

**Oklahoma Department of Environmental Quality
Air Quality Division
2017
Air Monitoring Network Plan**



Oklahoma Department of Environmental Quality
707 N. Robinson
P.O. Box 1677
Oklahoma City, OK 73101-1677

Table of Contents

Introduction.....	3
Contact Information.....	3
Table 1. Air Monitoring Site Information.....	4
Table 2. Changes to Network Plan.....	11

Introduction

This report is a review of the air monitoring network operated by the Oklahoma Department of Environmental Quality's Air Quality Division (AQD). It will be submitted by July 1, 2017 to the U.S. Environmental Protection Agency (EPA) and is a required annual report to provide the framework for establishing and maintaining an air quality surveillance system. AQD uses data collected by this network for comparison to the National Ambient Air Quality Standards (NAAQS). AQD maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A, designs its network in accordance with 40 CFR Part 58, Appendix D, and locates its sites to meet all requirements of 40 CFR Part 58, Appendix E.

Below is a summary of changes that have been approved by Region 6 EPA, and implemented since the last Annual Monitoring Network Review:

- Addition of 2 new SO₂ monitoring sites for point observation: 40-047-0555 and 40-097-0188.
- Re-location of SO₂ monitoring at 40-101-0167 to 40-101-0170.
- Addition of lead monitoring site for point observation: 40-121-0146.
- Relocation of Ozone monitoring from 40-069-0324 to 40-013-0380.
- Relocation of Ozone monitoring from 40-033-0680 to 40-067-0671.
- Replaced the 5030i SHARP, Low Volume FEM sampling method with the T640, Broadband Spectroscopy sampling method at 40-109-1037 and 40-143-0174.

Table 1 is a list of all currently existing AQD ambient air monitoring sites that the agency operates and maintains as of May 1, 2017. Table 2 is a list of proposed changes. "Air Quality System (AQS) Site ID#" in column one is a unique identification number assigned to each monitoring site in the state network. AQS is a national air monitoring database maintained by the EPA.

This network review is available for public comment at <http://www.deq.state.ok.us/aqdnew/monitoring/index.htm> for 30 days from the date of posting. It contains proposed changes to the Oklahoma air monitoring network for Calendar Year 2017 (CY17). Please send comments pertaining to this document through postal service mail or through e-mail as listed below.

Kent Stafford
Environmental Programs Manager
Oklahoma Dept. of Environmental Quality
Air Quality Division
Monitoring Section
P.O. Box 1677
OKC, OK 73101

kent.stafford@deq.ok.gov

Table 1. Air Monitoring Site Information:

AQS Site #	Address/ Location	Latitude	Longitude	Pollutants Measured	Sampling/ Analysis Method/ Method #	Station Type	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comparable	MSA
40-027-0049	S.E. 19th St. (Moore Water Tower), Moore	35.320105	-97.484099	Ozone	U.V. Photometric	SLAMS	Continuous	Population Exposure	Urban	Yes	OKC****
				PM 2.5	Low Volume FEM	SPM*	Continuous	Population Exposure	Urban	Yes	OKC
40-019-0297	750 Lake Road, Healdton City Lake	34.244189	-97.462931	Ozone	U.V. Photometric	SPM	Continuous	Regional Transport	Regional	No	Not in MSA
				PM 2.5	Low Volume FEM	SPM*	Continuous	Regional Transport	Regional	Yes	Not in MSA
40-069-0324	1607 S. Airport Rd. Tishomingo	34.214818	-96.676936	Ozone	U.V. Photometric	SPM	Continuous	Regional Transport	Regional	No	Not in MSA
40-031-0651	2211 NW 25 th Lawton	34.63298	-98.42879	Ozone	U.V. Photometric	SLAMS	Continuous	Population Exposure	Urban	Yes	Lawton
				PM 2.5	Low Volume FEM	SPM*	Continuous	Population Exposure	Urban	Yes	Lawton
40-043-0860	Seiling Municipal Airport, Seiling	36.158414	-98.931973	Ozone	U.V. Photometric	SLAMS	Continuous	General Background/	Regional	Yes	Not in MSA
				PM 2.5	Low Volume FEM	SPM*	Continuous	General Background/	Regional	Yes	Not in MSA
40-033-0680	3rd St. and Boundary, Walters	34.346981	-98.307621	Ozone	Ecotech Serinus	SPM	Continuous	Regional Transport	Regional	No	Not in MSA
40-087-1073	310 E. Burr Oak Rd., Goldsby	35.159649	-97.473794	Ozone	U.V. Photometric	SLAMS	Continuous	Upwind Background/ General/ Background	Regional	Yes	OKC

