Salt River Pima-Maricopa Indian Community (SRPMIC)

2024 Ambient Air Monitoring Network Plan Report

June 2025

Community Development Department (CDD)
Environmental Protection & Natural Resources (EPNR)
10005 East Osborn Road
Scottsdale, AZ 85256

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Introduction

The mission of the Air Quality Program (AQP) of the Salt River Pima-Maricopa Indian Community (SRPMIC or Community) is to assess the Community's air-shed and develop and implement an innovative regulatory program to address air quality issues. This includes addressing being in a designated non-attainment area for particulates (PM_{10}) and Ozone (O_3), and soon to be non-attainment area for smaller particulates ($PM_{2.5}$) under the National Ambient Air Quality Standards (NAAQS). With federal funding assistance from US Environmental Protection Agency (EPA) Region 9, the AQP has established a network of four State and Local Ambient Monitoring Sites (SLAMS) to identify and assess the air quality in the Community. The AQP continues to develop a regulatory component whereby it can establish its jurisdictional authority for air pollution sources within SRPMIC.

Since the inception of the AQP, staff have developed technical and administrative capabilities to address air quality issues within the Community. The Program regularly develops and updates its emissions inventory (EI) to identify and assess the various air pollution sources impacting the Community. The Community gained eligibility determination for Treatment as a State (TAS) and has developed draft sections of a Tribal Implementation Plan (TIP).

Air Monitoring Network Plan

This Annual Air Monitoring Network Plan for 2024 will be submitted by the AQP to the USEPA Region 9 as outlined in 40 CFR Part 58.10. In addition, changes made to the network design, any proposed changes to the network, and a three-year data summary have been included in the document.

Ambient Air Monitoring Network

The purpose of the SRPMIC air-monitoring network is to measure ambient concentrations of the selected criteria pollutants at various locations throughout the Community and provide real-time access to the data. These data are used to assess health and welfare effects and determine pollution sources both on and off the Community. The criteria pollutants measured are O_3, PM_{10} $PM_{2.5}$; the meteorological parameters include wind speed, wind direction, ambient temperature, solar radiation, relative humidity, and ambient pressure. The collection of these data began in 2002 and continues to date. The three basic monitoring objectives with six types of monitoring sites and five measuring scales were used to develop the monitoring network. On the more practicable side, additional items that should be considered when determining the feasibility of the network's design are:

- Accessibility to site
- Availability of power
- Fiscal and personnel resources
- Geographic location
- Security

Monitoring Objective

An ambient air monitoring network must be designed to meet three basic monitoring objectives. These basic objectives are identified in 40 CFR Part 58 Appendix D, 1.1 (a – c).

1. Provide air pollution data to the general public in a timely manner.

2. Support compliance with NAAQS and emission strategy development.
3. Support air pollution research studies.

Each objective is important and must be considered individually when designing a SLAMS monitoring network. All SRPMIC air monitoring sites have the basic monitoring objective of comparison to the NAAQS.

Air Monitoring Site Types

In support of the three basic air monitoring objectives, the network design must include a variety of site type categories. These categories include:

- Determining the highest concentration expected to occur in the area covered by the network.
- Measuring typical concentrations in areas of high population density.
- Determining general background concentration levels.
- Determining the impact of significant sources or source categories on air quality.
- Determining the extent of regional pollutant transport among populated areas, and in support of secondary standards.
- Measuring air pollution impacts on visibility, vegetation damage, or other welfare-based impacts.

Spatial Scales

The SLAMS (Tribal) network consists of ambient air monitoring sites that provide data to meet the required EPA objectives. Spatial scale of representativeness is described in terms of the physical dimension of the air parcel around the site, which actual pollutant concentrations are reasonably similar (Table 1). Site type describes the five types or purposes of a site.

Table 1: Spatial Scales of Representativeness

Spatial Scale	Dimension
Microscale	Several meters up to 100 meters
Middle Scale	100 meters up to 0.5 kilometers
Neighborhood Scale	0.5 kilometers to 4.0 kilometers
Urban Scale	4 kilometers to 50 kilometers
Regional Scale	Tens to hundreds of kilometers

The goal of locating monitoring sites is to correctly match the spatial scale that is most appropriate for the site type (40 CFR Part 58 Appendix D) (Table 2).

Table 2: Site Type and Scales

Site Type	Appropriate Siting Scales
Highest Concentration	Micro, Middle, Neighborhood (Sometimes Urban or regional for secondary formed pollutants)
Population Oriented	Neighborhood, Urban
Source Impact	Micro, Middle, Neighborhood
General / Background & Regional Transport	Urban, Regional
Welfare-related Impact	Urban, Regional

Site Locations

Four monitoring sites were operated by the SRPMIC during 2024 at various locations and for various durations and purposes. The site name, abbreviation, AQS Code**,** Site Type, Site Scale and the Criteria Pollutants monitored are included (Table 3). The location of each site, including the longitude/latitude and major cross-streets are also included (Table 4).

Table 3: SLAMS Summary

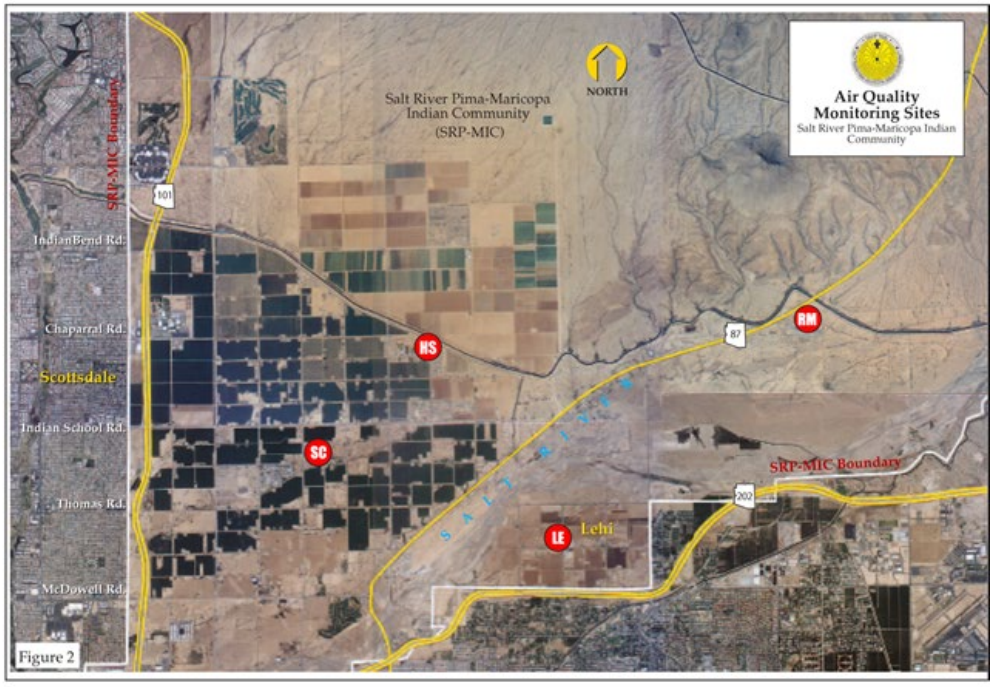
Site Name	AQS Code	Site Type	Site Scale	Pollutants
Senior Center (SC)	04-013-7020	Population Oriented	Neighborhood	PM_{10}, $PM_{2.5}$
Red Mountain (RM)	04-013-7021	Transport, Highest Conc.	Urban	O_3
Lehi (LE)	04-013-7022	Population Exposure	Neighborhood	PM_{10}, O_3
High School (HS)	04-013-7024	Population Exposure	Neighborhood	PM_{10}, O_3

Table 4: Site Locations

Site	Latitude	Longitude	Location
SC	33.48816	-111.85493	Osborn Rd/Alma School Rd
RM	33.50791	-111.75461	SR87/Arizona Canal
LE	33.47453	-111.80505	Oak Street/Stapley Drive
HS	33.50805	-111.83780	Chaparral Rd/Country Club Drive

This monitoring network meets the monitoring objectives defined in Appendix D in 40 CFR Part 58. A location map of the Community and monitoring site locations are as follows (Figures 1).

