



OFR-15-05
State of Arizona Air Monitoring Network Plan
For the Year 2015

Arizona Department of Environmental Quality

Air Quality Division

Air Assessment Section

July 1, 2015

Final

Table of Contents

1.0 INTRODUCTION	3
1.1 Executive Summary	5
2.0 ADEQ PROGRAM AND NETWORK DESCRIPTIONS	6
2.1 NAAQS Compliance Network.....	6
2.2 State Implementation Plan (SIP) and Maintenance Area Network.....	6
2.3 Source-Oriented Network	6
2.4 NCore Network	7
2.5 Meteorological Network	7
2.6 Photochemical Assessment Monitoring Stations (PAMS).....	7
2.7 National Air Toxics Trend Sites (NATTS)	8
2.8 Chemical Speciation Network (CSN)	8
2.9 Class 1 Area Network and IMPROVE Program.....	8
2.10 AirNow Reporting.....	8
2.11 Urban Haze Network.....	9
2.12 E-BAM Network of PM _{2.5} Special Purpose Monitors	9
2.13 Arizona / Mexico Border Network.....	10
3.0 MONITORING NETWORK EVALUATION	11
3.1 Site Closures	11
3.2 New Sites Planned.....	11
3.3 Network Changes – Current and Planned	11
4.0 ADEQ MONITORING NETWORKS	13
4.1 PM _{2.5} Monitoring Network Requirements	13
4.2 PM ₁₀ Monitoring Network Requirements	15
4.3 O ₃ Monitoring Network Requirements	17
4.4 Pb Monitoring Network Requirements	18
4.5 SO ₂ Monitoring Network Requirements	18
4.6 NO ₂ Monitoring Network Requirements	19
4.7 CO Monitoring Network Requirements.....	20
4.8 PAMS Monitoring Network Requirements.....	20
4.9 NCore Monitoring Network Requirements	22
4.10 SIP Monitoring Network Requirements.....	23
4.11 Source Compliance Monitoring Network Requirements	24
4.12 Class 1 Visibility Network	25
4.13 Urban Haze Monitoring Network	26
4.14 Meteorology Monitoring Network	27
5.0 QUALITY ASSURANCE	28
5.1 EPA QA Reports and Network Performance.....	29
5.2 EPA Data Reports	29
Appendix A – Definitions and Abbreviations	1
Appendix B – Network Maps	1
Appendix C – Current Monitors by Program or Network	1
Appendix D – Site Information Data Tables	1
Appendix E – Criteria Pollutant Minimum Monitoring Requirements	1
Appendix F – Letters to EPA.....	1
Appendix G – ADEQ’s Air Quality Monitoring Role in Arizona.....	1

1.0 INTRODUCTION

This document fulfills the obligation, under the Code of Federal Regulations (CFR), Title 40, § 58.10(a), requiring the Arizona Department of Environmental Quality (ADEQ) to complete and submit to the United States Environmental Protection Agency (EPA) an annual monitoring network plan for the year 2015.

This plan informs EPA Region 9 of the monitoring activities ADEQ has implemented since July 2014, as well as activities ADEQ will undertake through December 2016. However, some changes may occur after the plan is published and approved due to unforeseen events at monitoring sites, funding changes, or changes in EPA monitoring requirements. Data from ADEQ's monitors are reported to EPA's Air Quality System (AQS) database and to AirNow. In 40 CFR Part 51, EPA requires states to create, submit, and adopt State Implementation Plans (SIPs) to address the various issues and responsibilities involved with creating and implementing air quality programs. 40 CFR Part 51 Subpart J specifies that 40 CFR Part 58 Subpart - C contain the requirements for establishing air quality surveillance systems to monitor ambient air quality.

Air quality surveillance systems consist of networks of monitors located at carefully selected physical locations referred to as sites or stations. The networks, sites, and monitors include:

- NAAQS Compliance network or the State and Local Air Monitoring Stations Network (SLAMS) – measures the criteria pollutants for demonstrating compliance to the standard
- State Implementation Plan (SIP) specific network – tracks compliance in areas that are currently in nonattainment or in areas where on-going demonstration of maintenance is required
- Source-Oriented network – requires several major point sources in the state to conduct ambient monitoring for criteria pollutants as outlined in their permit
- NCore Network – a nationwide multipollutant network that integrates several advanced measurement systems for particles, pollutant gases, and meteorology
- Photochemical Assessment Monitoring Stations Network (PAMS) – enhanced monitoring of O₃ to obtain comprehensive and representative O₃ data
- National Air Toxics Trends Station Network (NATTS) – to monitor and record the concentrations of EPA identified air toxics on a national scale
- Chemical Speciation Network (CSN) – for monitoring speciated PM_{2.5} to determine the chemical composition of these particles on a national scale
- The Interagency Monitoring of Protected Visual Environments (IMPROVE) – tracks visual impairment in specified national parks and wilderness areas
- Phoenix' Urban Haze Network – to provide State and Local policy-makers and the public with information regarding the urban haze levels
- ADEQ's Smoke Management Network – provide continuous, real-time particulate concentration data that is useful for making smoke management decisions related to prescribed burns and wildfire monitoring
- Arizona / Mexico Border Network – to review the air quality monitoring data and air monitoring networks in rural and urban areas along the border
- Meteorological Network – to support the analysis of ambient air quality data

This Annual Monitoring Network Plan identifies the purpose(s) of each monitor and provides evidence that both the siting and the operation of each monitor meets the requirements in 40 CFR Part 58 Appendices A, C, D, and E as follows:

- 40 CFR 58 Appendix A – Quality Assurance Requirements for SLAMS, SPMs, and Prevention of Significant Deterioration (PSD) Air Monitoring

- 40 CFR 58 Appendix C – Ambient Air Quality Monitoring Methodology
- 40 CFR 58 Appendix D – Network Design Criteria for Ambient Air Quality Monitoring
- 40 CFR 58 Appendix E – Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring

The results of the annual network review and planning are used to determine how well the networks are achieving their required air monitoring objectives, how well they meet data users' needs, and how they should be modified to continue meeting their objectives and data needs. Modifications can include the termination of existing stations, relocation of stations, establishment of new stations, monitoring of additional parameters, and/or changes to the sampling schedule. The annual network review and planning are performed for the purpose of improving the monitoring networks and ensuring that they provide adequate, representative, and regulatory compliant air quality data.

1.1 Executive Summary

The purpose of this executive summary is to state the status of the ADEQ's monitoring network, the compliance with regulatory requirements, and to outline any planned or past changes to the monitoring network.

ADEQ's main monitoring objective is to measure the criteria pollutants regulated under the Clean Air Act as National Ambient Air Quality Standards. ADEQ supports or operates many different state and national networks which help improve air quality in Arizona and nationwide. ADEQ continually strives to protect and enhance public health and the environment in Arizona through ambient air quality monitoring.

ADEQ fulfills all the monitoring requirements as stated in 40 CFR Part 58, in any State or Local laws, and according to the EPA administrator with regards to data quality and assurance, siting and sampling criteria, annual data certification, and minimum monitoring requirements for all networks.

Past and future changes to the ambient monitoring network as outlined in this Annual Network Plan are for the time period of July 2014 – December 2016. Any additional changes not outline here will be requested to EPA Region 9 for their approval. ADEQ may change the plans according to new rules or direction from ADEQ management or the EPA administrator and includes these changes in the subsequent Annual Network Plan. The past and planned changes for this timeline are as follows:

Table 1.1-1 Past Changes to the Network

Site Name	Monitors	Date of Change	Description
Alamo Lake	NO ₂	1-July-2014	An Ecotech NO ₂ 9841 was installed in July 2014 and designated as a special purpose monitor (SPM).

Table 1.1-2 Future Changes to the Network

Site Name	Monitors	Planned Date of Change	Description
Alamo Lake	CO	1-Jan-2016	A CO monitor will be deployed to the site as a SPM for background data purposes.
Douglas Red Cross	IMPROVE	1-July-2016	Relocation of Doug1 IMPROVE monitor to the Nogales Post Office site, Nogales, AZ.
Hillcrest	Pb	TBD	A Pb monitor will be deployed at the Hillcrest site in Hayden, AZ.
Miami Jones Ranch and Miami Townsite	SO ₂	1-July-2015	Removal of the requirement for FMMI to monitor at these locations.
Miami Ridgeline	PM ₁₀	1-July-2015	Removal of the requirement for FMMI to monitor at this location.
Nogales Post Office	PM ₁₀	1-Jul-2015	Removal of the POC 1 PM ₁₀ manual method.
Nogales Post Office	PM _{2.5}	1-Jul-2015	Removal of the POC 2 PM _{2.5} manual method.
Prescott College	O ₃	1-Jan-2016	Closure of the Prescott College AQD site and establishment of new site in the City of Prescott.

2.0 ADEQ PROGRAM AND NETWORK DESCRIPTIONS

ADEQ operates ambient air quality equipment for a variety of Federal and State monitoring programs. Detailed descriptions of the equipment deployed for each monitoring program are presented in Appendix C of this Network Plan. The equipment is grouped by monitoring program or network to easily compare instrument specifics. Appendix D of this Network Plan lists information on each of ADEQ's current and recently closed monitoring sites, including those sites which ADEQ shares with other agencies or serves as the local site operator. General information about the monitoring programs in which ADEQ participates is described in the following sections.

2.1 NAAQS Compliance Network

ADEQ's compliance network consists of monitoring sites operated for the purpose of demonstrating compliance with the National Ambient Air Quality Standards (NAAQS) for the "criteria" pollutants: carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), ozone (O₃), particulate matter (PM₁₀ and PM_{2.5}), and lead (Pb). For each of these pollutants, EPA has established national air quality standards to protect public health. The criteria pollutants are measured using instruments designated by EPA as Federal Reference Methods (FRM) or Federal Equivalent Methods (FEM). 40 CFR Part 58 specifies the minimum requirements for determining NAAQS compliance including the following network and site criteria:

- Number and types of monitors required per Metropolitan Statistical Area (MSA) by pollutant
- Objectives and spatial scales
- Sampling frequency
- Collocation
- Special NCore-related requirements
- Meteorology
- Probe location and other restrictions within a site
- Periodic performance evaluations
- Quality Assurance
- Data reporting

2.2 State Implementation Plan (SIP) and Maintenance Area Network

ADEQ maintains several air monitoring sites for the purpose of tracking compliance in areas that are currently in nonattainment for one or more of the NAAQS, and in areas where the NAAQS have been met but on-going demonstration of maintenance is required. Specific monitoring requirements for each of these areas are described in their respective SIPs and/or Maintenance Plans.

2.3 Source-Oriented Network

Several major point sources in the state are required to conduct ambient monitoring for criteria pollutants, primarily PM₁₀ and SO₂, as part of their air quality permit. Some of the source-generated data from these sites have been

submitted to AQS. Discussions with American Smelting and Refining Company (ASARCO) are ongoing to have ADEQ collocate SO₂ at sites in and around Hayden, AZ.

2.4 NCore Network

EPA describes the nationwide NCore network, which is composed of approximately 70 urban and 20 rural sites, as a multipollutant network that integrates several advanced measurement systems for particles, pollutant gases, and meteorology. Some objectives of the NCore network include:

- Tracking long-term trends of criteria and non-criteria pollutants;
- Support for long-term health assessments which contribute to ongoing reviews of the NAAQS;
- Support to scientific studies ranging across technological, health, and atmospheric process disciplines
- Support to ecosystem assessments recognizing that national air quality networks benefit ecosystem assessments and, in turn, benefit from data specifically designed to address ecosystem analyses.

As required by 40 CFR Part 58.13, ADEQ's NCore site, JLG Supersite, was operational by January 1, 2011. In addition to the above missions and the NCore monitoring requirements set forth in the 40 CFR Part 58.13, ADEQ will use the JLG Supersite to test new technologies in various ADEQ monitoring networks. Examples include advanced communications and serial data collection, remote zero/span/precision (Z/S/P) checks and calibrations, high sensitivity instruments, and instruments that monitor additional pollutants that may be added to current CFR requirements. Additional NCore information is available from the EPA website: <http://www.epa.gov/ttn/amtic/ncore/index.html>

2.5 Meteorological Network

ADEQ collects meteorological data at sites throughout the state to support the analysis of ambient air quality data and to provide support for exceptional event reporting. Meteorological measurements are also required for the NCore and PAMS networks. ADEQ continues to add meteorological instrumentation to most of ADEQ's monitoring sites that were not previously equipped, and for which there are adequate facilities to support the meteorological tower and equipment. ADEQ currently meets the meteorological monitoring requirements for the NCore and PAMS networks.

2.6 Photochemical Assessment Monitoring Stations (PAMS)

Section 182(c)(1) of the 1990 Clean Air Act (CAA) Amendments requires the Administrator to promulgate rules for enhanced monitoring of O₃ that includes concurrent monitoring of O₃, oxides of nitrogen (NO_x), total reactive nitrogen (NO_y), speciated volatile organic compounds (VOC), carbonyls, CO, and meteorology to obtain comprehensive and representative O₃ data. Immediately following the promulgation of those rules, ADEQ began to implement a program to improve ambient monitoring activities related to the precursors of O₃. The subsequent revisions to 40 CFR Part 58 (1993) required states to establish PAMS as part of their monitoring networks in O₃ nonattainment areas classified as serious, severe, or extreme. The principal reasons for requiring the collection of additional ambient air pollutants and meteorological data are the widespread nonattainment of the O₃ NAAQS and the need for a more comprehensive air quality database for O₃ and its precursors. ADEQ operates three PAMS sites to represent the Phoenix metropolitan area: JLG Supersite (type 2), Queen Valley (type 3), and VEI (meteorological).

EPA has issued a proposal for a reengineering as the PAMS program. This was included in the 2015 O₃ NAAQS revision. The finalization of both the O₃ NAAQS revision and PAMS reengineering is scheduled to be finalized October, 2015.

2.7 National Air Toxics Trend Sites (NATTS)

The NATTS network was designed to monitor and record the concentrations of EPA identified air toxics on a national scale. Data from EPA's national monitoring activities are used to estimate national average concentrations for these air toxics compounds and to detect trends. Using this information, EPA, states, and local agencies can estimate changes to the human exposure from air toxics. Detection of increased human toxicity risk can then be used to support changes in environmental policy. As part of the National Air Toxics Assessment (NATA) process, ambient air quality data are used to assess the national toxics inventory and long-term hazardous air pollutant (HAP) trends. ADEQ's JLG Supersite is the designated NATTS site for the Phoenix MSA with an additional site at the South Phoenix site.

2.8 Chemical Speciation Network (CSN)

The CSN was established to meet the regulatory requirements for monitoring speciated PM_{2.5} to determine the chemical composition of these particles. The purpose of the CSN is to determine, over a period of several years, trends in concentration levels of selected ions, metals, carbon species, and organic compounds in the PM_{2.5} samples collected at select sites throughout the country. The program began in 1999 with 54 Speciation Trends Network (STN) sites across the nation located primarily in or near larger MSAs. The network has increased to around 200 sites nationwide. PM_{2.5} speciation monitoring at JLG Supersite includes two CSN PM_{2.5} speciation samplers. The collocated IMPROVE samplers provide precision and bias information for the IMPROVE network and the data are reasonably comparable to the CSN speciation data. In 2009, the URG 3000N sampler was added at JLG Supersite for collecting the carbon sample in lieu of the Met One SuperSASS, which had been used to collect all three types of filter samples e.g. Quartz, Teflon, and Nylon. The laboratory analysis method for carbon samples collected by the URG also changed. These changes to the CSN program's monitoring and analytical design were geared toward more closely matching the carbon analytes from the CSN sampler to those collected via the IMPROVE network.

2.9 Class 1 Area Network and IMPROVE Program

The rural visibility monitoring network tracks impairment in specified national parks and wilderness areas. These parks and wilderness areas are called federally mandatory Class 1 areas and were designated based on an evaluation required by Congress in the 1977 Federal CAA Amendments. The evaluation, performed by the United States Forest Service (USFS) and National Park Service (NPS), reviewed the areas of parks and national forests, which were designated as wilderness before 1977, were larger than 6,000 acres, and to which visual air was an important resource for the visitor experience. Of the 156 Class 1 areas designated across the nation, 12 are located in Arizona. Nine Class 1 areas are located in USFS land and three in NPS land. EPA initiated the nationally-operated IMPROVE monitoring network in 1987, whose purpose is to characterize broad regional trends and visibility conditions using monitoring data collected in or near Class 1 wilderness areas across the United States. Ten Class 1 IMPROVE sites were originally placed in and around these Class 1 areas. Additionally, ADEQ has added six other IMPROVE sites identified as Protocol sites. Refer to section 4.12 and the map in Appendix B for additional details regarding ADEQ's Class 1 Visibility and IMPROVE networks.

2.10 AirNow Reporting

ADEQ reports near real-time data from its continuous air quality monitors to the AirNow system. The AirNow system is a set of near real-time public maps which report an Air Quality Index (AQI) for the five major air pollutants regulated by the CAA. These pollutants are: ground-level O₃, PM, CO, SO₂, and NO₂. The purpose of the AQI is to help understand what local air quality means to your health. To make it easier to understand, the AQI is divided into six color coded categories: Good, Moderate, Unhealthy for Sensitive Groups, Unhealthy, Very Unhealthy and Hazardous. ADEQ will continue to expand efforts for data submission to AirNow to support the collection and nationwide dissemination of consistently provided air quality data in the AQI. The AQI format is used by local weather forecasters, medical facilities, schools and the general public to make health-related activity decisions based on the reported local AQI.

2.11 Urban Haze Network

The purpose of the Urban Haze Network is to provide State and Local policy-makers and the public with information regarding the urban haze levels, track short-term and long-term trends, assess source contributions, and better evaluate the effectiveness of air pollution control strategies. ADEQ utilizes transmissometers, particulate monitors, and/or digital camera systems to evaluate urban visibility. More than a decade of urban visibility data has been collected for the Phoenix and Tucson area. Currently, only the Phoenix metropolitan area urban visibility is monitored using high resolution cameras. Additional details regarding ADEQ's Urban Haze Network can be found in section 4.13.

2.12 E-BAM Network of PM_{2.5} Special Purpose Monitors

E-BAM monitors are special purpose monitors (SPM) which provide continuous, real-time particulate concentration data that is useful for making informed smoke management decisions related to prescribed burns and wildfire monitoring. The current network of special purpose continuous particulate monitors (listed in Table 2.12-1) is composed of lightweight, portable E-BAM monitors typically in self-contained, environmentally sealed enclosures. They can be battery or solar powered for operation at sites without fixed electrical power. Data are sampled every second and concentrations are calculated and recorded every minute. E-BAM monitors have been used by many agencies, particularly in the western United States. They are not classified as FRMs or FEMs and may not be used to demonstrate NAAQS compliance. ADEQ uses these monitors primarily in populated areas that could be impacted by smoke from prescribed burns and wildfires. In 2011 ADEQ configured the E-BAM monitors to measure PM_{2.5} to be consistent with the National Forest Service monitors. Hourly PM_{2.5} data from the E-BAM monitors can be viewed at: <http://www.phoenixvis.net/PPMmain.aspx>.

Table 2.12-1 Current Locations of E-BAM Monitors

Site Name	Address
Flagstaff Middle School	755 N. Bonito, Flagstaff, AZ 86001
Payson Well Site	204 W. Aero Dr., Payson, AZ 85541
Prescott College AQD	226 Grove Ave., Prescott, AZ 86301
Sedona Fire Station AQD	310 Forest Road, Sedona, AZ, 86336
Show Low	561 E. Deuce of Clubs, Show Low, AZ 85901
Springerville	323 S. Mountain Ave., Springerville, AZ 85936
Verde Ranger Station	300 E. Highway 260, Camp Verde, AZ 86322

2.13 Arizona / Mexico Border Network

ADEQ works with the EPA Border Program as part of the U.S. – Mexico Border Air Monitoring Working Group. This working group's primary priority is reviewing the air quality monitoring data and air monitoring networks in rural and urban areas along the border and evaluating the adequacy of these networks. The secondary priority of this group is to identify operational and maintenance needs, plan for future capabilities, and develop recommendations to resolve any inadequacies. Through this effort, relationships between EPA, ADEQ, Secretariat of Environment and Natural Resources (SEMARNAT), and Commission for Ecology and Sustainable Development (CEDES) are expected to develop, such that data are shared across the border and capacity is built to meet the needs of the air monitoring program objectives.

3.0 MONITORING NETWORK EVALUATION

This section provides a summary of changes to ADEQ's monitoring networks completed since the 2014 Network Plan submission, as well as changes planned for July 2015 through December 2016. Any occurrence of unplanned changes due to emerging needs, budget constraints, or other circumstances will be documented in next year's Air Monitoring Network Plan, and ADEQ will communicate with EPA Region 9 regarding any significant changes on a case-by-case basis. Below is a summary of the planned network changes. Details regarding these changes can be found in Section 4 of this Monitoring Network Plan.

3.1 Site Closures

Prescott College AQD – ADEQ plans to close the Prescott College site by January 1, 2016. The current building on the Prescott College campus is not a viable location for long term monitoring. The building is being considered for demolition and it is in the best interest of ADEQ to relocate the monitor elsewhere. A comparison study with the new site will be conducted if possible.

3.2 New Sites Planned

Hillcrest, Hayden, AZ – ADEQ plans to add a new Pb monitor in the Hayden area at the existing Hillcrest site. The Pb monitor will be added by January 1, 2016.

Prescott, AZ – ADEQ is currently scoping locations for a new site in Prescott for the O₃ monitor. The new O₃ monitor is planned to be added by January 1, 2016. A comparison study with the Prescott College AQD will be conducted if possible.

Previously planned sites in Lake Havasu City, AZ and Sierra Vista, AZ have been put on hold due to higher priority needs.

3.3 Network Changes – Current and Planned

Alamo Lake, AZ – ADEQ plans to install a CO analyzer by January 2016 to be designated as a background/SPM to provide background data as a part of Arizona's permitting process, SIP development, and modeling purposes in addition to the SO₂ and NO_x analyzers currently in place. ADEQ plans to remove the SO₂ and NO_x analyzers in March 2016 and June 2016 respectively before two full years of operation.

