# Gila River Indian Community 2024 AMBIENT AIR MONITORING NETWORK REVIEW AND 2025 PLAN





#### Gila River Indian Community Department of Environmental Quality

Air Quality Air Monitoring Program May 2025

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### **DEFINITION OF TERMS**

AMNR:	Air Quality Monitoring Network Review.
AMNRP:	Air Quality Monitoring Network Review and Plan.
AQMP:	Air Quality Management Plan. The AQMP is a collection of tribal regulations and plans to achieve healthy air quality under the Clean Air Act. For GRIC, the AQMP is synonymous with the Tribal Implementation Plan (TIP).
AQP:	Air Quality Program within the Gila River Indian Community's Department of Environmental Quality.
AQS:	Environmental Protection Agency's Air Quality System
Attainment:	This refers to the NAAQS used to comply with the federal Clean Air Act. After several years of no violations of the NAAQS, the EPA can classify the area as in attainment for that pollutant.
CFR:	Code of Federal Regulations.
Community:	Gila River Indian Community
Continuous monitoring:	A method of monitoring air pollutants that is continually measuring the quantity of the pollutant, either gaseous or particulate. Continuous monitors can be used to obtain real-time or short-term averages of pollutants.
Criteria Pollutants:	Six pollutants (Carbon Monoxide, Lead, Nitrogen Dioxide, Ozone, Particulates, and Sulfur Dioxide) that have NAAQS established by the US EPA.
DEQ:	Gila River Indian Community's Department of Environmental Quality
Design Value:	A design value is a statistic that describes the air quality status of a given area relative to the level of the NAAQS. For a concentration- based standard, the air quality design value is simply the standard- related test statistic. The design value of a pollutant monitoring network is the highest sample value in the network used to compare to the NAAQS; e.g. the 8-hour ozone design value for the network is the monitor with the highest 3-year average of the 4 <sup>th</sup> highest concentrations each year.
EPA:	U. S. Environmental Protection Agency.
Exceptional Events:	An uncontrollable event caused by natural sources of pollution or an event that is not expected to recur at a given location. The AQP makes the determination of which events to classify as exceptional and those events are then flagged in the AQS. If the EPA concurs with the AQP's determination, the measured pollution event will not be used in determination of compliance with the NAAQS.

FEM:	Federal Equivalency Method. An official method, i.e. equipment and procedure, of monitoring air pollution that has been determined to produce results similar to the Federal Reference Method (FRM).
Filter-based Monitor:	A method of monitoring particulate pollution that involves exposing a pre- weighed filter to a specific flow volume of air to capture the particulates in the air. The filters are then post-weighed to determine the weight of particulates per volume, e.g. $\mu g/m^3$ . Filter-based monitors used by GRIC are all FRM monitors.
FRM:	Federal Reference Method. An official method (i.e. equipment and procedure) of monitoring air pollution that has been tested and determined to produce results that accurately measure air pollution with acceptable precision. These methods are the baseline that all other methods (i.e., FEMs) refer to.
GRIC:	Gila River Indian Community
μg/m <sup>3</sup> :	Microgram per cubic meter.
MSA:	Metropolitan Statistical Area. A geographical area designated by the federal government based on the concept of a core area with a large population nucleus, plus adjacent communities having a high degree of economic and social integration with that core. It is unclear in Appendix D 40 CFR 58 how MSAs apply to sovereign tribes. Although the areas within the Community are <i>geographically</i> part of the Phoenix-Mesa-Scottsdale MSA, for purposes of the administration of Section 107 of the Clean Air Act (42 U.S.C. § 7407), except where a specific designation has been otherwise made by the Administrator, the air quality control region for the Community is all land within the exterior boundaries of the Community. Therefore, for the purposes of this document, the MSA principle does not apply to the GRIC Air Monitoring Network.
NAAQS:	National Ambient Air Quality Standards. A health and welfare-based standard that is set by the US EPA to qualify allowable levels of criteria pollutants.
NO <sub>2</sub> :	Nitrogen dioxide.
NO <sub>x</sub> :	Nitrogen oxides. Sum of nitric oxide (NO), NO <sub>2</sub> , and other nitrogen- containing compounds.
PM:	Particulate matter. Material suspended in the air in the form of minute solid particles or liquid droplets.
<b>PM</b> <sub>10</sub> :	Particulate matter of 10 microns in diameter or smaller.
PMA:	Phoenix Metropolitan Area.
NPAP-TTP:	National Performance Audit Program – Through the Probe
POC:	Parameter Occurrence Code is an identification number distinguishing multiple instruments that may measure the same pollutant.

PPM:	Parts per million.						
Primary Standard:	One portion of the NAAQS. These standards are designed to protect the public health.						
Secondary Standard:	One portion of the NAAQS. These standards are designed to protect the environment.						
SIP:	State Implementation Plan. SIPs are a collection of state and local regulations and plans to achieve healthy air quality under the Clean Air Act.						
SLAMS:	State and Local Air Monitoring Station. The SLAMS consist of a network of approximately 5,000 monitoring stations nationwide whose size and distribution is largely determined by the needs of State, and local air pollution control agencies to meet their respective SIP requirements. The GRIC monitors operated by the AQP are not part of the SLAMS network, but the AQP operates the monitors in accordance with the requirements for SLAMS.						
TAR:	Tribal Authority Rule.						
TEOM:	Tapered Element Oscillating Microbalance. A continuous particulate measuring instrument used by the AQP to measure PM10.						
TIP:	Tribal Implementation Plan. The TIP is a collection of tribal regulations and plans to achieve healthy air quality under the Clean Air Act. For GRIC, the TIP is incorporated into and synonymous with the Air Quality Management Plan (AQMP).						
VOC:	Volatile organic compounds. VOCs are chemical compounds that can easily vaporize and enter the atmosphere. There are many natural and artificial sources of VOCs; solvents and gasoline make up some of the largest artificial sources. VOCs will react with NO <sub>x</sub> in the presence of sunlight to create ground-level ozone pollution.						

### ABSTRACT

In 2024, Gila River Indian Community (GRIC) Department of Environmental Quality (DEQ) Air Quality Program (AQP) successfully continued to operate an air quality surveillance system that monitored for regulated ambient air pollutants as per 40 CFR Parts 50 and 58. This Annual Monitoring Network Review and Plan (AMNRP) documents how the system performed during 2024. The air monitoring data produced are intended for regulatory compliance determinations regarding regulated ambient air pollutants.

In addition, this document describes the changes that are planned to occur within the next 18 months. The AQP informs personnel at the Environmental Protection Agency's Region 9 (EPA R9) office of any significant data collection interruptions immediately.

During 2024, there were no significant changes to the GRIC air monitoring network; however, some notable accomplishments are as follows:

- GRIC received approval for a seasonal ozone waiver from EPA for 2024 calendar year. GRIC will monitor ozone from April 1<sup>st</sup> through October 31<sup>st</sup> in 2024.
- GRIC successfully completed and certified 2023 air monitoring data with 97-100% data completeness reporting to EPA's AQS data repository.
- USEPA Region 9, Monitoring & Analysis Section conducted a Technical Systems Audit on February 13-15, 2024. GRIC will continue to work closely with the auditors and Region 9 Monitoring & Analysis Section management staff to address all comments and recommendations from the 2024 TSA.
- GRIC submitted the GRIC Air Monitoring Quality Assurance Project Plan (QAPP) Volume 3 (O<sub>3</sub> Monitoring) to USEPA Region 9, Quality Assurance Office.

In 2025, there are no significant changes planned for the air monitoring network. Some notable activities that have occurred or are planned in 2025 are as follows:

- GRIC received approval for a seasonal ozone waiver from EPA for 2025 calendar year. GRIC will monitor ozone from April 1<sup>st</sup> through October 31<sup>st</sup> in 2025.
- USEPA Region 9 QA Division conditionally approved the GRIC Air Monitoring Quality Assurance Project Plan (QAPP) Volume 3 (O<sub>3</sub> Monitoring). EPA provided verbal notification of the conditional approval, but was unable to provide GRIC with comments and recommendations to complete final approval at this time.
- GRIC successfully completed and certified 2024 air monitoring data with 98-100% data completeness reporting to EPA's AQS data repository.
- USEPA Region 9, Air Quality Analysis Office provided GRIC the final Technical Systems Audit (TSA) Report on December 18, 2024. The TSA was conducted on February 13-15, 2024. GRIC will submit a draft proposed Corrective Action Plans (CAPs) to EPA R9 for approval. In addition, GRIC has resolved majority of the corrective action items in 2024.
- GRIC will submit letter to EPA R9 requesting a seasonal waiver for 2026 calendar year, requesting to monitor for ozone from April 1<sup>st</sup> through October 31<sup>st</sup> in 2026.
- GRIC coordinated with Community departments to remove three trees near the St. Johns Monitoring Station. These trees were identified in the TSA from 2024 as not meeting

Appendix E siting criteria.

• GRIC will continue the QAPP approval process and work with EPA R9 until the QAPP (one document split into four volumes) is approved.