Figure 1: Community and Monitoring Site Locations



Instrumentation

Federal Reference Methods (FRM) and Federal Equivalent Methods (FEM), provide methodology and technologies for quantifying ambient concentrations of air pollutants to the NAAQS. FEMs are alternative monitoring methods that have been designated by EPA as obtaining equivalent results when compared to the FRM.

During 2024, AQP used FRMs to collect filter-based $PM_{2.5}$ samples and FEMs for continuous PM_{10} and O_3. Below is a list of parameters that were analyzed in 2024 (Table 5).

Table 5: Site Instrumentation

Site ID	PM_{10}	$PM_{2.5}$	O_3	Wind System	Temp / RH	Ambient Pressure	Data Logger	Total
SC	1	2			1/1	1	1	7
RM			1	1	1/1	1	1	6
LE	1		1	1	1/1	1	2	8
HS	1		1	1			1	3
Total	**3**	**2**	**3**	**3**	**6**	**3**	**5**	**27**

Data Summaries

The Federal Clean Air Act of 1970 established NAAQS for six pollutants. These pollutants, referred to as the “Criteria Pollutants”, include carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM), sulfur dioxide (SO_2), and lead (Pb). Two federal standards exist for most of the criteria pollutants. The primary standard defines levels deemed “. . . necessary, with an adequate margin of safety, to protect the public health.” The secondary standard defines levels “. . . necessary to protect the public welfare. . .” (40 CFR Part 50) (Table 6).

Table 6: NAAQS for Criteria Pollutants

Pollutant		Primary/ Secondary	Averaging Time	Level	Form
CO		P	8 hours	9 ppm	Not to be exceeded more than once per year
			1 hour	35 ppm	
Pb		P/S	Rolling 3-month avg.	0.15 µg/m^3	Not to be exceeded
NO_2		P	1 hour	100 ppb	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		P	1 year	53 ppb	Annual Mean
O_3		P/S	8 hours	0.070 ppm	Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years
(PM)	$PM_{2.5}$	P	1 year	9.0 µg/m^3	annual mean, averaged over 3 years
		S	1 year	15.0 µg/m^3	annual mean, averaged over 3 years
		P/S	24 hours	35 µg/m^3	98th percentile, averaged over 3 years
	PM_{10}	P/S	24 hours	150 µg/m^3	Not to be exceeded more than once per year on average over 3 years

Pollutant	Primary/ Secondary	Averaging Time	Level	Form
SO_2	P	1 hour	75 ppb	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
	S	3 hours	0.5 ppm	Not to be exceeded more than once per year

Air quality data that are affected by unusual or naturally occurring events that are not reasonably controllable using techniques that tribal, state or local air agencies may implement can go through the Exceptional Event (EE) process. This process can determine if the data can be excluded from NAAQS comparison. Examples of these events may include wildfires, high wind dust events, prescribed fires, stratospheric O_3 intrusions, and volcanic and seismic activities.

Ozone

Eight-hour Average Concentrations

In 2024, there were 43 exceedance days of the eight-hour O_3 standard (0.070ppm) and three violations of the standard. A summary of the eight-hour concentrations (Table 7 and Table 8).

Table 7: Eight-Hour Summary

Site	Max. (ppm)	2nd High (ppm)	3rd High (ppm)	4th High (ppm)	Number of Exceedances
RM[1]	0.088	0.087	0.086	0.083	33
LE[1]	0.087	0.087	0.085	0.080	42
HS[1]	0.086	0.081	0.080	0.076	15

1 – Concentration including EEs for 2024

Ozone Minimum Monitoring Requirements

The O_3 design criteria for SLAMS minimum monitoring requirements specify that state and local agencies must operate O_3 sites for various locations depending upon area size in terms of population and geographic characteristics as defined in 40 CFR Part 58, Appendix D, 4.1. SRPMIC is within the Core Base Statistical Area (CBSA) of Phoenix-Mesa-Scottsdale. Therefore, the CBSA is applied to the SRPMIC monitoring network. The SRPMIC network meets the minimum monitoring requirements for all criteria pollutants measured. Except where otherwise noted, each monitor meets the requirements of appendices A, B, C, D, and E, where applicable (Table 8).

Table 8: 2024 Ozone Minimum Monitoring Requirements

CBSA	County	Population & Census	Design Value 2024 (ppm)	Site ID	Required Monitors	Active Monitors	Monitor Needed
Phoenix/Mesa/ Scottsdale	Maricopa	4,585,871[1] for all sites	0.079[3]	RM	3[2]	1	0
Phoenix/Mesa/ Scottsdale	Maricopa	4,585,871[1] for all sites	0.080[3]	LE	3[2]	1	0

Phoenix/Mesa/ Scottsdale	Maricopa	4,585,871[1] for all sites	0.076[3]	HS	3[2]	1	0

[1] – United States Census Bureau Maricopa County estimate July 1, 2023
[2] – For CBSA
[3]– Concentration including EEs for 2023

PM_{10}

24-hour Average Concentrations

In 2024, there were no exceedances of the 24-hour standard (Table 9).

Table 9: 24-Hour Average PM_{10} Summary

Site	Max. ($\mu g/m^3$)	2nd High ($\mu g/m^3$)	Number Of Exceedances	Annual Average ($\mu g/m^3$)
HS	125	117	0	0
LE	120	109	0	25.1
SC	82	71	0	27.6

[1]– Concentration including EEs for 2023

PM_{10} Minimum Monitoring Requirements

Federal Regulations require agencies to show they meet the minimum monitoring requirements for PM_{10} (40 CFR Part 58, Appendix D, 4.6 (a)) in there CBSA. The number of PM_{10} stations in areas where CBSA populations exceed 1,000,000 must be in the range from 6 to 10 stations. There are three other agencies that operate PM_{10} monitors in the CBSA. They include the Arizona Department of Environmental Quality (ADEQ), Maricopa County Air Quality Department (MCAQD), and Pinal County Air Quality Department (PCAQD). ADEQ operates one monitor, MCAQD operates 15, and PCAQD operates four. SRPMIC is within the CBSA of Phoenix-Mesa-Scottsdale, therefore SRPMIC's network meets the minimum monitoring requirements for PM_{10} (Table 10). Except where otherwise noted, each monitor meets the requirements of appendices A, B, C, D, and E, where applicable.

Table 10: 2023 PM_{10} Minimum Monitoring Requirement

CBSA	Population Census	Agency	Required Monitors	Active Monitors	Monitors Needed
Phoenix/Mesa /Scottsdale	4,585,871[1]	SRPMIC	6 – 10[2]	3	0
Phoenix/Mesa /Scottsdale	4,585,871[1]	ADEQ	6 – 10[2]	1	0
Phoenix/Mesa /Scottsdale	4,585,871[1]	MCAQD	6 – 10[2]	15	0
Phoenix/Mesa /Scottsdale	4,585,871[1]	PCAQD	6 – 10[2]	4	0
			Total	23	0

[1] – United States Census Bureau Maricopa County estimate July 1, 2023
[2] – For entire network

$PM_{2.5}$

During 2024, the primary $PM_{2.5}$ sampler was given a waiver to operate the Senior Center monitor on a 1 in 6-day schedule. The collocated sampler schedule was reduced to 1 in 12-day schedule in April 2020.

24-hour Average Concentrations

There were no exceedances of the 24-hour or annual standards during 2023 (Table 11).

Table 11: Filter based 24-Hour Average $PM_{2.5}$ Summary

Site	Max. Value ($\mu g/m^3$)	2nd High Value ($\mu g/m^3$)	Number of Exceedances	98th Percentile Value	Annual Average ($\mu g/m^3$)
SC [pa]	33.8	12.0	0	12	7.1
SC [cb]	10.5	10.5	0	10.5	6.55

p Primary
c Collocated not for NAAQS comparison
a Filter-based (6-day schedule)
b Filter-based (12-day schedule)

$PM_{2.5}$ Minimum Monitoring Requirements

Federal Regulations require agencies to show they meet the minimum monitoring requirements for $PM_{2.5}$ (40 CFR Part 58, Appendix D, 4.7.1) in there CBSA. The number of $PM_{2.5}$ stations in areas where CBSA populations exceed 1,000,000 three sites. There are three other agencies that operate $PM_{2.5}$ monitors in the CBSA. They include the Arizona Department of Environmental Quality (ADEQ), Maricopa County Air Quality Department (MCAQD), and Pinal County Air Quality Department (PCAQD). ADEQ operates one monitor, MCAQD operates eight, and PCAQD operates two. SRPMIC is within the CBSA of Phoenix-Mesa-Scottsdale, therefore SRPMIC's network meets the minimum monitoring requirements for $PM_{2.5}$ (Table 12). Except where otherwise noted, each monitor meets the requirements of appendices A, B, C, D, and E, where applicable.

