
Gila River Indian Community 2016 AMBIENT AIR MONITORING NETWORK REVIEW



**Gila River Indian Community
Department of Environmental Quality
Air Quality Air Monitoring Program**

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- A 2016 Air Monitoring Data by Site
- B EPA-Required Site Metadata
- C Public Meeting Presentation Slides

DEFINITION OF TERMS

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 th 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. $\mu\text{g}/\text{m}^3$. 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
$\mu\text{g}/\text{m}^3$:	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_2:	Nitrogen dioxide.
NO_x:	Nitrogen oxides. Sum of nitric oxide (NO), NO_2 , and other nitrogen-containing compounds.
PM:	Particulate matter. Material suspended in the air in the form of minute solid particles or liquid droplets.
PM10:	Particulate matter of 10 microns in diameter or smaller.
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.
TEOM:	Tapered Element Oscillating Microbalance. A continuous particulate measuring instrument used by the AQP to measure PM ₁₀ .
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 _x in the presence of sunlight to create ground-level ozone pollution.

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 SLAMS, SPMs, and PSD (Prevention of Significant Deterioration) Air Monitoring
- 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

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 (PM₁₀) and ozone (O₃). 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_{2.5}), carbon monoxide (CO), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), 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 USEPA. 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 2016 monitoring results, changes to the monitoring network in 2016, 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 District meetings.

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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:

- Highest Concentration – Sites to determine the highest concentration expected to occur in the area covered by the network;
- Population Exposure – Sites to determine representative concentrations in areas of high population density;
- Source Impacts – Sites to determine the impact on ambient pollution levels of significant sources or source categories;
- Background Concentrations – Sites to determine general background concentration levels;
- Regional Transport – Sites to determine the extent of regional pollutant transport among populated areas, and in support of secondary standards; and
- Welfare Impacts – 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:

- Micro Scale - An area of uniform pollutant concentrations ranging from several meters up to 100 meters.
- Middle Scale – Uniform pollutant concentrations in an area of about 110 meters to 0.5 kilometer.

- Neighborhood Scale – An area with dimensions in the 0.5 to 4 kilometer range.
- Urban Scale – Citywide pollutant conditions with dimensions of from 4 to 50 kilometers.
- Regional Scale – An entire rural area of the same general geography (that ranges 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.