The GRIC air monitoring network and tools operated in 2024 meet the necessary requirements as mandated by Federal regulations. Except where otherwise noted, each monitor meets the requirements of 40 CFR 58 Appendices A, C, D, and E, where applicable. This Annual Network Plan documents the details of the regulatory ambient air quality monitors.

### **1 INTRODUCTION**

The Code of Federal Regulations (CFR) Title 40 Part 58.10 (40 CFR 58.10) requires an annual monitoring network plan to summarize the air quality surveillance system consisting of State and Local Air Monitoring Stations (SLAMS) and Special Purpose Monitors (SPM) operated under state and local authorities. The annual monitoring network plan must identify the purpose of each monitor and provide evidence that both the siting and the operation of each monitor meet the requirements in 40 CFR Part 58 Appendices A, C, D, and E below:

- Appendix A Quality Assurance Requirements for Monitors used in Evaluations of National Ambient Air Quality Standards
- Appendix C Ambient Air Quality Monitoring Methodology
- Appendix D Network Design Criteria for Ambient Air Quality Monitoring
- Appendix E Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring

This AMNRP meets the federal regulatory requirements set forth in 40 CFR 58.10 and Appendices A, C, D, and E.

The Gila River Indian Community (GRIC or Community) Department of Environmental Quality (DEQ) Air Quality Program (AQP) operates air quality monitors that record ambient concentrations of two criteria pollutants - particulate matter less than or equal to 10 microns (PM<sub>10</sub>) and ozone (O<sub>3</sub>). Criteria pollutants are those that the United States Environmental Protection Agency (EPA) has defined as a potential risk to health, and correspondingly defined a National Ambient Air Quality Standard (NAAQS). The NAAQS are intended to protect public health and welfare by setting limits on the allowable level of each pollutant in the ambient air. The other criteria pollutants with established NAAQS that are not monitored by the AQP are particulate matter less than or equal to 2.5 microns (PM<sub>2.5</sub>), carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), nitrogen dioxide (NO<sub>2</sub>), and lead (Pb). GRIC does not monitor for these pollutants because they have been found, through discrete sampling and emission inventory, to be at background ambient air quality concentrations. Additionally, GRIC does not have major stationary pollution sources that emit these particular criteria pollutants that may affect the NAAQS within GRIC jurisdictions.

The GRIC air quality monitors are Tribal Monitors and are most closely related to SLAMS monitors. The United States Environmental Protection Agency (EPA) works closely with GRIC to adhere to the requirements for SLAMS networks with appropriate flexibility as stated in the Tribal Authority Rule (TAR).

The purpose of this document is to fulfill the requirements of 40 CFR 58.10, and has been prepared in accordance with *Annual Monitoring Network Plan* checklists and guidance documents provided by EPA. Therefore, this document contains the following sections:

- Air Monitoring Network Design Describes the design requirements for an air monitoring network in accordance with Appendix D of 40 CFR 58.
- **GRIC Air Monitoring Network** Describes the air monitoring network for the Community including monitor types, background information, summary of 2024 monitoring results, changes to the monitoring network in 2024, and proposed changes to the monitoring network.

- **Compliance Discussion** Includes a discussion of compliance with 40 CFR 58, including a table of requirements for Network Review, minimum monitoring requirements, precision and accuracy certifications, data submittals, and audits.
- **Public Notice** Includes information on public notices and community outreach for review and presentation of this document.
- **Appendices** Contains the detailed monitoring site information and photographs, and a copy of the presentation that was prepared for the public outreach.

### 2 AIR MONITORING NETWORK DESIGN

#### 2.1 Monitoring Objectives

Appendix D of 40 CFR 58 states that monitoring networks must be designed to meet three basic monitoring objectives:

- 1. Provide air pollution data to the general public in a timely manner;
- 2. Support compliance with ambient air quality standards and emissions strategy development; and
- 3. Support air pollution research studies.

Furthermore, Appendix D states that in order to support air quality management work indicated in the three basic objectives above, monitoring networks must be designed with a variety of the following types of monitoring sites:

- <u>Highest Concentration</u> Sites to determine the highest concentration expected to occur in the area covered by the network;
- <u>Population Exposure</u> Sites to determine representative concentrations in areas of high population density;
- <u>Source Impacts</u> Sites to determine the impact on ambient pollution levels of significant sources or source categories;
- <u>Background Concentrations</u> Sites to determine general background concentration levels;
- <u>Regional Transport</u> Sites to determine the extent of regional pollutant transport among populated areas, and in support of secondary standards; and
- <u>Welfare Impacts</u> Sites to determine the welfare-related impacts in more rural and remote areas (such as visibility impairment and effects on vegetation).

## 2.2 Spatial Scales

The goal in designing a monitoring network is to establish monitoring stations that will provide data to meet the above monitoring objectives. The physical siting of the air monitoring station must achieve a spatial scale of representativeness that is consistent with the monitoring site type, air pollutant to be measured, and the monitoring objective. The spatial scale results from the physical location of the site with respect to the pollutant sources and categories by estimating the size of the area surrounding the monitoring site that experiences uniform pollutant concentrations. The categories of spatial scale are:

- <u>Micro Scale</u> Defines the concentrations in air volumes associated with area dimensions ranging from several meters up to about 100 meters.
- <u>Middle Scale</u> Defines the concentration typical of areas up to several city blocks in size with dimensions ranging from about 100 meters to 0.5 kilometer.

- <u>Neighborhood Scale</u> Defines concentrations within some extended area of the city that has relatively uniform land use with dimensions in the 0.5 to 4.0 kilometers range. The neighborhood and urban scales listed below have the potential to overlap in applications that concern secondarily formed or homogeneously distributed air pollutants.
- <u>Urban Scale</u> Defines concentrations within an area of city-like dimensions, on the order of 4 to 50 kilometers. Within a city, the geographic placement of sources may result in there being no single site that can be said to represent air quality on an urban scale.
- <u>Regional Scale</u> Defines usually a rural area of reasonably homogeneous geography without large sources, and extends from tens to hundreds of kilometers.

The appropriate spatial scale for each of the monitoring site types is shown in Table 2-1.

#### Table 2-1. Relationship Among Monitoring Site Types And Scales of Representativeness.

	Appropriate Spatial Scale				
Monitoring Objective	Micro	Middle	Neighborhood	Urban	Regional
Highest concentration	Х	X	x	X	
Population Exposure			X	Х	
Source Impacts	Х	X	X		
Background Concentrations			X	Х	Х
Regional Transport				Х	Х
Welfare Impacts				Х	Х

### 3 GILA RIVER INDIAN COMMUNITY AMBIENT AIR MONITORING NETWORK

#### 3.1 General

There are currently three permanent ambient air monitoring stations within the Community – Sacaton, Casa Blanca, and St. Johns (see Figure 3-1). All three monitoring stations are Tribal Monitors, but follow the requirements of SLAMS networks with appropriate flexibility as stated in the TAR.



Figure 3-1. Map of Ambient Air Monitoring Stations on Gila River Indian Community

Table 3-1 lists the details regarding each monitoring site's GRIC abbreviation symbol and EPA's AQS identification number. Detailed site information is provided in Appendix A that includes photographs, site type, spatial scale, and population represented. In addition, Appendix B provides detailed monitoring technical specifications.

Name	<b>GRIC</b> Abbreviation	AQS ID
St. Johns	SJ	TT-614-7003 (Tribal Monitor)
Sacaton	Sac	TT-614-7001 (Tribal Monitor)
Casa Blanca	СВ	TT-614-7004 (Tribal Monitor)

Table 3-1.	GRIC	Ambient	Air	Mon	itoring	Sites	for	2023
	one			111011	itor mg	DICCO	101	

Table 3-2 lists these stations, the pollutants and meteorological parameters that are monitored at each location.

Table 3-2.	Ambient	Air Ou	alitv	<b>Parameters</b>	Monitore	d at	Each	Station
		<del>.</del>	,					

	Μ	onitoring Statio	n
Parameter	St. Johns	Casa Blanca	Sacaton
Ozone	X		Х
PM <sub>10</sub> (TEOM)	Х	X	Х
Wind Speed	Х	X	Х
Wind Direction	X	X	X
Ambient Temperature	X	Х	Х
Ambient Barometric Pressure	X	Х	X
Precipitation	X	Х	Х
Relative Humidity	Х	Х	Х
Camera (Visibility)	Х	Х	Х
Table Notes: PM <sub>10</sub> - Particulate Matter ≤ 10 microns TEOM - Tapered Elemental Oscillating Microbalanc	e. Continuous measuri	ing monitor (1 hr averag	es).

Table 3-3 shows the NAAQS for pollutants that are currently monitored by GRIC, including ozone and PM<sub>10</sub>. Additional pollutants for which EPA has established NAAQS and that are not currently monitored by GRIC include SO<sub>2</sub>, NO<sub>2</sub>, CO, PM<sub>2.5</sub>, and Lead. GRIC continues to not have significant concerns with these additional pollutants as described within the *Introduction* section of this document. EPA periodically reviews and revises these standards based on new public health and scientific information. These revisions often require changes to air monitoring networks and methodologies.

