data and the other that collects PM_{10} data. The PM Coarse pollutant listed above is calculated using these two monitors.

Table C: Site Specific Monitor Information (cont.)

Site Name AQS ID #	Address/ Location	Latitude/ Longitude Coordinates	Pollutant Measured	Station Type	Sampling Method	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comparable	MSA Represented
Chalmette Vista 22-087-0007	24 E. Chalmette Circle	Lat = 29.943164 Long = -89.976250	$PM_{2.5}$	SLAMS	Sequential FRM R&P Partisol Plus Model 2025i Meth. Code: 145	24 hrs every 6th day	Source Oriented	Neighborhood	Yes	New Orleans
			$PM_{2.5}$	SPMS	Continuous Teledyne API T640x Meth. Code:238	Continuous	Source Oriented		Yes	
			PM_{10}	SLAMS	Continuous Teledyne API T640x Meth. Code:239	Continuous	Source Oriented		Yes	
			SO_2	SLAMS	U. V. Fluorescence	Continuous	Source Oriented		Yes	
Convent 22-093-0002	St. James Courthouse Hwy 44 @ Canatella	Lat = 29.994729 Long = -90.817308	Ozone	SLAMS	U.V. Absorption	Continuous	General Background	Neighborhood	Yes	New Orleans
Dixie 22-017-0001	Haygood Rd.	Lat = 32.683197 Long = -93.861382	Ozone	SLAMS	U.V. Absorption	Continuous	High	Urban	Yes	Shreveport
Dutchtown 22-005-0004	11153 Kling Rd.	Lat = 30.229419 Long = -90.965517	Ozone	PAMS SLAMS	U.V. Absorption	Continuous	General Background	Neighborhood	Yes	Baton Rouge
			NOx	PAMS SLAMS	Chemilumin-escence	Continuous	General Background		Yes	

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Table C: Site Specific Monitor Information (cont.)

Site Name AQS ID #	Address/ Location	Latitude/ Longitude Coordinates	Pollutant Measured	Station Type	Sampling Method	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comparable	MSA Represented
Dutchtown (cont.)	11153 Kling Rd.	Lat = 30.229419 Long = -90.965517	VOC	PAMS SLAMS	Canisters; Trigger Canisters	4 3-hr cans every 3rd day ozone season and 8 3-hr cans every 6th day, 24 hour canister once every 6th day otherwise 25 min when triggered	Population Oriented	Neighbor-hood	Yes	Baton Rouge
French Settlement 22-063-0002	16627 Perrilloux Ln @ Hwy 16	Lat = 30.315175 Long = -90.811276	NOx	SLAMS	Chemilumin-escence	Continuous	High Concentration	Neighbor-hood	Yes	Baton Rouge
							General Background			
			Ozone	SPMS	U.V. Absorption	Continuous	High Concentration		Yes	
							General Background			
			$PM_{2.5}$	SPMS	Continuous TEOM Series1400a Meth. Code: 715	Continuous	Population Exposure		No*	
Garyville 22-095-0002	152 Anthony F. Monica St.	Lat = 30.057276 Long = -90.619185	Ozone	SLAMS	U.V. Absorption	Continuous	General Background	Regional	Yes	New Orleans
Geismar 22-047-0005	Hwy 75	Lat = 30.218867 Long = -91.062438	$PM_{2.5}$	SLAMS	Sequential FRM R&P Partisol Plus Model 2025i Meth. Code: 145	24 hrs every 3rd day	High Pop. Density	Neighbor-hood	Yes	Baton Rouge

* $PM_{2.5}$ Continuous monitor used for AQI reporting purposes only. TEOMs are operated as non-FEM/non-FRM and are therefore not NAAQS comparable.

Table C: Site Specific Monitor Information (cont.)