40-071-0604	306 E Otoe, Ponca City	36.697186	-97.08135	SO2**	Pulsed Fluorescence	SLAMS	Continuous	Population Exposure/ Source Oriented	Neighborhood	Yes	Not in MSA
				PM 2.5	Low Volume FEM	SLAMS	Continuous	Population Exposure	Neighborhood	Yes	Not in MSA
40-101-0167	3500 Port Place, Muskogee	35.793134	-95.302235	PM 10	Low Volume FEM	SLAMS	Continuous	Source Oriented	Middle	Yes	Not in MSA
40-017-0101	12575 NW 10 th (Water Tower), Yukon	35.479215	-97.751503	Ozone	U.V. Absorption	SLAMS	Continuous	Population Exposure	Urban	Yes	OKC
				NO2	Gas Phase Chemiluminescence	SPM	Continuous	Maximum Precursor Emissions Impact	Urban	No	OKC
40-109-0096	12880A N.E. 10th, Choctaw	35.477801	-97.303044	Ozone	U.V. Photometric	SLAMS	Continuous	Population Exposure	Urban	Yes	OKC
40-109-0033	N.E. 10th and Stonewall, OKC	35.477036	-97.494309	Ozone	U.V. Photometric	SLAMS	Continuous	Population Exposure	Urban	Yes	OKC
				NO2	U.V. Absorption	SLAMS	Continuous	Population Exposure	Urban	Yes	OKC
40-109-0035	N.W. 5th and Shartel, OKC	35.47292	-97.52709	PM 2.5	Sequential FRM/ Micro-gravimetric filter weighing	SLAMS	(1 in 3)	Population Exposure	Neighborhood	Yes	OKC
				PM 10	Sequential FRM/ Micro-gravimetric filter weighing	SLAMS	(1 in 6)	Population Exposure	Neighborhood	Yes	OKC
				PM 10	Sequential FRM/ Micro-gravimetric filter weighing	SLAMS	(1 in 6) Co-located	Population Exposure	Neighborhood	Yes	OKC

				PM 10-PM 2.5	Low volume/ Subtraction method	SLAMS	(1 in 6)	Population Exposure	Neighborhood	Yes	OKC
40-109-1037	Oklahoma Christian University, OKC	35.614131	-97.475083	SO2**	U.V. Fluorescence	SLAMS	Continuous	Population Exposure	Urban	Yes	OKC
				Chemical Speciation	Low Volume/ Multiple by RTP	SPM	(1 in 6)	Population Exposure	Urban	No	OKC
				PM 10	Sequential FRM/ Micro-gravimetric filter weighing	SLAMS	(1 in 6)	Population Exposure	Urban	Yes	OKC
				PM 10	Low volume FEM	SPM	Continuous	Population Exposure	Urban	No	OKC
				PM 2.5	Sequential FRM/ Micro-gravimetric filter weighing	SLAMS	(1 in 3)	Population Exposure	Urban	Yes	OKC
				PM 2.5	Broadband Spectroscopy	SPM*	Continuous	Population Exposure	Urban	Yes	OKC
				PM 10-PM 2.5	Low Volume/ Subtraction Method	SPM	(1 in 6)	Population Exposure	Urban	No	OKC
				CO	Gas Filter Correlation	SLAMS	Continuous	Population Exposure	Urban	Yes	OKC
				Ozone	U.V. Photometric	SLAMS	Continuous	Highest Concentration	Urban	Yes	OKC
40-121-0415	104 Airport Rd., McAlester Municipal Airport, McAlester	34.885610	-95.784375	Ozone	U.V. Photometric	SLAMS	Continuous	Regional Transport	Regional	Yes	Not in MSA
				PM 2.5	Low-volume FEM	SLAMS	Continuous	General/ Background	Regional	Yes	Not in MSA
				PM 2.5	Sequential FRM/ Micro-gravimetric Filter Weighing	SLAMS	(1 in 6) Co-located	General/ Background	Regional	Yes	Not in MSA
40-039-0856	Rader Park, Weatherford	35.56028	-98.68349	PM 10	Low Volume FEM	SPM	Continuous	Population Exposure	Regional	Yes	Not in MSA