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

3 GILA RIVER INDIAN COMMUNITY AMBIENT AIR MONITORING NETWORK

3.1 General

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

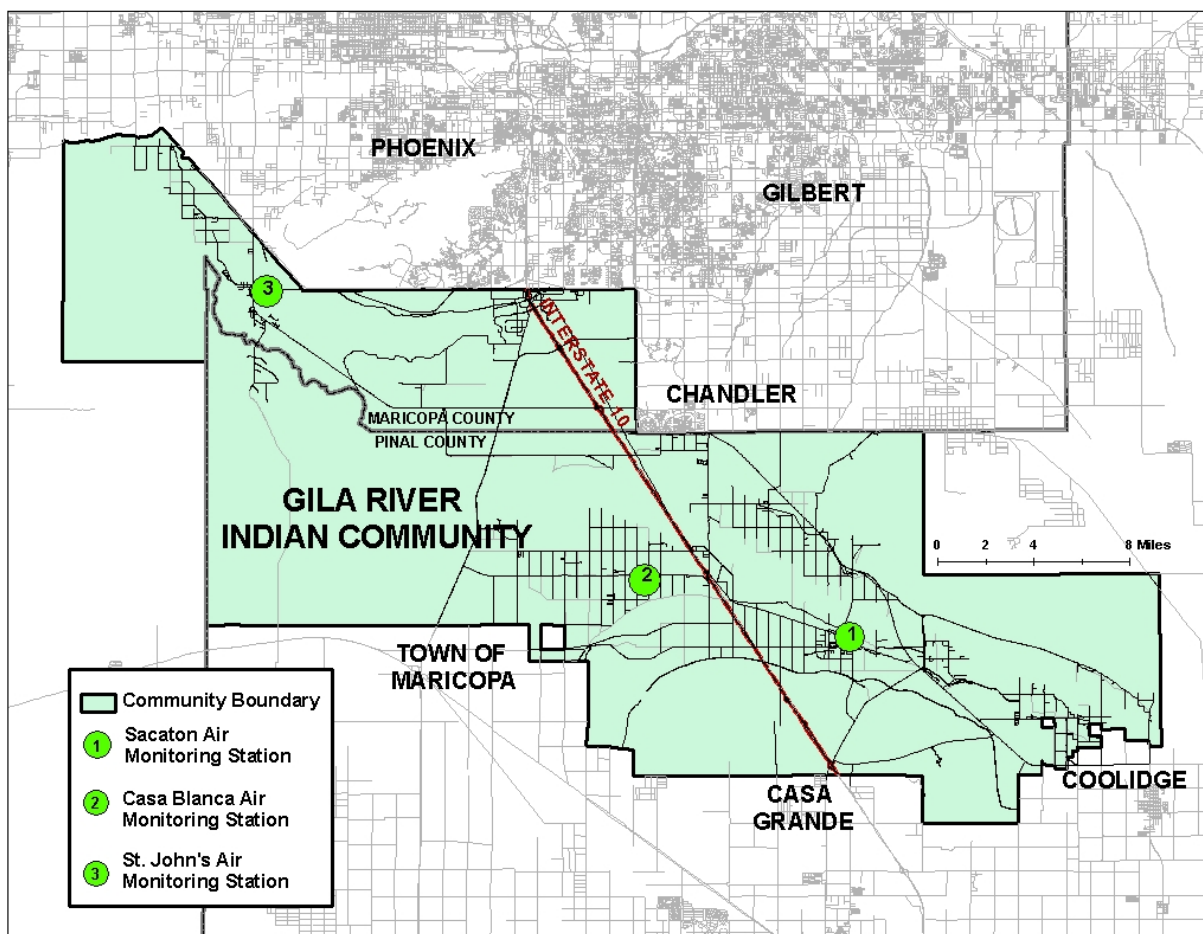


Figure 3-1: Map of Ambient Air Monitoring Stations on Gila River Indian Community

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.

Table 3-1. GRIC Ambient Air Monitoring Sites for 2016

Name	GRIC Abbreviation	AQS ID
St. Johns	SJ	04-013-7003 and TT-614-7003 (Tribal Monitor)
Sacaton	Sac	04-021-7001 and TT-614-7001 (Tribal Monitor)
Casa Blanca	CB	04-021-7004 and TT-614-7004 (Tribal Monitor)

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

Table 3-2. Ambient Air Quality Parameters Monitored at Each Station

Parameter	Monitoring Station		
	St. Johns	Casa Blanca	Sacaton
Ozone	X		X
PM ₁₀ (TEOM)	X	X	X
Wind Speed	X	X	X
Wind Direction	X	X	X
Ambient Temperature	X	X	X
Ambient Barometric Pressure	X	X	X
Precipitation	X	X	X
Relative Humidity	X	X	X
Camera (Visibility)		X	X
Table Notes: PM ₁₀ - Particulate Matter ≤ 10 microns TEOM - Tapered Elemental Oscillating Microbalance. Continuous measuring monitor (1 hr averages).			

Table 3-3 shows the NAAQS for pollutants that are currently monitored by GRIC, including ozone and PM₁₀. Additional pollutants for which EPA has established NAAQS and that are not currently monitored by GRIC include sulfur dioxide, nitrogen dioxide, carbon monoxide, PM_{2.5}, 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.

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

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 ₁₀	primary and secondary	24-hour	150 µg/m ³	Not to be exceeded more than once per year on average over 3 years

* 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 air quality monitor are shown in Table 3-4.