Site Name AQS ID #	Address/ Location	Latitude/ Longitude Coordinates	Pollutant Measured	Station Type	Sampling Method	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comparable	MSA Represented
Hammond 22-105-0001	21549 Old Covington Hwy	Lat = 30.503061 Long = -90.377118	$PM_{2.5}$	SLAMS	Sequential FRM R&P Partisol Plus Model 2025i Meth. Code: 145	24 hrs every 3rd day	High Pop. Density	Neighbor-hood	Yes	Hammond
			$PM_{2.5}$	SLAMS	Sequential FRM (Collocated) R&P Partisol Plus Model 2025 Meth. Code: 145	24 hrs every 12th day	High Pop. Density		Yes	
Houma 22-109-0001	4047 West Park Ave. @ Hwy 24	Lat = 29.679051 Long = -90.779626	$PM_{2.5}$	SLAMS	Sequential FRM R&P Partisol Plus Model 2025i Meth. Code: 145	24 hrs every 3rd day	High Pop. Density	Neighbor-hood	Yes	Houma/ Thibodaux
Kenner 22-051-1001	100 West Temple Pl.	Lat = 30.040998 Long = -90.272735	NOx	SLAMS	Chemilumin-escence	Continuous	High Pop. Density Area-wide	Urban	Yes	New Orleans
			Ozone	SLAMS	U.V. Absorption	Continuous	High Concentration		Yes	
			$PM_{2.5}$	SLAMS	Sequential FRM R&P Partisol Plus Model 2025i Meth. Code: 145	Every 6th day	High Pop. Density		Yes	
			$PM_{2.5}$	SPMS	Continuous Teledyne API T640x Meth. Code: 238	Continuous	High Pop. Density		Yes	
Lafayette USGS 22-055-0007	700 Cajundome Blvd.	Lat = 30.225877 Long = -92.042766	$PM_{2.5}$	SLAMS	Sequential FRM R&P Partisol Plus Model 2025i Meth. Code: 145	24 hrs every 3rd day	High Pop. Density	Neighbor-hood	Yes	Lafayette
			PM_{10}	SLAMS	Continuous BAM 1020 Meth. Code: 122	Continuous	High Pop. Density		Yes	
			Ozone	SLAMS	U.V. Absorption	Continuous	High Pop. Density		Yes	
			$PM_{2.5}$	SPMS	Continuous BAM 1020 Meth. Code: 170	Continuous	High Pop. Density		No*	

* $PM_{2.5}$ Continuous monitor used for AQI reporting purposes only due to exclusion of the comparison of the data from $PM_{2.5}$ continuous BAM monitors to the NAAQS standards granted by EPA, Region 6 in a letter dated March 27, 2014 (EDMS Document 12196118). The BAM 1020 PM2.5 at the Capitol Site (AQS#22-033-0009) is the only one comparable to the NAAQS.

Table C: Site Specific Monitor Information (cont.)

Site Name AQS ID #	Address/ Location	Latitude/ Longitude Coordinates	Pollutant Measured	Station Type	Sampling Method	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comparable	MSA Represented
LaPlace 22-095-0003	115 Garden Grove	Lat = 30.040961 Long = -90.466783	Lead	SLAMS	Gravimetric	Every 6th day	Source Oriented	Middle	Yes	New Orleans
			Lead	SLAMS	Gravimetric (Collocated)	Every 12th day			Yes	
LSU 22-033-0003	East End Aster Lane	Lat = 30.419805 Long = -91.182016	Ozone	SLAMS	U.V. Absorption	Continuous	High Concentration	Middle	Yes	Baton Rouge
Madisonville 22-103-0002	1421 Hwy 22 West	Lat = 30.429381 Long = -90.199678	Ozone	SLAMS	U.V. Absorption	Continuous	General Background	Neighbor-hood	Yes	New Orleans
			$PM_{2.5}$	SPMS	Continuous TEOM Series1400a Meth. Code: 715	Continuous	General Background		No*	
Marrero 22-051-2001	328 Marrero Rd.	Lat= 29.900070 Long: -90.109750	$PM_{2.5}$	SLAMS	Sequential FRM R&P Partisol Plus Model 2025i Meth. Code: 145	24 hrs every 3rd day	High Pop. Density	Neighbor-hood	Yes	New Orleans
Meraux 22-087-0004	4101 Mistrot Drive	Lat = 29.939614 Long = -89.923883	Ozone	SPMS	U.V. Absorption	Continuous	General Background	Urban	Yes	New Orleans
			SO_2	SPMS	U.V. Fluorescence	Continuous	Source		Yes	
Monroe 22-073-0004	5296 Southwest Rd.	Lat = 32.509789 Long = -92.046050	$PM_{2.5}$	SLAMS	Sequential FRM R&P Partisol Plus Model 2025i Meth. Code: 145	24 hrs every 3rd day	Population Exposure	Neighbor-hood	Yes	Monroe
			Ozone	SLAMS	U.V. Absorption	Continuous	General Background		Yes	

* $PM_{2.5}$ Continuous monitor used for AQI reporting purposes only. TEOMs are operated as non-FEM/non-FRM and are therefore not NAAQS comparable.