Table 12: 2023 $PM_{2.5}$ Minimum Monitoring Requirement

CBSA	Population Census	Agency	Required Monitors	Active Monitors	Monitors Needed
Phoenix/Mesa/ Scottsdale	4,585,871[1]	SRPMIC	3	1	0
Phoenix/Mesa/ Scottsdale	4,585,871[1]	ADEQ	3	1	0
Phoenix/Mesa/ Scottsdale	4,585,871[1]	MCAQD	3	8	0
Phoenix/Mesa/ Scottsdale	4,585,871[1]	PCAQD	3	2	0
			Total	12	0

[1] – United States Census Bureau Maricopa County estimate July 1, 2023
[2] – For entire network

Data Completeness

To compare a set of criteria pollutant data to the NAAQS the set must contain at least 75% valid data (Table 13) (Table 14) (Table 15) (Table 16). All criteria pollutant parameter met the requirement.

Table 13: O_3 Completeness

Site	Number of Actual Samples	Number of Scheduled Samples	Data Completeness (Actual/Scheduled)
RM	8741	8760	100%
LE	8713	8760	99%
HS	8662	8760	99%

Table 14: PM_{10} Completeness

PM_{10} Interval Site	Number of Actual Samples	Number of Scheduled Samples	Data Completeness (Actual/Scheduled)
SC	8736	8760	99%
LE	8422	8760	96%
HS	8653	8760	99%

Table 15 Particulate Matter ($PM_{2.5}$) Completeness

Site	Number of Actual Samples	Number of Scheduled Samples	Data Completeness (Actual/Scheduled)
SC^{pa}	59	61	97%
SC^{cb}	29	30	97%

[p] Primary [c] Collocated [a] Filter-based (6-day schedule) [b] Filter-based (12-day schedule)

Table 16: Total Data Completeness Network

Pollutant	Data Completeness
O_3	99.3%
PM_{10}	98.0%
$PM_{2.5}$	97.0%
Total	98.3%

NAAQS Exceedance Summary

An Exceedance Day is defined as the number of days where at least one monitor in the network exceeded the NAAQS.

Ozone

There were 43 O_3 exceedance days in 2024. Out of those days**, 29** were flagged for EE consideration (Table 17).

Table 17: 2024 NAAQS 8-hour O_3 Exceedance Days

	Senior Center	Red Mountain	Lehi	High School
04/19/24		0.074	0.071	
05/03/24			0.073	
05/12/24			0.071	
05/13/24		0.073	0.077	
05/14/24		0.074	0.075	0.073
05/17/24		0.073	0.073	
05/22/24		0.077	0.077	0.074
05/28/24		0.072	0.073	
05/29/24		0.078	0.078	0.075
05/30/24		0.077	0.076	0.074
05/31/24			0.071	
06/06/24		0.072	0.071	
06/14/24		0.083	0.085	0.081
06/15/24		0.078	0.078	0.076
06/25/24			0.071	
07/01/24		0.071	0.072	
07/02/24		0.072	0.073	
07/09/24		0.071		
07/11/24		0.071	0.076	0.073
07/12/24		0.088	0.087	0.086
07/17/24		0.072	0.071	
07/18/24		0.076	0.075	
07/19/24		0.073	0.073	
07/22/24		0.073	0.078	0.072
07/23/24		0.075	0.077	0.071
07/24/24		0.077	0.077	
07/25/24		0.078	0.077	0.074
07/26/24		0.087	0.087	0.080
08/01/24			0.072	
08/02/24		0.073	0.076	
08/03/24		0.072	0.075	
08/04/24			0.071	
08/05/24		0.079	0.080	0.074
08/07/24		0.076	0.076	0.071
08/08/24			0.071	

08/09/24		0.072	0.074	
08/12/24		0.072	0.075	
08/19/24		0.072	0.075	
09/11/24		0.081	0.078	0.072
09/30/24			0.071	
10/03/24		0.071	0.073	
10/04/24			0.072	

Data marked for EE in red

Particulate Matter

There were no PM_{10} exceedance days in 2024. There were no $PM_{2.5}$ exceedance days in 2024 (Table 18).

Table 18: 2024 NAAQS 24-hour PM_{10} Exceedance Days

Pollutant	Interval	Site	Concentration (µg/m³)	Date
PM_{10}	24-hour	None	None	None
$PM_{2.5}$	24-Hour	None	None	None
$PM_{2.5}$	Annual	None	None	None

NAAQS Violations

Ozone

Three sites violated the 8-hour NAAQS for 2023 (Table 19).

Table 19: Violations of the 8-hour O_3 Standard

Site	2022 4th Highest (ppm)	2023 4th Highest (ppm)	2024 4th Highest (ppm)	Design Value (ppm)	Design Value (ppm) without EE
RM	0.075	0.079	0.083	0.079	0.075
LE	0.079	0.082	0.080	0.080	0.077
HS	0.077	0.076	0.076	0.076	0.073

Particulates - PM_{10}

No sites violated the 24-hour PM_{10} NAAQS (Table 20).

Table 20: Violations of the 24-hour PM_{10} Standard

Site	2022 Expected Exceedances Rate	2023 Expected Exceedances Rate	2024 Expected Exceedances Rate	Design Value Expected Exceedances Rate	Design Value Expected Exceedances Rate without EE
SC	0	0	0	0	0
LE	1	0	0	0.3	0.3
HS	0	2	0	0.7	0.0

Particulates – $PM_{2.5}$

No site violated the 24-hour or Annual $PM_{2.5}$ NAAQS (Table 21 and Table 22).

Table 21: Violations of the 24 Hour $PM_{2.5}$ Standard

Site	2022 98th Percentile ($\mu g/m^3$)	2023 98th Percentile (µg/m3	2024 98th Percentile ($\mu g/m^3$	2024 Design Value ($\mu g/m^3$)	Design Value ($\mu g/m^3$) without EE
SC[pa]	14.4	13.3	12.0	13.0	13.0

[p] Primary
[A] Filter-based (6-day schedule)

Table 22: Violations the Annual $PM_{2.5}$ Standard

Site	2022 Annual Average ($\mu g/m^3$)	2023 Annual Average ($\mu g/m^3$)	2023 Annual Average ($\mu g/m^3$)	2024 Design Value (µg/m3)	Design Value ($\mu g/m^3$) with EE
SC[pa]	6.3	6.9	7.1	6.7	6.7

[p] Primary
[a] Filter-based (6-day schedule)

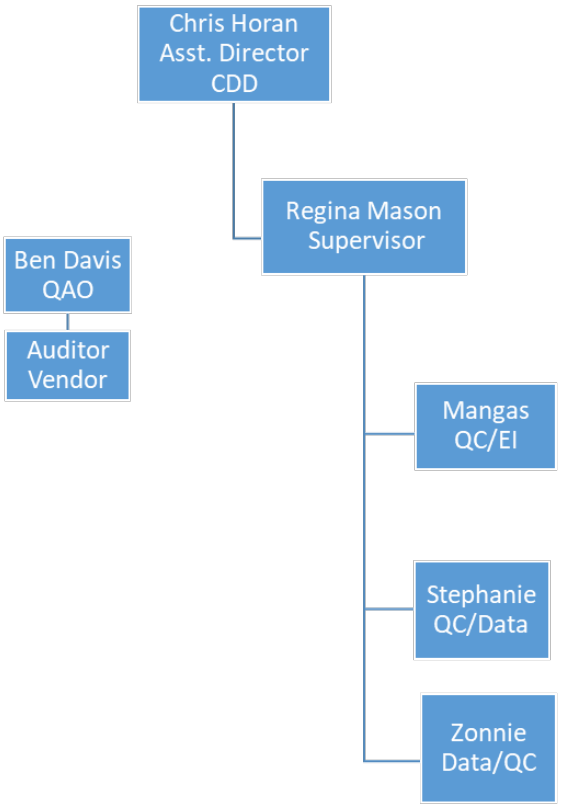
Network Information

The following is a list of information regarding SRPMIC's monitoring network activities that occurred during 2024.