Pollutant	Primary/ Secondary	Averaging Time	Level	Form
Ozone	primary and secondary	8-hour	0.070 PPM *	Annual fourth-highest daily maximum 8-hr concentration, averaged over 3 years
PM <sub>10</sub>	primary and secondary	24-hour	$150 \ \mu g/m^3$	Not to be exceeded more than once per year on average over 3 years

 Table 3-3. National Ambient Air Quality Standards Monitored for Pollutants by GRIC

\* October 1, 2015, the EPA promulgated revised primary and secondary eight-hour ozone NAAQS from 0.075 to 0.070 PPM.

The site types represented by each GRIC air quality monitor are shown in Table 3-4.

 Table 3-4. Site Types for Each Monitoring Station

C'4. Turne	Ozone		Particulate Matter ≤10 Microns (PM10)			
Site Type	St. Johns	Sacaton	St. Johns	Casa Blanca	Sacaton	
Highest Concentration	Х			X		
Population Exposure	Х	Х	Х	Х	Х	
Source Impacts				Х		
Background Concentrations	Х	Х	Х	X	Х	
Regional Transport	Х	X	X	Х	Х	
Welfare Impacts						

Detailed site information for each of the monitoring locations is presented in Appendix A.

### 3.2 Ozone Monitoring Network

Beginning in 2002, the Community started monitoring for ozone at two locations - one in Sacaton (District 3) and one in St Johns (District 6); both monitors operated on seasonal schedule from April through October.

The GRIC ozone monitoring network operated a year round schedule from January 1, 2016 through December 31, 2018. Both ozone monitors were reported as operational in AQS from January 1<sup>st</sup> to December 31<sup>st</sup>.

GRIC requested and received EPA-approval for a waiver to monitor ozone only on seasonal schedule (April – October) beginning April 1, 2019; GRIC continues to request annually and receive approval for a waiver which currently continues through 2025 calendar year.

#### 3.2.1 Background

The following subsections provide background information on the two ozone monitoring locations. Additional detailed information for each monitor is provided in Appendix B.

#### 3.2.1.1 Sacaton

Operated by the AQP since 2002, this site provides background and regional transport ozone monitoring on an urban scale. This site is located near the central GRIC government and business district of Sacaton, which includes four schools and a community hospital. It also provides a measurement of representative area ozone concentration for the community of Sacaton and surrounding areas. The monitor generally measures background levels of ozone during prevailing West or East winds. However, under certain wind conditions, the monitor can also detect ozone and ozone precursor transport from the Phoenix Metropolitan Area (PMA), north of the Community, in the form of elevated ozone readings. Measured concentrations at this site are often similar to those recorded at Pinal County's Casa Grande monitor (approximately 9 miles south of Sacaton).

#### 3.2.1.2 St. Johns

Initially operated by the AQP at Vee Quiva Casino (AQS Site ID 7002) in 2002 and then relocated 2 miles south to Gila Crossing Community School Administrative Campus (AQS ID TT-614-7003) in September 2004. In July 2018, site was temporarily relocated to the Komatke Health Clinic as the Gila Crossing Community School Administrative Campus was re-constructed as the new Gila Crossing Community School (grades K-8). The site was then moved permanently onto the new Gila Crossing Community School campus in August 2019. This site is located in District 6 on the southwest side of the South Mountain Range near the City of Phoenix and provides background and regional transport ozone monitoring on an urban scale. Ozone concentrations at this site exhibit strong diurnal fluctuations caused by oxides of nitrogen (NOx) and volatile organic compounds (VOC) from nearby neighboring jurisdictions in the PMA. The monitor generally measures background levels of ozone during prevailing West or East winds. However, under certain wind conditions, the monitor can also detect ozone and ozone precursor transport from the PMA, north and east of the monitor location, in the form of elevated ozone readings.

#### 3.2.2 2024 Monitoring Results Summary

The 1-hour average ozone standard was revoked by the EPA on June 15, 2005, and has been replaced by the 8-hour average standard for compliance purposes. On March 12, 2008, the EPA lowered the eight-hour ozone NAAQS from 0.080 to 0.075 ppm.

On October 1, 2015, the EPA lowered the eight-hour ozone NAAQS from 0.075 to 0.070 ppm. Compliance with the standard is determined by averaging the 4<sup>th</sup> highest of the daily maximum eight-hour average over a three-year period. This three-year average must be less than or equal to 0.070 ppm.

In 2024, there were six days where the daily maximum 8-hour ozone average exceeded the NAAQS (0.070 PPM standard) within the GRIC ozone network. In 2024, the Sacaton site and the St Johns site each had five exceedances of the 8-hour Ozone NAAQS as shown in Table 3-5 below.

	Concentration (ppm)			
Date	Sacaton	St Johns		
5/22/24	0.071*			
6/14/24	0.074*	0.071*		
7/12/24	0.079	0.077		
7/23/24	0.072	0.072		
7/26/24	0.075	0.072		
9/5/24		0.072		
* Data has been flagged as due to exceptional events (wildfires in United States)				

#### Table 3-5. 2024 8-Hour Ozone Concentrations Above the NAAQS

The 2024 fourth highest value was 0.072 PPM for both sites. Table 3-6 presents the four highest 8-hour average ozone readings for each monitor during the 2024 monitoring season (April – October).

#### Table 3-6. 2024 8-Hour Average Ozone Summary

Site	Max (PPM) Date	2nd High (PPM) Date	3rd High (PPM) Date	4th High (PPM) Date	Number of Days >0.070
St Johns	0.077	0.072	0.072	0.072	5
St Johns	7/12/2024	7/23/2024	7/26/2024	9/5/2024	5
S t	0.079	0.075	0.074*	0.072	F
Sacaton	7/12/2024	7/26/2024	6/14/2024	7/23/2024	3

\* Data has been flagged as due to exceptional events (wildfires in United States)

The 8-hour average NAAQS for ozone is violated when the three-year average of the fourth highest values for each year is greater than 0.070 PPM); the EPA defines these as the Design Values. As of the date of this report, the EPA has not issued an official concurrence with GRIC's 2022 and 2023 flagged data. Therefore, a determination of compliance with the 8-hour O<sub>3</sub> NAAQS cannot be made at this time. The fourth highest 8-hour average ozone reading for each of the past three years and the 3-year average is shown in Table 3-7. The statistical design value for the St. Johns and Sacaton site is 0.071 PPM. There are exceptional events within this 3 year period that have contributed to the design value.

#### Table 3-7. Three-Year Average of 4th Highest 8-Hour Ozone through 2024

Site	2022 4 <sup>th</sup> High (PPM)	2023 4 <sup>th</sup> High (PPM)	2024 4 <sup>th</sup> High (PPM)	3-Year Average of 4 <sup>th</sup> High (PPM)
St Johns	0.070*	0.071*	0.072	0.071*
Sacaton	0.069*	0.073	0.072*	0.071*

\* Includes data flagged as exceptional events

#### 3.3 PM<sub>10</sub> Particulate Monitoring Network

Beginning in 2002, the Community started monitoring for PM<sub>10</sub> at one location (Casa Blanca) using a Federal Reference Method (FRM), filter-based, monitor operating on a 1-in-3 day schedule. In 2013, the Community began continuous monitoring methods for PM<sub>10</sub> at all three monitoring stations (St. Johns, Casa Blanca, and Sacaton) using Federal Equivalent Method (FEM) Tapered Element Oscillating Microbalance (TEOM) monitors that provide hourly PM<sub>10</sub> averages. In 2024, all three TEOM FEM monitors were reported as operational in AQS. There are no collocation requirements for EPA-approved PM<sub>10</sub> FEM continuous monitors.

#### 3.3.1 Background

The following subsections provide background information on the three PM<sub>10</sub> monitoring locations. Additional detailed information for each monitor is provided in Appendix B of this document.

#### 3.3.1.1 Casa Blanca

This site has been operated by the AQP since 2002. This monitoring site is a neighborhood scale and representative of particulate concentrations in District 5, Casa Blanca. The site consists of one TEOM monitor. Since there are no collocation requirements for EPA-approved PM<sub>10</sub> FEM monitors, the two collocated FRM samplers (two identical monitors that sample separately) were discontinued on December 31, 2014.

This monitoring site was originally placed in one of the three most populated areas of the Community to measure source impacts from agricultural areas. Although located in a neighborhood of agricultural operations, it can be representative of other areas beyond the local jurisdictions. This monitoring station is located approximately 4 to 5 miles northeast of other PM<sub>10</sub> sources (e.g., agricultural areas and dairy operations) that are outside of the Community's boundaries and control, and may be influenced by PM<sub>10</sub> generated from those sources.