Douglas Red Cross, AZ – ADEQ plans to relocate the Douglas Red Cross IMPROVE monitor in accordance with all necessary requirements, working with the IMPROVE steering committee to the Nogales, AZ site. The relocation to Nogales, AZ will serve a variety of purposes and will still be operated by ADEQ. Relocation to Nogales, AZ is desirable due its proximity to a larger and unknown area of interest (Nogales, Sonora) and its shorter distance from ADEQ's operator in Tucson, AZ. The timeframe for this relocation is not yet in place.

Miami, AZ – At Miami Jones Ranch and Miami Townsite, ADEQ plans to remove the requirement for source monitoring of SO₂ by Freeport-McMoRan Copper and Gold Inc. (FMMI). Operation of these instruments henceforth is subject to the discretion of FMMI. This will not affect any of ADEQ's monitors at these locations.

Miami Ridgeline, AZ – ADEQ plans to remove the requirement for source monitoring of PM₁₀ by FMMI. Operation of this PM₁₀ instrument henceforth at Ridgeline is subject to the discretion of FMMI. The Miami Golf Course monitor operated by ADEQ will then be the PM₁₀ monitor representing the Miami, AZ PM₁₀ nonattainment area.

Nogales Post Office, AZ – In addition to the previously discussed IMPROVE relocation to Nogales Post Office, AZ, ADEQ plans to remove two of the collocated instruments at the site in order to align with collocation requirements for the PM₁₀ and PM_{2.5} networks. As the rest of ADEQ's PM₁₀ network is now continuous and there are no collocation requirements for a continuous PM₁₀ network, the POC 1 PM₁₀ instrument at Nogales Post Office is no longer needed and will be removed on July 1, 2015.

ADEQ's PM_{2.5} network consists exclusively of a single automated method. At Nogales, there are three PM_{2.5} instruments, one automated method and two manual methods. ADEQ plans to remove POC 2 PM_{2.5} instrument on July 1, 2015.

Table 3.3-1 Instrument Changes Made from July 2014 thru June 2015

Site Name	Monitors	Date of Change	Description
Alamo Lake	NO ₂	1-July-2014	An Ecotech NO ₂ 9841 was installed in July 2014 and designated as a special purpose monitor (SPM).

Table 3.4-2 Instrument Changes Planned for July 2015 to December 2015

Site Name	Monitors	Planned Date of Change	Description
Alamo Lake	CO	1-Jan-2016	A CO monitor will be deployed to the site as a SPM for background data purposes.
Douglas Red Cross	IMPROVE	1-July-2016	Relocation of Doug1 IMPROVE monitor to the Nogales Post Office site, Nogales, AZ
Hillcrest	Pb	TBD	A Pb monitor will be deployed at the Hillcrest site in Hayden, AZ.
Miami Jones Ranch and Miami Townsite	SO ₂	1-July-2015	Removal of the requirement for FMMI to monitor at these locations.
Miami Ridgeline	PM ₁₀	1-July-2015	Removal of the requirement for FMMI to monitor at this location.
Nogales Post Office	PM ₁₀	1-Jul-2015	Removal of the POC 1 PM ₁₀ manual method.
Nogales Post Office	PM _{2.5}	1-Jul-2015	Removal of the POC 2 PM _{2.5} manual method.
Prescott College	O ₃	1-Jan-2016	Closure of the Prescott College AQD site and establishment of new site in the City of Prescott.

4.0 ADEQ MONITORING NETWORKS

The minimum monitoring requirements for each pollutant are described in 40 CFR Part 58 Appendix D and are typically based on the population of urban areas. Current minimum monitoring requirements are only associated with MSAs, and there are no minimum monitoring requirements for Micropolitan Statistical Areas. Tables 4.0-1 and 4.0-2 outline metropolitan and micropolitan statistical areas in Arizona as identified by the U.S. Census Bureau.

Table 4.0-1 Metropolitan Statistical Areas (2010 Census)

Metropolitan Statistical Area	Area included	Population
Flagstaff	Coconino County	134,421
Lake Havasu City – Kingman	Mohave County	200,186
Phoenix – Mesa – Scottsdale	Maricopa & Pinal Counties	4,192,887
Prescott	Yavapai County	211,033
Sierra Vista – Douglas	Cochise	131,346
Tucson	Pima County	980,263
Yuma	Yuma County	195,751

Table 4.0-2 Micropolitan Statistical Areas (2010 Census)

Micropolitan Statistical Area	County	Population
Nogales	Santa Cruz	47,420
Payson	Gila	53,597
Safford	Graham & Greenlee Counties	37,220
Show Low	Navajo	107,449

4.1 PM_{2.5} Monitoring Network Requirements

The number of PM_{2.5} samplers required in urban areas is based on population (see Table 4.0-1) and design values for PM_{2.5} concentrations (see Table 4.1-1).

Table 4.1-1 Minimum Number of PM_{2.5} Monitors Required (40 CFR 58 Appendix D)

Population (MSA)	Most recent 3-Yr design value \geq 85% of any PM _{2.5} NAAQS *	Most recent 3-Yr design value <85% any PM _{2.5} NAAQS * or no Design Value Available
>1,000,000	3	2
500,000 – <1,000,000	2	1
50,000 – <500,000	1	0

*85% Annual NAAQS ($12 \mu\text{g}/\text{m}^3$) = $10.2 \mu\text{g}/\text{m}^3$; 85% 24-Hour NAAQS ($35 \mu\text{g}/\text{m}^3$) = $29.75 \mu\text{g}/\text{m}^3$ The required sample collection frequency is based on the type of sampler and the design value calculated from data collected at each FRM (filter-based) or FEM (continuous) sampler (see Table 4.1-2). 40 CFR §58.12 (d)(1) states the manual PM_{2.5} sample collection frequency requirement at required SLAMS stations as every third day at sites without a collocated continuously operating PM_{2.5} monitor.

Table 4.1-2 PM_{2.5} Design Values and Sampling Frequencies at ADEQ Sites

AQS Site ID	Site Name	2012-2014 24-Hour Design Value (µg/m ³)	2012-2014 Annual Design Value (µg/m ³)	Sample Frequency
04-003-1005	Douglas Red Cross	13	7.0	Continuous
04-012-8000	Alamo Lake ¹	8	2.0	Continuous
04-013-9997	JLG Supersite	21	7.3	Continuous
04-023-0004	Nogales Post Office	27	9.3	Continuous
04-027-8011	Yuma Supersite ²	19	7.4	Continuous

¹ Alamo Lake is designated as the Background site for the PM_{2.5} Network

² Yuma Supersite is designated as the Transport site in the PM_{2.5} Network

ADEQ currently operates EPA-approved FEM monitors at five PM_{2.5} monitoring sites. An EPA-approved FEM monitor was deployed to the Alamo Lake site and designated as the PM_{2.5} monitoring network's Background site. Yuma Supersite is designated as the required PM_{2.5} Transport site. ADEQ operates both an EPA-approved FEM continuous monitor and a Partisol 2000 PM_{2.5} FRM at the JLG Supersite fulfilling an NCore collocation requirement. The EPA-approved FEM sampler is designated the primary PM_{2.5} monitor for NAAQS compliance purposes.

Several non-FEM continuous PM_{2.5} monitors are also in operation throughout the state, most of which are associated with the Smoke Management E-BAM network. See Section 2.12 for additional details on the E-BAM network.

4.1.1 PM_{2.5} Collocation Requirements

For the ADEQ PM_{2.5} network, one site is required to have collocated monitoring. The Nogales Post Office site has the highest PM_{2.5} design value in ADEQ's PM_{2.5} network and is therefore a PM_{2.5} collocated site. ADEQ operates both an EPA-approved FEM continuous instrument and two Partisol 2000 PM_{2.5} FRM instruments at the Nogales Post Office site. The FEM BAM 1020 is designated as the primary PM_{2.5} monitor for this site, thus enabling ADEQ to exceed the required 1-in-3 day monitoring frequency. This combination of instruments also fulfills the collocation requirement of the PM_{2.5} network for ADEQ. The QA collocated Partisol PM_{2.5} FRM operates on a 1-in-6 day monitoring frequency rather than the required 1-in-12 day monitoring frequency.

Additionally, ADEQ operates one Partisol 2000 PM_{2.5} FRM instrument and one continuous PM_{2.5} FEM monitor at the JLG Supersite. This PM_{2.5} FEM is designated the primary instrument as required by NCore. The PM_{2.5} FEM monitor is also labeled as an NCore PM_{coarse} paired monitor. The PM_{2.5} FRM instrument is labeled as a QA collocated instrument for the site. Table 4.1-3 summarizes ADEQ's PM_{2.5} collocation requirements.

Table 4.1-3 PM_{2.5} FRM/FEM Collocation Details

Method Code (Instrument Type)	# of Sites	# of Primary Monitors	# of Required Collocated Monitors	# of Active Collocated Monitors
143 (Partisol 2000i)	2	0	0	0
170 (Met One BAM 1020)	5	5	1	2

4.1.2 Relocating Any Violating PM_{2.5} Monitors

ADEQ does not have any violating PM_{2.5} monitors that are being considered for relocation. A process for relocating violating PM_{2.5} monitors is required and described in 40 CFR Part 58.10 (c). It requires the annual monitoring network plan to document how state and local agencies provide for the review of changes to a PM_{2.5} monitoring network that impact the location of a violating PM_{2.5} monitor or the creation/change to a community monitoring zone. The analysis includes a description of the proposed use of spatial averaging for purposes of making comparisons to the annual PM_{2.5} NAAQS as set forth in Appendix N to Part 50. The affected agency must document the process for obtaining public comment and include any comments received through the public notification process within their submitted plan. ADEQ does not intend to establish community monitoring zones as described in the rule or utilize spatial averaging for comparison to the PM_{2.5} NAAQS. A public comment procedure is required prior to relocation of a violating monitor and ADEQ will utilize the following procedure:

1. Evaluation of the potential replacement site will include review and comparison of available pollutant data, meteorology, climatology, terrain, and siting characteristics. This information will be documented in a brief report.
2. Make notice of such a change in the annual monitoring network plan.
3. If the change must be accomplished prior to annual monitoring network plan submittal, ADEQ will make appropriate notice via the agency Web page and invite participation from the public prior to relocation of the affected site.
4. Relocation of the monitor.

4.2 PM₁₀ Monitoring Network Requirements

The number of PM₁₀ samplers required in urban areas is based on the population of the area (see Table 4.2-1) and design values for PM₁₀ 24-hour concentrations (see Table 4.2-2). Maricopa, Pinal, and Pima Counties have delegated authority for their monitoring networks and AQS reporting. ADEQ's PM₁₀ monitoring network includes the MSAs in all other Arizona counties, as well as the PM₁₀ nonattainment areas in those counties. JLG Supersite PM₁₀ concentrations for the NCore network are provided by the PM₁₀ FEM BAM 1020.

Table 4.2-1 Minimum Number of PM₁₀ Monitors Required (40 CFR 58 Appendix D)

MSA Population	High Concentration Exceeds 24-Hour NAAQS by 20% or more (>180µg/m³)	Medium Concentration Exceeds 80% of 24-Hour NAAQS (>120µg/m³)	Low Concentration Less than 80% of 24-Hour NAAQS (<120 µg/m³) or no Design Value Available
>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

The monitoring rule in 40 CFR Part 58.12(e) states that for PM₁₀ sites, “...the minimum monitoring schedule for the site in the area of expected maximum concentration shall be based on the relative level of that monitoring site concentration with respect to the 24-hour standard.” ADEQ has transitioned most PM₁₀ monitors from filter-based methods to continuous methods. All the PM₁₀ monitors in the ADEQ PM₁₀ network are continuous methods. Table 4.2-2 lists the PM₁₀ network site Design Values and Annual Means.

Table 4.2-2 PM₁₀ Design Values (Estimated Exceedances) and Annual Means for ADEQ Sites

AQS Site ID	Site Name	2012 - 2014 Average Estimated Days PM₁₀>150 µg/m³ Including Events	2012 – 2014 Average Estimated Days PM₁₀>150 µg/m³ Excluding Events	2014 Annual Mean Concentration (µg/m³)
04-003-0011	Paul Spur Chemical Lime Plant	1.9*	1.9*	20.9*
04-003-1005	Douglas Red Cross	1.7	1.7	37.6
04-007-0008	Payson Well Site	0*	0*	15.5*
04-007-1001	Hayden Old Jail	0.7	0.7	37.5
04-007-8000	Miami Golf Course	0*	0*	22.6
04-012-8000	Alamo Lake	0	0	11.7
04-013-9997	JLG Supersite	1.3	0.7	29.9
04-015-1003	Bullhead City	0.7	0.7*	20.6
04-019-0001	Ajo	0.3	0.3	27.1
04-019-0020	Rillito	2.7	2.7	39.0
04-023-0004	Nogales Post Office	0	0	33.2
04-023-0004	Nogales Post Office	1.7*	1.7*	39.9
04-027-8011	Yuma Supersite	8	8	44.71

* Annual values not meeting completeness criteria

4.2.1 PM₁₀ Collocation Requirements

There are no collocation requirements for EPA-approved PM₁₀ FEM monitors. ADEQ has transitioned the PM₁₀ network to continuous FEM monitors. ADEQ does operate an additional Partisol 2000 FRM at the Nogales Post Office site. While the FEM is designated as the primary PM₁₀ monitor, the Partisol 2000 monitor is designated a QA collocated PM₁₀ instrument. Table 4.2-3 summarizes ADEQ's PM₁₀ collocation requirements.

Table 4.2-3 PM₁₀ FRM/FEM Collocation Details

Method Code	# of Sites	# of Primary Monitors	# of Required Collocated Monitors	# of Active Collocated Monitors
126 (Partisol 2000)	0*	0*	0*	0*
079 (TEOM)	8	8	0	0
122 (BAM)	4	4	0	0

* The Partisol 2000 monitor at the Nogales Post office will be removed beginning July 2015

4.3 O₃ Monitoring Network Requirements

Table 4.3-1 Minimum Number of O₃ Monitors Required (40 CFR Part 58 Appendix D)

Population (MSA)	Most recent 3 year 8-hour Design Value \geq 85% of NAAQS (0.06375 ppm)	Most recent 3 year 8-hour Design Value <85% NAAQS (0.06375 ppm) or no Design Value available
>10 Million	4	2
4 – <10 Million	3	1
350,000 – <4 Million	2	1
50,000 – <350,000	1	0

The minimum monitoring requirements for O₃ are shown above in Table 4.3-1. ADEQ operates a network of seven O₃ monitors throughout Arizona (see Table 4.3-2). ADEQ is updating the O₃ network with remote zero/span/precision checks utilizing the Teledyne T703 UV Photometric O₃ Calibrator with Internal Zero Air Pump and External Zero Air Shut-Off Valve. This will allow air monitoring staff to more efficiently maintain the O₃ network while minimizing travel time during the O₃ season, and avoiding calibration during the peak hours of the day when O₃ levels are highest. Additionally, Maricopa, Pima, and Pinal Counties operate O₃ monitors.

Table 4.3-2 ADEQ O₃ Sites and Design Values

AQS Site ID	Site	Current Operating Schedule	2012-2014 Design Value (ppm)
04-005-1008	Flagstaff Middle School	January - December	0.071
04-007-0010	Tonto National Monument	January - December	0.074
04-012-8000	Alamo Lake	January - December	0.072
04-013-9997	JLG Supersite	January - December	0.077
04-021-8001	Queen Valley	January - December	0.073
04-025-8033	Prescott College AQD	January - December	0.071
04-027-8011	Yuma Supersite	January - December	0.077

4.3.1 O₃ Season

In accordance with 40 CFR Part 58, Appendix D, Table D-3, ADEQ will started year round monitoring on March 1, 2015.

4.4 Pb Monitoring Network Requirements

ADEQ has operated three source-oriented TSP Hi-Vol Pb monitors between the Globe Highway site (collocated) and the Miami Golf Course site since January 2011. 40 CFR Part 58 Appendix D states that at a minimum, there must be one source-oriented SLAMS site located to measure the maximum Pb concentration in ambient air resulting from each non-airport source which emits 0.50 or more tons per year and each airport source which emits 1.0 or more tons per year. Per the National Emissions Inventory (NEI) 2011, there are no non-airport sources in the 0.5-1.0 ton per year category. For the NCore-Pb requirement, ADEQ uses the same PM₁₀ metals speciation sample that is used for the NATTS program. Eastern Research Group (ERG) currently analyzes these samples. On June 1, 2012 ERG received EPA approval for the ICP-MS analysis method for lead in PM₁₀. No changes in the actual monitoring or analysis method has occurred for Pb-PM₁₀ data collected at JLG Supersite; however, parameter code 85129 and method code 202 are associated with these data in AQS.

4.4.1 Pb Collocation Requirements

ADEQ's Pb network requires only one collocated site. The Globe Highway site located in Hayden, AZ has the highest design value in the Pb network and is therefore the collocated site. Although ADEQ monitors NCore-Pb at the JLG Supersite, collocated NCore-Pb sites are determined by the EPA and JLG Supersite is not a designated NCore-Pb collocated site. Table 4.4-1 summarizes ADEQ's Pb collocation requirements.

Table 4.4-1 Pb FRM/FEM Collocation Details

Method Code	# of Sites	# of Primary Monitors	# of Required Collocated Monitors	# of Active Collocated Monitors
191 (Pb-TSP ICP/MS)	2	2	1	1
202 (Pb-PM ₁₀ ICP/MS)	1	1	0*	0

*Pb-PM₁₀ monitor is located at an NCore site and does not require collocation

Table 4.4-2 Pb Design Values at ADEQ Sites

AQS Site ID	Site Name	2012-2014 Design Value (µg/m ³)
04-007-1002	Globe Highway	0.20
04-007-8000	Miami Golf Course	0.05
04-013-9997	JLG Supersite	--*

* Design Value not available

4.5 SO₂ Monitoring Network Requirements

ADEQ operates a network of six SO₂ monitors throughout Arizona. Authority to operate SO₂ monitors has also been delegated to Maricopa and Pima Counties. Additionally, two sources, ASARCO and FMMI, operate SO₂

monitoring networks in Gila County for permit compliance and to support SIP rule requirements. ADEQ is currently negotiating with both sources to ensure that the monitors are operated under the required quality assurance requirements. In Miami, ADEQ runs the Miami Ridgeline site, the Miami Townsite, and the Miami Jones Ranch site. For Hayden, ADEQ currently operates an SO₂ monitor at Hayden Old Jail. ADEQ initiated discussions with ASARCO regarding Globe Highway and Montgomery Ranch on the best means to meet the PQA requirements. ADEQ also operates a trace-level SO₂ monitor at its NCore site (JLG Supersite), as required by 40 CFR Part 58 Appendix D. An SO₂ monitor was placed at Alamo Lake in February 2014 and is designated as the background SPM monitor.

The SO₂ monitoring requirements in 40 CFR Part 58 Appendix D are based on a Population Weighted Emissions Index (PWEI) calculated for each CBSA. CBSAs with PWEIs greater than 5,000 require at least one SO₂ monitor, PWEIs greater than 100,000 require a minimum of two SO₂ monitors, and PWEIs greater than 1,000,000 require three SO₂ monitors. There are no PWEI greater than 5,000 in Arizona, but there are other SO₂ monitors in Arizona, which are operated by Maricopa County and Pima County.

Table 4.5-1 SO₂ Design Values at ADEQ Sites

AQS Site ID	Site Name	2012-2014 1-Hour Design Value (ppb)
04-007-0009	Miami Ridgeline	122
04-007-0011	Miami Jones Ranch	178
04-007-0012	Miami Townsite	179
04-007-1001	Hayden Old Jail	282
04-012-8000	Alamo Lake	2
04-013-9997	JLG Supersite	6

4.6 NO₂ Monitoring Network Requirements

ADEQ currently operates two NO₂ monitors throughout the state of Arizona. These NO₂ monitors are located at the JLG Supersite and Alamo Lake. JLG Supersite is operated to fulfill a PAMS requirement and Alamo Lake is designated as a SPM.

The NO₂ monitoring requirements set forth in 40 CFR Part 58 Appendix D are based on a combination of CBSA population and Annual Average Daily Traffic (AADT) counts. The first requirement to be considered is the CBSA population. CBSAs with populations greater than 500,000 are required to operate one near-roadway monitor, while CBSAs with populations greater than 2.5 million are required to operate two near-roadway monitors. Additionally, CBSAs with populations greater than 500,000 and containing roadway segments with 250,000 or greater AADT require two near-roadway monitors. As can be seen in Table 4.0-1, two CBSAs within Arizona (Phoenix and Tucson Metro areas) contain populations greater than 500,000, and therefore, require at least one NO₂ near-roadway monitor. The Phoenix CBSA exceeds 2.5 million in population; therefore, two near-roadway monitors are needed in the Phoenix CBSA. Pima and Maricopa Counties will operate the required near-roadway monitors in Tucson and Phoenix, respectively.

In addition to the near-roadway monitoring requirements set forth in 40 CFR Part 58 Appendix D, there is also a requirement for area-wide NO₂ monitoring. CBSAs with populations of one million or more require one NO₂ monitor to measure NO₂ concentrations that represent neighborhood or larger spatial scales. The Phoenix metropolitan area is the only area within the state of Arizona that requires ambient monitoring of NO₂. The current NO₂ monitors operated by Maricopa and Pima Counties are meeting the current monitoring requirements set forth

in 40 CFR Part 58 Appendix D. ADEQ will continue to monitor NO₂ at JLG Supersite as part of the NO_x measurements required by the PAMS program. See Table 4.6-1 for design values.