Organization

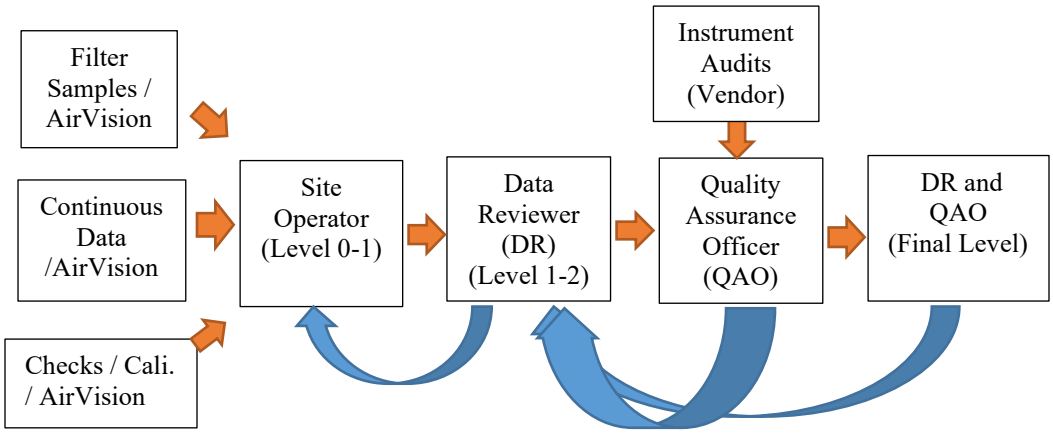
In November, the AQP developed and implemented a new organization chart with input from EPA Region 9. It better defines the roles and responsibilities of new and existing staff and documents the independence of the Quality Assurance Officer (see *Figure 3).* In January 2023, an additional QC staff member, Stephanie Lane, was hired to work on instruments and emissions inventory. In March 2023, Ben Davis was hired as the new QA Officer. In January 2024, the AQP hired Graciela "Zonnie" Olivas to work on Instruments, Emissions Inventory, and the Climate Pollution Reduction Grant.

Figure 2 AQP Organization Chart



In conjunction with findings in the 2022 EPA Technical Systems Audit (TSA). The AQP developed a new level 0-3 data verification and validation (DVV) SOP, which includes; three levels of data review, separation of QC and QA duties, data verification check sheet; reviewing and documenting PM weighing laboratory data, and documenting the roles and responsibilities of each level (Figure 4).

Figure 3 Data Verification and Validation (DVV) Process



Ozone Monitoring

On October 1, 2015, EPA updated the O_3 NAAQS from .075 ppm to .070 ppm in an effort to reduce the values and improve public health. The final area designations for the 2015 standard were completed by the EPA on April 30, 2018. EPA determined that air quality on the SRPMIC Tribal lands does not meet the NAAQS for ground-level O_3 and was therefore designated as nonattainment in the marginal classification along with the surrounding area in Maricopa County.

During 2024, three O_3 monitors were reported operational. There were 43 exceedance days of the eight-hour primary standard, and all three sites violated the NAAQS. 29 of the 43 exceedance days of the eight-hour standard were flagged for EE designation. They were influenced by wildfire smoke (Table 17).

PM_{10} Monitoring

During 2024, three PM_{10} site monitors operated continuously. There were no exceedance-days of the 24-hour primary standard, and no violations (Table 20).

The Senior Center site was temporarily relocated 60 meters east from its original location on August 19, 2022, due to nearby construction for housing units. The temporary site is situated in front of the Senior Service Center facility. SRPMIC was unable to obtain sufficient electrical capacity to operate an environmental control shelter for the O_3 monitor, so only the PM_{10} and $PM_{2.5}$ monitors were relocated. Recently, the SRPMIC Community Council approved the relocation of the Senior Center monitoring station to a permanent site within the SRPMIC Tribal Government Complex. AQP has petitioned the EPA to move the site (App. C)

$PM_{2.5}$ Monitoring

Primary and collocated $PM_{2.5}$ FRM filter-based monitors were operated at the Senior Center site. The primary sampler operated on a 1 in 6-day schedule; the collocated sampler schedule was reduced from 1 in 6-day schedule to 1 in 12-day schedule after April 9, 2020. An annual letter was sent to EPA Region 9 to request a waiver to continue the 1 in 6-day sampling schedule. EPA Region 9 approved the waiver on November 22024 for CY 2025. A copy of the approval is included in this document (App. B).

Moving Sites

The monitor at the Senior Center site continues to remain shut down. The reason being AQP was asked to temporarily move the Senior Center site on 8/19/22 because of needed Community housing construction next to the site. SRPMIC was unable to get enough power at the new temporary site to power a shelter with an A/C unit, therefore the Senior Center ozone monitor was shut down on 8/18/22. In 2024, the SRPMIC Council approved the relocation of the Senior Center monitoring station to a permanent site within the SRPMIC Tribal Government Complex. AQP has petitioned the EPA to move the site to a location in the two Waters Complex (App. C).

The Lehi site is located in the SRPMIC fire station complex at 3250 North Stapley Drive, Mesa, AZ 85203. The ozone monitor is located inside the main building in the IT communication room and the PM-10 monitor is located inside a small instrument shelter on the roof of the main

building. Over the past 10 years the site has experienced a list of chronic problems, which has made it difficult to maintain the site according to EPA regulations. These problems include:

- The building's HVAC system has had difficulty in maintaining room temperature within EPA regulations.
- The ozone monitor is inside a crowded communication room and is subject to being hit, moved, or unplugged.
- The PM-10 and anemometer are located on the roof of the building with no railing and are only accessible by ladder.
- The residence time for the site is 3X greater than the other sites at 9.8 seconds.
- The large trees surrounding the Lehi station grow quickly and need to be continually monitored and trimmed to maintain compliance with EPA regulations.

With these difficulties in mind, the Air Quality Program (AQP) determined that moving the site to a more optimal location would improve the representativeness of the data, the ability of AQP to operate the site effectively, and site safety. AQP has petitioned the EPA to move the site to a location 223 yards east southeast of the original site. (App. D).

Regulatory Information

For 2024, the vendor, SB Clearsky, conducted audits on the SRPMIC air monitoring network instruments.

During each quarter, SRPMIC submitted the results of all valid measurement quality checks for precision and accuracy data to AQS. The SRPMIC monitoring network meets the minimum data assessment requirements for SLAMS sites according to 40 CFR Part 58 Appendix A, and 40 CFR Part 58.16 for reporting of all ambient air quality data and associated quality assurance data for O_3, PM_{10}, and $PM_{2.5}$ to the AQS database.

On 4/18/25, the 2024 Data Certification documents were submitted to EPA Region 9. On 4/24/25, EPA Region 9 confirmed that SRPMIC fully met part 58.15 of the Code of Federal Regulations and added concurrence flags to SRPMIC data in AQS database.

The EPA Region 9 conditionally approved the SRPMIC ambient air quality monitoring program's revised Quality Assurance Project Plan documents on 10/27/22.

The SRPMIC 2024 Annual Monitoring Network Plan Report document will be submitted to EPA Region 9 prior to 7/1/25. The AQP will hold a Public Comment Meeting on Monday, May 26, 2025, 11:00 am to 1:00 pm at the Two Waters, Building B, 3rd Floor, B305-Xmshe (Stars) Room 10005 East Osborn Road Scottsdale, AZ 85256.

The AQP continually submits hourly data to the AirNow data website and has participated in the program since 2007 (https://www.airnow.gov/). Additionally, the AQP presents its air quality data to the Community through its interactive website (https://srp.agilaire.com/airvision/). AQP provides the Community with access to air pollution forecasts, real-time air pollution measurements, and air information including, air quality advisories through the SRPMIC website (https://www.srpmic-nsn.gov/government/epnr/aqhome/#1494960386930-13414e5d-df9a).

The AQP continues to provide public outreach using a Flag Communication Network. This network uses colored flags to indicate forecasted air pollution values. There are five flagpole

stations throughout the Community: the High School, Senior Center, Salt River Community Building, Lehi Community Building, and Two Waters Complex.

Equipment and Site Upgrades:

The following are major equipment purchases and upgrades completed in 2024 (Table 23).