### 3.3.1.2 Sacaton and St. Johns

The Sacaton and St. Johns sites started reporting PM<sub>10</sub> data to the AQS database beginning January 1, 2013. Both sites are currently set up to monitor PM<sub>10</sub> concentrations using continuous TEOM monitors. These two sites have been approved for monitoring and reporting as established within the GRIC Quality Assurance Project Plan (QAPP). The St. Johns site is located in the Phoenix PM10 Nonattainment Area.

#### 3.3.2 2024 PM<sub>10</sub> Monitoring Results Summary

The 24-hour Primary standard for  $PM_{10}$  is 150 µg/m<sup>3</sup> (155 µg/m<sup>3</sup> with mathematical rounding). The interpretation of the standard, Appendix K to Part 50, includes rounding to the nearest 10 µg/m<sup>3</sup> (*i.e.*, values ending in 5 or greater are to be rounded up). This standard is violated when the expected number of exceedances at a monitor is more than one per year on average over three years. A formula, as detailed in 40 CFR 50, is used to determine the expected number of exceedances. The formula takes into account the number of days sampling occurred and the number of valid

samples collected. A three-year average of these estimated days is then used to determine compliance.

In 2024, there were two exceedances of the 24-hour primary standard (NAAQS) for PM<sub>10</sub>. The Casa Blanca monitor exceeded on 4/23/24 and the St. Johns monitor exceeded on 7/14/2024. GRIC has flagged both exceedances as exceptional events (see Definition of Terms) In accordance with the EPA's exceptional events policy, once approved, these data are not used in determining compliance with the NAAQS. Table 3-8 presents the summary of the 24-hour average PM<sub>10</sub> readings for each monitor in 2024.

Exceedances of the 24-hour  $PM_{10}$  NAAQS at the GRIC monitors also occurred in 2022 and 2023 which also included some flagged data due to Exceptional Events by GRIC. As of the date of this report, the EPA has not issued an official concurrence with GRIC's 2022 and 2023 flagged data. Therefore, a determination of compliance with the 24-hour  $PM_{10}$  NAAQS cannot be made at this time.

#### Table 3-8. 2024 24-Hour Average PM10 Summary

Site Name (Monitor Type)	24-hr Average Max (μg/m <sup>3</sup> )	24-hr Average 2nd High (µg/m <sup>3</sup> )	Number of 24-hr NAAQS Exceedances	Estimated Exceedances (Including Exceptional Events requested)	Annual Average (µg/m <sup>3</sup> )	No. of Exceptional Events	No. of valid days / days possible
St Johns (TEOM-POC1)	201 7/14/2024	101 10/02/2024	1*	1*	26.4‡	1	364 / 366
Sacaton (TEOM-POC1)	116 6/21/2024	113 5/6/2024	0	0	30.7	0	366 / 366
Casa Blanca (TEOM-POC3)	177 4/23/2024	126 7/14/2024	1**	1**	39.3‡	1	362 / 366
* Data has been flagged by GRIC as an exceptional event; RJ flag for high winds ** Data has been flagged as due to exceptional events; RP flag for structural fire							

<sup>‡</sup> The annual average values include exceptional events data that has not been concurred by EPA.

### 3.4 Meteorological Network

GRIC collects meteorological data at all three air monitoring sites to support the analysis of ambient air quality data and to provide support for exceptional event reporting.

### 3.5 Changes to the Network in 2024

No changes were made to the monitoring network design or instrument siting in 2024.

#### 3.6 Proposed Network Changes and Improvements

There are no planned changes to siting of the GRIC Air Monitoring Network in 2025. The GRIC Air Monitoring Network is planning or has made the following changes to the air monitoring network in 2025:

- The AQP has made a request for funding to replace existing monitoring equipment at all sites.
- The AQP plans to evaluate the PM<sub>10</sub> monitor for a potential upgrade of the existing monitors.
- The GRIC ozone monitors will continue on a seasonal schedule from April 1, 2025 through October 31, 2025. The AQP will continue to request for seasonal ozone monitoring for 2026 calendar year; a formal request with data analysis will be submitted to EPA in October 2025.

### **4 COMPLIANCE DISCUSSION**

In accordance with 40 CFR 58.10(a)(1), the following sections provide information on compliance with the requirements of Appendices A, C, D, and E of 40 CFR 58. A cross-reference of the requirements of Appendices A, C, D, and E of 40 CFR 58 and the section(s) of this report that address those requirements is included in tables provided in Appendix B of this document for all three GRIC air monitoring sites.

#### 4.1 Minimum Monitoring Requirements

Tables D-2 and D-4 in Appendix D of 40 CFR Part 58 define minimum monitoring requirements for ozone and PM<sub>10</sub>, respectively. Tables D-2 and D-4 are reproduced as Tables 4-1 and 4-2, respectively, below. The minimum monitoring requirements are based on the population of the Metropolitan Statistical Area (MSA) and the design value for each NAAQS. MSA must contain an urbanized area of 50,000 or more populations.

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						· · · · · · · · · · · · · · · · · · ·

MSA Population	Most recent 3-year design value ≥85% NAAQS	Most recent 3-year design value <85% NAAQS
>10 million	4	2
4-10 million	3	1
350,000-<4 million	2	1
50,000-<350,000	1	0

				100				
Table 1 1	DX/10		- Damina	na an Aa fan V	NT ANACA	NI	of Chationa	
<b>1</b> able 4-2.	PVIIU	vonuoring	o <b>Require</b>	menis ior N		number	OF STATIOUS	ner wisat
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MSA Population	High concentration Exceeds NAAQS by 20% or more (>180 µg/m <sup>3</sup> )	Medium concentration >80% of NAAQS (>120 µg/m <sup>3</sup> )	Low concentration < 80% of NAAQS (<120 µg/m <sup>3</sup> )
>1,000,000	6-10	4-8	2-4
500,000-1,000,000	4-8	2-4	1-2
250,000-500,000	3-4	1-2	0-1
100,000-250,000	1-2	0-1	0

It is unclear in Appendix D 40 CFR 58 how MSAs and the minimum monitoring requirements in Tables D-2 and D-4 (Tables 4-1 and 4-2) apply to sovereign tribes. Although the areas within the Community are *geographically* part of the Phoenix-Mesa-Scottsdale MSA, for purposes of the administration of Section 107 of the Clean Air Act (42 U.S.C. § 7407), except where a specific designation has been otherwise made by the Administrator, the air quality control region for the Community is all land within the exterior boundaries of the Community. Therefore, for the purposes of this document, the AQP is using the data in Tables D-2 and D-4 as reference only. The design value is a calculated value based upon the highest recorded concentration at a site in the attainment or nonattainment area. The process for computing the design value for each criteria pollutant is described in the appendices of 40 CFR Part 50. For the purpose of this document, the design values

listed are the highest calculated concentrations recorded in the Community.

The minimum monitoring requirements of 40 CFR 58 Appendix D for the ozone and PM<sub>10</sub> monitors within the Community are presented in Tables 4-3 and 4-4, respectively. The GRIC Air Quality Management Plan (AQMP) does not require a minimum number of monitors for the Community.

Population<sup>2</sup> Minimum Number of **Monitor Site:** (GRIC **Monitors Monitors** 8-hour Design Value Site Active MSA for 2022-2024 (ppm) (AQS ID) Required Needed County Census) Monitors St. Johns: 0.071<sup>A</sup> St. Johns 0.069<sup>B</sup> (TT-614-7003) Maricopa  $NA^1$  $0^{\circ}$ 0 13,504 2 0.071<sup>A</sup> Sacaton Sacaton: Pinal  $0.069^{B}$ (TT-614-7001

 Table 4-3. Minimum Monitoring Requirements<sup>1</sup> for GRIC Ozone Monitors, 2022-2024

Table Notes:

1. It is unclear in Appendix D 40 CFR 58 how MSAs apply to Tribal agencies. Although the areas within the Community are *geographically* part of the Phoenix-Mesa-Scottsdale MSA, for purposes of the administration of Section 107 of the Clean Air Act (42 U.S.C. § 7407), the air quality control region for the Community is all land within the exterior boundaries of the Community. Therefore, for the purposes of this document, the MSA is not applicable to GRIC.

- 2. Number of members who reside within GRIC, 12/31/2024 (GRIC Enrollment/Census Department).
- A. 2022, 2023, and 2024 data DV includes exceptional events (e.g., regional wildfire smoke event) data requested for regulatory concurrence.
- B. 2022, 2023, and 2024 data DV excludes exceptional events (e.g., regional wildfire smoke event) data requested for regulatory concurrence.
- C. A 3-year design value greater than 0.0595 would require one monitor for a population between 50,000 and 350,000 (smallest population group in Table 4-2). Since the GRIC population is below the lowest population range in Table 4-2 and Tribal requirements are unclear, the minimum monitoring requirements was assumed to be zero. For comparison, the population of the Phoenix-Mesa-Scottsdale MSA in 2017 estimate was 4,737,270 residents (Census Bureau), which would require a minimum of 3 monitors.