Table 3-4. Site Types for Each Monitoring Station

Site Type	Ozone		Particulate Matter ≤10 Microns (PM10)		
	St. Johns	Sacaton	St. Johns	Casa Blanca	Sacaton
Highest Concentration	X			X	
Population Exposure	X	X	X	X	X
Source Impacts				X	
Background Concentrations	X	X	X	X	X
Regional Transport	X	X	X	X	X
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). In 2016, both ozone monitors were reported as operational in AQS. Before 2016, the GRIC ozone monitors were only operational during ozone season (April to October).

GRIC started monitoring ozone, at both GRIC sites, on an annual schedule beginning January 1, 2016. GRIC will monitor on an annual schedule throughout 2017 and a data review will be performed in June 2017 for seasonal monitoring reconsideration.

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 a regional 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 the right 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 ID 7002) in 2002 and then relocated 2 miles south to Gila Crossing Middle School (AQS ID 7003) in September 2004. 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 a regional scale. Ozone concentrations at this site exhibit strong diurnal fluctuations caused by oxides of nitrogen (NO_x) and volatile organic compounds (VOC) from nearby neighboring jurisdictions in the City of Phoenix. The monitor generally measures background levels of ozone during prevailing West or East winds. However, under the right 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 2016 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.

Then again 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 4th highest eight-hour average over a three-year period. This three-year average must be less than or equal to 0.070 ppm.

There were no exceedances, at either GRIC site, of the 8-hour primary standard (NAAQS) ozone in 2016. Table 3-5 presents the four highest 8-hour average ozone readings for each monitor during the 2016 monitoring season (January – December).

Table 3-5. 2016 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	0.068 5/3/2016	0.067 5/28/2016	0.065 5/27/2016	0.065 7/30/2016	0
Sacaton	0.069 7/20/2016	0.068 7/30/2016	0.067 7/21/2016	0.066 5/27/2016	0

In 2016, there were no violations of the 8-hour average NAAQS for ozone (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 fourth highest 8-hour average ozone reading for each of the past three years and the 3-year average is shown in Table 3-6.

Table 3-6. Three-Year Average of 4th Highest 8-Hour Ozone

Site	2014 4 th High (PPM)	2015 4 th High (PPM)	2016 4 th High (PPM)	3-Year Average of 4 th High (PPM)
St Johns	0.069	0.067	0.065	0.067
Sacaton	0.066	0.064	0.066	0.065

3.3 PM₁₀ Particulate Monitoring Network

Beginning in 2002, the Community started monitoring for PM₁₀ 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 PM₁₀ 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 PM₁₀ averages. In 2016, all three TEOM FEM monitors were reported as operational in AQS. There are no collocation requirements for EPA-approved PM₁₀ FEM monitors.

3.3.1 Background

The following subsections provide background information on the three PM₁₀ monitoring locations. Additional detailed information for each monitor is provided in Appendix B.

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 PM₁₀ 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 PM₁₀ sources (e.g., agricultural areas and dairy operations) that are outside of the Community's boundaries and control, and may be influenced by PM₁₀ generated from those sources.

3.3.1.2 Sacaton and St. Johns

The Sacaton and St. Johns sites started reporting PM₁₀ data to the AQS database beginning January 1, 2013. Both sites are currently set up to monitor PM₁₀ 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).

3.3.2 2016 Monitoring Results Summary

The 24-hour Primary standard for PM₁₀ is 150 µg/m³ (155 µg/m³ with mathematical rounding). The interpretation of the standard, Appendix K to Part 50, includes rounding to the nearest 10 µg/m³ (*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 3-year average of these estimated days is then used to determine compliance.

In 2016, there were 15 exceedances of the 24-hour primary standard (NAAQS) for PM₁₀ from a combination of the three (3) PM₁₀ monitors, and GRIC violated the PM₁₀ NAAQS on thirteen (13) days in 2016 (some exceedances at different monitors occurred on the same day). However, GRIC has flagged all 15 of the exceedances as *exceptional events* (see Definitions 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 3-7 presents the summary of the 24-hour average PM₁₀ readings for each monitor in 2016.