Table 23: Equipment Purchases and Upgrades

Equipment Purchase or Upgrade
Two Alicat Flow Calibrators
Two Vaisala Temperature and Relative Humidity Calibrators
One Druck Digital Pressure Calibrator
One RM Young Anemometer Drive

Monitoring Network Modifications

The following are major network modifications 2024 (Table 24).

Table 24: Summary of Network Modifications

AQS Site #	Site Name	Parameter	Modifications
04 013 7020	Senior Center	Ozone, PM_{10}, $PM_{2.5}$ and meteorological	The site was moved to a temporary location in a nearby area due to housing construction on 8/19/22. Ozone and met instruments were unable to be housed in the shelter at the new temporary site. The new location will be the Two Waters site. Projected new location available at end of 2025.
04 013 7022	Lehi	Ozone, PM_{10} and meteorological	Proposed relocation: Proposing to move out of Lehi Police/Fire Substation to permanent site nearby due to site issues. Projected new location available at end of 2025.

Pollution Trends

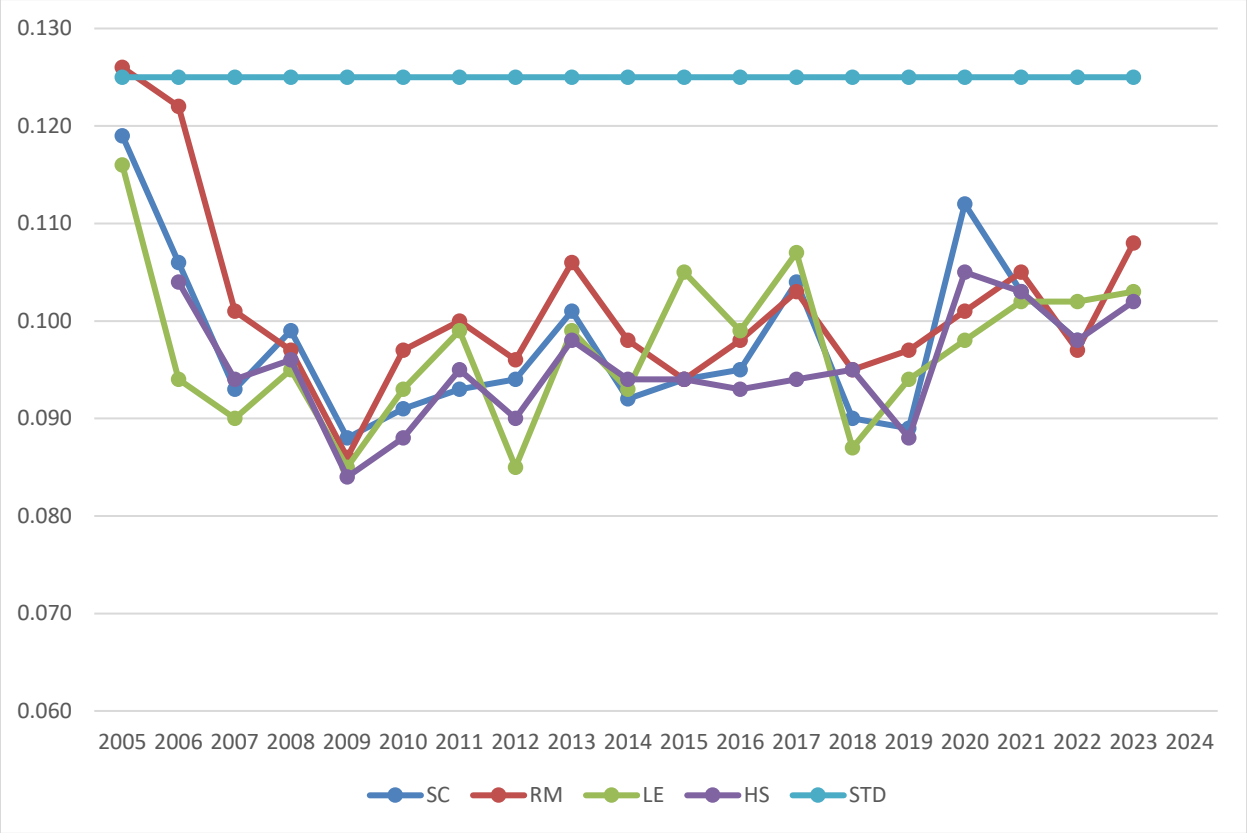
The following are graphs of long-term trends of NAAQS.

O_3

One-Hour Concentrations

Maximum 1-hour concentrations of ozone at the SRPMIC monitoring sites show a significant decline from 2005 to 2009 and a steady slow increase from 2009 to 2023 (Figure 5).

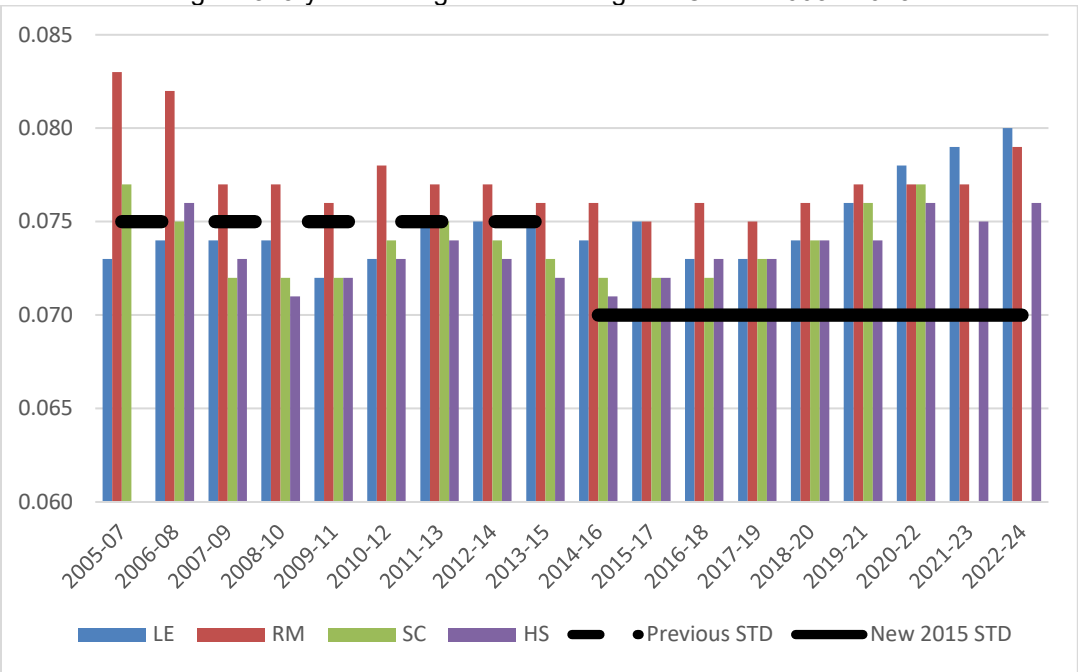
Figure 4: Maximum 1-Hour Ozone (ppm) 2005-2024



8-Hour Concentrations

Eight-hour average concentrations of ozone at the SRPMIC monitoring locations reflect a slight increase from 2009 to 2024. Since this graph shows the 3-year average, the effect is not as pronounced (Figure 6).