### Table 4-4. Minimum Monitoring Requirements<sup>1</sup> for GRIC PM10 Monitors, 2022-2024

MSA	Monitor Site: County	Population <sup>2</sup> (GRIC Census)	GRIC Max 24- hour Average Concentration (µg/m <sup>3</sup> )	Site (AQS ID)	Minimum Monitors Required	Number of Active Monitors	Monitors Needed
	St. Johns: Maricopa			St Johns (TT-614-7003 POC1)			
NA <sup>1</sup>	Sacaton: Pinal	13,504	145 <sup>B</sup>	Sacaton (TT-614-7001 POC1)	0 <sup>C</sup>	3	0
	Casa Blanca: Pinal		13	Casa Blanca (TT-614-7004 POC3)			

Table Notes:

- It is unclear in Appendix D 40 CFR 58 how MSAs apply to Tribal agencies. Although the areas within the Community are *geographically* part of the Phoenix-Mesa-Scottsdale MSA, for purposes of the administration of Section 107 of the Clean Air Act (42 U.S.C. § 7407), the air quality control region for the Community is all land within the exterior boundaries of the Community. Therefore, for the purposes of this document, the MSA is not applicable to GRIC.
- 2. Number of members who reside within GRIC, 12/31/2024 (GRIC Enrollment/Census Department).
- A. Max concentration includes data flagged as exceptional events. Casa Blanca site, 8/14/2022.
- B. Max concentration excludes data flagged as exceptional events. Casa Blanca site, 10/1/2023.
- C. A maximum concentration greater than 180 μg/m<sup>3</sup> would require 1-2 monitors for a population between 100,000 and 250,000 (smallest population group in Table 4-2). A maximum concentration between 120 and 180 μg/m<sup>3</sup> would require 0-1 monitors for a population between 100,000 and 250,000. Since the GRIC population is below the lowest population range in Table 4-2 and Tribal requirements are unclear, the minimum monitoring requirements was assumed to be zero. For comparison, the estimated population of the Phoenix-Mesa-Scottsdale MSA in 2017 was 4,737,270 (Census Bureau), which would require a minimum of 6-10 monitors for maximum concentrations between 120 and 180 μg/m<sup>3</sup>.

Based on the information contained in Tables 4-3 and 4-4, the GRIC monitoring network meets the minimum monitoring requirements for all criteria pollutants measured (i.e., ozone and  $PM_{10}$ ) as established in 40 CFR 58 Appendix D, Tables D-2 and D-4.

### 4.2 Data Submission Requirements

Federal regulations (Appendix A of 40 CFR 58 and 40 CFR 58.15) require air monitoring organizations to submit precision and accuracy data for the data reported to the federal database. The air monitoring precision and accuracy data for the GRIC monitors are submitted to the EPA AQS database on a quarterly basis and are up to date as of the publication of this report.

Federal regulations (40 CFR 58.15) also require the air monitoring organization to annually submit a letter certifying that data has been submitted for that year to the EPA AQS database and that the data accurately represents the air quality in the Community. The AQP certified and submitted the 2024 air monitoring data for the Community to EPA Region 9, Air Quality Analysis Office on April 30, 2025 via Email.

### 4.3 Air Quality Data

All of the GRIC ambient air monitoring stations are registered with the EPA and regularly report NAAQS criteria pollutant data to the EPA's AQS database. The data generated at these stations are public information and are available in various formats from the respective agencies. Table 4-5 below lists some popular sources for air quality data.

Agency	Address For Data Requests	Email / Internet address	Data Available
GRIC	P.O. Box 2139 Sacaton, AZ, 85147 Attn: GRIC DEQ Director	Lisa.Gover.DEQ@gric.nsn.us	GRIC Air Monitoring Data
United States Environmental Protection Agency	Ariel Rios Building 1200 Pennsylvania Avenue, N.W. Washington, DC 20460	www.epa.gov; www.epa.gov/outdoor-air-quality-data; https://aqs.epa.gov/aqsweb/documents/d ata_mart_welcome.html	National Air Monitoring Data, including GRIC data

#### Table 4-5. Sources of Ambient Air Quality Data

#### 4.4 Audits

The AQP performed audits of the monitoring equipment in 2024. The performance audit dates for the ozone monitors are shown in Table 4-6 and the semi-annual audits dates for the continuous TEOM PM<sub>10</sub> monitors are shown in Table 4-7. In addition, this information is included in Appendix B that provides detailed information of air monitoring specifications.

The GRIC network also participates in the National Performance Audit Program that is conducted by the EPA. An NPAP was conducted on 10/30/2024 at the St. Johns site for ozone and the ozone monitor passed all audit points.

Site	AQS ID	Parameter	2024 Audit Dates
Sacaton	TT-614-7001 (Tribal Monitor)	Ozone (44201)	6/12, 9/6, and 10/17
St Johns	TT-614-7003 (Tribal Monitor)	Ozone (44201)	6/13, 9/18, and 10/18

#### Table 4-6. Performance Audit Dates for GRIC Ozone Monitors

#### Table 4-7. Flow Rate Audit Dates for GRIC Continuous TEOM PM10 Monitors

	i	i	
Site	AQS ID	Parameter	2024 Audit Dates
Sacaton (TEOM)	TT-614-7001 (Tribal Monitor)	PM <sub>10</sub> (81102)	2/14, 6/12, 9/30, and 12/24
St. Johns (TEOM)	TT-614-7003 (Tribal Monitor)	PM <sub>10</sub> (81102)	3/26, 6/13, 9/18, and 12/11
Casa Blanca (TEOM)	TT-614-7004 POC3 (Tribal Monitor)	PM <sub>10</sub> (81102)	3/22, 6/11, 9/30, and 12/24

### **5 PUBLIC NOTICE**

In accordance with 40 CFR 58.10, the annual monitoring network plan must be made available for public inspection (website, hardcopy posting in libraries and public offices, and/or newspaper listing) for at least 30 days prior to submission to EPA. If an opportunity for public comment is provided, comments received must be included in the annual network plan submission.

The Gila River Indian Community DEQ presented a summary of this Network Review during District meetings beginning on April 14, 2025. In an effort to notify the public of the Network Review, the AQP published information through the following outlets:

- Public Notice posted on the GRIC DEQ website (<u>www.gricdeq.org/index.php/education--</u><u>outreach/public-notices</u>).
- Public Notice posted in the Gila River Indian Newspaper, a newspaper of general circulation in Gila River Indian Community.
- Public Notice posted on <u>www.mygilariver.com</u> and the GRIC Government Intranet.

A copy of the public announcement and handouts were posted on the GRIC DEQ website and comments and questions received are included in Appendix D.

#### 5.1 Public Meeting

The AQP presented a summary of the content of this document during the District meetings from April through June 2025. A copy of the public announcement and handouts are included as Appendix D. The comments and questions received are included in Appendix D.

## Appendix A 2022 Air Monitoring Data By Site

(Site information includes: photographs, site type and spatial scale, and population represented.)

- St. Johns
- Sacaton
- Casa Blanca

## St. Johns (SJ), TT-614-7003 (Tribal Monitor)



**Site Description:** This site has been operational since 2003. This site is located on the Gila Crossing Community School campus. This Tribal Monitoring location monitors for ozone and PM<sub>10</sub>. The spatial scale for the St. Johns site is *Neighborhood* for PM<sub>10</sub> and *Urban Scale* for ozone. It is located in a residential area. This site operates one gaseous ozone analyzer and one continuous PM<sub>10</sub> monitor that are both FEM instruments. Meteorological monitors operating at this site include: ambient temperature, barometric pressure, wind speed/direction, relative humidity, and precipitation. This site also includes two digital cameras that take 10-minute still images.

Location: 4665 W. Pecos Rd, Laveen Village, AZ 85339

Spatial Scale: Urban (O<sub>3</sub>) and Neighborhood (PM<sub>10</sub>)

Monitoring Type: Population Exposure, Highest Concentration (O<sub>3</sub>)



Pollutant	Condition	2022	2023	2024
	Max. 8-hr O <sub>3</sub> Average (PPM)	0.077*	0.076*	0.077
O3	O <sub>3</sub> # Daily Exceedances > 0.070 PPM	3	5	5
	O <sub>3</sub> 3-year Average of 4 <sup>th</sup> Highest (PPM)	0.070†	0.069†	0.072
	Max. 24-hr PM <sub>10</sub> Average (µg/m <sup>3</sup> )	259*	260*	201
PM10	Number of exceedances 24-hr PM10	4†	2†	1†
	Annual PM <sub>10</sub> Average (µg/m <sup>3</sup> )	27.6ŧ	25.5ŧ	36.4ŧ

\* Indicates an exceedance of the NAAQS

† Indicates exceptional events concurrence requested at this site and no Regional EPA assessment to date.

<sup>‡</sup> The annual average values include exceptional events data that has not been concurred by EPA.

## Sacaton (Sac), TT-614-7001 (Tribal Monitor)



**Site Description:** This site has been operational since 2002. This Tribal Monitoring location monitors for Ozone and  $PM_{10}$ . The spatial scale for the Sacaton site is *Neighborhood* for  $PM_{10}$  and *Urban Scale* for Ozone. It is located in a community residential area. This site operates one gaseous ozone analyzer and one continuous  $PM_{10}$  monitor that are both FEM instruments. Meteorological monitors operating at this site include: ambient temperature, barometric pressure, wind speed/direction, relative humidity, and precipitation. This site also includes two digital cameras that take 10 minute still images.