Table 4.6-1 NO₂ Design Values at ADEQ Sites

AQS Site ID	Site Name	2012-2014 1-Hour Design Value (ppb)	2014 Annual Mean (ppb)
04-013-9997	JLG Supersite	56	16.21
04-012-8000	Alamo Lake	6	0.75

4.7 CO Monitoring Network Requirements

ADEQ operates only one CO monitor throughout Arizona, with plans to operate a second at Alamo Lake as a background SPM. The current CO monitor is located at the JLG Supersite and has sufficient sensitivity to monitor trace levels. This CO monitor fulfills NCore as well as PAMS monitoring requirements. Maricopa and Pima Counties operate the other required CO monitors within the State of Arizona. The Phoenix population exceeds the one million population requirement set forth in 40 CFR Part 58 Appendix D, therefore one CO monitor is required to be collocated with a near-road NO₂ monitor. The required near-roadway monitor in Phoenix will be operated by Maricopa County. The most recent census data show the Tucson MSA is below one million and therefore near-road CO monitoring is not required. The Trace-Level CO (COTL) analyzer that is currently operated by ADEQ exceeds the minimum monitoring requirements for the NCore and PAMS network design criteria set forth in 40 CFR Part 58 Appendix D. Due to the low range at which the JLG Supersite COTL analyzer operates, ADEQ urges some caution be exercised when utilizing these data for the purpose of NAAQS compliance. Under most circumstances, the data would be used to determine compliance with the CO NAAQS. However, due to the consistently low ambient concentrations, the trace-level analyzer's operating range is set at 0-5 ppm, which is the range most frequently measured at JLG Supersite. This operating range is well below the CO NAAQS of 9 ppm, therefore, when/if under certain rare circumstances, the CO concentrations are > 5 ppm, determining compliance with the CO NAAQS may not be possible, because measurement uncertainty increases and becomes challenging to statistically quantify. Table 4.7-1 contains the most recent design values for CO at JLG Supersite.

Table 4.7-1 CO Design Values at ADEQ Sites

AQS Site ID	Site Name	2014 CO 1-Hour Max. Value (ppm)	2014 CO 8-Hour Max. Value (ppm)
04-013-9997	JLG Supersite	3.065	2.2

4.8 PAMS Monitoring Network Requirements

Network design and monitoring requirements for PAMS stations are provided in 40 CFR 58 Appendix D for areas classified as serious, severe, or extreme nonattainment for O₃. Two sites are required for each area, providing all chemical measurements are made. Measurements include speciated VOCs, Carbonyls, NO_x, trace-level reactive oxides of nitrogen (NO_y), CO, O₃, surface meteorology, and upper air meteorology. In 2008, EPA shortened the PAMS monitoring season to June through August.

ADEQ's PAMS network consists of two ambient air monitoring sites in the Phoenix-Mesa-Scottsdale MSA and a meteorological site for the collection of upper air meteorological data and solar radiation data.

JLG Supersite – Type 2 PAMS Site

The JLG Supersite was designated a PAMS site in 1999. Since the required manual method of eight three-hour canisters running daily is impractical due to increased expenses for staff, shipping, and analysis, ADEQ returned in 2008 to the 2006 monitoring schedule of a 24-hour canister sample every sixth day at the JLG Supersite during PAMS season for VOCs. This will be reviewed when the final results of the PAMS re-engineering program are available which is anticipated to include recommendations for changes to monitoring and new types of instruments. ADEQ also operates carbonyl, O₃, CO, NO_x, and surface meteorological monitoring equipment at JLG Supersite (see Table 4.8-1). Carbonyl monitoring at JLG Supersite is not currently required for PAMS, but because carbonyls are considered important for PAMS, there are no current plans to discontinue carbonyl monitoring at JLG Supersite.

Table 4.8-1 JLG Supersite PAMS Instrumentation

Parameter	Period of Operation	Collection Method	Frequency and Duration
VOC *	Jan-Dec	Canister Sampler	Every 6 th day, 24 hrs.
Carbonyl *	Jan-Dec	Multi-port Carbonyl Sampler	Every 6 th day, 1-24 hr sample (Dec-Jan). Every 6 th day, 3 – 3 hr samples (0500-0800, 0800-1100, 1100-1400)(June-August)
CO	Jan – Dec	Trace CO	Hourly average
O ₃	Jan – Dec	O ₃ Analyzer	Hourly average
NO _x	Jan – Dec	NO _x Analyzer	Hourly average
Meteorology	Jan – Dec	<ul style="list-style-type: none"> • Wind speed/direction • Temperature • Relative humidity 	Hourly average

* 24-hour VOC and Carbonyl measurements are also part of the NATTS program and collected year-round

Queen Valley – Type 3 PAMS Site

Queen Valley was designated a PAMS site in 2001. The site is located near the southeastern edge of the photochemical modeling grid domain and is considered to be downwind of the source of maximum precursor emissions in the Phoenix metropolitan area. Pollutants collected at the site include speciated PAMS VOCs, O₃, total reactive NO_y, and surface meteorology measurements. ADEQ's 5-Year Network Assessment identified the Queen Valley site as not meeting PAMS monitoring requirements due to the lack of meteorological measurements. Meteorological instrumentation was added during the second quarter of 2011. Carbonyl samples are not required at Type 3 sites. Table 4.8-2 lists the instrumentation and monitoring schedule at the Queen Valley site.

Table 4.8-2 Queen Valley PAMS Instrumentation

Parameter	Period of Operation	Collection Method	Frequency and Duration
VOC	June – August	Multi-port sampler	Every 6 th day, 24 hrs, and 3 – 3 hr samples (0500-0800, 1300-1600, 1600-1900)
O ₃	Jan-Dec	O ₃ Analyzer	Hourly average
NO _y	June – August	NO _y Analyzer	Hourly average
Meteorology	Jan – Dec	<ul style="list-style-type: none"> • Wind speed/direction • Temperature • Relative humidity 	Hourly average

Vehicle Emissions Laboratory – Upper Air Meteorology Site

This site is intended to be a meteorological ‘supersite’ and includes a pyranometer to measure total solar radiation, UV solar radiation, wind speed, wind direction, differential temperature (2 meters and 10 meters), and relative humidity. The National Weather Service (NWS) site at nearby Sky Harbor Airport collects barometric pressure and precipitation measurements. A Radio Acoustic Sounding System (RASS) and a Wind Profiler had also been collecting continuous upper air meteorological data for determination of mixing heights since 1998 until July 2012. The PAMS re-engineering workgroup noted the high maintenance cost and very limited use of the RASS and Wind Profiler data and unofficially recommended against its continued use – particularly if usable data is available from other sources. ADEQ considered the high operational cost and very limited data use when deciding to discontinue its operation. EPA is currently exploring the possibility of using mixing height data from some of the 1,000 ceilometers recently placed in use by NOAA.

Table 4.8-3 Vehicle Emissions Laboratory PAMS Instrumentation

Parameter	Period of Operation	Method	Duration
Meteorology	Jan – Dec	<ul style="list-style-type: none"> • Pyranometer (total solar radiation) • Ultra-violet (UV solar) • Wind speed/direction • Temperature • Relative humidity 	Hourly average

4.9 NCore Monitoring Network Requirements

EPA has identified JLG Supersite as the required NCore site for the Phoenix metropolitan area. JLG Supersite has been a multipollutant monitoring site since its establishment in 1993. Currently, several monitoring programs are supported at this site, including: SLAMS, PAMS, NATTS, CSN, and meteorology. The required NCore parameters are listed in Table 4.9-1. The required NCore monitors were operational by January 1, 2011. The NCore-Pb requirement is being met by using the current Partisol 2000 PM₁₀ sample filter for metals speciation. ADEQ recently received notice that the ERG analysis method for PM₁₀ metals speciation was approved as a Federal Equivalent Method (FEM) for the analysis of Pb. While there will be no physical changes to the instrumentation or analysis method for Pb at the NCore site, the parameter code 85129 and method code 202 are now associated with Pb-PM₁₀ data in AQS.

Table 4.9-1 JLG Supersite NCore Instrumentation

Required Measurement	Frequency/Duration	Status
PM _{2.5} FEM mass	Hourly	Met One BAM 1020 FEM pair, designated primary
PM _{2.5} FRM mass	24 hour average every 3rd day	Thermo Partisol 2000 is current instrument; PM _{2.5} samples collected since 1999
PM ₁₀ FEM mass	Hourly	Met One BAM 1020 FEM pair
PM _{coarse} FEM mass	Hourly	Met One BAM 1020 FEM pair, difference method
PM _{2.5} speciation - organic and elemental carbon, major ions, and trace metals	24 hour average; every 3rd day	Met One SuperSASS with URG module is current instrument; STN/CSN samples collected since 1999

Pb	24 hour average; every 6th day	Currently Pb measurements are from the NATTS PM ₁₀ metals sampler. EPA recently approved ERG's ICP-MS analysis method as an FEM.
O ₃	Hourly	API Teledyne 400E
CO (Trace Level)	Hourly	Ecotech EC9830T
SO ₂ (Trace Level)	Hourly	Ecotech EC9850T
NO/NO ₂ /NO _x	Hourly	Ecotech EC9841
NO/NO _y	Hourly	Ecotech EC9843
Surface meteorology	Hourly	RM Young anemometer, Vaisala temperature/relative humidity probe currently in operation

4.10 SIP Monitoring Network Requirements

ADEQ, along with other delegated agencies, is responsible for the preparation and submittal of SIPs for nonattainment and maintenance areas in Arizona. ADEQ is responsible for conducting ambient air monitoring for areas not included within Maricopa, Pima, and Pinal Counties or tribal lands. Permitted sources are also responsible for monitoring air quality, if it is included in their air quality permit. Some monitoring sites are specifically named in the area's SIP; other monitoring sites are not specifically named, but are representative of the air quality in that SIP area. Table 4.10-1 lists the ADEQ and source-operated monitors used to determine SIP compliance.

Table 4.10-1 SIP Network Monitoring Requirements

Area and County	Pollutant	Classification	ADEQ SIP Sites
Phoenix, Maricopa	CO	Maintenance/Attainment	<i>JLG Supersite</i>
Phoenix, Maricopa	O ₃ 1-hr	Maintenance/Attainment	<i>JLG Supersite, Tonto National Monument</i>
Phoenix-Apache Junction, Maricopa and Pinal	O ₃ 8-hr	"Basic" Nonattainment	<i>Alamo Lake, JLG Supersite, Queen Valley, Tonto National Monument</i>
Ajo, Pima	PM ₁₀	Moderate Nonattainment	<i>Ajo</i>
Bullhead City, Mohave	PM ₁₀	Maintenance/Attainment	<i>Bullhead City (Post Office)</i>
Douglas-Paul Spur, Cochise	PM ₁₀	Moderate Nonattainment	<i>Douglas Red Cross, Paul Spur Chemical Lime Plant</i>
Hayden, Gila and Pinal	PM ₁₀	Moderate Nonattainment	<i>Hayden Old Jail</i>
Miami, Gila	PM ₁₀	Moderate Nonattainment	<i>Miami Golf Course & Miami Ridgeline</i>
Nogales, Santa Cruz	PM ₁₀	Moderate Nonattainment	<i>Nogales Post Office</i>
Payson, Gila	PM ₁₀	Maintenance/Attainment	<i>Payson Well Site</i>
Phoenix, Maricopa, and Pinal (Apache Junction portion) Phoenix (Salt River Area)	PM ₁₀	Serious Nonattainment	<i>JLG Supersite</i>
Rillito, Pima	PM ₁₀	Moderate Nonattainment	<i>Rillito</i>
Yuma, Yuma	PM ₁₀	Moderate Nonattainment	<i>Yuma Supersite</i>
Nogales, Santa Cruz	PM _{2.5}	Nonattainment	<i>Nogales Post Office</i>
Ajo, Pima	SO ₂	Maintenance/Attainment	No network or commitment
Douglas, Cochise	SO ₂	Maintenance/Attainment	No network or commitment
Hayden, Gila and Pinal	SO ₂	Nonattainment – Primary	<i>ADEQ (SO₂, MET): Hayden Old Jail ASARCO (5 SO₂, 3 MET [no MET at Jail or Garfield]): Globe Hwy, Garfield Ave., Montgomery Ranch, Hayden Old Jail, Hayden Junction</i>
Miami, Gila	SO ₂	Maintenance/Attainment	<i>ADEQ: Miami Ridgeline, Miami Jones Ranch, Miami Townsite FMMI (SO₂, MET) Miami Jones Ranch, Miami Townsite</i>

Area and County	Pollutant	Classification	ADEQ SIP Sites
Morenci, Greenlee	SO ₂	Maintenance/Attainment	No network or commitment
San Manuel, Pima and Pinal	SO ₂	Maintenance/Attainment	No network or commitment
Regional Haze, 12 Class 1 areas	Visibility Impairing pollutants (VOC, NO _x , SO ₂ , PM ₁₀ , PM _{2.5} , PM _{2.5} species)	Statewide – IMPROVE monitors	ADEQ Protocol sites: Douglas Red Cross, Organ Pipe National Monument, JLG Supersite, Queen Valley, Saguaro West National Monument, Meadview NPS / USFS sites: Chiricahua Entrance Station, Greer Water Treatment Plant, Grand Canyon - Indian Gardens, Grand Canyon - Hance Camp, Ike's Backbone, Meadview, Petrified Forest National Park, Pleasant Valley Ranger Station, Saguaro National Park-East, Sycamore Canyon, Tonto National Monument

Note: *Sites in italics are specifically required in SIP*; others meet the general SIP requirement that representative monitoring be conducted (no specific monitoring sites are named in SIP).

4.11 Source Compliance Monitoring Network Requirements

ADEQ requires select major and minor point sources in the state to conduct ambient monitoring for selected pollutants in and around their sources. Some requirements are for prevention of significant deterioration (PSD) monitoring prior to operation of the facility. Other monitoring requirements are for the duration of the permit or timeframe specified therein. ADEQ activities have been limited to regular performance audits of instruments at some of these sites and review of ambient monitoring data submitted according to the permit requirements. Sources are required to review and validate their data and submit quality assurance documents to ADEQ with the data. Table 4.11-1 lists the monitors operated by ADEQ permitted sources.

Any data submitted to AQS needs to be approved by a PQAQ that meets EPA's QA requirements. Data from the ASARCO and FMFI monitors are being used for regulatory decision making and will need to be submitted to AQS. In spring 2012, ADEQ sent letters to ASARCO and FMFI discussing the PQAQ requirements and suggesting that they meet with ADEQ to discuss options. FMFI representatives met with ADEQ, and in January 2013, ADEQ established monitors at the existing FMFI's Miami Jones Ranch and Miami Townsite sites in the Miami, AZ area. As of May 8th, 2015 FMFI is no longer required to monitor SO₂ at Miami Jones Ranch and Miami Townsite.

Table 4.11-1 Source Compliance Monitoring Network

Site Name	City	Pollutant(s)	AQS Submittal
Globe Highway	Winkelman	SO ₂	No
ASARCO – Hayden – Garfield Ave.	Hayden	SO ₂	No
ASARCO – Montgomery Ranch	Hayden	SO ₂	No
ASARCO – Hayden Junction	Hayden Junction	SO ₂	No
Hayden Old Jail ¹	Hayden	SO ₂	No
Chemical Lime Plant	Nelson	Meteorology	No
Drake Cement	Sycamore Canyon	PM ₁₀ , PM _{2.5} mass and ammonium speciation, Meteorology	No
PCC – Clarkdale NW	Clarkdale	PM ₁₀ mass and metals speciation, Meteorology	No

Site Name	City	Pollutant(s)	AQS Submittal
PCC – Clarkdale SE	Clarkdale	PM ₁₀ mass and metals speciation, Meteorology	No
Carlota Mine – Sanctuary	Globe	PM ₁₀ , H ₂ SO ₄ , Meteorology	No

¹ ADEQ also operates an SO₂ monitor at this site. The ADEQ data are submitted to AQS while the facility data are not.

4.12 Class 1 Visibility Network

As stated previously, visibility monitoring networks track impairment in specified national parks and wilderness areas called Class 1 areas based on designations made by the 1977 CAA Amendments. The evaluations, performed by the USFS and NPS, reviewed the wilderness areas of parks and national forests which were designated as wilderness before 1977, were more than 6,000 acres in size, and had visual air quality as an important resource for visitors. Of the 156 Class 1 areas designated across the nation, 12 are located in Arizona.

For the Class 1 area designations, EPA initiated a nationally operated monitoring network in 1987 called the Interagency Monitoring of PROtected Visual Environments (IMPROVE) program. The purpose of this network is to characterize broad regional trends in visibility conditions using monitoring data collected in or near Class 1 areas across the United States. Originally, the national IMPROVE network was made up of approximately 30 sites at Class 1 areas. During 1999-2000 the number of sites increased to approximately 110. ADEQ, Pima County, and federal land managers at Arizona's Class 1 areas cooperatively operate the visibility monitoring network in Arizona. The current network is described in Table 4.12-1. In addition to the Class 1 IMPROVE monitors listed in Table 4.12-1, ADEQ also operates one IMPROVE monitor at the Douglas Red Cross site, and two collocated IMPROVE monitors at the JLG Supersite. The JLG Supersite serves as an urban IMPROVE monitor and has been used to provide comparative analysis with data from the CSN network. The Douglas Red Cross site may serve multiple objectives. In 2012, a review of the data from the Douglas Red Cross site was prepared by Air Resource Specialists and provided to ADEQ. These data will be used to evaluate if this site should be continued or if it could be better utilized at another location. See the IMPROVE map in Appendix B for a spatial representation of the IMPROVE monitoring network and Class 1 areas within the state of Arizona.

Table 4.12-1 2015 Arizona Class 1 Visibility Monitoring Network

Geographic Area Represented	Monitoring Location
Background	Meadview, Organ Pipe National Monument
Chiricahua National Monument, Chiricahua Wilderness Area and Galiuro USFS Wilderness	Chiricahua Entrance Station
Grand Canyon National Park	Hance Camp
Mazatzal and Pine Mountain USFS Wilderness	Ike's Backbone
Mount Baldy	Greer Water Treatment Plant
Petrified Forest National Park	Petrified Forest
Saguaro National Park	East Unit and West Unit
Sierra Ancha USFS Wilderness	Pleasant Valley Ranger Station
Superstition USFS Wilderness	Tonto National Monument, Queen Valley
Sycamore Canyon USFS Wilderness	Sycamore Canyon (Garland Prairie)

4.13 Urban Haze Monitoring Network

ADEQ began studying the nature and causes of urban haze by conducting studies during the winter of 1989-90 in Phoenix and during the winter of 1992-93 in Tucson. These studies recommended long-term, year-round monitoring of visibility in both areas. In 1993, ADEQ began deploying visibility monitoring equipment in Phoenix and Tucson. Executive Order 2000-3 directed by the Governor's Brown Cloud Summit was to establish options for a visibility standard or other method to track progress in improving visibility in the Phoenix area. The Summit concluded that a daily visibility index for the metropolitan area should have its characteristics defined through a public survey process. This process called for a representative cross-section of residents of Area A (as described in [House Bill 2538](#), roughly the Phoenix metropolitan area), to determine what visual air qualities are desirable, what visual range is acceptable, and how often the combination of acceptable visual range and air quality is preferred. Through a series of meetings in 2002 and early 2003, ADEQ and the Visibility Index Oversight Committee designed the visibility survey, selected a contractor to conduct the survey, oversaw the completion of the field portion of the survey, and defined a recommended visibility index. The Visibility Index Oversight Committee [Final Report](#) was issued in early 2003 summarizing the visibility index.

Equipment currently used to evaluate urban visibility includes transmissometers, nephelometers, and digital camera systems. The Phoenix urban haze network consists of a transmissometer for measuring light extinction along a fixed path length of four and a half kilometers, three nephelometers for measuring light scattering, and five digital camera systems to record visual characteristics of the urban area.

The Tucson urban haze network was shut down in September 2010. In early 2011, a draft summary report was written which summarizes the nephelometer and transmissometer data that were collected since 1997. The report provides summaries and trends in urban visibility data, as well as meteorological data summaries in the form of wind roses. This report is meant to serve as a final data summary for the Tucson Urban Haze network. Information from this report may be utilized in the future if further modifications are needed to the Urban Haze Network.

The current Phoenix urban haze sites (and their status) are described in Table 4.13-1. ADEQ continues to evaluate the Urban Haze program. The high-resolution images from these cameras can be viewed online at <http://www.phoenixvis.net>.

Table 4.13-1 Phoenix Urban Haze Monitoring Network

Site Name	Parameter(s) Measured
ADEQ Building	High Resolution Digital Camera
Banner Mesa Medical Center	High Resolution Digital Camera
Dysart	Light Scattering (Bscat) Nephelometer
Estrella	Light Scattering (Bscat) Nephelometer
Estrella Mountain Community College	High Resolution Digital Cameras
JLG Supersite	IMPROVE
North Mountain Summit	2 High Resolution Digital Cameras
Phoenix Transmissometer (Phoenix Baptist Hospital to Holiday Inn Hotel)	Transmissometer (Bext)
Vehicle Emissions Laboratory	Light Scattering (Bscat) Nephelometer

4.14 Meteorology Monitoring Network

ADEQ operates meteorological equipment at selected sites throughout its network (see Table 4.14-1). Some sites were originally established because other meteorology networks (NWS, AZMet, etc.) were not located near ADEQ's ambient air quality sites. ADEQ has begun to expand the meteorology monitoring network and standardize the meteorological measurements so that all sites collect measurements of wind speed, wind direction, temperature, and relative humidity.

Except for the items mentioned above, ADEQ does not have any specific plans to make changes to the meteorological network, but may add additional meteorological equipment at existing SLAMS sites as resources permit. At this time, ADEQ plans to only submit meteorological data that are required by 40 CFR Part 58.16 to EPA's AQS database. If future resources allow additional meteorological data submittals to the AQS database, ADEQ may do so on a voluntary basis. A spatial representation of ADEQ's meteorological monitoring network can be found in Appendix B.