40-121-0416	108 N Main St., Savannah	34.829396	-95.843642	Lead	Hi-Volume	SLAMS	(1 in 6)	Source Oriented	Neighborhood	Yes	Not in MSA
40-143-1127	3520 1/2 N. Peoria, North Tulsa-Fire Station #24, Tulsa	36.204902	-95.976537	Ozone	U.V. Photometric	NCORE/SLAMS	Continuous	Maximum Precursor Emissions Impact	Urban	Yes	Tulsa
				NO2	Chemiluminescence	NCORE/SLAMS	Continuous	Maximum Precursor Emissions Impact	Urban	Yes	Tulsa
				Trace level NOy	Chemiluminescence	NCORE/SLAMS	Continuous	Maximum Precursor Emissions Impact	Urban	No	Tulsa
				Trace level CO	Gas Filter Correlation	NCORE/SLAMS	Continuous	Population Exposure	Urban	Yes	Tulsa
				Trace level SO2**	U.V. Fluorescence	NCORE/SLAMS	Continuous	Population Exposure	Urban	Yes	Tulsa
				PM 2.5	Sequential FRM/ Micro-gravimetric filter weighing	NCORE/SLAMS	(1 in 3)	Population Exposure	Urban	Yes	Tulsa
				PM 2.5	Sequential FRM/ Micro-gravimetric filter weighing	NCORE/SLAMS	(1 in 6) Co-located	Population Exposure	Urban	Yes	Tulsa
				PM 2.5	Low Volume FEM	NCORE/SPM*	Continuous	Population Exposure	Urban	Yes	Tulsa

				PM 10	Sequential FRM/ Micro-gravimetric filter weighing	NCore	(1 in 3)	Population Exposure	Urban	Yes	Tulsa
				PM 10- PM 2.5	Low volume/ Subtraction method	NCore	(1 in 3)	Population Exposure	Urban	No	Tulsa
				Chemical Speciation	Low Volume Gravimetric/ Micro- gravimetric filter weighing	NCore/ Spec. Trends	(1 in 3)	Population Exposure	Urban	No	Tulsa
40- 113- 0226	1521 S. Lombard, Skiatook	36.35586	-96.01243	Ozone	U.V. Photometric	SLAMS	Continuous	Population Exposure	Urban	Yes	Tulsa
40- 037- 0144	City Water Plant, Mannford	36.105481	-96.361196	Ozone	U.V. Photometric	SLAMS	Continuous	Population Exposure	Urban	Yes	Tulsa
40- 143- 0174	502 E. 144th Pl., Tulsa South, Tulsa	35.953708	-96.004975	Ozone	U.V. Photometric	SLAMS	Continuous	Upwind Background	Urban	Yes	Tulsa
				PM 2.5	Broadband Spectroscopy	SPM*	Continuous	Population Exposure	Urban	Yes	Tulsa
40- 143- 0178	18707 E. 21st St., Tulsa East, Tulsa	36.133802	-95.764537	Ozone	U.V. Photometric	SLAMS	Continuous	Population Exposure	Urban	Yes	Tulsa