Location: 291 W. Casa Blanca Rd., Sacaton, AZ 85147

Spatial Scale: Urban (O<sub>3</sub>) and Neighborhood (PM<sub>10</sub>)

Monitoring Type: Population Exposure



Pollutant	Condition	2022	2023	2024
	Max. 8-hr O <sub>3</sub> Average (PPM)	0.084*	0.076*	0.079*
O3	O <sub>3</sub> # Daily Exceedances > 0.070 PPM	3	8	5
	O3 3-year Average of 4 <sup>th</sup> Highest (PPM)	0.068	0.069†	0.072†
	Max. 24-hr PM <sub>10</sub> Average ( $\mu$ g/m <sup>3</sup> )	524*	256*	116*
PM10	Number of exceedances 24-hr PM <sub>10</sub>	1†	1†	0
	Annual PM <sub>10</sub> Average ( $\mu g/m^3$ )	29.8ŧ	29.8‡	30.7

\* Indicates an exceedance of the NAAQS

† Indicates exceptional events concurrence requested at this site and no Regional EPA assessment to date.

<sup>‡</sup> The annual average values include exceptional events data that has not been concurred by EPA.

## Casa Blanca (CB), TT-614-7004 (Tribal Monitor)



Location: 3455 W. Casa Blanca Road Bapchule, AZ 85121

Spatial Scale: Neighborhood

Monitoring Type: Population Exposure, Highest concentration (PM<sub>10</sub>)

**Site Description:** This site has been operational since 2002. This Tribal Monitoring location monitors for PM<sub>10</sub>. The spatial scale for the Casa Blanca site is *Neighborhood*. It is located in a residential area and within a community elementary school property. This site operates one continuous PM<sub>10</sub> monitor that is a FEM instrument. Meteorological monitors operating at this site include: ambient temperature, barometric pressure, wind speed/direction, relative humidity, and precipitation. In addition, this site operates two digital cameras that take images every 10 minutes.



Pollutant	Condition	2022	2023	2024
	Max. 24-hr PM <sub>10</sub> Average (µg/m <sup>3</sup> )	774*	216*	177*
PM10	Number of exceedances 24-hr PM <sub>10</sub>	3†	1†	1
	Annual PM <sub>10</sub> Average (µg/m <sup>3</sup> )	39.0‡	35.4ŧ	39.3‡

\* Indicates an exceedance of the NAAQS

† Indicates exceptional events concurrence requested at this site and no Regional EPA assessment to date.

<sup>‡</sup> The annual average values include exceptional events data that has not been concurred by EPA.

Detailed information includes: compliance information regarding air monitoring technical specifications found in 40 CFR §58.10 and Appendices A, C, D, and E (QA, monitoring methods, network design, and monitor siting)

#### **Site Schematic Descriptions**

Analysis Method (filter samples only) refers to the method used to process and analyze PM and Pb filter samples.

**Distance from Supporting Structure** refers to those sample probes that are attached to a supporting structure, such as the side of a building. In most cases the sample probe is located above the supporting structure, in which case the entry will show as "N/A", aka not applicable.

**Distance from Obstructions** refers to those obstructions, both on the roof and off the roof, which are located higher than the probe. In the case of a nearby obstruction being higher than the probe, details of its location will be listed in the entry. If there are no obstructions higher than the probe, then the entry will be N/A.

**Date of Annual Performance Evaluation** refers to the last 2024 QA audit on the gaseous analyzers. These evaluations are performed by the GRIC's QA personnel. Twenty-five percent of the monitors operating within each gaseous pollutant's network are evaluated quarterly; thereby, each monitor is evaluated at least once per year as per 40 CFR Part 58, Appendix A, §3.2.2.

**Date of Semi-Annual Flow Rate Audit** refers to the last 2024 QA audit on PM monitors as per 40 CFR Part 58, Appendix A, §§ 3.2.4 and 3.3.4, respectively. These evaluations are performed by the GRIC's QA personnel at least once every six months.

Probe Sample Line Material refers to the material makeup of the intake sample lines.

**Pollutant Sample Residence Time** refers to the amount of time that it takes a sample of air to travel between the probe inlet and the bulkhead of the analyzer. This residence time is calculated by a formula that is based on the sample line's diameter and length, and the flow rate of the air intake. It is important to keep residence time low to prevent gases in the air sample from reacting with the sample line material or with other gases in the sample; i.e., O<sub>3</sub> could react with nitrogen oxides in the sample if the residence time exceeds 20 seconds.

**Traffic Count (ADT)** refers to average daily traffic of nearest major road of monitor. This number accounts for two way traffic and was pulled from the Maricopa Association of Governments (MAG) website: <u>Transportation Data Management System (ms2soft.com)</u>.

St. Johns							
GRIC ID:	SJ						
AQS ID:	ID: TT-614-7003 (Tribal Monitor Code)						
Address:	ddress: 4665 W. Pecos Rd., Laveen Village, AZ 85339						
Coordinates:	N 33° 17' 25.05", W 112° 09' 37.74"; (elevation 1	057 ft)	1				
- General Inf	ormation						
Pollutant (para	meter code)	O <sub>3</sub> (44201)	PM <sub>10</sub> (81102)				
Parameter Occu	urrence Code (POC)	1	1				
Sampling Sche	dule	Continuous	Continuous				
Analysis Metho	od (filters only)	N/A	N/A				
Any Proposal to	o Remove or Move Monitor?						
	De preference este	N/A	IN/A				
-Appendix A	Requirements	20	20				
# Precision Che	dita Danformed Annually	20	28				
# Accuracy Au	ans Performed Annually & Date of Last Check on	3, 10/18/2024	4, 0/18 & 12/11/2024				
All Provision/A	acuracy Penerts Submitted to AOS2	10/10/2024 Vas	Vos				
Annual Data C	ertification Submitted	1 cs A pril 30 2025	1 cs April 30, 2025				
Encourage of C	and Parint OC Chaols	Di Waaldy	April 50, 2025				
Frequency of C	low Pate Verification	DI-Weekiy	Ri Weekly				
Appendix C	Poquiromonts	N/A	DI-WCCKIY				
-Appendix C	& Model (method code)	TADI T400 (087)	TEOM 1405 (070)				
Data Establishe	ad Woder (method code)	03/24/2003	1201/01/2013				
Date Establishe		03/24/2005 Tribal	01/01/2013 Tribal				
Montor Type							
Method (FRM,	FEM, ARM)	FEM	FEM				
-Appendix D	Requirements						
Site Type		Population Exposure	Populations Exposure				
Basic Monitor	ing Objective	NAAQS Comparison	NAAQS Comparison				
Monitoring Sca	lle	Urban	Neighborhood				
Sampling Sease	on	April - October	January – December				
Network Meets	Minimum Number of Monitors Required?	Yes	Yes				
-Appendix E	Requirements						
Distance betwe	en collocated samplers	N/A	N/A				
Probe Inlet Hei	ght	4.6 meters	4.7 meters				
Airflow Arc		360 degree	360 Degree				
Probe Sample I	Line Material for reactive gases	Teflon	NA				
Pollutant Samp	le Residence Time	7.54 seconds	NA				
Distance from	Supporting Structure	NA	NA				
Distance from	Obstructions	43 meters (building,	43 meters (building,				
		below probe)	below probe)				
Distance to Fur	mace Flue	None	None				
Spacing from T	rees	10 meters	12 meters				
Nearest Major	Roadway	Pecos Road	Pecos Road				
Distance and D	irection to Road	17 meters North	17 meters North				
Traffic Count (		2706 (2023)	2706 (2023)				
Groundoover		Pavement and	Pavement and				
STOULIGEOVEL		decomposed granite	decomposed granite				
1		accomposed Siume	accomposed Stunite				