Exceedances of the 24-hour PM₁₀ NAAQS at the GRIC monitors also occurred in 2014 and 2015 and were flagged as Exceptional Events by GRIC. As of the date of this report, the EPA has not issued an official concurrence with GRIC's 2014 and 2015 data. Therefore, a determination of compliance with the 24-hour PM₁₀ NAAQS cannot be made at this time.

Table 3-7. 2016 24-Hour Average PM10 Summary

Site Name (Monitor Type)	24-hr Average Max ($\mu\text{g}/\text{m}^3$)	24-hr Average 2nd High ($\mu\text{g}/\text{m}^3$)	Number of 24-hr NAAQS Exceedances	Estimated Exceedances (Including Exceptional Events requested)	Annual Average ($\mu\text{g}/\text{m}^3$)	No. of Exceptional Events	No. of valid days / days possible
St Johns (TEOM)	218* 4/15/2016	211* 4/25/2016	2*	2	33.8†	2	363 / 366
Sacaton (TEOM)	201* 7/29/2016	171* 1/31/2016	5*	5	40.2†	5	356 / 366
Casa Blanca (TEOM-POC3)	228* 9/26/2016	207* 7/29/2016	8*	8.1	52.0†	8	357 / 366
* Data has been flagged by GRIC as an Exceptional Event. †The annual average values include exceptional events data that has not been concurred by EPA.							

3.4 Meteorological Network

GRIC DEQ 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 2016

The following changes were made to the monitoring network in 2016:

- The Sacaton Site (TT-614-7001) was relocated to the EPA-approved site on April 1, 2016 for ozone (44201) and PM₁₀ (81102). This request and approval was documented in the 2015 Air Monitoring Network Review.
- There were no changes made to the GRIC PM₁₀ Monitoring Network in 2016.
- GRIC started monitoring ozone on an annual schedule, January 1st to December 31st, in 2016.

3.6 Proposed Network Changes and Improvements

The GRIC Air Monitoring Network plans to make the following changes to the air monitoring network during the latter half of 2017:

- The Sacaton Site will be relocated 0.69 miles west from the current location. The GRIC District 3 Service Center (local municipality) plans to develop the area where the site is located. A request for approval to USEPA Region 9 has been prepared. The AQP plans to complete relocation to the new site by end of calendar year 2017.
- A request for traditional seasonal ozone monitoring between April 1st and October 31st has been prepared by the AQP. Pending approval by EPA, the AQP plans to implement

the traditional seasonal ozone monitoring in 2018 (April 1, 2018 through October 31, 2018). GRIC DEQ Air Monitoring Network will complete the 2017 annual monitoring schedule by December 31, 2017.

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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 PM₁₀, 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.

Table 4-1. Ozone Monitoring Requirements for SLAMS (Number of Stations per MSA)

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

Table 4-2. PM10 Monitoring Requirements for SLAMS (Number of Stations per MSA)

MSA Population	High concentration Exceeds NAAQS by 20% or more (>180 µg/m ³)	Medium concentration >80% of NAAQS (>120 µg/m ³)	Low concentration < 80% of NAAQS (<120 µg/m ³)
>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 guidance.

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 PM10 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.

Table 4-3. Minimum Monitoring Requirements¹ for GRIC Ozone Monitors, 2014-2016

MSA	Monitor Site: County	Population ² (GRIC Census 2016)	8-hour Design Value for 2014-2016 (ppm)	Site (AQS ID)	Minimum Monitors Required	Number of Active Monitors	Monitors Needed
NA ¹	St. Johns: Maricopa	12,633	0.067	St. Johns (TT-614-7003)	0 ^A	2	0
	Sacaton: Pinal		0.065	Sacaton (TT-614-7001)			

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, 12/31/2016.
- A. 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 2010 was 4,192,887 (according to the 2010 census), which would require a minimum of 3 monitors.