Figure 5: 3-year Average of the 4th-highest Ozone 2005 - 2023

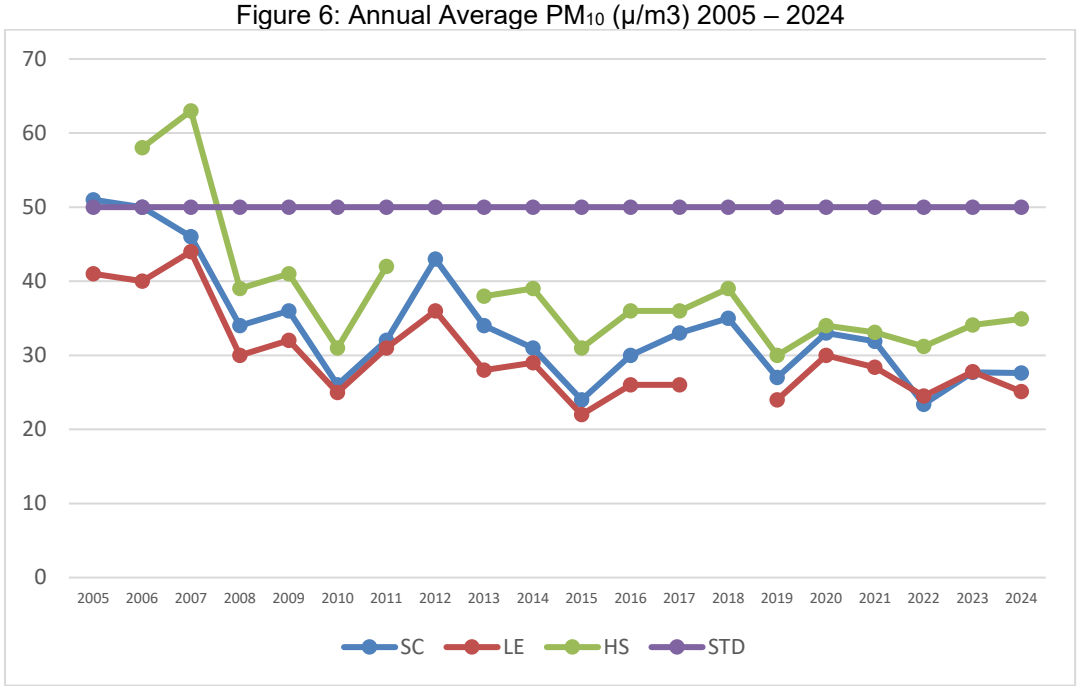


PM_{10}

Annual Concentrations

Annual average concentrations of PM_{10} at the SRPMIC locations have shown a general decline between 2005 and 2024.

Figure 6: Annual Average PM_{10} (µ/m3) 2005 – 2024

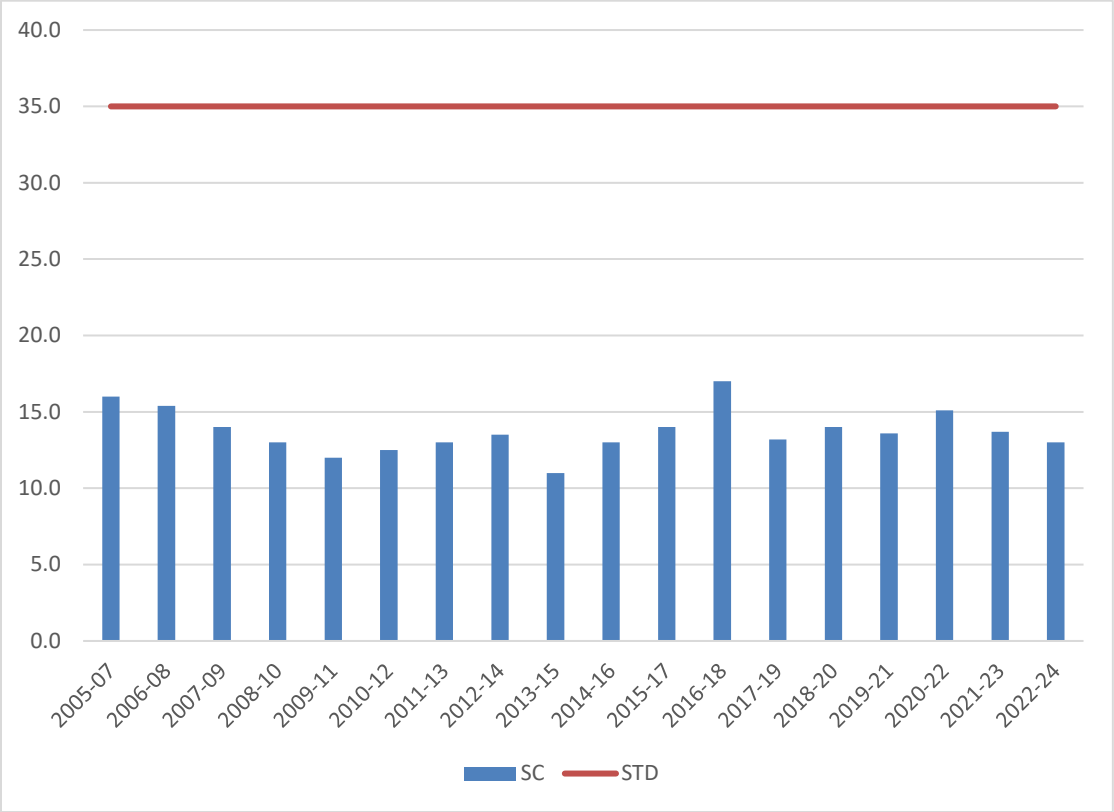


$PM_{2.5}$

24-hr NAAQS Violations

24-hour $PM_{2.5}$ values continue to be well below the NAAQS (Figure 8).

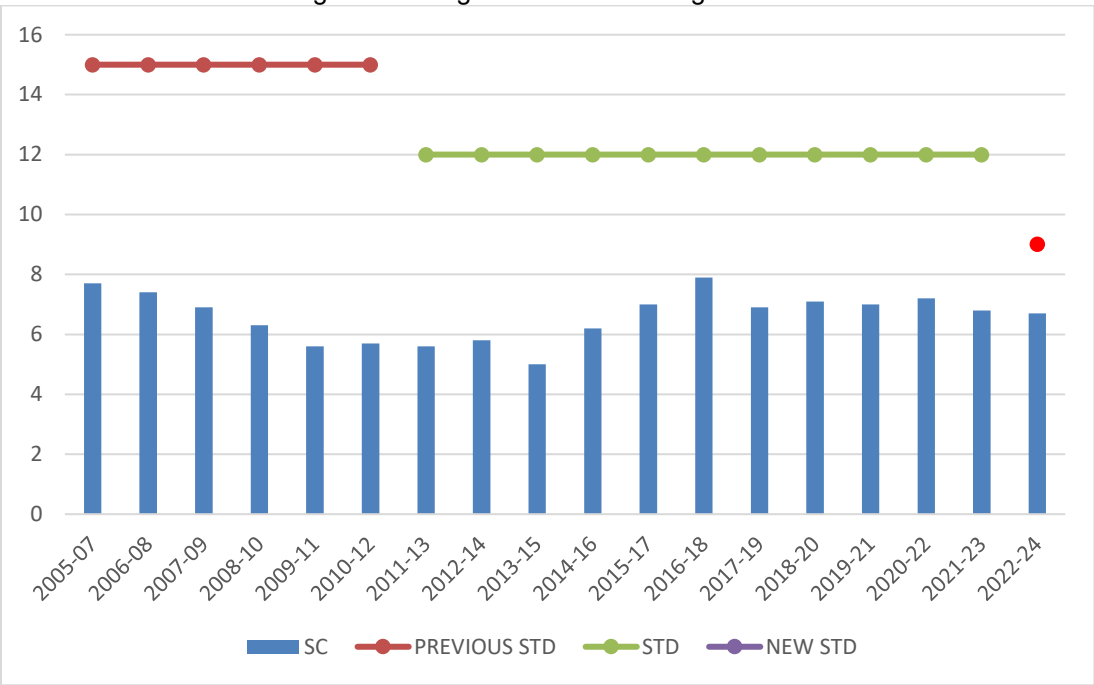
Figure 7: Design Values 24-Hours PM2.5 (µ/m3) 2005 - 2024



Annual Concentrations

24-hour $PM_{2.5}$ values continue to remain below the NAAQS (Figure 9).

Figure 8: Design Value Annual Avg. PM-2.5



APPENDIX A: SITE DESCRIPTIONS

Senior Center

Site Name	Senior Center
AQS ID	04 013 7020
GPS Coordinates (decimal degrees)	33.488166, -111.854933
Street Address	10844 East Osborn Road, Scottsdale, AZ 85356
County	Maricopa
Distance to Roadways (m)	Osborn Road (15), Alma School Road (218)
Traffic Count (AADT)	Osborn Rd 2023: 955, using KHA AADT count
Groundcover	gravel
Representative Statistical Name	CBSA: Phoenix – Mesa - Scottsdale

Site Description: The Senior Center site was temporarily relocated 60 meters east from original site on August 19, 2022 due to the housing development nearby and the monitoring site reconstruction. Only the criteria pollutant particulate matter, PM_{10} and $PM_{2.5}$ are relocated because the ozone monitor was unable to be housed in a shelter.