Table 4.14-1 Meteorology Monitoring Network

Site	Temp.	Temp. Lapse Rate System	Relative Humidity	Wind	Total Horizontal Solar Radiation	Ultraviolet Solar Radiation	Report to AQS	Comments
Alamo Lake	X		X	X			No	
Ajo	X		X	X			No	
Douglas Red Cross	X		X	X			No	
Globe Highway	X		X	X			No	
Hayden Old Jail	X		X	X			No	
JLG Supersite	X		X	X			Yes	For NCore / PAMS support
Miami Golf Course	X		X	X			No	
Nogales Post Office	X		X	X			No	
Paul Spur Chemical Lime Plant	X		X	X			No	
Payson Well Site	X		X	X			No	
Queen Valley	X		X	X			Yes	For PAMS support
Rillito	X		X	X			No	
Vehicle Emissions Laboratory	X	X	X	X	X	X	Solar only	For PAMS support
Yuma Supersite	X		X	X			No	

5.0 QUALITY ASSURANCE

ADEQ sustains a quality system as required by EPA to ensure high quality data are produced that meet the users' needs. The EPA primarily specifies the quality assurance (QA) requirements for operating SLAMS, SPM, CSN, NCore, NATTS, PAMS, and prevention of significant deterioration (PSD) air monitors in *40 CFR Part 58 Appendix A*, the *Quality Assurance Handbook for Air Pollution Measurement Systems: Volume II: Ambient Air Quality Monitoring Program*, technical assurance documents (TADs), and other supporting guidance documents. In response, ADEQ develops quality assurance plans for air monitoring networks, which provide detailed information regarding the specifics of each air monitoring network and how data will be managed. Components of ADEQ's quality system include, but are not limited to:

- ADEQ being established as the primary quality assurance organization (PQAO) for the criteria and non-criteria pollutant air monitoring data collected and reported to EPA's air quality system (AQS).
- An agency-level Quality Management Plan (QMP), which is an "umbrella" document that details, in broad terms, the strategies used to carry out QA/QC in environmental data collection activities.
- Division-level quality assurance program plans (QAPPs) for each major, ongoing air monitoring network. Each QAPP describes:
 - purpose for operating the monitoring station or network
 - data quality objectives (DQOs) and/or measurement quality objectives (MQOs) along with data quality indicators (DQIs) that specify the amount of tolerable error in the data using statistical metrics
 - variety of regularly occurring quality control (QC) checks along with pass/fail criteria
 - types of QA assessments and reports needed from the network
 - data validation processes and data reporting requirements
- Unit-level standard operating procedures (SOPs) that document procedures to assure that work products are reliable, reproducible, and consistent in quality. SOPs also serve to clearly communicate any process customizations in-use, providing a means of attesting that work products are credible, legally defensible, and meet or exceed our customers' and/or stakeholders' needs or requirements.

ADEQ uses a multi-tiered approach to data validation to ensure consistent quality. It requires all data to move through different levels of QA by separate reviewers. Data have five different levels associated with each tier level.

- Raw – Original unchanged data recorded by the sampler or produced by laboratory analysis.
- Level 1 – Data are reviewed programmatically using software written to flag data. The data are flagged valid or invalid based on instrumentation parameters.
- Level 2 – Data are reviewed manually on a daily to weekly basis by an initial data reviewer to flag any discrepancies found. This gives the data a preliminary verification decision and identifies outliers, anomalous data and instrumentation/laboratory problems.
- Level 3 – Data are reviewed manually on a monthly to quarterly basis by the final data reviewer by looking at the data spatially and temporally. QC measures are incorporated, environmental events are identified, and a final determination on the validity of data is made.
- Certified – Data are uploaded to AQS and are certified annually by ADEQ.

5.1 EPA QA Reports and Network Performance

Periodically, EPA publishes reports for some of the criteria pollutant networks, and potentially non-criteria pollutant networks, that rate and/or rank monitoring organizations' performance over a three year period. The QA Team, as well as other personnel in DM&QA, review these reports to gauge how well our networks are performing with those across the nation. If needed, corrective actions are taken to ensure data of the highest quality possible are collected. ADEQ is monitoring the PM_{2.5} network to see how it performs nationally based on the results published in the most recent EPA report, the *3-Year Quality Assurance Report Calendar Years 2005, 2006, and 2007 The SLAMS PM2.5 Ambient Air Monitoring Program (February 2009)*.

5.2 EPA Data Reports

The 2014 Data Certification Letter and adjoining AMP 600 and AMP 450N reports were submitted to Region 9 on April 17th, 2015. The data certification sections of AQS were also updated reflecting ADEQ's recommendations for certifying the data.

Appendix A – Definitions and Abbreviations

AAAD	Air Assessment Ambient Database
AAS	Air Assessment Section
AADT	Annual Average Daily Traffic
ADEQ	Arizona Department of Environmental Quality
AFL	Air Filter Lab
AMU	Air Monitoring Unit
ASARCO	American Smelting and Refining Company, LLC
ATEC	Atmospheric Technologies, Inc.
Auto GC/MS	Automated Gas Chromatograph/Mass Spectrometer
AQS	Air Quality System (EPA database)
BAM	Beta Attenuation Monitor
Bext	Total Light Extinction
Bscat	Light Scattering
CAA	Clean Air Act
CBSA	Core Based Statistical Area
CEDES	Commission for Ecology and Sustainable Development
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CSN	Chemical Speciation Network
DCS	Data Collection System
DM&QA	Data Management & Quality Assurance Unit
DQO	Data Quality Objective
E-BAM	Environment Proof - Beta Attenuation Monitor
EDO	Environmental Data Operation
EPA	Environmental Protection Agency
ERG	Eastern Research Group, Inc.
FEM	Federal Equivalent Method
FMMI	Freeport McMoRan Copper and Gold Inc.

FRM	Federal Reference Method
HAP	Hazardous Air Pollutant
ICP-MS	Inductively Coupled Plasma Mass Spectrometry
IMPROVE	<u>I</u> nteragency <u>M</u> onitoring of <u>P</u> ROtected <u>V</u> isual <u>E</u> nvironments
MCAQD	Maricopa County Air Quality Department
MET	Meteorological Measurements (wind, temperature, relative humidity)
MQO	Measurement Quality Objective
MSA	Metropolitan Statistical Area
µg/m ³	Micrograms per Cubic Meter
NAAQS	National Ambient Air Quality Standard
NATTS	National Air Toxics Trends Station
NCore	National Core multipollutant monitoring stations
NIST	National Institute of Standards and Technology
NM	National Monument
NO ₂	Nitrogen Dioxide
NO _x	Nitrogen oxides
NO _y	Reactive Nitrogen Oxides
NPAP	National Performance Audit Program
NPEP	National Performance Evaluation Program
NPS	National Park Service
NWS	National Weather Service
O ₃	Ozone
OAQPS	Office of Air Quality Planning and Standards
PAHs	Polycyclic Aromatic Hydrocarbons
PAMS	Photochemical Assessment Monitoring Station
Pb	Lead
PCAQCD	Pinal County Air Quality Control District
PDEQ	Pima County Department of Environmental Quality
PE	Performance Evaluation
PEP	Performance Evaluation Program

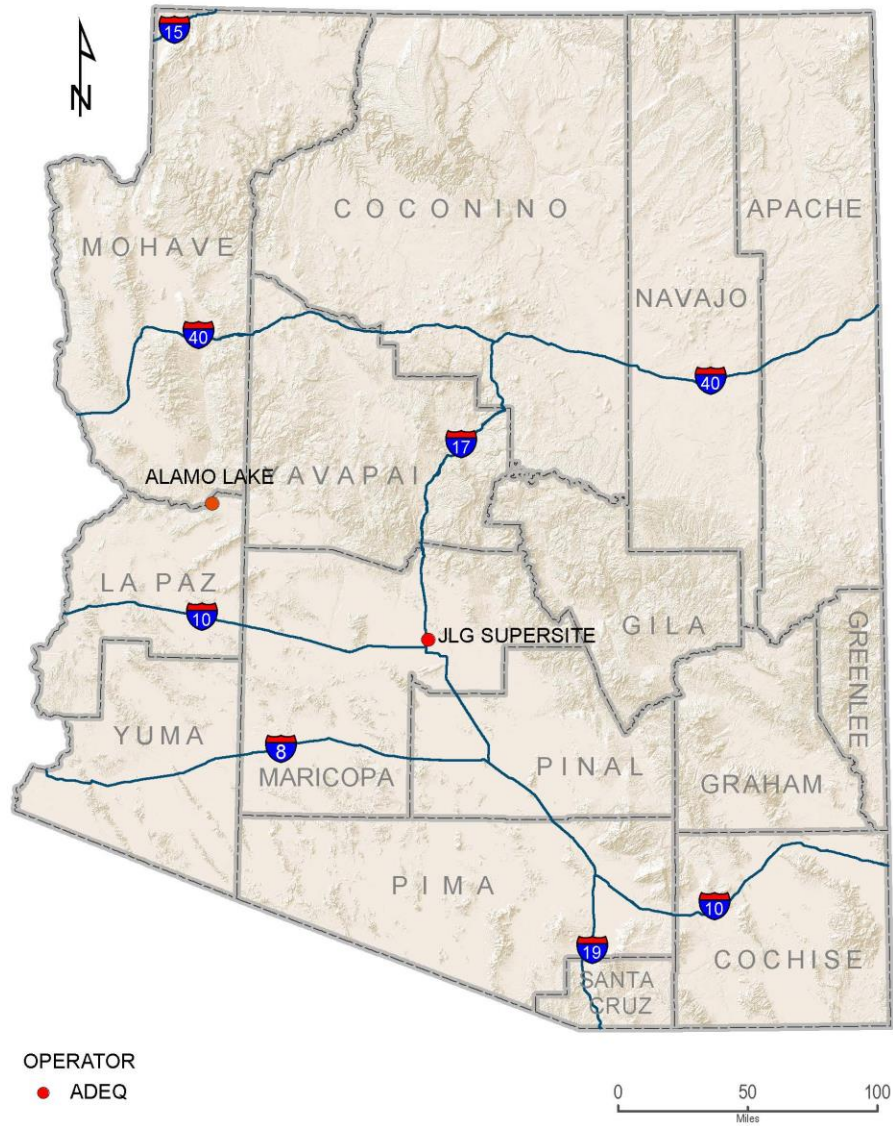
PM	Particulate Matter
PM ₁₀	Particulate Matter \leq 10 microns
PM _{coarse}	Coarse Particulate Matter between 2.5 to 10 micrometers aerodynamic diameter, may also be denoted as PM _{10-2.5}
PM _{2.5}	Particulate Matter \leq 2.5 microns
POC	Parameter Occurrence Code
ppb	Parts Per Billion
ppm	Parts Per Million
PQAO	Primary Quality Assurance Organization
PSD	Prevention of Significant Deterioration
PWEI	Populated Weighted Emissions Index
QA	Quality Assurance
QAPP	Quality Assurance Program Plan
QC	Quality Control
QMP	Quality Management Plan
RASS	Radar Acoustic Sounding System
SEMARNAT	Secretariat of Environment and Natural Resources
SIP	State Implementation Plan
SLAMS	State and Local Air Monitoring Stations
SO ₂	Sulfur Dioxide
SOP	Standard Operating Procedure
SPM	Special Purpose Monitor
STN	Speciation Trends Network
TAD	Technical Assistance Document
TEOM	Tapered Element Oscillating Microbalance
TSA	Technical System Audit
USFS	United States Forest Service
VOC	Volatile Organic Compound

Appendix B – Network Maps

There are ten maps in this section illustrating the location of ADEQ monitors:

- CO Network
- NO₂ Network
- O₃ Network
- SO₂ Network
- Pb Network
- PM₁₀ Network
- PM_{2.5} Network
- Meteorological Network
- Urban Visibility Network
- IMPROVE Network & Class I Wilderness areas