Sacaton						
GRIC ID: Sac						
AQS ID: TT-614-7001 (Tribal Monitor Code)						
Address: 291 W. Casa Blanca Rd., Sacaton, AZ 85147	1000 0					
Coordinates: N 33° 04' 53.82", W 111° 45' 08.02"; (elevatio	n 1289 ft)					
- General Information	0 (11201)	$\mathbf{D}(\mathbf{r}_{1}, \mathbf{r}_{2})$				
Pollutant (parameter code)	O <sub>3</sub> (44201)	PM <sub>10</sub> (81102)				
Parameter Occurrence Code (POC)	1	1				
Sampling Schedule	Continuous	Continuous				
Analysis Method (filters only)	N/A	N/A				
Any Proposal to Remove or Move Monitor?	No	No				
Is site suitable for comparison to PM <sub>2.5</sub> NAAQS?	N/A	N/A				
-Appendix A Requirements						
# Precision Checks Performed Annually	21	28				
# Accuracy Audits Performed Annually& Date of Last Check	3,	3,				
on Gaseous Analyzers & Last Two Checks for PM	10/17/2024	9/30/2024 & 12/24/2024				
All Precision/Accuracy Reports Submitted to AQS?	Yes	Yes				
Annual Data Certification Submitted	April 30, 2025	April 30, 2025				
Frequency of One-Point QC Check	Bi-Weekly	N/A				
Frequency of Flow Rate Verification	N/A	Bi-Weekly				
-Appendix C Requirements						
Sampler Make & Model (method code)	TAPI T400 (087)	TEOM 1405 (079)				
Date Established	07/01/2002	01/01/2013				
Monitor Type	Tribal	Tribal				
Method (FRM, FEM, ARM)	FEM	FEM				
-Appendix D Requirements						
Site Type	Population Exposure	Population Exposure				
Basic Monitoring Objective	NAAQS Comparison	NAAQS Comparison				
Monitoring Scale	Urban	Neighborhood				
Sampling Season	April – October	January – December				
Network Meets Minimum Number of Monitors Required?	Yes	Yes				
-Appendix E Requirements						
Distance between collocated samplers	N/A	N/A				
Probe Inlet Height	4.6 meters	4.7 meters				
Airflow Arc	360 degree	360 Degree				
Probe Sample Line Material for reactive gases	Teflon	NA				
Pollutant Sample Residence Time	6.4 seconds	NA				
Distance from Supporting Structure	NA	NA				
Distance from Obstructions	17 meters (tree to NE, 2	17 meters (tree to NE, 2				
	meters above probe)	meters above probe)				
Distance to Furnace Flue	None	None				
Spacing from Trees	17 meters	17 meters				
Nearest Major Roadway	Casa Blanca Rd	Casa Blanca Rd				
Distance and Direction to Road	153 meters, North	153 meters, North				
Traffic Count (ADT)	4,646 (2023)	4,646 (2023)				
Groundcover	Gravel and natural soil	Gravel and natural soil				

Casa Blanca						
GRIC ID: CB						
D: TT-614-7004 (Tribal Monitor Code)						
Ussa Blanca/ Preschool Koad, Bapchule, AZ 85221						
Coordinates: N $33^{\circ}$ 07 $03.14^{\circ}$ , W $111^{\circ}$ $53^{\circ}$ 08.93 $^{\circ}$ ; (elevation 1209 ft)	[					
- General Information	DV (01102)					
Pollutant (parameter code)	$PM_{10}(81102)$					
Parameter Occurrence Code (POC)	3					
Sampling Schedule	Continuous					
Analysis Method (filters only)	N/A					
Any Proposal to Remove or Move Monitor?	No					
Is site suitable for comparison to PM <sub>2.5</sub> NAAQS per Part 58.30?	N/A					
-Appendix A Requirements						
# Precision Checks Performed Annually	28					
# Accuracy Audits Performed Annually & Date of Last Two Checks for PM	4,					
	9/30 & 12/24/2024					
All Precision/Accuracy Reports Submitted to AQS?	Yes					
Annual Data Certification Submitted	April 30, 2025					
Frequency of One-Point QC Check	N/A					
Frequency of Flow Rate Verification	Bi-Weekly					
-Appendix C Requirements						
Sampler Make & Model (method code)	TEOM 1405 (079)					
Date Established	July 1, 2002					
Monitor Type	Tribal					
Method (FRM, FEM, ARM)	FEM					
-Appendix D Requirements						
Site Type	Population Exposure					
Basic Monitoring Objective	NAAQS Comparison					
Monitoring Scale	Neighborhood					
Sampling Season	January - December					
Network Meets Minimum Number of Monitors Required?	Yes					
-Appendix E Requirements						
Distance between collocated samplers	N/A					
Probe Inlet Height	4.7 meters					
Airflow Arc	360 Degree					
Probe Sample Line Material for reactive gases	NA					
Pollutant Sample Residence Time	NA					
Distance from Supporting Structure	NA					
Distance from Obstructions	20 meters (canony/ shade to southeast					
	2 meters above probe)					
Distance to Furnace Flue	NA					
Spacing from Trees	9 meters (tree to East, 2 meters above					
shared row more	probe)					
Nearest Major Roadway	Casa Blanca Road					
Distance and Direction to Road	21 meters, to north					
Traffic Count (ADT)	5,162 (2023)					
Groundcover	Pavement and gravel					

- EPA Letter of Approval for GRIC's 2023 Air Monitoring Network Review and 2024 Plan, includes:
  - EPA Response / Approval Cover Letter dated October 28, 2024.
  - 2023 Annual Monitoring Network Plan Checklist for GRIC Performing Regulatory Monitoring (Not attached).
- Approval of O<sub>3</sub> Seasonal Waiver for St. Johns and Sacaton O<sub>3</sub> Monitors dated January 14, 2025.

#### Figure C-1. EPA Letter of Approval for GRIC's 2023 Air Monitoring Network Review and 2024 Plan dated October 28, 2024.



#### Figure C-2. Approval of O<sub>3</sub> Seasonal Waiver for St. Johns and Sacaton O<sub>3</sub> Monitors dated January 14, 2025.



## Appendix D Public Notice and Comment Information

- 1. Figure D-1. Public Meeting PowerPoint Presentation Slides and Handouts (6 pages)
- 2. Figure D-2. Public Meeting Handout (3 page FAQ Sheet).
- 3. Table D-1. Public comments and questions received.

Figure D-1. Public Meeting PowerPoint Presentation Slides and Handouts (6 pages):





#### **GRIC Air Monitoring Network** AVONDALE PHOENIX Monitoring Station 10 TEMPE GUADALUPE AHMATUKEE CHANDLER GILBERT St. Johns SUN LAKES (Komatke) 4 JEEN CREEK Sacaton 6 Casa Blanca 1 FLORENCE 5 MARICOPA COOLIDGE CASA GRANDE

## 🔆 Air Monitoring Network Plan

Requirement for Regulatory Monitoring

Includes

- Description of Air Monitoring Network (AMN)
- Review of 2024 Performance/Data/Changes
- Recommendations for 2024 Network Changes
- Requires 30-Day Public Comment Period
- Plan due to US EPA by July 1, 2024

## 🔆 Air Monitoring Network Plan

- Requirement for Regulatory Monitoring
- Includes
  - Description of Air Monitoring Network (AMN)
  - Review of 2024 Performance/Data/Changes
- Recommendations for 2024 Network Changes
- Requires 30-Day Public Comment Period
- Plan due to US EPA by July 1, 2024



### 2024 Summary

- 98-100% Data Completeness (Valid Data)
- Seasonal Monitoring for Ozone
  - April October
- No changes to monitoring network



## 2025 Activities

- Continue Seasonal Ozone Monitoring
   April October
- · Procure new monitoring equipment
- Training new staff
- · Grant to replace monitoring equipment
  - 2025 -2026

AIR QUALITY INDEX



## The Air Quality Index (AQI)

- Indicator of how clean (or polluted) the air is
  - Colors associated with health affects/action steps
- Orange ~ Exceedance of National Ambient Air Quality Standard (NAAQS)



×	2024 P	M10 Result	:s	
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		A Descent concernence of the		
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oderate bealthy range	55 - 154 µg/m <sup>3</sup>	The second second		
healthy for Sensitive Gro	aps 155 - 254 µg/m <sup>2</sup>	The NAAQS for PM10	s 150 µg/m3	
OR ADD DOT	255 - 354 pg/m <sup>1</sup>			
ry Unhealthy	355 - 424 pp/m <sup>3</sup>			
randous	425 - 604 µg/m?			
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## **Contact Information**

AQP Staff: Ryan Eberle Leroy Williams Jay Johnson Lorrie Yazzie Mariah Clark

Tison Gill Outreach Specialist (520) 610-9950 Tison, Gill DEO @aric, nsn us DEQ Air Quality Office: 124 Skill Center Rd. Sacaton, AZ 85147 Sir Qeric, non up



Figure D-2. Public Meeting Handout (3 page FAQ Sheet):





#### Gila River Indian Community 2024 Ambient Air Quality Monitoring Network Review FAQ Sheet

#### What is an Ambient Air Quality Monitoring Network Review?

It is a document that describes the air monitoring network for the Community including monitor types, background information, summary of annual monitoring results, and changes and future recommendations to the monitoring network. This annual document identifies the purpose of each monitor and provides evidence that the operation of each monitor meet the requirements in the Federal Regulations. In other words, it fulfills requirements needed for a regulatory air monitoring program.

#### What are the pollutants monitored in our network?

GRIC Department of Environmental Quality (DEQ) Air Quality Program(AQP) operates air quality monitors that record ambient concentrations of two criteria air pollutants- particulate matter less than or equal to 10 microns (PM<sub>10</sub>) and ozone (O<sub>3</sub>).