Table C: Site Specific Monitor Information (cont.)

Site Name AQS ID #	Address/ Location	Latitude/ Longitude Coordinates	Pollutant Measured	Station Type	Sampling Method	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comparable	MSA Represented
New Orleans City Park 22-071-0012	Florida & Orleans Ave.	Lat = 29.993278 Long = -90.101464	$PM_{2.5}$	SPMS	Continuous TEOM Series1400a Meth. Code: 715	Continuous	High Pop. Density	Neighbor-hood	No*	New Orleans
			PM_{10}	SLAMS	Continuous BAM 1020 Meth. Code: 122	Continuous	High Pop. Density		Yes	
New Orleans Near-Road 22-071-0021	I610 at West End Blvd.	Lat = 29.996013 Long = -90.118190	NOx	SLAMS	Chemilumin-escence	Continuous	High Concentration	Micro-scale	Yes	New Orleans
			CO	SLAMS	Gas Filter Correlation	Continuous	High Concentration			
			$PM_{2.5}$	SLAMS	Sequential FRM R&P Partisol Plus Model 2025i Meth. Code: 145	24 hrs every 3rd day	High Concentration			
New Roads 22-077-0001	Hwy 415	Lat = 30.681718 Long = -91.366247	Ozone	SLAMS	U.V. Absorption	Continuous	General Background	Neighbor-hood	Yes	Baton Rouge
Norco 22-089-0006	Field across from 35 Goodhope Road, Norco, LA	Lat= 29.997696 Long = -90.411095	SO_2	SLAMS	U.V. Fluorescence	Continuous	Source Oriented	Neighbor-hood	Yes	New Orleans
Port Allen 22-121-0001	1005 Northwest Drive	Lat = 30.500642 Long = -91.213556	SO_2	SLAMS	U.V. Fluorescence	Continuous	High Concentration	Neighbor-hood	Yes	Baton Rouge
			$PM_{2.5}$	SLAMS	Sequential FRM R&P Partisol Plus Model 2025i Meth. Code: 145	24 hrs every day	High Concentration		Yes	

* $PM_{2.5}$ Continuous monitor used for AQI reporting purposes only. TEOMs are operated as non-FEM/non-FRM and are therefore not NAAQS comparable.

Table C: Site Specific Monitor Information (cont.)

Site Name AQS ID #	Address/ Location	Latitude/ Longitude Coordinates	Pollutant Measured	Station Type	Sampling Method	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comparable	MSA Represented
Port Allen (cont.)	1005 Northwest Drive	Lat = 30.500642 Long = -91.213556	Ozone	SLAMS	U.V. Absorption	Continuous	High Concentration	Neighbor-hood	Yes	Baton Rouge
			NOx	SLAMS	Chemilumin-escence	Continuous	High Concentration		Yes	
Pride 22-033-0013	11245 Port Hudson Pride Rd.	Lat = 30.700895 Long = -91.056068	NOx	SLAMS	Chemilumin-escence	Continuous	High Concentration	Neighbor-hood	Yes	Baton Rouge
			Ozone	SLAMS	U.V. Absorption	Continuous	High Concentration		Yes	
Shreveport Airport 22-015-0008	1425 Airport Dr.	Lat = 32.536273 Long = -93.748940	Ozone	SLAMS	U.V. Absorption	Continuous	High Pop. Density	Neighbor-hood	Yes	Shreveport
			$PM_{2.5}$	SPMS	Continuous TEOM Series1400a Meth. Code: 715	Continuous	Population Exposure		No*	
			PM_{10}	SLAMS	Continuous BAM 1020 Meth. Code: 122	Continuous	High Pop. Density		Yes	
			SO_2	SLAMS	U.V. Fluorescence	Continuous	High Pop. Density		Yes	
Shreveport Calumet 22-017-0008	Midway St.	Lat = 32.471494 Long = -93.795069	$PM_{2.5}$	SLAMS	Sequential FRM R&P Partisol Plus Model 2025i Meth. Code: 145	24 hrs every 3rd day	High Pop. Density	Neighbor-hood	Yes	Shreveport
			$PM_{2.5}$	SLAMS	Sequential FRM (Collocated) R&P Partisol Plus Model 2025i Meth. Code: 145	24 hrs every 12th day	High Pop. Density		Yes	

* $PM_{2.5}$ Continuous monitor used for AQI reporting purposes only. TEOMs are operated as non-FEM/non-FRM and are therefore not NAAQS comparable.