East

North

West

South

Table 25: Senior Center (Temporary Site)

Pollutant	PM_{10} (continuous)	$PM_{2.5}$	
Parameter Occurrence Code	3	1	2
Primary/QA Collocated	NA	Primary	Collocated
Parameter Code	81102	88101	
Basic monitoring objective(s)	NAAQS comparison, public information	NAAQS comparison, public information	
Site type(s)	Population exposure	Population exposure	
Monitor type	SLAMS (Tribal)	SLAMS (Tribal)	
Site type(s)	Population exposure	Population exposure	
Network Affiliation(s)	NA	NA	
Manufacturer/Model	R&P/1400ab	R&P/2000FRM	
Method code	079	143	143
FRM/FEM/ARM	FEM	FRMs	
Collecting Agency	SRPMIC	SRPMIC	
Analytical lab	NA	IML	IML
Reporting Agency	SRPMIC	SRPMIC	
Spatial Scale	Neighborhood	Neighborhood	
Monitoring Start Date	08/19/2022	08/19/2022	
Current Sampling Frequency	Continuous	1: 6	1: 12
Required Sampling Frequency	NA	1:3 approved to 1:6 October 2024 by EPA	

Sampling Season	01/01 – 12/31	01/01 – 12/31	
Probe height (m)	3.1	3.0	2.9
Airflow arch (degrees)	360	360	360
Distance from supporting structure (m)	2.2	2.0	
Distance from obstructions on roof; horizontal distance + vertical height above probe for obstructions nearby (m)	No obstruction	No obstruction	
Distance from obstructions not on roof; horizontal distance + vertical height above probe for obstructions nearby (m)	Horizontal: 10.5 Vertical: 1.1	Horizontal: 10.5 Vertical: 1.3	
Distance from tree drip-lines (m)	10.1	10.0	10.4
Distance to furnace or incinerator flue (m)	No furnace or incinerator	No furnace or incinerator	
Distance between monitors fulfilling a QA collocation requirements (m)	NA	4.0	
Unrestricted airflow (degrees around probe/inlet) (m)	360	360	
Probe material for reactive gases	NA	NA	
Residence time for reactive gases (s)	NA	NA	
Will there be changes within the next 18 months? (Y/N)	Y	Y	
Is it suitable for comparison against annual $PM_{2.5}$? (Y/N)	NA	Y	
Frequency of flow rate verification for manual PM samplers	NA	Biweekly	
Frequency of flow rate verification for automated PM analyzers	Biweekly	NA	
Frequency of one-point QC check for gaseous instruments	NA	NA	
Date of Annual Performance Evaluation for gaseous parameters	NA	NA	
Date of semi-annual flow rate audits for PM monitors	NA	03/18/24, 09/17/24	

Red Mountain

Site Name	Red Mountain
AQS ID	04-013-7021
GPS Coordinates (decimal degrees)	33.507916, -111.754616
Street Address	15115 Beeline Highway, Scottsdale, AZ 85256
County	Maricopa
Distance to Roadways (m)	Beeline Highway (608)
Traffic Count (AADT)	Beeline Hwy (SR87) from Gilbert Rd to Shea Blvd., 2022: 23,916, ADOT AADT count
Groundcover	Gravel
Representative Statistical Name	CBSA: Phoenix – Mesa - Scottsdale

Site Description: The monitoring site is located south of the old Red Mountain Trap & Skeet area. A large portion of the area is open range, populated with desert scrubland vegetation, and is approximately one-half mile southeast of State Route 87 (Beeline Highway). This station monitors ozone and the meteorological parameters wind speed, wind direction, atmospheric pressure, ambient temperature and relative humidity.

North

East

South

West

Table 26: Red Mountain

Pollutant	Ozone
Parameter Occurrence Code	1
Primary / QA Collocated	NA
Parameter code	44201
Basic monitoring objective(s)	NAAQS comparison, public information
Site type(s)	Highest conc., regional transport
Monitor type(s)	SLAMS (Tribal)
Network affiliation(s)	NA
Manufacturer/Model	Thermo/49i
Method code	047
FRM/FEM/ARM	FEM
Collecting Agency	SRPMIC
Analytical lab	NA
Reporting Agency	SRPMIC
Spatial Scale	Urban
Monitoring start date	01/27/2012
Current Sampling Frequency	Continuous
Required sampling frequency	NA
Sampling Season	01/01 – 12/31
Probe height (m)	4.1

Distance from supporting structure (m)	1.5
Distance from obstructions on roof; horizontal distance + vertical height above probe for obstructions nearby (m)	No obstruction
Distance from obstructions not on roof; horizontal distance + vertical height above probe for obstructions nearby (m)	No obstruction
Distance from tree driplines (m)	No tree
Distance to furnace or incinerator flue (m)	No furnace or incinerator
Distance between monitors fulfilling a QA collocation requirement (m)	NA
Unrestricted airflow (degrees around probe/inlet) (m)	360
Sample line material for reactive gases	Teflon
Residence time for reactive gases (s)	1.9
Will there be changes within the next 18 months? (Y/N)	N
Is it suitable for comparison against the annual $PM_{2.5}$? (Y/N)	N
Frequency of flow rate verification for manual PM samplers	NA
Frequency of flow rate verification for automated PM analyzers	NA
Frequency of one-point QC check for gaseous instruments	Biweekly
Date of Annual Performance Evaluation for gaseous parameters	3/19/24
Date of semi-annual flow rate audits for PM monitors	NA

Lehi

Site Name	Lehi
AQS ID	04 013 7022
GPS Coordinates (decimal degrees)	33.474533, -111.80505
Street Address	3250 North Stapley Drive, Mesa, AZ 85203
County	Maricopa
Distance to Roadways (m)	Stapley Drive 18.3), Oak Street (81)
Traffic Count (AADT)	Stapley Drive south of Oak St, 2023: 720, using KHA AADT count
Groundcover	Paved, gravel
Representative Statistical Name	CBSA: Phoenix – Mesa - Scottsdale

Site Description: The Lehi monitoring site is inside the Police/Fire Substation building. The equipment for PM_{10} and meteorological monitoring is located on the roof. The site is bordered on the north and east by agricultural fields, on the west by neighborhood homes, a Booster Pump Facility to the north, and to the southeast, the Lehi Community Building. The SRPMIC monitors ambient air quality ozone and PM_{10} continuous at this site, as well as the meteorological parameters wind speed, wind direction, relative humidity, barometric pressure, and ambient temperature.

North

East

South

West

Table 27: Lehi

Pollutant	Ozone	PM_{10}, (continuous)
Parameter Occurrence Code	1	3
Primary/QA Collocate	NA	NA
Parameter Code	44201	81102
Basic monitoring objective(s)	NAAQS comparison, public information	NAAQS comparison, public information
Site type(s)	Population Exposure, regional transport	Population exposure
Monitor type	SLAMS (Tribal)	SLAMS (Tribal)
Network Affiliation(s)	NA	NA
Manufacturer/Model	Teledyne/T400	Thermo/1405
Method code	087	079
FRM/FEM/ARM	FEM	FEM
Collecting Agency	SRPMIC	SRPMIC
Analytical lab	NA	NA
Reporting Agency	SRPMIC	SRPMIC
Spatial scale	Neighborhood	Neighborhood
Monitoring start date	05/21/2014	04/01/2018
Current Sampling Frequency	Continuous	Continuous
Required sampling frequency	NA	NA

Sampling Season	01/01 – 12/31	01/01 – 12/31
Probe height (m)	6.0	6.7
Distance from supporting structure (m)	2.0	2.7
Distance from obstructions on roof; horizontal distance + vertical height above probe for obstructions nearby (m)	Horizontal: 29.05 Vertical: 4.5	Horizontal: 6.9 Vertical: 2.2
Distance from obstructions not on roof; horizontal distance + vertical height above probe for obstructions nearby (m)	No obstruction	No obstruction
Distance from tree driplines (m)	10.8	10.1
Distance to furnace or incinerator flue (m)	[1]Furnace (16.7)	[1]Furnace (35.2)
Distance between monitors fulfilling a QA collocation requirement (m)	NA	NA
Unrestricted airflow (degrees around probe/inlet)	360	360
Tube material for reactive gases	Teflon	NA
Residence time for reactive gases (s)	9.8	NA
Will there be changes within the next 18 months? (Y/N)	Y	Y
Is it suitable for comparison against annual $PM_{2.5}$? (Y/N)	N	N
Frequency of flow rate verification for manual PM samplers	NA	NA
Frequency of flow rate for automated PM analyzers	NA	Biweekly
Frequency of one-point QC check for gaseous instruments	Biweekly	NA
Date of Annual Performance Evaluation for gaseous parameters	06/17/24, 12/17/24	NA
Date of semi-annual flow rate audits for PM monitors	NA	06/18/24, 12/16/24

[1] – Furnace referred is outdoor patio grille

High School

Site Name	High School
AQS ID	04 013 7024
GPS Coordinates (decimal degrees)	33.50805, -111.8378
Street Address	4827 North Country Club Drive, Scottsdale, AZ 85256
County	Maricopa
Distance to Roadways (m)	North Country Club Drive (141), Chaparral Road (172)
Traffic Count (AADT)	N Country Club Drive south of E Chaparral Road, 2023: 905, using KHA AADT count
Groundcover	Paved, gravel
Representative statistical name	CBSA: Phoenix – Mesa - Scottsdale

Site Description: The High School site is located on the property of Salt River High School in the annex of the Maintenance Facility room. The Central Arizona Project Aqueduct Canal borders along the north section and the surrounding area to the north and south are agricultural fields. Ozone and PM_{10} continuous are monitored at this station.