#### What are Criteria Air Pollutants?

Criteria Air Pollutants are those that the United States Environmental Protection Agency (EPA) has defined as a potential risk to human health and the environment. These six common air pollutants include particulate matter, ground-level ozone, carbon monoxide, lead, sulfur dioxide, and nitrogen dioxide. Due to the health risks of these pollutants, EPA has set National Ambient Air Quality Standards (NAAQS) for them.

#### Why do we only monitor two of the six criteria air pollutants?

The Clean Air Act (CAA) requirements are designed for high population areas and emission sources. Consequently, GRIC and other tribes do not fit all of the CAA monitoring requirements. Furthermore, tribes are not required to conduct ambient air monitoring, GRIC does not monitor for these pollutants because they have been found, through discrete sampling and emission inventories, to be at background ambient (outdoor) air quality concentrations. Additionally, GRIC does not have major stationary pollution sources that emit these particular criteria pollutants that may significantly affect the NAAQS within GRIC jurisdiction.

#### What is the NAAQS?

The National Ambient Air Quality Standards (NAAQS) are intended to protect public health and welfare by setting limits on the allowable level of each criteria pollutant in the ambient air. These standards, also known as public health standards, were developed through scientific-based studies that indicate the level or amount of air in which the public can safely breathe. The NAAQS for Ozone (O<sub>1</sub>) is 0.070 parts per million (ppm) based on the annual fourth-highest daily maximum 8-hr concentration, averaged over 3 years. The NAAQS for PM<sub>10</sub> is to not exceed 150 micrograms per cubic meter (µg/m3) more than once per year on average over 3 years.

#### What is Particulate Matter?

It is particle pollution that comes from many different types of sources. Coarse particles (between 2.5 and 10 micrometers) that GRIC monitors come from crushing and grinding operations, road dust, and agricultural operations. Particulate matter can be a problem at any time of the year and can cause serious health problems (asthma attacks, heart attacks, and strokes).

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#### What is Ozone?

Ozone is a colorless gas found in the air we breathe. Ozone can be good or bad, depending where it occurs. Good ozone is present in the Earth's upper atmosphere shielding us from the sun's harmful ultraviolet rays. Bad ozone is present at ground level, where we breathe, because it can harm human health. Ozone forms when two types of pollutants (VOCs and NO.) react in sunlight, usually on hot summer days. These pollutants come from sources such as vehicles, industries, power plants, and products like solvents and paints.

#### Where are the GRIC ambient air monitors located?

There are currently three permanent ambient air monitoring stations within the Community.

- St. Johns (SJ) (District 6) located in a residential area within Gila Crossing Community School property. This site location monitors for Ozone and PM<sub>10</sub>.
- Casa Blanca (CB) (District 5) located in a residential area within the former Casa Blanca Community School property. This site location monitors for PM<sub>10</sub>.
- Sacaton (Sac) (District 3) located within the GRIC Office of Land Use Planning and Zoning. This site location monitors for Ozone and PM<sub>10</sub>.

Meteorological data is collected at all three air monitoring sites which include measurements of ambient temperature, barometric pressure, wind speed/direction, relative humidity, and precipitation.

#### Why are they located there?

Air monitoring sites are strategically based throughout the Community to provide data that meets monitoring objectives: Highest Concentrations, Population Exposure, Source Impacts, Background Concentrations, Regional Transport, and Welfare Impacts. For example, the Casa Blanca site analyzes for PM<sub>10</sub> in the agricultural center of the Community and all three monitors are placed in locations within the highest population centers on the Community.

#### How does the 2024 Ozone monitoring data compare with previous years' data?

Compliance with the ozone NAAQS is determined by averaging the annual fourth highest concentration for the previous three years. The 4<sup>th</sup> highest concentration for both sites in 2024 was 0.072 ppm. Therefore, the average of the 4<sup>th</sup> highest values over the last three years is 0.71 ppm for both sites. As shown in the right figure below, the ozone design value has been trending upward since 2020, however, it's important to note that design values include days that may have been impacted by exceptional events (e.g., wildfires).



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#### How does the 2024 PM10 monitoring data compare with previous years' data?

Looking at the PM<sub>10</sub> graphs below, one can see the PM10 <u>annual average concentrations</u> are similar to last year and significantly lower than 2016-2018. Also, there was one exceedance at St. Johns in 2024 and no exceedances from Sacaton or Casa Blanca. In order to be compliant with the PM10 NAAQS, each monitoring site must not have more than one daily exceedance per year over a three-year period. The three-year average exceedance is known as the <u>design value</u>. From 2013 to 2022, each of the three sites has a design value greater than one as shown in the chart below. For 2023 the design value for Sacaton is 1 and for 2024 it is below 1. It's important to note that both figures below include flagged data for exceptional events in the calculation.



#### What are Exceptional Events and how do they impact the data?

An exceptional event is uncontrollable and caused by natural sources of pollution or an event that is not expected to recur at a given location. The AQP assesses any exceedances and makes an initial determination whether or not they may have been caused by an exceptional event. Those events that are determined to be exceptional are then flagged by the AQP in the AQS database. If EPA concurs that the events are exceptional, then the exceedances are removed from the calculation to determine compliance with the NAAQS.

#### Is the air getting cleaner?

This is a difficult question to answer because there are so many variables to factor in from year-to-year. Based on the ozone graphs above, ozone concentrations appear to be on an upward trend. However, ozone on the Community is largely influenced by the Phoenix metropolitan area, commuter traffic through the Community, day of the week, and weather conditions. A period of hot, stagnant air can easily cause ozone concentrations to become elevated. Similarly,  $PM_{ab}$  measurements are influenced by weather and local and upwind activities within the area (such as agriculture and construction). A warmer, drier season means less moisture in the soil, which may make smaller soil particles (e.g.,  $PM_{ab}$ ) more susceptible to entrainment at lower wind speeds. Based on the  $PM_{ab}$  graphs above, the  $PM_{ab}$  concentrations appear to be on a stable or downward trend; however, this data also includes the exceptional events.

#### Can we get a monitor in our district?

Regulatory air quality monitors are expensive to operate and maintain and the EPA continually places additional requirements and responsibilities on air monitoring programs. Additionally, the existing air monitoring stations already exceeds the minimum monitoring objectives outlined in Federal regulations. Therefore, there are currently no plans to expand the monitoring network. In the future, pending the availability of resources, the AQP may be able to conduct short-term informational monitoring in other Districts in the Community.

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District	Date	Comments / Questions Received
1	4/14/25	District 1 Community Meeting in-person.
		<ol> <li>The summer temperatures, with no breeze, I don't see the Phoenix smog. Does this mean the air quality is good?</li> <li>How about District 1 for an air monitor? District 1 does have sand and gravel sources, Pinal County has dust sources and impacts the environmental quality. And there are off reservation sources like Cal Portland next to District 1.</li> <li>There are construction sites on canal projects that make a lot of dust. Near Blackwater School and the fire station.</li> <li>Are we going to set an air monitor in District 1?</li> <li>We did not allow or approve of sand and gravel here in District 1. How did they get that approved?</li> </ol>
2	6/2/25	<ul> <li>District 2 Community Meeting in-person.</li> <li>1. You say there is generally good air quality in the Community, but there are windy and dusty days more often than not. Those of us with respiratory issues or asthma feel the effects of what doesn't feel like good air quality. How does that coincide with what the data says?</li> <li>2. I remember Tison mentioning there would be flags in certain places within the Community that represent the Air Quality on any given day, where are those flags located?</li> <li>3. Are you still mitigating dust and how are you doing so?</li> </ul>
3	4/15/25	<ul> <li>District 3 Community Meeting in-person with Zoom option available.</li> <li>Presentation made in-person.</li> <li>1. How does lifestyle impact emissions (specifically related to reliance on automobiles compared to horses)?</li> <li>2. Comment regarding the need to specify what "sensitive groups" are.</li> <li>3. How much worse (percentage) can we expect the air quality to get if current conditions persist?</li> <li>4. What opportunities are available for young people to work at DEQ?</li> <li>5. Sometimes your cameras pick up cool lightning strikes. Is it possible to get those pictures?</li> </ul>
4	5/19/25	<ul><li>District 4 Community Meeting in-person.</li><li>1. Why is ozone being monitored only part of the year when we can see pollution in the Community year-round?</li></ul>

Table D-1.	Summary of	comments and	questions	received	from	GRIC	members	and	visitors.
	-		1						

		2. Potential impacts from the Phoenix Metro Area (PMA) were discussed.
		What about potential impacts from other areas such as Tucson or
		Maricopa?
5	4/14/25	District 5 Community Meeting in-person.
		1. What do you do on bad days for PM10?
		2. How do you get the numbers down?
		3. Do the sites have sensors for humidity?
6	TBD	District 6 Community Meeting in-person.
7	4/14/25	District 7 Community Meeting in-person.
		1. On the 2025 FAQ Sheet, the red line represents the Ozone standard and
		the graph shows that we exceeded it in 2024. What contributed to that?
		2. (Based on response to question 1) So does the graph indicate the
		majority of the year exceeded the standard?
		3. In District 7, should we be looking at the St. Johns monitor for
		information or should we be looking at Maricopa County data?