CO Network

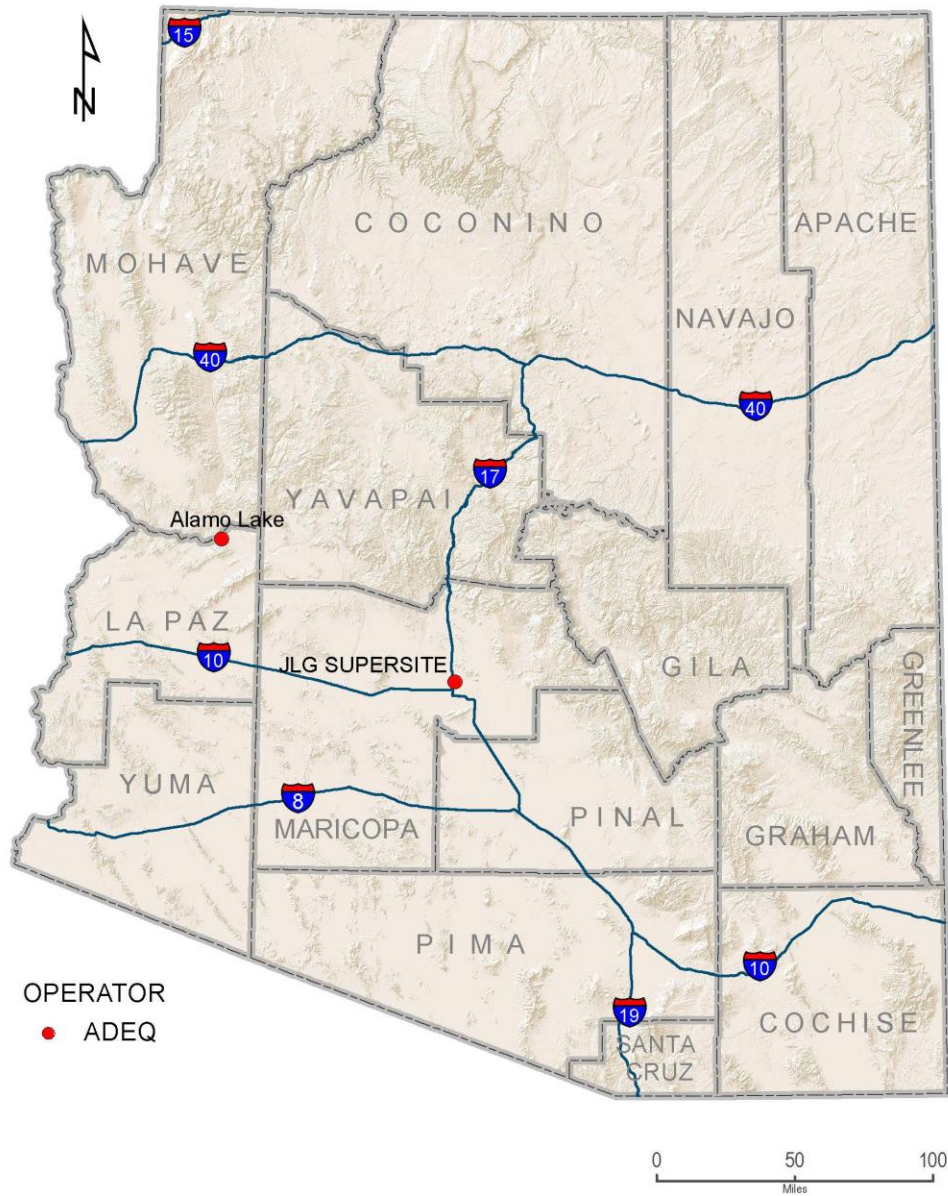


Source: AAAD



May 6, 2015 Author - N Caroli
edited: DJ Crouse

NO₂ Network

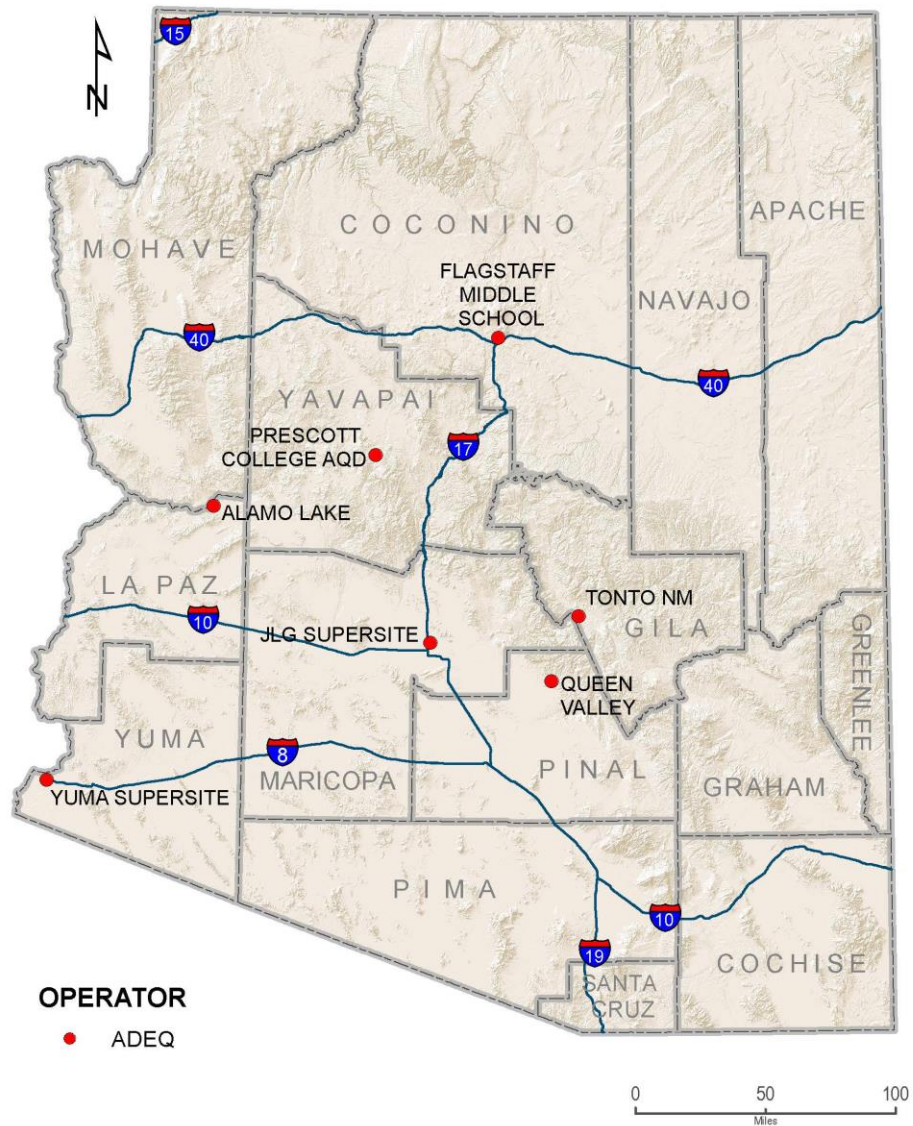


Source: AAAD

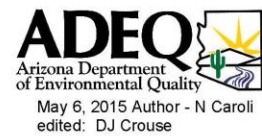


May 6, 2015 Author - N Caroli
edited:DJ Crouse

O₃ Network



Source: AAAD



SO₂ Network



OPERATOR

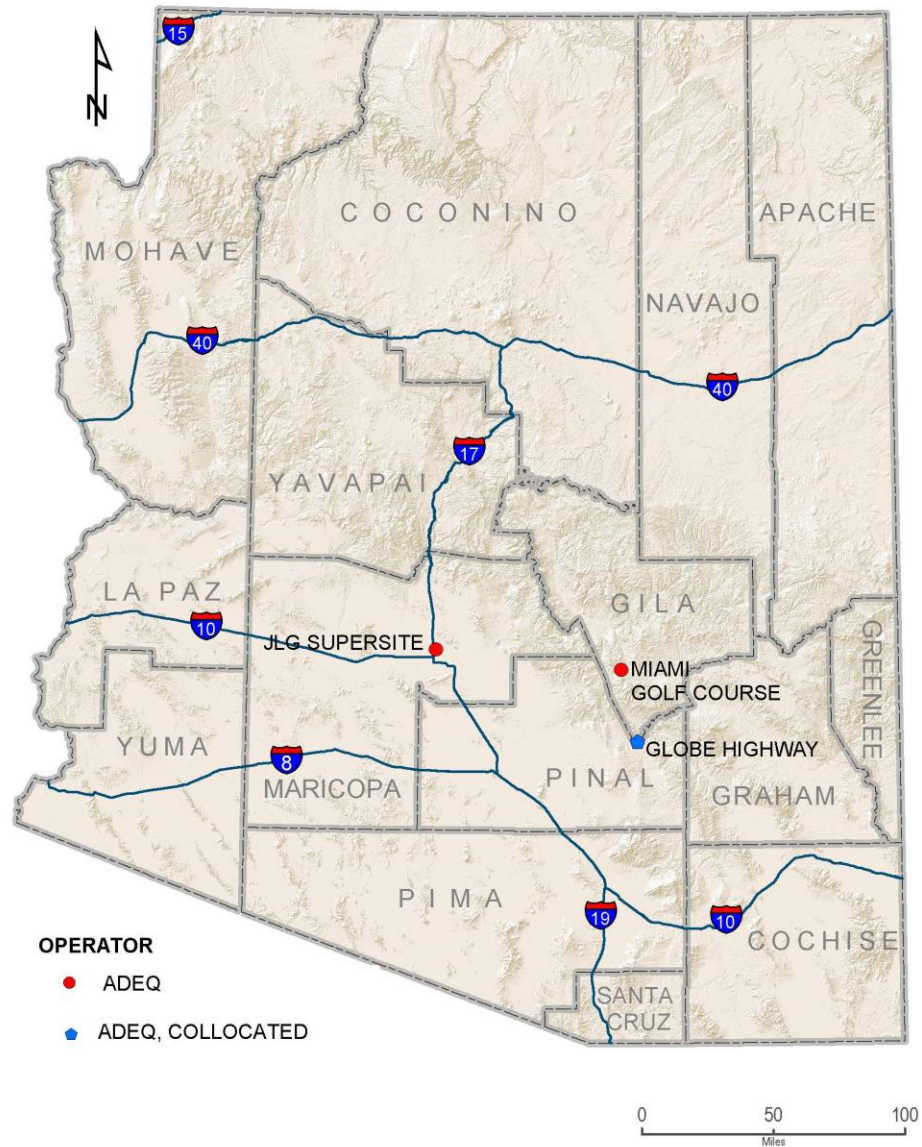
- ADEQ

Source: AAAD

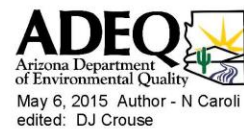


May 6, 2015 Author - N Caroli
edited: DJ Crouse

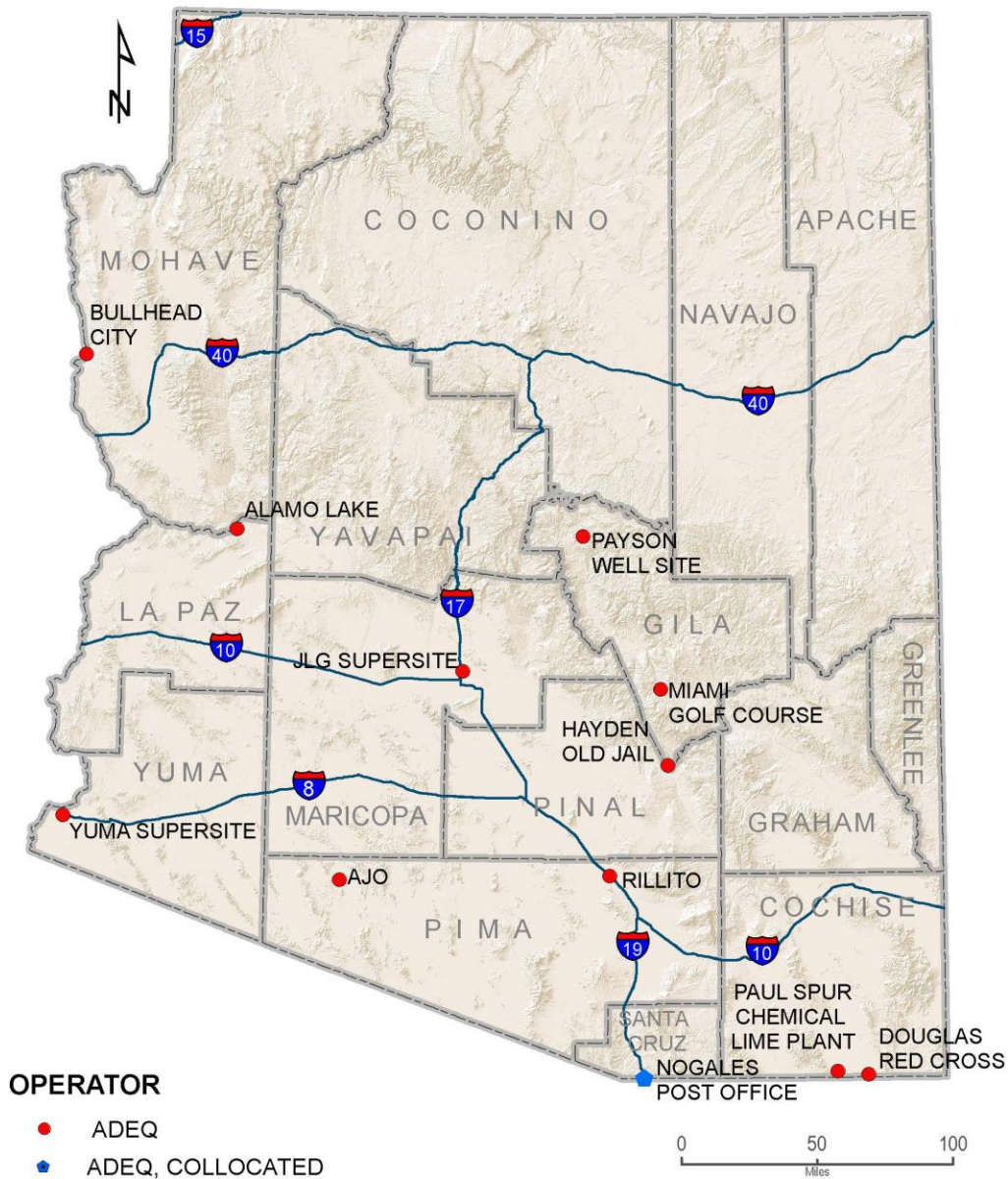
P b N e t w o r k



Source: AAAD



PM₁₀ Network

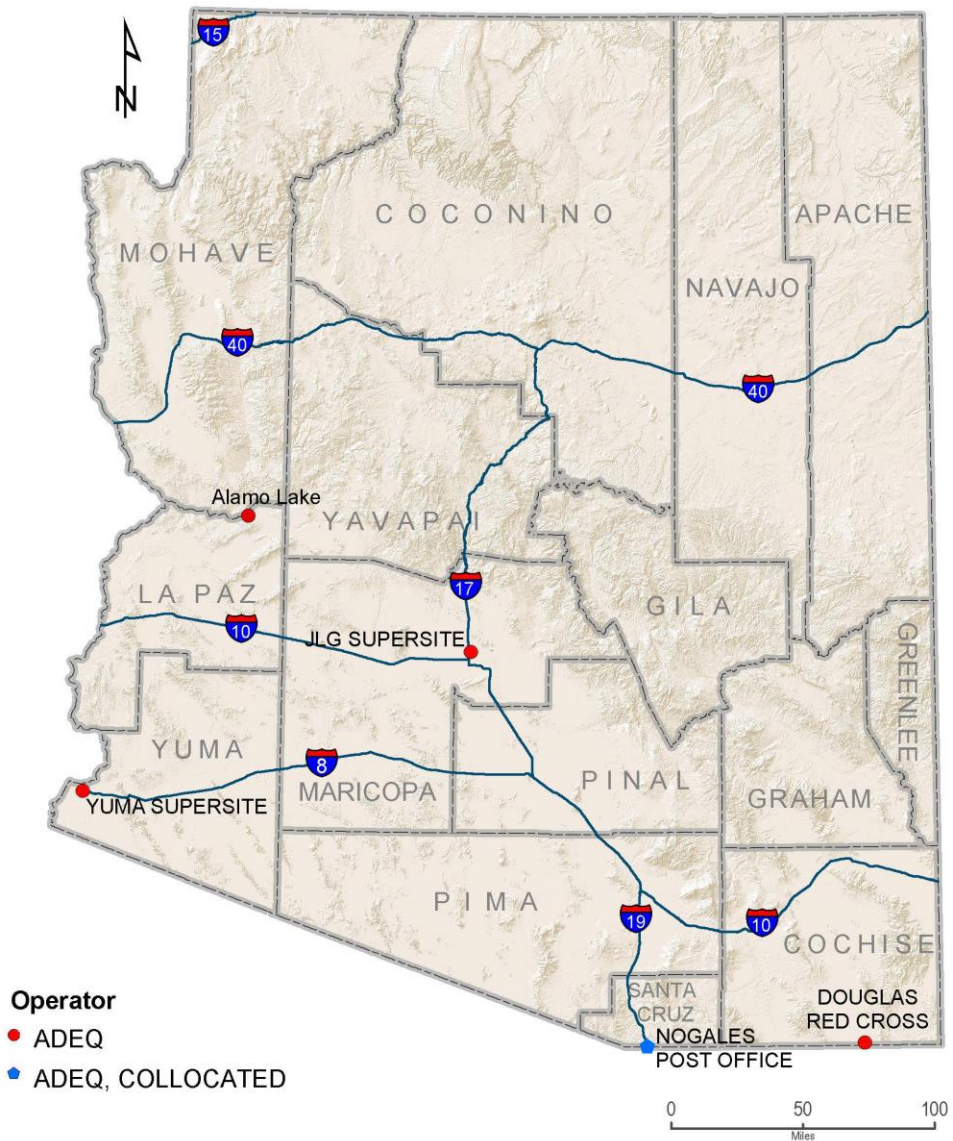


Source: AAAD



May 6, 2015 Author - N Caroli
edited: DJ Crouse

PM_{2.5} Network

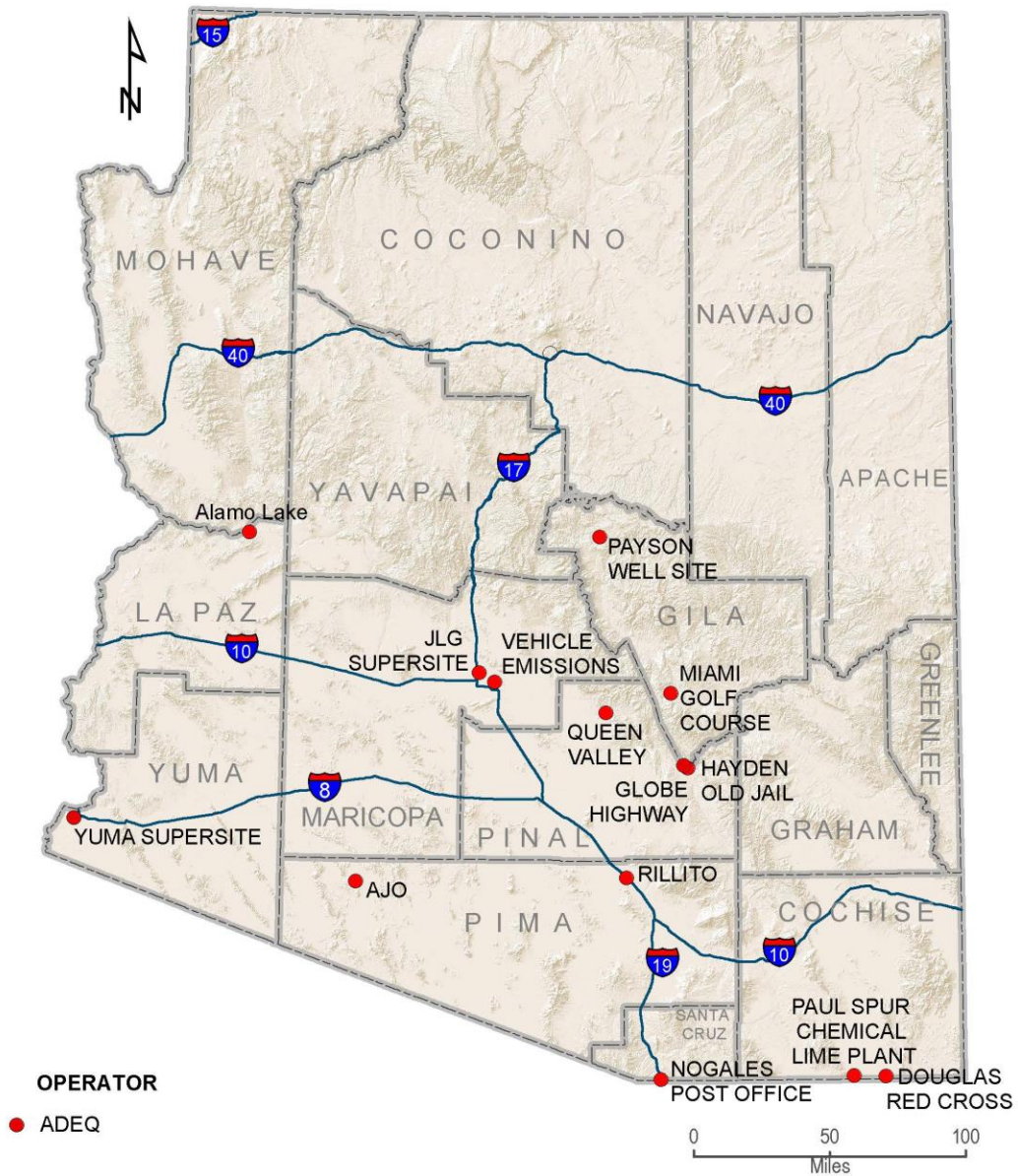


Source: AAAD



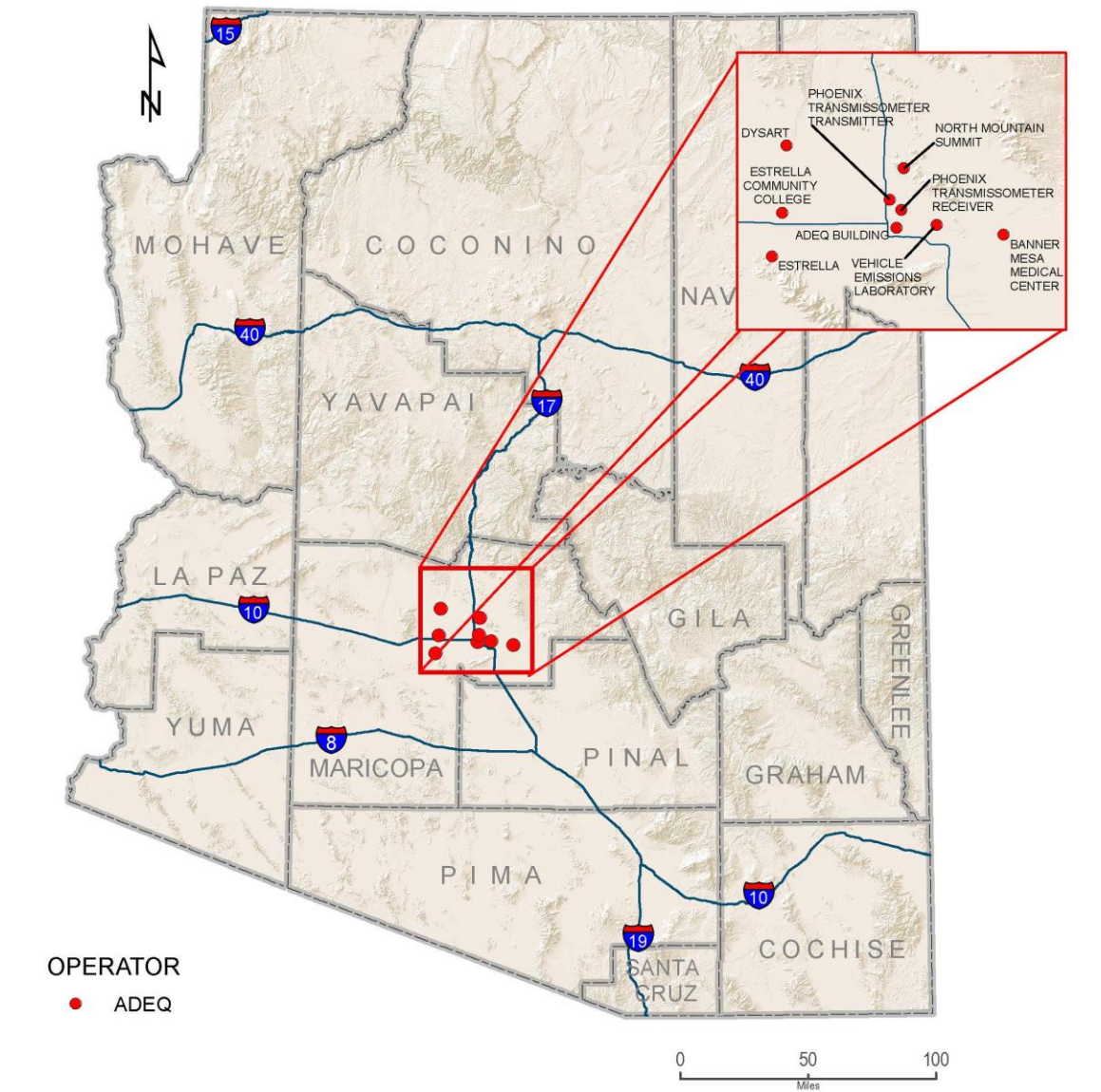
May 6, 2015 Author - N Caroli
editor: DJ Crouse

Meteorological Network



Source: AAAD

Urban Visibility Network



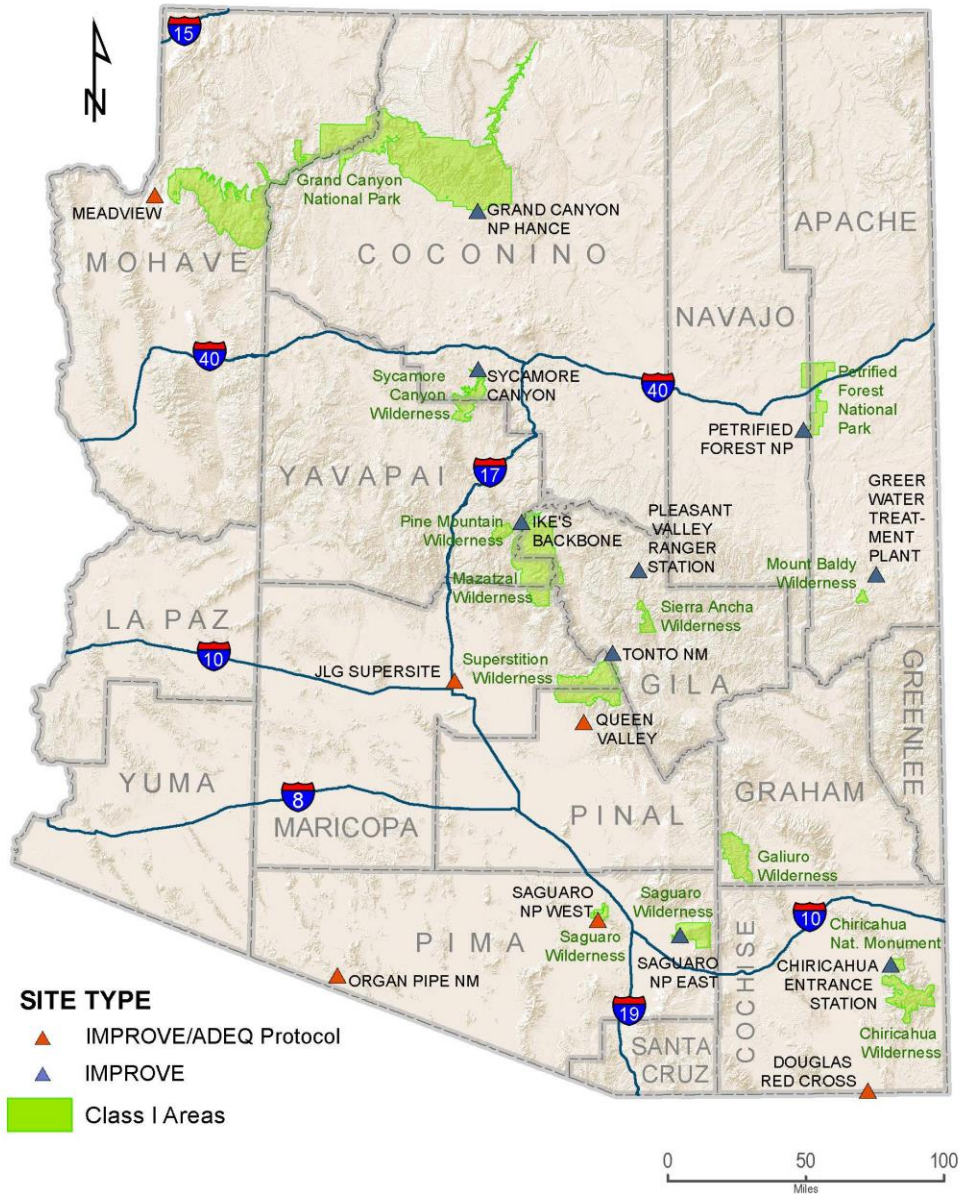
URBAN VISIBILITY NETWORK			
SITE	MONITOR TYPE	SITE	MONITOR TYPE
ADEQ BUILDING	CAMERA	NORTH MOUNTAIN SUMMIT	CAMERA
BANNER MESA MEDICAL CENTER	CAMERA	PHOENIX TRANSMISSOMETER RECEIVER	TRANSMISSOMETER
DYSART	NEPHELOMETER	PHOENIX TRANSMISSOMETER TRANSMITTER	TRANSMISSOMETER
ESTRELLA	NEPHELOMETER	VEHICLE EMISSIONS LABORATORY	NEPHELOMETER
ESTRELLA COMMUNITY COLLEGE	CAMERA		

Source: AAAD

ADEQ
Arizona Department
of Environmental Quality

May 6, 2015 Author - N Caroli
edited: DJ Crouse

IMPROVE Network & Class I Areas



Appendix C – Current Monitors by Program or Network

This appendix contains detailed information about monitors that are operated by ADEQ, or monitors that ADEQ has a strong association with (e.g. IMPROVE monitors). Only those monitors that are in operation at the time that this network plan was created are included in this appendix. Monitors that are proposed to be installed or those that were discontinued prior to the creation of this network plan are not included in this appendix. Since individual pollutants or networks have specific monitoring or siting criteria, this appendix was created so that siting criteria can be easily identified and evaluated throughout a program or network. See Appendix D for detailed information on specific monitoring sites.