Table 4-4. Minimum Monitoring Requirements¹ for GRIC PM10 Monitors, 2014-2016

MSA	Monitor Site: County	Population ² (GRIC Census 2016)	Max Concentration ($\mu\text{g}/\text{m}^3$)	Site (AQS ID)	Minimum Monitors Required	Number of Active Monitors	Monitors Needed
NA ¹	St. Johns: Maricopa	12,633	325 ^A 154 ^B	St Johns (04-013-7003 and TT- 614-7003 POC1)	0 ^C	3	0
	Sacaton: Pinal			Sacaton (TT-614-7001 and TT- 614-7001 POC1)			
	Casa Blanca: Pinal			Casa Blanca (TT-614-7004 and TT- 614-7004 POC3)			

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, 12/31/2016.
- A. Max concentration including data flagged as exceptional events. CB site, 4/26/2014.
- B. Max concentration excluding data flagged as exceptional events. Sac site, 7/3/2014.
- C. A maximum concentration greater than 180 $\mu\text{g}/\text{m}^3$ 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 $\mu\text{g}/\text{m}^3$ 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 population of the Phoenix-Mesa-Scottsdale MSA in 2010 was 4,192,887 (according to the 2010 census), which would require a minimum of 6-10 monitors for maximum concentrations >180 $\mu\text{g}/\text{m}^3$ and 4-8 monitors for maximum concentrations between 120 and 180 $\mu\text{g}/\text{m}^3$.

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 PM10) 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 USEPA AIRS/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 2016 air monitoring data for the Community to USEPA Region 9 Administrator on April 5, 2017 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.

Table 4-5. Sources of Ambient Air Quality Data

Agency	Address For Data Requests	Email / Internet address	Data Available
GRIC DEQ AQP	P.O. Box 97 Sacaton, AZ 85147 attn: GRIC DEQ Director	Dale.Ohnmeiss.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/ttn/airs/airsaqs/index	National Air Monitoring Data, including GRIC data

4.4 Audits

The AQP performed audits of the monitoring equipment in 2016. The performance audit dates for the ozone monitors are shown in Table 4-6 and the semi-annual audits dates for the continuous TEOM PM10 monitors are shown in Table 4-7. In addition, this information is included in Appendix B that provides detailed information of air monitoring specifications.

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

Site	AQS ID	Parameter	2016 Audit Dates
Sacaton	04-021-7001 and TT-614-7001 (Tribal Monitor)	Ozone	6/16, 7/27, and 9/26
St Johns	04-013-7003 and TT-614-7003 (Tribal Monitor)	Ozone	3/30, 4/15, 4/18, 9/27, and 11/15

Table 4-7. Semi-Annual Flow Rate Audit Dates for GRIC Continuous TEOM PM10 Monitor

Site	AQS ID	Parameter	2016 Audit Dates
Sacaton (TEOM)	04-021-7001 and TT-614-7001 (Tribal Monitor)	PM10	5/17, 6/16, 9/26, and 12/08
St. Johns (TEOM)	04-013-7003 and TT-614-7003 (Tribal Monitor)	PM10	9/27 and 11/15
Casa Blanca (TEOM)	04-021-7004 and TT-614-7004 POC3 (Tribal Monitor)	PM10	3/17 and 4/26

Table 4-8. National Performance Audit Program (NPAP) Date for GRIC Ozone Monitoring Network

Site	AQS ID	Parameter	2016 Audit Dates ¹
Sacaton	04-021-7001 and TT-614-7001 (Tribal Monitor)	Ozone	4/21/2016

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 had been provided, comments received must be included in the annual network plan submission.

The Gila River Indian Community DEQ made a draft copy of this Network Review available to the public on June 16, 2017. In an effort to notify the public of the Network Review, the AQP published information through the following outlets:

- Public Notice posted in the Gila River Indian Newspaper, a newspaper of general circulation in Gila River Indian Community.
- Public Notice posted on the GRIC DEQ website (www.gricdeq.org/index.php/education--outreach/public-notices).
- Presentation at a scheduled Community public open house event.