40-143-0175	1710 W. Charles Page Blvd. Tulsa	36.149877	-96.011664	SO2**	U.V. Fluorescence	SLAMS	Continuous	Source Oriented	Neighborhood	Yes	Tulsa
40-037-0146	1205 N. Frankoma Rd., Sapulpa	36.013567	-96.099144	Lead	Hi-Volume	SLAMS	(1 in 6)	Source Oriented	Neighborhood	Yes	Tulsa
				Lead	Hi-Volume	SLAMS	(1 in 12) Co-located	Source Oriented	Neighborhood	Yes	Tulsa
40-051-0065	1 Bradley Rd., Bradley	34.877064	-97.707801	NO2	Chemiluminescence	SPM	Continuous	General/Background	Regional	No	Not in MSA
40-109-0097	3112 N. Grand BLVD, OKC	35.50307	-97.577981	NO2	Chemiluminescence	SLAMS	Continuous	Highest Concentration	Micro	Yes	OKC
				PM 2.5	Sequential FRM/ Micro-gravimetric filter weighing	SLAMS	(1 in 3)	Population Exposure	Micro	Yes	OKC
				CO	Gas Filter Correlation	SLAMS	Continuous	Population Exposure	Micro	Yes	OKC
40-143-0179	124 N. Riverside Dr. West, Tulsa	36.15483	-96.015845	SO2**	U.V. Fluorescence	SLAMS	Continuous	Source Oriented	Neighborhood	Yes	Tulsa
				H2S	U.V. Fluorescence	SPM ***	Continuous	Source Oriented	Neighborhood	No	Tulsa
40-143-0235	2443 S. Jackson Ave., Tulsa	36.126945	-95.998941	SO2**	U.V. Fluorescence	SLAMS	Continuous	Source Oriented	Middle	Yes	Tulsa
				H2S	U.V. Fluorescence	SPM ***	Continuous	Source Oriented	Middle	No	Tulsa
40-143-1110	445 S Jamestown Ave, Turner Park, Tulsa	36.154384	-95.93795	PM 10	Sequential FRM/ Micro-gravimetric filter weighing	SLAMS	(1 in 3)	Population Exposure	Neighborhood	Yes	Tulsa

40-147-0217	7740 N. 400 Rd., Copan	36.51229309	-95.882350	Ozone	U.V. Photometric	SPM	Continuous	Regional Transport	Regional	No	Not in MSA
				PM 2.5	Low volume FEM	SPM*	Continuous	Regional Transport	Regional	Yes	Not in MSA
40-013-0380	Kiamichi Technology Center, Durant	33.94537	-96.4057	Ozone	U.V. Photometric	SPM	Continuous	Regional Transport	Regional	No	Not in MSA
40-047-0555	11826 N 30th St, Kremlin	36.51229309	-97.8456272	SO2**	U.V. Fluorescence	SLAMS	Continuous	Source Oriented	Middle	Yes	Not in MSA
40-097-0188	470 13th St., MAIP, Pryor	36.228993	-95.269196	SO2**	U.V. Fluorescence	SLAMS	Continuous	Source Oriented	Neighborhood	Yes	Not in MSA
40-067-0671	Lake Waurika Corp. of Eng. Office, Waurika	34.226639	-98.035440	Ozone	Ecotech Serinus 10	SPM	Continuous	Regional Transport	Regional	No	Not in MSA
40-101-0170	108 North 55th St. East, Fort Gibson	35.775813	-95.287067	SO2**	U.V. Fluorescence	SLAMS	Continuous	Source Oriented	Neighborhood	Yes	Not in MSA

*PM_{2.5} SPM monitors are used to support the state Health Advisory Program and will remain SPMs.

**AQS shows two SO₂ monitors due to reports being entered for both hourly and 5 minute data.

***H₂S SPMs are used to monitor major sources in the Tulsa area in response to the state implemented H₂S ambient standard and will remain SPMs.

All AQD sites and monitors conform to 40 CFR, Subchapter C, Part 58 Appendix A, Appendix C (see methods in column 6 of table 2), and Appendices D & E (see photos located at <http://www.deq.state.ok.us/AQDnew/monitoring/cpdata.htm> by clicking on desired location of the site map).