NON-REGULATORY NETWORKS

Meteorology

Temp/RH.....	Appendix C Page 4
Wind	Appendix C Page 6
Special Purpose Monitors (SPM).....	Appendix C Page 8

NAAQS-RELATED NETWORKS

State & Local Air Monitoring Stations (SLAMS)

CO	Appendix C Page 9
NO ₂	Appendix C Page 10
O ₃	Appendix C Page 11
SO ₂	Appendix C Page 12
Pb.....	Appendix C Page 13
PM ₁₀	Appendix C Page 14
PM _{2.5}	Appendix C Page 16
Chemical Speciation Network (CSN).....	Appendix C Page 17
National Core Multi-Pollutant Monitoring Stations (NCore)	Appendix C Page 18
Photochemical Assessment Monitoring Stations (PAMS)	Appendix C Page 20

AIR TOXICS

National Air Toxics Trends Sites (NATTS)	Appendix C Page 23
Urban Air Toxics Monitoring Program (UATMP).....	Appendix C Page 24

VISIBILITY

Urban Haze

Camera.....	Appendix C Page 25
Nephelometer	Appendix C Page 26
Transmissometer	Appendix C Page 27
Temp/RH.....	Appendix C Page 28
Interagency Monitoring of Protected Visual Environments (IMPROVE).....	Appendix C Page 29

Definitions for Appendix C – Current Monitors by Program or Network

Local Site Name	Official name for the site as written in ADEQ's AirVision Database
Pollutant (POC)	The pollutant(s) or parameter(s) being collected or measured at the site and the POC is the Primary Occurrence Code for the instrument, as it is in ADEQ's AirVision Database
Parameter code	The AQS code representing a specific pollutant being measured or monitored
Basic monitoring objective	Purpose of monitoring for the parameter at the site (Public Information, NAAQS Comparison, or Research)
Site type(s)	A brief description of the intended purpose of the monitor's measurements (Extreme Downwind, Highest Concentration, Max Ozone Concentration, Max Precursor Impact, Population Exposure, Source Oriented, Upwind Background, General / Background, Regional Transport, Welfare-Related Impacts, Quality Assurance, or Other)
Monitor type(s)	The associated monitoring network for the monitor (IMPROVE, Index Site, Industrial, NATTS, NCore, Non-EPA Federal, PAMS, Proposed NCore, QA Collocated, SLAMS, Special Purpose, Supplemental Speciation, Trends Speciation, Tribal Monitor, Unofficial PAMS)
Instrument manufacturer and model	The specific make and model of the monitor or instrument used in the network
Method code	The AQS code representing the particular method for collecting samples of the specified instrument
FRM/FEM/ARM/other	Denotes if the instrument is a Federal Reference Method, Federal Equivalency Method, Approved Regional Method (for continuous PM _{2.5} only), or other according to the Federal Registry
Collecting Agency	Name of agency collecting data
Analytical Lab (weight, toxics, other)	Name of laboratory performing sample analysis
Reporting Agency	Name of agency reporting the data
Spatial scale (micro, neighborhood)	Area represented by an air quality monitor (microscale: 0 – 100 m, middle scale: 0.1 – 0.5 km, neighborhood: 0.5 – 4 km, urban: 4 – 50 km, regional: ~50 – 500 km, or national/global)
Monitoring start date (MM/DD/YYYY)	Date that the monitor was started at the site
Current sampling frequency (1:3, continuous)	Frequency the instrument collects samples or measurements (e.g. hourly, daily, 1:3, 1:6, etc.)
Calculated sampling frequency (1:3 / 1:1)	Theoretical frequency for particular matter instrument based on Ratio to Standard Figure in 40CFR Part 58.12 (e.g. hourly, daily, 1:3, 1:6)
Sampling season (MM/DD-MM/DD)	Period that the instrument collects samples or measurements throughout a given year (expressed as a range of months)
Probe height (meters)	Distance the probe is from the ground in meters (O ₃ and SO ₂ probes must be between 2 and 15 meters; others pollutants must be between 2 to 7 meters; meteorology typically 2 or 10 meters)
Distance from supporting structure (meters)	For rooftop probe(s) only. The separation distance is in reference to walls, parapets, or penthouses located on roof
Distance from obstructions on roof (meters)	Distance the instrument inlet is from the closest obstruction on the roof in meters (probes and inlets must be at least 1 meter from obstructions)
Distance from obstructions not on roof (meters)	Distance the instrument inlet is from the closest obstruction not on the roof in meters (probes and inlets must be at least 1 meter from obstructions)

Distance from trees (meters)	Distance the instrument inlet is from the nearest tree in meters (must be a minimum of 10 meters from drip line)
Obstruction Height above Probe (meters)	Height the obstruction is above the inlet (distance from the obstruction to the inlet must be at least 2x the height that the obstacle protrudes above the inlet). Trees can be considered obstructions depending on density of foliage, therefore the same obstruction requirements apply to trees
Tree Height above Probe (meters)	Height the tree is above the inlet. Trees that are within 10 meters of inlet may not cause issue if the tree height is at or below the inlet height. Furthermore, as trees grow they may become obstructions, therefore it is important to capture the height of trees
Distance to furnace or incinerator flue (meters)	Distance the instrument inlet is from the nearest furnace or incinerator flue in meters (for Pb and SO ₂ ; designed to avoid undue influences from minor sources)
Distance between collocated monitors (meters)	Distance between the centers of collocated instruments in meters (must be between 1 and 4 meters)
Unrestricted airflow (degrees)	Angular measure (in degrees) of the area around an instrument that is free from obstructions (minimum of 180°)
Restricted airflow (degrees)	Direction the airflow is restricted in degrees as they are associated with the cardinal directions (i.e. 90° = E) (must not be in the direction of the prevailing winds)
Prevailing wind direction (degrees)	Direction the wind predominately comes from in degrees during the season of greatest pollutant concentration. Used to determine if restricted airflow is in the direction of the prevailing wind.
Probe material for reactive gases	Type of material probe is made of (SO ₂ , NO ₂ , O ₃ must have FEP Teflon or borosilicate glass; PAMS and VOCs must be borosilicate glass or stainless steel)
Residence time for reactive gases (seconds)	Number of seconds it takes a sample of air to travel from the inlet to the instrument (reactive gases must be less than 20 seconds)
Changes within the next 18 months? (Y/N)	Are there any planned changes to the monitoring in the next 18 months? (Y or N)
Comparison against the annual PM _{2.5} ? (Y/N)	Are the data being compared against the annual PM _{2.5} NAAQS standards? (Y or N)
Frequency of flow rate verification manual PM and Pb samplers	Frequency at which flow rate verifications occur for manual particulate matter and lead instruments (daily, weekly, bi-weekly, monthly)
Frequency of flow rate verification automated PM analyzers	Frequency at which flow rate verifications occur for automated particulate matter instrument (daily, weekly, bi-weekly, monthly)
Frequency of one-point QC check gaseous instruments	Frequency at which zero/span/precision checks occur for gaseous instruments (daily, weekly, bi-weekly, monthly)
Last Annual PE audit for gaseous parameters	Date the last Performance Evaluation audit was performed on the gaseous instrument. (SO ₂ , NO ₂ , O ₃ , CO, etc.) (MM/DD/YYYY)
Last two semi-annual flow rate audits PM and Pb	Dates of the last two audits on the particulate matter and lead instruments flow rate (MM/DD/YYYY, MM/DD/YYYY)

Non-Regulatory - Meteorology - Temp/RH							
Local Site Name	Ajo	Alamo Lake	Douglas Red Cross	Globe Highway	Hayden Old Jail	JLG Supersite	Miami Golf Course
Pollutant (POC)	Temp/RH (1)	Temp/RH (1)	Temp/RH (1)	Temp/RH (1)	Temp/RH (1)	Temp/RH (1)	Temp/RH (1)
Parameter code	62101, 62201	62101, 62200	62101, 62201	62101, 62201	62101, 62201	62101, 62201	62101, 62201
Basic monitoring objective	--	--	--	--	--	--	--
Site type(s)	Population Exposure	Population Exposure	Population Exposure	Highest Concentration, Source Oriented	Source Oriented	Population Exposure	Source Oriented
Monitor type	--	--	--	--	--	SLAMS	--
Network Affiliation (s)	--	--	--	--	--	NCore, PAMS	--
Instrument manufacturer and model	Vaisala HMP 155 Probe	Vaisala HMP 155 Probe	Vaisala HMP 155 Probe	Vaisala HMP 155 Probe	Vaisala HMP 155 Probe	Vaisala HMP 155 Probe	Vaisala HMP 155 Probe
Method code	040	039	040	040	040	040	040
FRM/FEM/ARM/other	--	--	--	--	--	--	--
Collecting Agency	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ
Analytical Lab (weight, toxics, other)	--	--	--	--	--	--	--
Reporting Agency	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ
Spatial Scale (micro, neighborhood)	Neighborhood	Neighborhood	Neighborhood	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Monitoring start date (MM/DD/YYYY)	02/11/2014	07/09/2015	08/16/2012	04/15/2011	02/02/2011	07/01/1993	06/08/2011
Current sampling frequency (1:3, continuous)	Continuous	Continuous	Continuous	Continuous	Continuous	Continuous	Continuous
Calculated sampling frequency (1:3 / 1:1)	--	--	--	--	--	--	--
Sampling season (MM/DD-MM/DD)	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31
Probe height (meters)	2.3	2.2	2	2	2.1	2	2
Distance from supporting structure (meters)	1.2	1	--	--	0.5	1	--
Distance from obstructions on roof (meters)	--	--	--	--	--	2	--
Distance from obstructions not on roof (meters)	--	--	--	--	--	20	--
Distance from trees (meters)	14	--	13	3.6	12	20	6
Obstruction Height above Probe (meters)	--	--	--	--	--	1	--
Tree Height above Probe (meters)	--	--	--	--	--	8	--
Distance to furnace or incinerator flue (meters)	--	--	--	--	--	--	--
Distance between collocated monitors (meters)	--	--	--	--	--	--	--
Unrestricted airflow (degrees)	360	360	360	360	270	150	330
Restricted airflow (degrees)	--	--	--	--	250-340	140-350	310-350
Prevailing wind direction (degrees)	--	--	--	--	--	--	--
Probe material for reactive gases	--	--	--	--	--	--	--
Residence time for reactive gases (seconds)	--	--	--	--	--	--	--
Changes within the next 18 months? (Y/N)	N	N	N	N	N	N	N
Comparison against the annual PM2.5? (Y/N)	--	--	--	--	--	--	--
Frequency of flow rate verification manual PM and Pb samplers	--	--	--	--	--	--	--
Frequency of flow rate verification automated PM analyzers	--	--	--	--	--	--	--
Frequency of one-point QC check gaseous instruments	--	--	--	--	--	--	--
Last Annual PE audit for gaseous parameters	--	--	--	--	--	--	--
Last two semi-annual flow rate audits PM and Pb	--	--	--	--	--	--	--

Non-Regulatory - Meteorology - Temp/RH continued

	Nogales Post Office	Paul Spur Chemical Lime Plant	Payson Well Site	Queen Valley	Rillito	Vehicle Emissions Laboratory	Yuma Supersite
Local Site Name							
Pollutant (POC)	Temp/RH (1)	Temp/RH (1)	Temp/RH (1)	Temp/RH (1)	Temp/RH (1)	Temp R/H (1)	Temp/RH (1)
Parameter code	62101, 62201	62101, 62201	62101, 62201	62101, 62201	62101, 62201	62101, 62201	62101, 62201
Basic monitoring objective	--	--	--	--	--	--	--
Site type(s)	Population Exposure	Source Oriented	Population Exposure	Downwind	Source Oriented	Population Exposure	Population Exposure
Monitor type	--	--	--	SLAMS	--	--	--
Network Affiliation (s)	--	--	--	PAMS	--	--	--
Instrument manufacturer and model	Vaisala HMP 155 Probe	Vaisala HMP 155 Probe	Vaisala HMP 45C Probe	Vaisala HMP 45C Probe	Vaisala HMP 155 Probe	Vaisala HMP 155 Probe	Vaisala HMP 155 Probe
Method code	040	040	040	040	040	040	040
FRM/FEM/ARM/other	--	--	--	--	--	--	--
Collecting Agency	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ
Analytical Lab (weight, toxics, other)	--	--	--	--	--	--	--
Reporting Agency	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ
Spatial Scale (micro, neighborhood)	Neighborhood	Middle	Neighborhood	Regional	Middle	Neighborhood	Neighborhood
Monitoring start date (MM/DD/YYYY)	08/11/2011	12/01/2011	05/30/1991	06/23/2003	03/30/2010	05/11/1999	03/17/2010
Current sampling frequency (1:3, continuous)	Continuous	Continuous	Continuous	Continuous	Continuous	Continuous	Continuous
Calculated sampling frequency (1:3 / 1:1)	--	--	--	--	--	--	--
Sampling season (MM/DD-MM/DD)	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31
Probe height (meters)	5.2	2	2	2.6	2.4	4.5	2
Distance from supporting structure (meters)	--	--	--	0.50	--	--	1
Distance from obstructions on roof (meters)	--	--	--	--	--	--	--
Distance from obstructions not on roof (meters)	--	--	5	--	--	--	1
Distance from trees (meters)	5	9	1	1.2	19	10	--
Obstruction Height above Probe (meters)	--	--	--	--	--	--	--
Tree Height above Probe (meters)	--	--	--	--	--	--	--
Distance to furnace or incinerator flue (meters)	--	--	--	--	--	--	--
Distance between collocated monitors (meters)	--	--	--	--	--	--	--
Unrestricted airflow (degrees)	360	360	250	180	290	360	270
Restricted airflow (degrees)	--	--	--	90-270	35-105	--	0-90
Prevailing wind direction (degrees)	--	--	--	--	--	--	--
Probe material for reactive gases	--	--	--	--	--	--	--
Residence time for reactive gases (seconds)	--	--	--	--	--	--	--
Changes within the next 18 months? (Y/N)	N	N	N	N	N	N	N
Comparison against the annual PM2.5? (Y/N)	--	--	--	--	--	--	--
Frequency of flow rate verification manual PM and Pb samplers	--	--	--	--	--	--	--
Frequency of flow rate verification automated PM analyzers	--	--	--	--	--	--	--
Frequency of one-point QC check gaseous instruments	--	--	--	--	--	--	--
Last Annual PE audit for gaseous parameters	--	--	--	--	--	--	--
Last two semi-annual flow rate audits PM and Pb	--	--	--	--	--	--	--

Non-Regulatory - Meteorology - Wind							
Local Site Name	Ajo	Alamo Lake	Douglas Red Cross	Globe Highway	Hayden Old Jail	JLG Supersite	Miami Golf Course
Pollutant (POC)	Wind (1)	Wind (1)	Wind (1)	Wind (1)	Wind (1)	Wind (1)	Wind (1)
Parameter code	61103, 61104	61103, 61103	61103, 61104	61103, 61104	61103, 61104	61103, 61104	61103, 61104
Basic monitoring objective	--	--	--	--	--	--	--
Site type(s)	Population Exposure	Population Exposure	Population Exposure	Highest Concentration, Source Oriented	Source Oriented	Population Exposure	Source Oriented
Monitor type	--	--	--	--	--	SLAMS	--
Network Affiliation (s)	--	--	--	--	--	NCORE, PAMS	--
Instrument manufacturer and model	RM Young 5305 Anemometer	RM Young 5305 Anemometer	RM Young 5305 Anemometer	RM Young 5305 Anemometer	RM Young 5305 Anemometer	RM Young 5305 Anemometer	RM Young 5305 Anemometer
Method code	020	019	020	020	020	020	020
FRM/FEM/ARM/other	--	--	--	--	--	--	--
Collecting Agency	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ
Analytical Lab (weight, toxics, other)	--	--	--	--	--	--	--
Reporting Agency	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ
Spatial Scale (micro, neighborhood)	Neighborhood	Neighborhood	Neighborhood	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Monitoring start date (MM/DD/YYYY)	07/01/1969	07/09/2015	08/06/2012	04/15/2011	02/02/2011	07/01/1993	06/08/2011
Current sampling frequency (1:3, continuous)	Continuous	Continuous	Continuous	Continuous	Continuous	Continuous	Continuous
Calculated sampling frequency (1:3 / 1:1)	--	--	--	--	--	--	--
Sampling season (MM/DD-MM/DD)	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31
Probe height (meters)	10	11	10	10	10	11.5	10.5
Distance from supporting structure (meters)	--	--	--	--	--	--	--
Distance from obstructions on roof (meters)	--	--	--	--	--	--	--
Distance from obstructions not on roof (meters)	--	--	--	--	--	--	--
Distance from trees (meters)	14	--	13	--	--	20	--
Obstruction Height above Probe (meters)	--	--	--	--	--	--	--
Tree Height above Probe (meters)	--	--	--	--	--	--	--
Distance to furnace or incinerator flue (meters)	--	--	--	--	--	--	--
Distance between collocated monitors (meters)	--	--	--	--	--	--	--
Unrestricted airflow (degrees)	360	360	360	360	360	360	360
Restricted airflow (degrees)	--	--	--	--	--	--	--
Prevailing wind direction (degrees)	--	--	--	--	--	--	--
Probe material for reactive gases	--	--	--	--	--	--	--
Residence time for reactive gases (seconds)	--	--	--	--	--	--	--
Changes within the next 18 months? (Y/N)	N	N	N	N	N	N	N
Comparison against the annual PM2.5? (Y/N)	--	--	--	--	--	--	--
Frequency of flow rate verification manual PM and Pb samplers	--	--	--	--	--	--	--
Frequency of flow rate verification automated PM analyzers	--	--	--	--	--	--	--
Frequency of one-point QC check gaseous instruments	--	--	--	--	--	--	--
Last Annual PE audit for gaseous parameters	--	--	--	--	--	--	--
Last two semi-annual flow rate audits PM and Pb	--	--	--	--	--	--	--

Non-Regulatory - Meteorology - Wind continued

Local Site Name	Nogales Post Office	Paul Spur Chemical Lime Plant	Payson Well Site	Queen Valley	Rillito	Vehicle Emissions Laboratory	Yuma Supersite
Pollutant (POC)	Wind (1)	Wind (1)	Wind (1)	Wind (1)	Wind (1)	Wind (1)	Wind (1)
Parameter code	61103, 61104	61103, 61104	61103, 61104	61103, 61104	61103, 61104	61103, 61104	61103, 61104
Basic monitoring objective	--	--	--	--	--	--	--
Site type(s)	Population Exposure	Source Oriented	Population Exposure	Downwind	Source Oriented	Population Exposure	Population Exposure
Monitor type	--	--	--	SLAMS	--	--	--
Network Affiliation (s)	--	--	--	PAMS	--	--	--
Instrument manufacturer and model	RM Young 5305 Anemometer	RM Young 5305 Anemometer	RM Young 5103 Anemometer	RM Young 5103 Anemometer	RM Young 5305 Anemometer	RM Young 5305 Anemometer	RM Young 5305 Anemometer
Method code	020	020	020	020	020	020	020
FRM/FEM/ARM/other	--	--	--	--	--	--	--
Collecting Agency	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ
Analytical Lab (weight, toxics, other)	--	--	--	--	--	--	--
Reporting Agency	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ
Spatial Scale (micro, neighborhood)	Neighborhood	Middle	Neighborhood	Regional	Middle	Neighborhood	Neighborhood
Monitoring start date (MM/DD/YYYY)	01/01/1980	12/01/2011	05/30/1991	06/23/2003	01/08/2004	05/11/1999	03/17/2010
Current sampling frequency (1:3, continuous)	Continuous	Continuous	Continuous	Continuous	Continuous	Continuous	Continuous
Calculated sampling frequency (1:3 / 1:1)	--	--	--	--	--	--	--
Sampling season (MM/DD-MM/DD)	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/32
Probe height (meters)	12	10	10	9	10.4	10	10
Distance from supporting structure (meters)	--	--	--	6.5	--	--	6.3
Distance from obstructions on roof (meters)	--	--	--	--	--	--	--
Distance from obstructions not on roof (meters)	--	--	--	--	--	30	--
Distance from trees (meters)	--	35	2	--	20	50	--
Obstruction Height above Probe (meters)	--	--	--	--	--	--	--
Tree Height above Probe (meters)	--	--	--	--	--	--	--
Distance to furnace or incinerator flue (meters)	--	--	--	--	--	--	--
Distance between collocated monitors (meters)	--	--	--	--	--	--	--
Unrestricted airflow (degrees)	360	360	270	360	360	360	360
Restricted airflow (degrees)	--	--	--	--	--	--	--
Prevailing wind direction (degrees)	--	--	--	--	--	--	--
Probe material for reactive gases	--	--	--	--	--	--	--
Residence time for reactive gases (seconds)	--	--	--	--	--	--	--
Changes within the next 18 months? (Y/N)	N	N	N	N	N	N	N
Comparison against the annual PM2.5? (Y/N)	--	--	--	--	--	--	--
Frequency of flow rate verification manual PM and Pb samplers	--	--	--	--	--	--	--
Frequency of flow rate verification automated PM analyzers	--	--	--	--	--	--	--
Frequency of one-point QC check gaseous instruments	--	--	--	--	--	--	--
Last Annual PE audit for gaseous parameters	--	--	--	--	--	--	--
Last two semi-annual flow rate audits PM and Pb	--	--	--	--	--	--	--

Non-Regulatory - SPM				
Local Site Name	Flagstaff Middle School	Payson Well Site	Prescott College AQD	Sedona Fire Station AQD
Pollutant (POC)	PM _{2.5} (1)	PM _{2.5} (1)	PM _{2.5} (1)	PM _{2.5} (1)
Parameter code	--	--	--	--
Basic monitoring objective	Public Information	Public Information	Public Information	Public Information
Site type(s)	Population Exposure	Population Exposure	Population Exposure	Population Exposure
Monitor type	Special Purpose	Special Purpose	Special Purpose	Special Purpose
Network Affiliation (s)	--	--	--	--
Instrument manufacturer and model	Met One E-BAM	Met One E-BAM	Met One E-BAM	Met One E-BAM
Method code	--	--	--	--
FRM/FEM/ARM/other	--	--	--	--
Collecting Agency	ADEQ	ADEQ	ADEQ	ADEQ
Analytical Lab (weight, toxics, other)	--	--	--	--
Reporting Agency	ADEQ	ADEQ	ADEQ	ADEQ
Spatial Scale (micro, neighborhood)	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Monitoring start date (MM/DD/YYYY)	09/09/1999	05/16/2012	07/13/2011	12/16/2011
Current sampling frequency (1:3, continuous)	Continuous	Continuous	Continuous	Continuous
Calculated sampling frequency (1:3 / 1:1)	--	--	--	--
Sampling season (MM/DD-MM/DD)	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31
Probe height (meters)	6	2	6	3.6
Distance from supporting structure (meters)	--	--	--	--
Distance from obstructions on roof (meters)	15	--	--	--
Distance from obstructions not on roof (meters)	--	6	--	3
Distance from trees (meters)	15	4	--	--
Obstruction Height above Probe (meters)	--	--	--	--
Tree Height above Probe (meters)	--	--	--	--
Distance to furnace or incinerator flue (meters)	--	--	--	--
Distance between collocated monitors (meters)	--	--	--	--
Unrestricted airflow (degrees)	270	90	360	300
Restricted airflow (degrees)	--	--	--	--
Prevailing wind direction (degrees)	--	--	--	--
Probe material for reactive gases	--	--	--	--
Residence time for reactive gases (seconds)	--	--	--	--
Changes within the next 18 months? (Y/N)	N	N	N	N
Comparison against the annual PM _{2.5} ? (Y/N)	N	N	N	N
Frequency of flow rate verification manual PM and Pb samplers	--	--	--	--
Frequency of flow rate verification automated PM analyzers	Monthly	Monthly	Monthly	Monthly
Frequency of one-point QC check gaseous instruments	--	--	--	--
Last Annual PE audit for gaseous parameters	--	--	--	--
Last two semi-annual flow rate audits PM and Pb	--	--	--	--

NAAQS - SLAMS - CO	
Local Site Name	JLG Supersite
Pollutant (POC)	CO (1)
Parameter code	42101
Basic monitoring objective	NAAQS Comparison
Site type(s)	Highest Concentration
Monitor type	SLAMS
Network Affiliation (s)	NCore, PAMS
Instrument manufacturer and model	Ecotech EC9830T
Method code	588
FRM/FEM/ARM/other	FEM
Collecting Agency	ADEQ
Analytical Lab (weight, toxics, other)	--
Reporting Agency	ADEQ
Spatial Scale (micro, neighborhood)	Neighborhood
Monitoring start date (MM/DD/YYYY)	07/01/1993
Current sampling frequency (1:3, continuous)	Continuous
Calculated sampling frequency (1:3 / 1:1)	--
Sampling season (MM/DD-MM/DD)	01/01-12/31
Probe height (meters)	4.1
Distance from supporting structure (meters)	1.2
Distance from obstructions on roof (meters)	--
Distance from obstructions not on roof (meters)	20
Distance from trees (meters)	20
Obstruction Height above Probe (meters)	6
Tree Height above Probe (meters)	6
Distance to furnace or incinerator flue (meters)	--
Distance between collocated monitors (meters)	--
Unrestricted airflow (degrees)	360
Restricted airflow (degrees)	--
Prevailing wind direction (degrees)	--
Probe material for reactive gases	Glass, Teflon
Residence time for reactive gases (seconds)	1.94
Changes within the next 18 months? (Y/N)	N
Comparison against the annual PM2.5? (Y/N)	--
Frequency of flow rate verification manual PM and Pb samplers	--
Frequency of flow rate verification automated PM analyzers	--
Frequency of one-point QC check gaseous instruments	Bi-Weekly
Last Annual PE audit for gaseous parameters	12/02/2014
Last two semi-annual flow rate audits PM and Pb	--