5.1 News Release

The following news release was advertised in the Gila River Indian Newspaper, VOL. 20, No. 11 Edition (dated June 2, 2017):

PUBLIC NOTICE OF AMBIENT AIR MONITORING NETWORK REVIEW

Pursuant to 40 Code of Federal Regulations (CFR) §58.10 Gila River Indian Community (GRIC) Department of Environmental Quality (DEQ) Air Quality Program (AQP) will make its annual monitoring network plan available for public inspection prior to submission to the United States Environmental Protection Agency. The Annual Ambient Monitoring Network Review and Data Summary present changes to and data collected from the air quality monitoring network during calendar year 2016. This document will also be available for review at the GRIC DEQ office located at 35 Pima Street, Sacaton, AZ 85147, and on the AQP website at “<http://www.gricdeq.org/index.php/air-quality-program/documents>”. Additionally, presentation will be provided at Governance Center Lobby, GRIC, Sacaton, AZ on June 21, 2017, 10AM-2PM.

Public comments may be submitted in writing to GRIC DEQ Air Quality, P.O. Box 97, Sacaton, Arizona, 85147, or comments may be given orally at the scheduled community meeting. Additional information is available from GRIC DEQ Air Quality, 35 Pima Street, Sacaton, Arizona, the AQP website “<http://www.gricdeq.org/index.php/air-quality-program>”, or by calling 520-562-2234.

There were **XX** requests made to review the document.

5.2 Public Meeting Presentations

The AQP also presented a summary of the content of this document during the public open house

event on June 21, 2017 at the GRIC Governance Center. A copy of the handout is included as Appendix C. The comments and questions received from the Community members in writing and at the open house meeting is included in Table 5-1 below.

Table 5-1. Summary of Comments and Questions Received at Open House Meeting in 2017

From	Comments / Questions Received
	<ul style="list-style-type: none">• notes

Appendix A

2016 AIR MONITORING DATA BY SITE

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

- St. Johns
- Casa Blanca
- Sacaton

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St. Johns (SJ), 04-013-7003/TT-614-7003 (Tribal Monitor)



Location: 4208 W. Pecos Rd
Laveen, AZ 85339

Spatial Scale: Urban (O₃) and
Neighborhood (PM₁₀)

Monitoring Type: Population
Exposure



Site Description: This site has been operational since 2003. The spatial scale for the St. Johns site is neighborhood for PM₁₀ and Urban Scale for Ozone. It is located in a residential area and on a community elementary school property. This Tribal Monitoring location monitors for Ozone and PM₁₀. This site operates one gaseous ozone analyzer and one continuous PM₁₀ 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 15 minute still images.

Pollutant	Condition	2014	2015	2016
O ₃	Max. 8-hr O ₃ Average (PPM)	0.076	0.072	0.068
	O ₃ # Daily Exceedances > 0.075 PPM	1	0	0
	O ₃ # Daily Exceedances > 0.070 PPM	1	1	0
	O ₃ 3-year Average of 4 th Highest (PPM)	0.069	0.068	0.067
PM ₁₀	Max. 24-hr PM ₁₀ Average (µg/m ³)	160*	203*	218*
	Number of exceedances 24-hr PM ₁₀	1†	2†	2†
	Annual PM ₁₀ Average (µg/m ³)	32.0‡	26.7‡	33.8‡

* Indicates an exceedance of the NAAQS

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

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

Sacaton (Sac), 04-021-7001/TT-614-7001 (Tribal Monitor)



Location: 45 S. Church Street,
Sacaton, AZ 85147

Spatial Scale: Urban (O₃) and
Neighborhood (PM₁₀)

Monitoring Type: Population
Exposure

Site Description: This site has been operational since 2002. The spatial scale for the Sacaton site is neighborhood for PM₁₀ and Urban Scale for Ozone. It is located in a community residential area. This Tribal Monitoring location monitors for Ozone and PM₁₀. This site operates one gaseous ozone analyzer and one continuous PM₁₀ monitor that are both FEM instruments. Meteorological monitors operating at this site include: ambient temperature, barometric pressure, wind speed/direction, relative humidity, and precipitation. In addition, this site operates a video camera system.