Table C: Site Specific Monitor Information (cont.)

Site Name AQS ID #	Address/ Location	Latitude/ Longitude Coordinates	Pollutant Measured	Station Type	Sampling Method	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comparable	MSA Represented
St. Martinville 22-099-0001	1178 W.J. Bernard Road	Lat: 30.088872 Long = -91.869595	Ozone	SLAMS	U.V. Absorption	Continuous	General Background	Neighbor-hood	Yes	Lafayette
Thibodaux 22-057-0004	194 Thorough-bred Park Dr.	Lat = 29.764425 Long = -90.765563	Ozone	SLAMS	U.V. Absorption	Continuous	General Background	Neighbor-hood	Yes	Houma/ Thibodaux
			$PM_{2.5}$	SPMS	Continuous TEOM Series1400a Meth. Code: 715	Continuous	Population Exposure		No*	
Vinton 22-019-0009	2284 Paul Bellow Rd.	Lat = 30.227567 Long = -93.579778	$PM_{2.5}$	SLAMS	Sequential FRM R&P Partisol Plus Model 2025i Meth. Code: 145	24 hrs every 3rd day	Regional Transport	Neighbor-hood	Yes	Lake Charles
			Ozone	SPMS	U.V. Absorption	Continuous	General Background		Yes	
Westlake 22-019-0008	2646 John Stine Rd.	Lat = 30.262347 Long = -93.284906	SO_2	SLAMS	U.V. Fluorescence	Continuous	High Pop. Density	Neighbor-hood	Yes	Lake Charles
			NOx	SLAMS RA40	Chemilumin-escence	Continuous	High Pop. Density RA40		Yes	
			$PM_{2.5}$	SPMS	Continuous Teledyne API T640x Meth. Code: 238	Continuous	High Pop. Density		Yes	
			PM_{10}	SLAMS	Continuous Teledyne API T640x Meth. Code:239	Continuous	Source Oriented		Yes	

* $PM_{2.5}$ Continuous monitor used for AQI reporting purposes only. TEOMs are operated as non-FEM/non-FRM and are therefore not NAAQS comparable.

Table D: PAMS Network Plan

Site Name	Site Type	Pollutant	Sampling Frequency	Sampling Period
Capitol 22-033-0009	2	Speciated VOC	Eight 3-hr canisters (0000, 0300, 0600, 0900, 1200, 1500, 1800, 2100 LST) daily; One 24-hour canister every 6th day	May-September
			Eight 3-hr canisters (0000, 0300, 0600, 0900, 1200, 1500, 1800, 2100 LST) every 6th day; One 24-hour canister every 6th day	October – April
		TNMOC	Hourly	January-December
		NO, NO_2, NO_x	Hourly	January-December
		NOy	Hourly	January-December
		CO (ppb level)	Hourly	January-December
		Ozone	Hourly	January-December
		SO_2 (low level)	Hourly	January-December
		Wind Speed*	Hourly	January-December
		Wind Direction*	Hourly	January-December
		Temperature	Hourly	January-December
		Relative Humidity	Hourly	January-December
		UV Radiation	Hourly	January-December
		Barometric Pres.	Hourly	January-December
		Solar Radiation	Hourly	January-December
		Precipitation	Hourly	January-December
		PM_{10}	Hourly	January-December
		PMCoarse	Hourly	January-December
		$PM_{2.5}$	Hourly	January-December
		Mixing Height	Hourly	January-December
Site Name	Site Type	Pollutant	Sampling Frequency	Sampling Period
Dutchtown 22-005-0004	1/3	Speciated VOC	Four 3-hr canisters (i.e. 0300-0600, 0600-0900, 1500-1800, 1800-2100 LST) every 3rd day; One 24-hour canister every 6th day	May-September
			Eight 3-hr canisters (0000, 0300, 0600, 0900, 1200, 1500, 1800, 2100 LST) every 6th day; One 24-hour canister every 6th day	October – April
		TNMOC	Hourly	January-December
		NO, NO_2, NO_x	Hourly	January-December
		Ozone	Hourly	January-December
		Wind Speed*	Hourly	January-December
		Wind Direction*	Hourly	January-December
		Temperature	Hourly	January-December

*Wind speed and direction reported to AQS as resultant wind speed and resultant wind direction

Site pictures can be found in Appendix B or at https://www.deq.louisiana.gov/page/air-monitoring-sites by clicking on the desired location on the site map.