NAAQS - SLAMS - NO ₂		
Local Site Name	Alamo Lake	JLG Supersite
Pollutant (POC)	NO ₂ (1)	NO ₂ (1)
Parameter code	42602	42602
Basic monitoring objective	NAAQS Comparison	NAAQS Comparison
Site type(s)	Background	Highest Concentration
Monitor type	SPM	SLAMS
Network Affiliation (s)	--	NCore
Instrument manufacturer and model	Ecotech EC9841B	Ecotech EC9841B
Method code	074	074
FRM/FEM/ARM/other	FRM	FRM
Collecting Agency	ADEQ	ADEQ
Analytical Lab (weight, toxics, other)	--	--
Reporting Agency	ADEQ	ADEQ
Spatial Scale (micro, neighborhood)	Regional	Neighborhood
Monitoring start date (MM/DD/YYYY)	07/01/2014	07/01/1993
Current sampling frequency (1:3, continuous)	Continuous	Continuous
Calculated sampling frequency (1:3 / 1:1)	--	--
Sampling season (MM/DD-MM/DD)	01/01-12/31	01/01-12/31
Probe height (meters)	4.1	4.1
Distance from supporting structure (meters)	1.6	1.2
Distance from obstructions on roof (meters)	--	--
Distance from obstructions not on roof (meters)	--	20
Distance from trees (meters)	--	20
Obstruction Height above Probe (meters)	--	6
Tree Height above Probe (meters)	--	6
Distance to furnace or incinerator flue (meters)	--	--
Distance between collocated monitors (meters)	--	--
Unrestricted airflow (degrees)	360	360
Restricted airflow (degrees)	--	--
Prevailing wind direction (degrees)	--	--
Probe material for reactive gases	Teflon	Glass, Teflon
Residence time for reactive gases (seconds)	3.6	1.94
Changes within the next 18 months? (Y/N)	N	N
Comparison against the annual PM _{2.5} ? (Y/N)	--	--
Frequency of flow rate verification manual PM and Pb samplers	--	--
Frequency of flow rate verification automated PM analyzers	--	--
Frequency of one-point QC check gaseous instruments	Bi-Weekly	Bi-Weekly
Last Annual PE audit for gaseous parameters	08/28/2014	11/13/2014
Last two semi-annual flow rate audits PM and Pb	--	--

NAAQS - SLAMS - O₃

Local Site Name	Alamo Lake	Flagstaff Middle School	JLG Supersite	Prescott College AQD	Queen Valley	Tonto National Monument	Yuma Supersite
Pollutant (POC)	O ₃ (1)	O ₃ (1)	O ₃ (1)	O ₃ (1)	O ₃ (1)	O ₃ (1)	O ₃ (1)
Parameter code	44201	44201	44201	44201	44201	44201	44201
Basic monitoring objective	NAAQS Comparison	NAAQS Comparison	NAAQS Comparison	NAAQS Comparison	NAAQS Comparison	NAAQS Comparison	NAAQS Comparison
Site type(s)	Regional Transport	Max O ₃ Concentration	Max O ₃ Concentration	Max O ₃ Concentration	Downwind	Downwind	Max O ₃ Concentration
Monitor type	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS
Network Affiliation (s)	--	--	NCore, PAMS	--	PAMS	--	--
Instrument manufacturer and model	Teledyne API 400E	Teledyne API 400E	Teledyne API 400E	Teledyne API 400E	Teledyne API 400E	Teledyne API 400E	Teledyne API 400E
Method code	087	087	087	087	087	087	087
FRM/FEM/ARM/other	FEM	FEM	FEM	FEM	FEM	FEM	FEM
Collecting Agency	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ
Analytical Lab (weight, toxics, other)	--	--	--	--	--	--	--
Reporting Agency	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ
Spatial Scale (micro, neighborhood)	Regional	Neighborhood	Neighborhood	Neighborhood	Regional	Regional	Neighborhood
Monitoring start date (MM/DD/YYYY)	05/20/2005	03/13/2008	07/01/1993	03/25/2008	01/01/1998	05/22/2002	05/06/2008
Current sampling frequency (1:3, continuous)	Continuous	Continuous	Continuous	Continuous	Continuous	Continuous	Continuous
Calculated sampling frequency (1:3 / 1:1)	--	--	--	--	--	--	--
Sampling season (MM/DD-MM/DD)	03/01-10/31	03/01-10/31	01/01-12/31	03/01-10/31	03/01-10/31	03/01-10/31	03/01-10/31
Probe height (meters)	4.1	10	4.1	6	4.5	5	4.3
Distance from supporting structure (meters)	1.6	2	1.2	1.5	2	2	1.6
Distance from obstructions on roof (meters)	--	0	--	--	--	--	--
Distance from obstructions not on roof (meters)	--	--	20	17	--	--	65
Distance from trees (meters)	--	15	20	--	--	6	--
Obstruction Height above Probe (meters)	--	--	6	0	--	--	0
Tree Height above Probe (meters)	--	3	6	--	--	0	--
Distance to furnace or incinerator flue (meters)	--	--	--	--	--	--	--
Distance between collocated monitors (meters)	--	--	--	--	--	--	--
Unrestricted airflow (degrees)	360	360	360	360	360	360	360
Restricted airflow (degrees)	--	--	--	--	--	--	--
Prevailing wind direction (degrees)	--	--	--	--	--	--	--
Probe material for reactive gases	Teflon	Teflon	Glass, Teflon	Teflon	Teflon	Teflon	Teflon
Residence time for reactive gases (seconds)	2.91	8.66	1.94	3.87	3.56	3.53	2.98
Changes within the next 18 months? (Y/N)	N	N	N	N	N	N	N
Comparison against the annual PM _{2.5} ? (Y/N)	--	--	--	--	--	--	--
Frequency of flow rate verification manual PM and Pb samplers	--	--	--	--	--	--	--
Frequency of flow rate verification automated PM analyzers	--	--	--	--	--	--	--
Frequency of one-point QC check gaseous instruments	Bi-Weekly	Bi-Weekly	Bi-Weekly	Bi-Weekly	Bi-Weekly	Bi-Weekly	Bi-Weekly
Last Annual PE audit for gaseous parameters	08/28/2014	05/29/2014	11/25/2014	06/04/2014	08/27/2014	08/12/2014	05/01/2014
Last two semi-annual flow rate audits PM and Pb	--	--	--	--	--	--	--

NAAQS - SLAMS - SO ₂						
Local Site Name	Alamo Lake	Hayden Old Jail	JLG Supersite	Miami Jones Ranch	Miami Ridgeline	Miami Townsite
Pollutant (POC)	SO ₂ (1)	SO ₂ (1)	SO ₂ (1)	SO ₂ (1)	SO ₂ (1)	SO ₂ (1)
Parameter code	42401	42401	42401	42401	42401	42401
Basic monitoring objective	NAAQS Comparison	NAAQS Comparison	NAAQS Comparison	NAAQS Comparison	NAAQS Comparison	NAAQS Comparison
Site type(s)	Background	Source Oriented	Population Exposure	Source Oriented	Source Oriented	Source Oriented
Monitor type	SPM	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS
Network Affiliation (s)	--	--	NCore	--	--	--
Instrument manufacturer and model	Ecotech EC9850T	Ecotech EC9850T	Ecotech EC9850T	Ecotech EC9850T	Thermo 43C	Ecotech EC9850T
Method code	592	592	592	592	060	592
FRM/FEM/ARM/other	FEM	FEM	FEM	FEM	FEM	FEM
Collecting Agency	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ
Analytical Lab (weight, toxics, other)	--	--	--	--	--	--
Reporting Agency	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ
Spatial Scale (micro, neighborhood)	Regional	Neighborhood	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Monitoring start date (MM/DD/YYYY)	01/14/2014	01/01/1975	03/03/2005	02/01/2013	10/05/1995	02/01/2013
Current sampling frequency (1:3, continuous)	Continuous	Continuous	Continuous	Continuous	Continuous	Continuous
Calculated sampling frequency (1:3 / 1:1)	--	--	--	--	--	--
Sampling season (MM/DD-MM/DD)	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31
Probe height (meters)	4.1	4.7	4.1	3.5	3.5	3.7
Distance from supporting structure (meters)	1.6	2.1	1.2	1	1.1	1
Distance from obstructions on roof (meters)	--	--	--	--	--	--
Distance from obstructions not on roof (meters)	--	--	20	--	10	26.4
Distance from trees (meters)	--	12	20	--	--	14
Obstruction Height above Probe (meters)	--	--	6	--	1.5	10.9
Tree Height above Probe (meters)	--	0	6	--	--	7
Distance to furnace or incinerator flue (meters)	--	280	--	3081	1411	2300
Distance between collocated monitors (meters)	--	--	--	--	--	--
Unrestricted airflow (degrees)	360	360	360	360	360	360
Restricted airflow (degrees)	--	--	--	--	--	--
Prevailing wind direction (degrees)	--	--	--	--	--	--
Probe material for reactive gases	Teflon	Teflon	Glass, Teflon	Teflon	Teflon	Teflon
Residence time for reactive gases (seconds)	3.72	4.75	1.94	4.08	4.88	3.96
Changes within the next 18 months? (Y/N)	N	N	N	N	N	N
Comparison against the annual PM _{2.5} ? (Y/N)	--	--	--	--	--	--
Frequency of flow rate verification manual PM and Pb samplers	--	--	--	--	--	--
Frequency of flow rate verification automated PM analyzers	--	--	--	--	--	--
Frequency of one-point QC check gaseous instruments	Bi-Weekly	Bi-Weekly	Bi-Weekly	Bi-Weekly	Bi-Weekly	Bi-Weekly
Last Annual PE audit for gaseous parameters	02/19/2014	02/04/2014	11/25/2014	07/22/2014	05/08/2014	11/19/2014
Last two semi-annual flow rate audits PM and Pb	--	--	--	--	--	--

NAAQS - SLAMS - Pb				
Local Site Name	Globe Highway	Globe Highway	JLG Supersite	Miami Golf Course
Pollutant (POC)	Pb (1)	Pb (2)	Pb-PM10 (1)	Pb (1)
Parameter code	14129	14129	85129	14129
Basic monitoring objective	NAAQS Comparison	NAAQS Comparison	NAAQS Comparison	NAAQS Comparison
Site type(s)	Highest Concentration, Source Oriented	Highest Concentration, Source Oriented	Population Exposure	Source Oriented
Monitor type	SLAMS	SLAMS	SLAMS	SLAMS
Network Affiliation (s)	--	--	NCore	--
Instrument manufacturer and model	Tisch TE-8550-BL TSP	Tisch TE-8550-BL TSP	Thermo Partisol 2000	Tisch TE-8550-BL TSP
Method code	191	191	202	191
FRM/FEM/ARM/other	FEM	FEM	FEM	FEM
Collecting Agency	ADEQ	ADEQ	ADEQ	ADEQ
Analytical Lab (weight, toxics, other)	PCRWRD	PCRWRD	ERG	PCRWRD
Reporting Agency	ADEQ	ADEQ	ERG	ADEQ
Spatial Scale (micro, neighborhood)	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Monitoring start date (MM/DD/YYYY)	10/01/2010	10/01/2010	01/01/2005	10/01/2010
Current sampling frequency (1:3, continuous)	1:6	1:6	1:6	1:6
Calculated sampling frequency (1:3 / 1:1)	--	--	--	--
Sampling season (MM/DD-MM/DD)	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31
Probe height (meters)	2	2	4.7	3
Distance from supporting structure (meters)	1.1	1.1	2	1.1
Distance from obstructions on roof (meters)	--	--	--	--
Distance from obstructions not on roof (meters)	65	65	20	--
Distance from trees (meters)	3	3	20	7
Obstruction Height above Probe (meters)	23	23	6	--
Tree Height above Probe (meters)	-1	-1	6	0
Distance to furnace or incinerator flue (meters)	1043	1043	--	2635
Distance between colocated monitors (meters)	2.7	2.7	--	--
Unrestricted airflow (degrees)	360	360	360	360
Restricted airflow (degrees)	--	--	--	--
Prevailing wind direction (degrees)	--	--	--	--
Probe material for reactive gases	--	--	--	--
Residence time for reactive gases (seconds)	--	--	--	--
Changes within the next 18 months? (Y/N)	N	N	N	N
Comparison against the annual PM2.5? (Y/N)	--	--	--	--
Frequency of flow rate verification manual PM and Pb samplers	Monthly	Monthly	Monthly	Monthly
Frequency of flow rate verification automated PM analyzers	--	--	--	--
Frequency of one-point QC check gaseous instruments	--	--	--	--
Last Annual PE audit for gaseous parameters	--	--	--	--
Last two semi-annual flow rate audits PM and Pb	08/14/2014, 11/04/2014	08/14/2014, 11/04/2014	10/27/2014, 11/24/2014	07/24/2014, 11/04/2014

NAAQS - SLAMS - PM₁₀

Local Site Name	Ajo	Alamo Lake	Bullhead City	Douglas Red Cross	Hayden Old Jail	JLG Supersite	Miami Golf Course
Pollutant (POC)	PM ₁₀ (3)	PM ₁₀ (3)	PM ₁₀ (3)	PM ₁₀ (3)	PM ₁₀ (3)	PM ₁₀ (3)	PM ₁₀ (3)
Parameter code	81102	81102	81102	81102	81102	81102	81102
Basic monitoring objective	NAAQS Comparison	NAAQS Comparison	NAAQS Comparison	NAAQS Comparison	NAAQS Comparison	NAAQS Comparison	NAAQS Comparison
Site type(s)	Population Exposure	Background	Population Exposure	Population Exposure	Source Oriented	Population Exposure	Source Oriented
Monitor type	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS
Network Affiliation (s)	--	--	--	--	--	NCore	--
Instrument manufacturer and model	Thermo TEOM 1400AB	Met One BAM 1020	Thermo TEOM 1400AB	Thermo TEOM 1400AB	Thermo TEOM 1400AB	Met One BAM 1020	Thermo TEOM 1400AB
Method code	079	122	079	079	079	122	079
FRM/FEM/ARM/other	FEM	FEM	FEM	FEM	FEM	FEM	FEM
Collecting Agency	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ
Analytical Lab (weight, toxics, other)	--	--	--	--	--	--	--
Reporting Agency	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ
Spatial Scale (micro, neighborhood)	Neighborhood	Regional	Neighborhood	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Monitoring start date (MM/DD/YYYY)	02/11/1991	10/30/2013	11/05/1997	09/02/1998	01/06/1981	07/01/1993	7/26/2012
Current sampling frequency (1:3, continuous)	Continuous	Continuous	Continuous	Continuous	Continuous	Continuous	Continuous
Calculated sampling frequency (1:3 / 1:1)	1:1	1:1	1:1	1:6	1:6	1:2	1:6
Sampling season (MM/DD-MM/DD)	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31
Probe height (meters)	2.9	4.4	5	3	4.6	4.9	4
Distance from supporting structure (meters)	1.8	1.9	2	2	2	2.5	2
Distance from obstructions on roof (meters)	--	--	--	--	--	--	--
Distance from obstructions not on roof (meters)	--	--	--	10	--	15	--
Distance from trees (meters)	12	--	23	11	12	15	6
Obstruction Height above Probe (meters)	--	--	--	1	--	5	--
Tree Height above Probe (meters)	0	--	0	1	0	5	0
Distance to furnace or incinerator flue (meters)	--	--	--	--	--	--	--
Distance between collocated monitors (meters)	--	--	--	--	--	--	--
Unrestricted airflow (degrees)	360	360	360	360	360	360	360
Restricted airflow (degrees)	--	--	--	--	--	--	--
Prevailing wind direction (degrees)	--	--	--	--	--	--	--
Probe material for reactive gases	--	--	--	--	--	--	--
Residence time for reactive gases (seconds)	--	--	--	--	--	--	--
Changes within the next 18 months? (Y/N)	N	N	N	N	N	N	N
Comparison against the annual PM _{2.5} ? (Y/N)	--	--	--	--	--	--	--
Frequency of flow rate verification manual PM and Pb samplers	--	--	--	--	--	--	--
Frequency of flow rate verification automated PM analyzers	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Frequency of one-point QC check gaseous instruments	--	--	--	--	--	--	--
Last Annual PE audit for gaseous parameters	--	--	--	--	--	--	--
Last two semi-annual flow rate audits PM and Pb	04/30/2014, 10/28/2014	02/19/2014, 08/28/2014	06/04/2014, 12/11/2014	01/29/2014, 07/30/2014	02/04/2014, 08/14/2014	06/12/2014, 11/25/2014	02/26/2014, 07/24/2014

NAAQS - SLAMS - PM₁₀ continued

Local Site Name	Nogales Post Office	Nogales Post Office	Paul Spur Chemical Lime Plant	Payson Well Site	Rillito	Yuma Supersite
Pollutant (POC)	PM ₁₀ (3)	PM ₁₀ (1)	PM ₁₀ (3)	PM ₁₀ (3)	PM ₁₀ (3)	PM ₁₀ (3)
Parameter code	81102	81102	81102	81102	81102	81102
Basic monitoring objective	NAAQS Comparison	NAAQS Comparison	NAAQS Comparison	NAAQS Comparison	NAAQS Comparison	NAAQS Comparison
Site type(s)	Population Exposure	Population Exposure	Source Oriented	Population Exposure	Source Oriented	Population Exposure
Monitor type	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS
Network Affiliation (s)	--	--	--	--	--	--
Instrument manufacturer and model	Met One BAM 1020	Thermo Partisol 2000	Thermo TEOM 1400AB	Met One BAM 1020	Thermo TEOM 1400AB	Thermo TEOM 1400AB
Method code	122	126	079	122	079	079
FRM/FEM/ARM/other	FEM	FRM	FEM	FRM	FEM	FEM
Collecting Agency	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ
Analytical Lab (weight, toxics, other)	--	MCAQD AFL	--	--	--	--
Reporting Agency	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ
Spatial Scale (micro, neighborhood)	Neighborhood	Neighborhood	Middle	Neighborhood	Middle	Neighborhood
Monitoring start date (MM/DD/YYYY)	01/01/1980	01/01/1980	01/06/1991	01/01/1991	01/03/1985	12/01/2009
Current sampling frequency (1:3, continuous)	Continuous	1:6	Continuous	Continuous	Continuous	Continuous
Calculated sampling frequency (1:3 / 1:1)	1:1	1:1	1:2	1:6	1:6	1:6
Sampling season (MM/DD-MM/DD)	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31
Probe height (meters)	8	7.3	3	4.75	4.3	4.5
Distance from supporting structure (meters)	2.7	2	2	2.1	2	1.8
Distance from obstructions on roof (meters)	11	15	--	--	--	--
Distance from obstructions not on roof (meters)			--	--	3	65
Distance from trees (meters)	10	10	35	17.4	20	--
Obstruction Height above Probe (meters)	2	2.7	--	--	0	0
Tree Height above Probe (meters)	0	0	0	1	0	--
Distance to furnace or incinerator flue (meters)	--	--	--	--	--	--
Distance between collocated monitors (meters)	3	3	--	--	--	--
Unrestricted airflow (degrees)	360	360	360	360	360	360
Restricted airflow (degrees)	--	--	--	--	--	--
Prevailing wind direction (degrees)	--	--	--	--	--	--
Probe material for reactive gases	--	--	--	--	--	--
Residence time for reactive gases (seconds)	--	--	--	--	--	--
Changes within the next 18 months? (Y/N)	N	Y	N	N	N	N
Comparison against the annual PM _{2.5} ? (Y/N)	--	--	--	--	--	--
Frequency of flow rate verification manual PM and Pb samplers	--	Monthly	--	--	--	--
Frequency of flow rate verification automated PM analyzers	Monthly	--	Monthly	Monthly	Monthly	Monthly
Frequency of one-point QC check gaseous instruments	--	--	--	--	--	--
Last Annual PE audit for gaseous parameters	--	--	--	--	--	--
Last two semi-annual flow rate audits PM and Pb	01/28/2014, 07/31/2014	1/28/2014, 08/13/14	01/29/2014, 07/30/2014	05/22/2014, 12/03/2014	04/24/2014, 10/28/2014	05/01/2014, 10/29/2014