Pollutant	Condition	2014	2015	2016
O ₃	Max. 8-hr O ₃ Average (PPM)	0.076	0.067	0.069
	O ₃ # Daily Exceedances > 0.075 PPM	1	0	0
	O ₃ # Daily Exceedances > 0.070 PPM	1	0	0
	O ₃ 3-year Average of 4 th Highest (PPM)	0.067	0.065	.065
PM ₁₀	Max. 24-hr PM ₁₀ Average (µg/m ³)	197*	145	201*
	Number of exceedances 24-hr PM ₁₀	3†	0	5†
	Annual PM ₁₀ Average (µg/m ³)	42.6‡	30.6‡	40.2‡

* Indicates an exceedance of the NAAQS

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

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

Casa Blanca (CB), 04-021-7004/TT-614-7004 (Tribal Monitor)



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

Spatial Scale: Neighborhood

Monitoring Type: Population Exposure, Highest concentration (PM₁₀)

Site Description: This site has been operational since 2002. 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 Tribal Monitoring location monitors for PM₁₀. This site operates one continuous PM₁₀ 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 15 minutes.



Pollutant	Condition	2014	2015	2016
PM ₁₀	Max. 24-hr PM ₁₀ Average (µg/m ³)	325*	191*	228*
	Number of exceedances 24-hr PM ₁₀	8†	3†	8†
	Annual PM ₁₀ Average (µg/m ³)	49.9‡	40.6‡	52.0‡

* Indicates an exceedance of the NAAQS

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

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

Appendix B

EPA-REQUIRED SITE METADATA

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 2016 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 2016 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., O₃ could react with nitrogen oxides in the sample if the residence time exceeds 20 seconds.

St. Johns
 GRIC ID: SJ
 AQS ID: 04-013-7003 and TT-614-7003 (Tribal Monitor Code)
 Address: 4208 W. Pecos Rd Laveen, AZ
 Coordinates: N 33° 17' 24.55", W 112° 09' 35.57"; (elevation 1059 ft)

- General Information		
Pollutant (parameter code)	O3 (44201)	PM10 (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 PM2.5 NAAQS per Part 58.30?	N/A	N/A
-Appendix A Requirements		
# Precision Checks Performed Annually	30	14
# Accuracy Audits Performed Annually& Date of Last 2016 Check on Gaseous Analyzers & Last Two 2016 Checks for PM	5, 11/15/2016	2, 9/27/2016 & 11/15/2016
All Precision/Accuracy Reports Submitted to AQS?	Yes	Yes
Annual Data Certification Submitted?	April 5, 2017	April 5, 2017
Frequency of One-Point QC Check	Bi-Weekly	N/A
Frequency of Flow Rate Verification	N/A	Monthly
-Appendix C Requirements		
Sampler Make & Model (method code)	API T400 (087)	TEOM 1405 (079)
Date Established	03/24/2003	01/01/2013
Classification	Tribal	Tribal
Method (FRM, FEM, ARM)	FEM	FEM
-Appendix D Requirements		
Monitoring Type	Population Exposure	Populations Exposure
Monitoring Scale	Regional	Neighborhood
Sampling Season	Jan – Dec (begin 1/1/16)	Jan-Dec
Network Meets Minimum Number of Monitors Required?	Yes	Yes
-Appendix E Requirements		
Distance between collocated samplers	N/A	N/A
Probe Inlet Height	5.3 meters	5.3 meters
Airflow Arc	360 degree	360 Degree
Probe Sample Line Material	Teflon	NA
Pollutant Sample Residence Time	4.8 seconds	NA
Distance from Supporting Structure	NA	NA
Distance from Obstructions	14 meters	14 meters
Distance to Furnace Flue	None	None
Spacing from Trees	32 meters	32 meters
Nearest Major Roadway	Pecos Road	Pecos Road
Distance and Direction to Road	32 meters, North	32 meters, North
Traffic Count (ADT)	374 (2003)	374 (2003)
Groundcover	Gravel, natural soil	Gravel, natural soil