Table E. Population Weighted Emissions Index for Sulfur Dioxide

AREA (Parishes)	CBSA Code 2021 (Core Based Statistical Area)	Population Est. July 1, 2021	SO_2 Emissions 2020 (tons)*	Population Weighted Emissions Index 2022	Required SO_2 Monitors	Existing SO_2 Monitors
Alexandria (Grant, Rapides)	10780	150,890	4165.82	629	0	0
Baton Rouge (Ascension, Assumption, East Baton Rouge, East Feliciana, Iberville, Livingston, Point Coupee, St. Helena, West Baton Rouge, West Feliciana)	12940	871,905	23,478.18	20,471	1	2**
Bogalusa (Washington)	14220	45,133	773.0605	35	0	0
DeRidder (Beauregard)	19760	36,584	330.277	12	0	0
Fort Polk (Vernon)	22860	48,027	284.0448	14	0	0
Hammond (Tangipahoa)	25220	135,217	164.4525	22	0	0
Houma / Thibodaux (Lafourche, Terrebonne)	26380	206,212	878.3536	181	0	0
Lafayette (Acadia, Iberia, Lafayette, St. Martin, Vermillion)	29180	479,212	1,508.259	723	0	0
Lake Charles (Calcasieu, Cameron)	29340	210,362	18,420.74	3,875	1	1
Minden (Webster)	33380	36,184	178.2927	6	0	0
Monroe (Ouachita, Union)	33740	204,884	679.2229	139	0	0
Morgan City (St. Mary)	34020	48,232	15,900.7	767	0	0
Natchez MS-LA (Adam, Concordia)	35020	47,118	70.82156	3	0	0
Natchitoches (Natchitoches)	35060	37,026	484.6531	18	0	0
New Orleans / Metairie / Kenner (Jefferson, Orleans, Plaquemines, St. Bernard, St. Charles, St. James, St. John the Baptist, St. Tammany)	35380	1,261,726	15,028.74	18,962	1	3
Opelousas (St. Landry)	36660	82,071	173.6012	14	0	0
Ruston (Lincoln)	40820	48,152	184.6784	9	0	0
Shreveport / Bossier City (Bossier, Caddo, De Soto)	43340	389,155	5149.238	2,004	0	1

*Source: National Emissions Inventory 2020 (https://www.epa.gov/air-emissions-inventories/2021-national-emissions-inventory-nei-data)
**One of the SO_2 samplers is trace-level at our N-Core site

Appendix B: LDEQ Ambient Air Monitoring Site Pictures

Alexandria AQS 22-079-0002

Baker AQS 22-033-0014

Bayou Plaquemine AQS 22-047-0009

Capitol AQS 22-033-0009

Carlyss AQS 22-019-0002

Carville AQS 22-047-0012

Appendix B: LDEQ Ambient Air Monitoring Site Pictures

Chalmette Vista AQS 22-087-0007

Convent AQS 22-093-0002

Dixie AQS 22-017-0001

Dutchtown AQS 22-005-0004

French Settlement AQS 22-063-0002

Garyville AQS 22-095-0002

Appendix B: LDEQ Ambient Air Monitoring Site Pictures

Geismar AQS 22-047-0005

Hammond AQS 22-105-0001

Houma AQS 22-109-0001

Kenner AQS 22-051-1001

Lafayette USGS AQS 22-055-0007

LaPlace AQS 22-095-0003

Appendix B: LDEQ Ambient Air Monitoring Site Pictures

LSU AQS 22-033-0003

Madisonville AQS 22-103-0002

Marrero AQS 22-051-2001

Meraux AQS 22-087-0004

Monroe AQS 22-073-0004

New Orleans City Park AQS 22-071-0021

Appendix B: LDEQ Ambient Air Monitoring Site Pictures

New Orleans Near-Road AQS 22-071-0021

New Roads AQS 22-077-0001

Norco AQS 22-089-0006

Port Allen AQS 22-121-0001

Pride AQS 22-033-0013

Shreveport Airport AQS 22-015-0008

Appendix B: LDEQ Ambient Air Monitoring Site Pictures

Shreveport Calumet AQS 22-017-0008

St. Martinville AQS 22-099-0001

Thibodaux AQS 22-057-0004

Vinton AQS 22-019-0009

Westlake AQS 22-0008