****Oklahoma City has been abbreviated to OKC for all tables,

Table 2. AQD Network Proposed Changes

Monitors Recommended to be Relocated:

AQS Site #	Address/ Location	Latitude	Longitude	Pollutants Measured	Sampling/ Analysis Method/ Method #	Station Type	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comparable	MSA
40-019-0297	750 Lake Road, Healdton City Lake, Healdton	34.244189	-97.462931	Ozone	U.V. Photometric	SPM	Continuous	Regional Transport	Regional	No	Not in MSA
40-147-0217	7740 N. 400 Rd., Copan	36.908183	-95.882623	Ozone	U.V. Photometric	SPM	Continuous	Regional Transport	Regional	No	Not in MSA
				PM 2.5	Low volume FEM	SPM	Continuous	Regional Transport	Regional	Yes	Not in MSA

40-019-0297 to be relocated to:

AQS Site #	Address/ Location	Latitude	Longitude	Pollutants Measured	Sampling/ Analysis Method/ Method #	Station Type	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comparable	MSA
40-085-0300	Noble Foundation-Red River Research Farm, Burneyville	33.880812	-97.275896	Ozone	U.V. Photometric	SPM	Continuous	Regional Transport	Regional	No	Not in MSA

40-147-0217 to be relocated to:

AQS Site #	Address/ Location	Latitude	Longitude	Pollutants Measured	Sampling/ Analysis Method/ Method #	Station Type	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comparable	MSA
40-105-0207	Oklahoma Union School, U.S. HWY 169 and OK 10, South Coffeyville*	36.916734	-95.634394	Ozone	U.V. Photometric	SPM	Continuous	Regional Transport	Regional	No	Not in MSA
				PM 2.5	Low volume FEM	SPM	Continuous	Regional Transport	Regional	Yes	Not in MSA

*Precise location is pending review and approval by Region 6 EPA.

Monitors Recommended to be Removed and Discontinued:

AQS Site #	Address/ Location	Latitude	Longitude	Pollutants Measured	Sampling/ Analysis Method/ Method #	Station Type	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comparable	MSA
40-017-0101	12575 NW 10 th (Water Tower), Yukon	35.479215	-97.751503	NO2*	Gas Phase Chemiluminescence	SPM	Continuous	Maximum Precursor Emissions Impact	Urban	No	OKC
40-051-0065	1 Bradley Rd.	34.877064	-97.707801	NO2*	Chemiluminescence	SPM	Continuous	General/ Background	Regional	No	Not in MSA

* These monitors are SPMs and were set up to enhance the state's toxics network. They are not utilized to meet minimum network requirements. Oklahoma DEQ has decided to cease this specific toxics study and is removing these NO2 sites.

Monitor Operating Schedule Recommended to be Changed:

AQS Site #	Address/ Location	Latitude	Longitude	Pollutants Measured	Sampling/ Analysis Method/ Method #	Station Type	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comparable	MSA
40-143-1110	445 S Jamestown Ave, Turner Park	36.154384	-95.93795	PM 10	Sequential FRM/ Micro-gravimetric filter weighing	SLAMS	(1 in 3)*	Population Exposure	Neighborhood	Yes	Tulsa

*Recommended to be changed to a (1 in 6) operating schedule.

Further Comments

Near Road Addition to Tulsa:

EPA's current regulatory requirements from 40 CFR Appendix D to Part 58 § 4.3.2(a) states as follows:

Within the NO₂ network, there must be one microscale near-road NO₂ monitoring station in each CBSA with a population of 1,000,000 or more persons to monitor a location of expected maximum hourly concentrations sited near a major road with high AADT counts as specified in paragraph 4.3.2(a)(1) of this appendix. An additional near-road NO₂ monitoring station is required for any CBSA with a population of 2,500,000 persons or more, or in any CBSA with a population of 1,000,000 or more persons that has one or more roadway segments with 250,000 or greater AADT counts to monitor a second location of expected maximum hourly concentrations. CBSA populations shall be based on the latest available census figures.

The Tulsa MSA has the second largest population in Oklahoma behind the Oklahoma City MSA with an estimated population of 987,201 based on the latest Census Data Estimates found on the US Census Bureau website:

<https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk>. As per 40 CFR Appendix D to Part 58 § 4.3.2(a), the Tulsa MSA will not require a near-road NO₂ monitoring site at this time due to the population remaining under 1,000,000 persons.

Prevention of Significant Deterioration Air Monitoring:

PSD monitoring is currently not necessary for the Oklahoma DEQ.

Maintenance Plans for Discontinuation of SLAMS Monitors:

Oklahoma currently is in attainment with all NAAQS and is not under a SIP Maintenance Plan.