Sacaton

GRIC ID: Sac

AQS ID: 04-021-7001 and TT-614-7001 (Tribal Monitor Code)

Address: 35 Pima Street, PO Box 97, Sacaton, AZ 85147

Coordinates: N 33° 04' 47.88", W 111° 44' 26.27"; (elevation 1280 ft)

- General Information		
Pollutant (parameter code)	O3 (44201)	PM10 (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?	Yes	Yes
Is site suitable for comparison to PM2.5 NAAQS per Part 58.30?	N/A	N/A
-Appendix A Requirements		
# Precision Checks Performed Annually	27	18
# Accuracy Audits Performed Annually& Date of Last 2016 Check on Gaseous Analyzers & Last Two 2016 Checks for PM	3, 9/26/2016	4, 9/26/2016 & 12/8/2016
All Precision/Accuracy Reports Submitted to AQS?	Yes	Yes
Annual Data Certification Submitted?	April 5, 2017	April 5, 2017
Frequency of One-Point QC Check	Bi-Weekly	N/A
Frequency of Flow Rate Verification	N/A	Monthly
-Appendix C Requirements		
Sampler Make & Model (method code)	API T400 (087)	TEOM 1400AB (079)
Date Established	07/01/2002	01/01/2013
Classification	Tribal	Tribal
Method (FRM, FEM, ARM)	FEM	FEM
-Appendix D Requirements		
Monitoring Type	Population Exposure	Population Exposure
Monitoring Scale	Regional	Neighborhood
Sampling Season	January – December	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	5 meters	5 meters
Airflow Arc	360 degree	360 Degree
Probe Sample Line Material	Teflon	NA
Pollutant Sample Residence Time	4.8 seconds	NA
Distance from Supporting Structure	NA	NA
Distance from Obstructions	25 meters, nearest tree	25 meters, nearest tree
Distance to Furnace Flue	None	None
Spacing from Trees	25 meters	25 meters
Nearest Major Roadway	W Pima Street	W Pima Street
Distance and Direction to Road	60 meters, South	60 meters, South
Traffic Count (ADT)	253 (daily average 2008)	253 (daily average 2008)
Groundcover	Pavement and natural soil	Pavement and natural soil

Casa Blanca

GRIC ID: CB

AQS ID: 04-021-7004 and TT-614-7004 (Tribal Monitor Code)

Address: Casa Blanca/ Preschool Road, Bapchule, AZ 85221

Coordinates: N 33° 07' 03.14", W 111° 53' 08.93"; (elevation 1203 ft)

- General Information	
Pollutant (parameter code)	PM10 (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 PM2.5 NAAQS per Part 58.30?	N/A
-Appendix A Requirements	
# Precision Checks Performed Annually	15
# Accuracy Audits Performed Annually& Date of Last 2016 Check on Gaseous Analyzers & Last Two 2016 Checks for PM	2, 3/17/2016 & 4/26/2016
All Precision/Accuracy Reports Submitted to AQS?	Yes
Annual Data Certification Submitted?	April 5, 2017
Frequency of One-Point QC Check	N/A
Frequency of Flow Rate Verification	Monthly
-Appendix C Requirements	
Sampler Make & Model (method code)	TEOM 1400AB (079)
Date Established	July 1, 2002
Classification	Tribal
Method (FRM, FEM, ARM)	FEM
-Appendix D Requirements	
Monitoring Type	Population Exposure
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	4.67 meters
Airflow Arc	360 Degree
Probe Sample Line Material	NA
Pollutant Sample Residence Time	NA
Distance from Supporting Structure	NA
Distance from Obstructions	8.9 meters, building to S
Distance to Furnace Flue	NA
Spacing from Trees	9.6 meters, tree to East
Nearest Major Roadway	Casa Blanca Road
Distance and Direction to Road	19 meters, to north
Traffic Count (ADT)	2400 (daily average 2008)
Groundcover	gravel

Appendix C

Public Meeting Handouts

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