North

East

South

West

Table 28 High School

Pollutant	Ozone	PM_{10}
Parameter Occurrence Code	1	2
Primary / QA Collocated	NA	NA
Parameter code	44201	81102
Basic monitoring objective(s)	NAAQS comparison, Public information	NAAQS comparison, Public information
Site type(s)	Population exposure, regional transport	Population exposure
Monitor type	SLAMS (Tribal)	SLAMS (Tribal)
Network affiliation(s)	NA	NA
Manufacturer/Model	Thermo/49i	Thermo/1405
Method code	047	079
Collecting Agency	SRPMIC	SRPMIC
Analytical lab	NA	NA
Reporting Agency	SRPMIC	SRPMIC
Spatial scale	Neighborhood	Neighborhood
Monitoring start date	04/21/2014	10/01/2012
Current Sampling Frequency	Continuous	Continuous

Required sampling frequency	NA	NA
Sampling Season	01/01 – 12/31	01/01 – 12/31
Probe height (m)	6.3	6.5
Distance from supporting structure (m)	1.7	1.9
Distance from obstructions on roof; horizontal distance + vertical height above probe for obstructions nearby (m)	Horizontal: 45.35 Vertical: 2.9	Horizontal: 42.98 Vertical: 2.9
Distance from obstructions not on roof; horizontal distance + vertical height above probe for obstructions nearby (m)	No obstruction	No obstruction
Distance from tree drip-lines (m)	11.1	13.2
Distance to furnace or incinerator flue (m)	Furnace (37.4)	Furnace (35.9)
Distance between monitors fulfilling a QA collocation requirement (m)	NA	NA
Unrestricted airflow (degrees around probe/inlet)	360	360
Probe material for reactive gases	Teflon	NA
Residence time for reactive gases (s)	10.5	NA
Will there be changes within the next 18 months? (Y/N)	N	N
Is it suitable for comparison against annual $PM_{2.5}$? (Y/N)	NA	NA
Frequency of flow rate verification for manual PM samplers	NA	NA
Frequency of flow rate verification for automated PM analyzers	NA	Biweekly
Frequency of one-point QC check for gaseous instruments	Biweekly	NA
Date of Annual Performance Evaluation for gaseous parameters	06/17/24, 12/16/24	NA
Date of semi-annual flow rate audits for PM monitors	NA	006/17/24, 12/16/24

APPENDIX B: PM 2.5 SCHEDULE WAIVERS

REGION 9
SAN FRANCISCO, CA 94105

January 23, 2025

Christopher Horan
Division Manager, Community Development Department
Environmental Protection & Natural Resources Division
Salt River Pima-Maricopa Indian Community
10005 East Osborn Road
Scottsdale, Arizona 85256

Dear Manager Horan:

This letter provides the U.S. Environmental Protection Agency's (EPA) review and approval for the Salt River Pima-Maricopa Indian Community's (SRPMIC) request for a renewal of the $PM_{2.5}$ sampling frequency waiver, emailed to the EPA on November 6, 2024. This waiver approves the continuation of a 1-in-6 day sampling frequency schedule for the primary $PM_{2.5}$ monitor at the Senior Center State or Local Air Monitoring Station (SLAMS) site (Air Quality System (AQS) ID: 04-013-7020, Parameter Occurrence Code (POC): 1). Monitoring agencies must have SLAMS $PM_{2.5}$ sampling frequency reductions approved by the EPA, with such approval based on consideration of the factors described in 40 CFR 58.12(d)(1) and the determination that the sampling frequency reduction will not compromise data needed for implementation of the applicable National Ambient Air Quality Standards (NAAQS).

A review of the certified data submitted to the EPA's AQS from the Senior Center $PM_{2.5}$ monitor against the factors set forth in 40 CFR 58.12(d)(1) supports a determination that the sampling frequency reduction will not compromise data needed for implementation of the NAAQS. For design value years 2021, 2022, and 2023 (encompassing data from calendar years 2019-2023), the Senior Center annual $PM_{2.5}$ design values were not within ±10 percent of the level of the 2024 annual $PM_{2.5}$ NAAQS and the design values were below the 2024 annual $PM_{2.5}$ NAAQS. For design value years 2021, 2022, and 2023, the Senior Center 24-hour $PM_{2.5}$ design values were not within ±5 percent of the level of the 2006 24-hour $PM_{2.5}$ NAAQS and no 24-hour values exceeded the 2006 24-hour $PM_{2.5}$ NAAQS. The Senior Center $PM_{2.5}$ monitor does not determine the $PM_{2.5}$ design value for the 2024 annual or 2006 24-hour $PM_{2.5}$ NAAQS for the Phoenix-Mesa-Scottsdale, Arizona Core Based Statistical Area (CBSA). The Senior Center $PM_{2.5}$ monitor is not part of a National Core multipollutant monitoring station, is not a required regional

APPENDIX C: MOVING THE SENIOR CENTER SITE

See attached Document

APPENDIX D: MOVING THE LEHI SITE

See attached Document

APPENDIX E: PUBLIC NOTICE AND COMMENTS

Public Notice Flyer

SALT RIVER
PIMA-MARICOPA INDIAN COMMUNITY
Community Development Department
Environmental Protection & Natural Resources
10005 EAST OSBORN ROAD, SCOTTSDALE, AZ 85256 (480) 362-7500 EPNR@srpmic-nsn.gov

Notice of Public Meeting for Comments

Salt River Pima Maricopa Indian Community
COMMUNITY DEVELOPMENT DEPARTMENT
ENVIRONMENTAL PROTECTION & NATURAL RESOURCES DIVISION
AIR QUALITY PROGRAM

2024 Air Monitoring Network Plan
5-Year Network Assessment

Purpose of Meeting:

To provide an opportunity for public to comment on Salt River Pima Maricopa Indian Community's (SRPMIC) Air Quality Program's (AQP) 2024 Air Monitoring Network Plan and the 5-Year Network Assessment.

Summary

In accordance with the Code of Federal Regulations (CFR) 40 Part 58.10, the network plan is made available to the public for review and comments for at least 30 days prior to being submitted to the Environmental Protection Agency (EPA) Region 9. During that time, the Air Quality Program will hold a meeting to provide a summary of the document including: network design, monitoring data collected, and proposed changes to the network, and take any verbal comments. The document is available for review at: www.srpmic-nsn.gov/government/epnr/aqhome/.

Public Meeting

AQP will host the meeting on Tuesday, May 27, 2025 11:00 am to 1:00 pm at the Two Waters, Building B, 3rd Floor, B305-Xmshe (Stars) Room10005 East Osborn Road Scottsdale, AZ 85256. Upon request EPNR will provide a link to the meeting through Microsoft Teams. Please contact Ben Davis @ Benjamin.Davis@srpmic-nsn.gov. Lunch will be provided.

Submitting Comments

Any member of the public can submit written comments by mail to CDD/EPNR, 10005 E Osborn Rd, Scottsdale, AZ 85256 or e-mail them to epnr@srpmic-nsn.gov. The comment period is May 12, 2025 through June 13, 2025.

Public Comments and Sign in

Face Book Posting

Newspaper Posting

Community Board Posting