NAAQS - SLAMS - PM_{2.5}

Local Site Name	Alamo Lake	Douglas Red Cross	JLG Supersite	JLG Supersite	Nogales Post Office	Nogales Post Office	Nogales Post Office	Yuma Supersite
Pollutant (POC)	PM _{2.5} (3)	PM _{2.5} (3)	PM _{2.5} (3)	PM _{2.5} (1)	PM _{2.5} (3)	PM _{2.5} (1)	PM _{2.5} (2)	PM _{2.5} (3)
Parameter code	88101	88101	88101	88101	88101	88101	88101	88101
Basic monitoring objective	NAAQS Comparison	NAAQS Comparison	NAAQS Comparison	NAAQS Comparison	NAAQS Comparison	NAAQS Comparison	NAAQS Comparison	NAAQS Comparison
Site type(s)	Background	Population Exposure	Population Exposure	Population Exposure	Highest Concentration	Highest Concentration	Highest Concentration	Regional Transport
Monitor type	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS	QA Collocated	QA Collocated	SLAMS
Network Affiliation (s)	--	--	NCore	NCore	--	--	--	--
Instrument manufacturer and model	Met One BAM 1020	Met One BAM 1020	Met One BAM 1020	Thermo Partisol 2000	Met One BAM 1020	Thermo Partisol 2000	Thermo Partisol 2000	Met One BAM 1020
Method code	170	170	170	143	170	143	143	170
FRM/FEM/ARM/other	FEM	FEM	FEM	FRM	FEM	FRM	FRM	FEM
Collecting Agency	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ
Analytical Lab (weight, toxics, other)	--	--	--	MCAQD AFL	--	MCAQD AFL	MCAQD AFL	--
Reporting Agency	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ
Spatial Scale (micro, neighborhood)	Regional	Neighborhood	Neighborhood	Neighborhood	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Monitoring start date (MM/DD/YYYY)	11/15/2013	11/02/2000	07/01/2003	07/01/2003	04/01/1999	04/01/1999	04/01/1999	01/01/2010
Current sampling frequency (1:3, continuous)	Continuous	Continuous	Continuous	1:3	Continuous	1:6	1:6	Continuous
Calculated sampling frequency (1:3 / 1:1)	1:3	1:3	1:3	1:3	1:3	1:3	1:3	1:3
Sampling season (MM/DD-MM/DD)	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31
Probe height (meters)	4.5	3	5	4.7	8.3	7.3	7.3	4.6
Distance from supporting structure (meters)	2	2.5	2.5	2	3	2	2	1.9
Distance from obstructions on roof (meters)	--	--	--	--	12	9	8	--
Distance from obstructions not on roof (meters)	--	10	15	20				65
Distance from trees (meters)	--	11	15	20	10	10	10	--
Obstruction Height above Probe (meters)	--	1	5	6	1.7	2.7	2.7	0
Tree Height above Probe (meters)	--	1	5	6	0	0	0	--
Distance to furnace or incinerator flue (meters)	--	--	--	--	--	--	--	--
Distance between collocated monitors (meters)	--	--	--	--	3	3, 2	2	--
Unrestricted airflow (degrees)	360	360	360	360	360	360	360	360
Restricted airflow (degrees)	--	--	--	--	--	--	--	--
Prevailing wind direction (degrees)	--	--	--	--	180	180	180	--
Probe material for reactive gases	--	--	--	--	--	--	--	--
Residence time for reactive gases (seconds)	--	--	--	--	--	--	--	--
Changes within the next 18 months? (Y/N)	N	N	N	N	N	N	Y	N
Comparison against the annual PM _{2.5} ? (Y/N)	Y	Y	Y	Y	Y	Y	Y	Y
Frequency of flow rate verification manual PM and Pb samplers	--	--	--	Monthly	--	Monthly	Monthly	--
Frequency of flow rate verification automated PM analyzers	Monthly	Monthly	Monthly	--	Monthly	--	--	Monthly
Frequency of one-point QC check gaseous instruments	--	--	--	--	--	--	--	--
Last Annual PE audit for gaseous parameters	--	--	--	--	--	--	--	--
Last two semi-annual flow rate audits PM and Pb	02/19/2014, 08/28/2014	01/29/2014, 07/30/2014	06/12/2014, 11/25/2014	10/27/2014, 11/24/2014	01/28/2014, 07/31/2014	01/28/2014, 08/13/2014	08/13/2014, 09/09/2014	05/01/2014, 10/29/2014

NAAQS - CSN		
Local Site Name	JLG Supersite	JLG Supersite
Pollutant (POC)	PM _{2.5} Speciation (7)	PM _{2.5} Speciation (7)
Parameter code	Multiple	Multiple
Basic monitoring objective	Research	Research
Site type(s)	Population Exposure	Population Exposure
Monitor type	SLAMS	SLAMS
Network Affiliation (s)	CSN STN, NCore	CSN STN, NCore
Instrument manufacturer and model	Met One SuperSASS	URG 3000N
Method code	Various	Various
FRM/FEM/ARM/other	--	--
Collecting Agency	ADEQ	ADEQ
Analytical Lab (weight, toxics, other)	RTI	RTI
Reporting Agency	RTI	RTI
Spatial Scale (micro, neighborhood)	Neighborhood	Neighborhood
Monitoring start date (MM/DD/YYYY)	02/21/2000	02/21/2000
Current sampling frequency (1:3, continuous)	1:3	1:3
Calculated sampling frequency (1:3 / 1:1)	--	--
Sampling season (MM/DD-MM/DD)	01/01-12/31	01/01-12/31
Probe height (meters)	4.7	4.9
Distance from supporting structure (meters)	2	2.2
Distance from obstructions on roof (meters)	--	--
Distance from obstructions not on roof (meters)	20	15
Distance from trees (meters)	20	15
Obstruction Height above Probe (meters)	6	5
Tree Height above Probe (meters)	6	5
Distance to furnace or incinerator flue (meters)	--	--
Distance between collocated monitors (meters)	--	--
Unrestricted airflow (degrees)	360	360
Restricted airflow (degrees)	--	--
Prevailing wind direction (degrees)	--	--
Probe material for reactive gases	--	--
Residence time for reactive gases (seconds)	--	--
Changes within the next 18 months? (Y/N)	N	N
Comparison against the annual PM _{2.5} ? (Y/N)	--	--
Frequency of flow rate verification manual PM and Pb samplers	Monthly	Monthly
Frequency of flow rate verification automated PM analyzers	--	--
Frequency of one-point QC check gaseous instruments	--	--
Last Annual PE audit for gaseous parameters	--	--
Last two semi-annual flow rate audits PM and Pb	3/14/2014	3/14/2014

NAAQS - NCore						
Local Site Name	JLG Supersite	JLG Supersite	JLG Supersite	JLG Supersite	JLG Supersite	JLG Supersite
Pollutant (POC)	CO (1)	NOy (1)	O ₃ (1)	SO ₂ (1)	Pb-PM10 (1)	PM _{10-2.5} (1)
Parameter code	42101	42600	44201	42401	85129	86101
Basic monitoring objective	NAAQS Comparison	NAAQS Comparison	NAAQS Comparison	NAAQS Comparison	NAAQS Comparison	Research
Site type(s)	Highest Concentration	Population Exposure	Max O ₃ Concentration	Population Exposure	Population Exposure	Population Exposure
Monitor type	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS
Network Affiliation (s)	NCore, PAMS	NCore	NCore, PAMS	NCore	NCore	NCore
Instrument manufacturer and model	Ecotech EC9830T	Ecotech 9843	Teledyne API 400E	Ecotech EC9850T	Thermo Partisol 2000	Met One BAM 1020
Method code	588	591	087	592	202	185
FRM/FEM/ARM/other	FEM	FEM	FEM	FEM	FEM	FEM
Collecting Agency	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ
Analytical Lab (weight, toxics, other)	--	--	--	--	ERG	--
Reporting Agency	ADEQ	ADEQ	ADEQ	ADEQ	ERG	ADEQ
Spatial Scale (micro, neighborhood)	Neighborhood	Neighborhood	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Monitoring start date (MM/DD/YYYY)	07/01/1993	01/01/2011	07/01/1993	03/03/2005	01/01/2005	11/10/2010
Current sampling frequency (1:3, continuous)	Continuous	Continuous	Continuous	Continuous	1:6	Continuous
Calculated sampling frequency (1:3 / 1:1)	--	--	--	--	--	--
Sampling season (MM/DD-MM/DD)	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31
Probe height (meters)	4.1	10	4.1	4.1	4.7	4.9
Distance from supporting structure (meters)	1.2	7	1.2	1.2	2	2.5
Distance from obstructions on roof (meters)	--	--	--	--	--	--
Distance from obstructions not on roof (meters)	20	20	20	20	20	15
Distance from trees (meters)	20	20	20	20	20	15
Obstruction Height above Probe (meters)	6	0	6	6	6	5
Tree Height above Probe (meters)	6	0	6	6	6	5
Distance to furnace or incinerator flue (meters)	--	--	--	--	--	--
Distance between collocated monitors (meters)	--	--	--	--	--	--
Unrestricted airflow (degrees)	360	360	360	360	360	360
Restricted airflow (degrees)	--	--	--	--	--	--
Prevailing wind direction (degrees)	--	--	--	--	--	--
Probe material for reactive gases	Glass, Teflon	Glass, Teflon	Glass, Teflon	Glass, Teflon	--	--
Residence time for reactive gases (seconds)	1.94	14.39	1.94	1.94	--	--
Changes within the next 18 months? (Y/N)	N	N	N	N	N	N
Comparison against the annual PM2.5? (Y/N)	--	--	--	--	--	--
Frequency of flow rate verification manual PM and Pb samplers	--	--	--	--	--	--
Frequency of flow rate verification automated PM analyzers	--	--	--	--	--	Monthly
Frequency of one-point QC check gaseous instruments	Bi-Weekly	Bi-Weekly	Bi-Weekly	Bi-Weekly	--	--
Last Annual PE audit for gaseous parameters	12/02/2014	02/27/2014	11/25/2014	11/25/2014	--	--
Last two semi-annual flow rate audits PM and Pb	--	--	--	--	10/27/2014, 11/24/2014	--

NAAQS - NCore continued						
Local Site Name	JLG Supersite	JLG Supersite	JLG Supersite	JLG Supersite	JLG Supersite	JLG Supersite
Pollutant (POC)	PM _{2.5} (3)	PM _{2.5} (1)	PM _{2.5} Speciation (7)	PM _{2.5} Speciation (7)	Temp/RH (1)	Wind (1)
Parameter code	88101	88101	Multiple	Multiple	62101, 62201	61103, 61104
Basic monitoring objective	NAAQS Comparison	NAAQS Comparison	Research	Research	--	--
Site type(s)	Population Exposure	Population Exposure	Population Exposure	Population Exposure	Population Exposure	Population Exposure
Monitor type	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS
Network Affiliation (s)	NCore	NCore	CSN STN, NCore	CSN STN, NCore	--	--
Instrument manufacturer and model	Met One BAM 1020	Thermo Partisol 2000	Met One SuperSASS	URG 3000N	Vaisala HMP 155 Probe	RM Young 5305 Anemometer
Method code	170	143	Various	Various	040	020
FRM/FEM/ARM/other	FEM	FRM	--	--	--	--
Collecting Agency	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ
Analytical Lab (weight, toxics, other)	--	ADEQ AFL	RTI	RTI	--	--
Reporting Agency	ADEQ	ADEQ	RTI	RTI	ADEQ	ADEQ
Spatial Scale (micro, neighborhood)	Neighborhood	Neighborhood	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Monitoring start date (MM/DD/YYYY)	07/01/2003	07/01/2003	02/21/2000	02/21/2000	07/01/1993	07/01/1993
Current sampling frequency (1:3, continuous)	Continuous	1:3	1:3	1:3	Continuous	Continuous
Calculated sampling frequency (1:3 / 1:1)	1:3	1:3	--	--	--	--
Sampling season (MM/DD-MM/DD)	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31
Probe height (meters)	5	4.7	4.7	4.9	2	11.5
Distance from supporting structure (meters)	2.5	2	2	2	1	7
Distance from obstructions on roof (meters)	--	--	--	--	2	--
Distance from obstructions not on roof (meters)	15	20	20	15	20	--
Distance from trees (meters)	15	20	20	15	20	20
Obstruction Height above Probe (meters)	5	6	6	5	1	--
Tree Height above Probe (meters)	5	6	6	5	8	--
Distance to furnace or incinerator flue (meters)	--	--	--	--	--	--
Distance between collocated monitors (meters)	--	--	--	--	--	--
Unrestricted airflow (degrees)	360	360	360	360	150	360
Restricted airflow (degrees)	--	--	--	--	--	--
Prevailing wind direction (degrees)	--	--	--	--	--	--
Probe material for reactive gases	--	--	--	--	--	--
Residence time for reactive gases (seconds)	--	--	--	--	--	--
Changes within the next 18 months? (Y/N)	N	N	N	N	N	N
Comparison against the annual PM _{2.5} ? (Y/N)	Y	Y	--	--	--	--
Frequency of flow rate verification manual PM and Pb samplers	--	Monthly	Monthly	Monthly	--	--
Frequency of flow rate verification automated PM analyzers	Monthly	--	--	--	--	--
Frequency of one-point QC check gaseous instruments	--	--	--	--	--	--
Last Annual PE audit for gaseous parameters	--	--	--	--	--	--
Last two semi-annual flow rate audits PM and Pb	06/12/2014, 11/25/2014	10/27/2014, 11/24/2014	3/14/2014	3/14/2014	--	--

NAAQS - PAMS						
Local Site Name	JLG Supersite	JLG Supersite	JLG Supersite	JLG Supersite	JLG Supersite	JLG Supersite
Pollutant (POC)	CO (1)	NO2 (1)	O3 (1)	Carbonyl (30,31)	Carbonyl (32)	VOC (6)
Parameter code	42101	42602	44201	Multiple	Multiple	Multiple
Basic monitoring objective	NAAQS Comparison	NAAQS Comparison	NAAQS Comparison	Research	Research	Research
Site type(s)	Highest Concentration	Highest Concentration	Max O3 Concentration	Max Precursor Impact	QA Collocated	Max Precursor Impact
Monitor type	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS
Network Affiliation (s)	NCore, PAMS	NCore	NCore, PAMS	PAMS, NATTS	PAMS, NATTS	PAMS, NATTS
Instrument manufacturer and model	Ecotech EC9830T	Ecotech EC9841B	Teledyne API 400E	ATEC 8000	ATEC 8000	ATEC 2200
Method code	588	074	087	202	202	126
FRM/FEM/ARM/other	FEM	FRM	FEM	--	--	--
Collecting Agency	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ
Analytical Lab (weight, toxics, other)	--	--	--	ERG	ERG	ERG
Reporting Agency	ADEQ	ADEQ	ADEQ	ERG	ERG	ERG
Spatial Scale (micro, neighborhood)	Neighborhood	Neighborhood	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Monitoring start date (MM/DD/YYYY)	07/01/1993	07/01/1993	07/01/1993	05/15/1999	05/15/1999	05/15/1999
Current sampling frequency (1:3, continuous)	Continuous	Continuous	Continuous	1:6	NATTS not PAMS	1:6
Calculated sampling frequency (1:3 / 1:1)	--	--	--	--	--	--
Sampling season (MM/DD-MM/DD)	01/01-12/31	01/01-12/31	01/01-12/31	06/01-08/31	06/01-08/31	06/01-08/31
Probe height (meters)	4.1	4.1	4.1	4.7	4.7	4.7
Distance from supporting structure (meters)	1.2	1.2	1.2	2	2	2
Distance from obstructions on roof (meters)	--	--	--	--	--	--
Distance from obstructions not on roof (meters)	20	20	20	20	20	20
Distance from trees (meters)	20	20	20	20	20	20
Obstruction Height above Probe (meters)	6	6	6	6	6	6
Tree Height above Probe (meters)	6	6	6	6	6	6
Distance to furnace or incinerator flue (meters)	--	--	--	--	--	--
Distance between collocated monitors (meters)	--	--	--	--	--	--
Unrestricted airflow (degrees)	360	360	360	360	360	360
Restricted airflow (degrees)	--	--	--	--	--	--
Prevailing wind direction (degrees)	--	--	--	--	--	--
Probe material for reactive gases	Glass, Teflon	Glass, Teflon	Glass, Teflon	Stainless Steel	Stainless Steel	Stainless Steel
Residence time for reactive gases (seconds)	1.94	1.94	1.94	--	--	--
Changes within the next 18 months? (Y/N)	N	N	N	N	N	N
Comparison against the annual PM2.5? (Y/N)	--	--	--	--	--	--
Frequency of flow rate verification manual PM and Pb samplers	--	--	--	--	--	--
Frequency of flow rate verification automated PM analyzers	--	--	--	--	--	--
Frequency of one-point QC check gaseous instruments	Bi-Weekly	Bi-Weekly	Bi-Weekly	--	--	--
Last Annual PE audit for gaseous parameters	12/02/2014	11/13/2014	11/25/2014	--	--	--
Last two semi-annual flow rate audits PM and Pb	--	--	--	--	--	--

NAAQS - PAMS continued						
Local Site Name	JLG Supersite	JLG Supersite	JLG Supersite	Queen Valley	Queen Valley	Queen Valley
Pollutant (POC)	VOC (7)	Temp/RH (1)	Wind (1)	O3 (1)	NOy (1)	VOC (6)
Parameter code	Multiple	62101, 62201	61103, 61104	44201	42600	Multiple
Basic monitoring objective	Research	--	--	NAAQS Comparison	Research	Research
Site type(s)	QA Collocated	Population Exposure	Population Exposure	Downwind	Downwind	Downwind
Monitor type	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS
Network Affiliation (s)	PAMS, NATTS	NCore, PAMS	NCore, PAMS	PAMS	PAMS	PAMS
Instrument manufacturer and model	ATEC 2200	Vaisala HMP 155 Probe	RM Young 5305 Anemometer	Teledyne API 400E	Thermo 42C TL Reactive	ATEC 8001
Method code	126	040	020	087	574	126
FRM/FEM/ARM/other	--	--	--	FEM	FEM	--
Collecting Agency	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ
Analytical Lab (weight, toxics, other)	ERG	--	--	--	--	ERG
Reporting Agency	ERG	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ
Spatial Scale (micro, neighborhood)	Neighborhood	Neighborhood	Neighborhood	Regional	Regional	Regional
Monitoring start date (MM/DD/YYYY)	05/15/1999	07/01/1993	07/01/1993	01/01/1998	01/01/1998	05/20/2001
Current sampling frequency (1:3, continuous)	NATTS not PAMS	Continuous	Continuous	Continuous	Continuous	1:6
Calculated sampling frequency (1:3 / 1:1)	--	--	--	--	--	--
Sampling season (MM/DD-MM/DD)	06/01 - 08/31	01/01-12/31	01/01-12/31	03/01-10/31	06/01-08/31	06/01-08/31
Probe height (meters)	4.7	2	11.5	4.5	5.1	4.5
Distance from supporting structure (meters)	2	1	--	2	2.6	2
Distance from obstructions on roof (meters)	--	2	--	--	--	--
Distance from obstructions not on roof (meters)	20	20	--	0	--	--
Distance from trees (meters)	20	20	20	--	--	--
Obstruction Height above Probe (meters)	6	1	--	--	--	--
Tree Height above Probe (meters)	6	8	--	--	--	--
Distance to furnace or incinerator flue (meters)	--	--	--	--	--	--
Distance between collocated monitors (meters)	--	--	--	--	--	--
Unrestricted airflow (degrees)	360	150	360	360	360	360
Restricted airflow (degrees)	--	140-350	--	--	--	--
Prevailing wind direction (degrees)	--	--	--	--	--	--
Probe material for reactive gases	Stainless Steel	--	--	Teflon	Glass, Teflon	Stainless Steel
Residence time for reactive gases (seconds)	--	--	--	3.56	13.8	--
Changes within the next 18 months? (Y/N)	N	N	N	N	N	N
Comparison against the annual PM2.5? (Y/N)	--	--	--	--	--	--
Frequency of flow rate verification manual PM and Pb samplers	--	--	--	--	--	--
Frequency of flow rate verification automated PM analyzers	--	--	--	--	--	--
Frequency of one-point QC check gaseous instruments	--	--	--	Bi-Weekly	Bi-Weekly	--
Last Annual PE audit for gaseous parameters	--	--	--	08/27/2014	08/27/2014	--
Last two semi-annual flow rate audits PM and Pb	--	--	--	--	--	--

NAAQS - PAMS continued

Local Site Name	Queen Valley	Queen Valley	Vehicle Emissions Lab	Vehicle Emissions Lab	Vehicle Emissions Lab	Vehicle Emissions Laboratory	Vehicle Emissions Laboratory
Pollutant (POC)	Temp/RH (1)	Wind (1)	Delta Temp (1)	Horizontal Solar Radiation (1)	Ultraviolet Solar Radiation (1)	Temp R/H (1)	Wind (1)
Parameter code	62101, 62201	61103, 61104	62101, 61202	63301	63302, 63304	62101, 62201	61103, 61104
Basic monitoring objective	--	--	Research	Research	Research	--	--
Site type(s)	Downwind	Downwind	Population Exposure	Population Exposure	Population Exposure	Population Exposure	Population Exposure
Monitor type							
Network Affiliation (s)	PAMS	PAMS	PAMS	PAMS	PAMS	--	--
Instrument manufacturer and model	Vaisala HMP 45C Probe	RM Young 5103 Anemometer	RM Young 7627	Li-Cor 200S2	Epply TUVB UV	Rotronics MP101A Probe	RM Young 5305 Anemometer
Method code	040	020	810	011	011	040	020
FRM/FEM/ARM/other	--	--	--	--	--	--	--
Collecting Agency	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ
Analytical Lab (weight, toxics, other)	--	--	--	--	--	--	--
Reporting Agency	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ
Spatial Scale (micro, neighborhood)	Regional	Regional	Neighborhood	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Monitoring start date (MM/DD/YYYY)	06/23/2003	06/23/2003	08/20/2004	06/18/1999	08/20/2004	05/11/1999	05/11/1999
Current sampling frequency (1:3, continuous)	Continuous	Continuous	Continuous	Continuous	Continuous	Continuous	Continuous
Calculated sampling frequency (1:3 / 1:1)	--	--	--	--	--	--	--
Sampling season (MM/DD-MM/DD)	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31
Probe height (meters)	2.6	9	2.5 - 10	5	5	4.5	10
Distance from supporting structure (meters)	0.5	6.5	.5	--	--	--	--
Distance from obstructions on roof (meters)	--	--	--	--	--	--	--
Distance from obstructions not on roof (meters)	--	--	--	--	--	--	30
Distance from trees (meters)	1.2	--	10	10	10	10	50
Obstruction Height above Probe (meters)	--	--	--	--	--	--	--
Tree Height above Probe (meters)	--	--	--	--	--	--	--
Distance to furnace or incinerator flue (meters)	--	--	--	--	--	--	--
Distance between collocated monitors (meters)	--	--	--	--	--	--	--
Unrestricted airflow (degrees)	180	360	360	360	360	360	360
Restricted airflow (degrees)	90-270	--	--	--	--	--	--
Prevailing wind direction (degrees)	--	--	--	--	--	--	--
Probe material for reactive gases	--	--	--	--	--	--	--
Residence time for reactive gases (seconds)	--	--	--	--	--	--	--
Changes within the next 18 months? (Y/N)	N	N	N	N	N	N	N
Comparison against the annual PM2.5? (Y/N)	--	--	--	--	--	--	--
Frequency of flow rate verification manual PM and Pb samplers	--	--	--	--	--	--	--
Frequency of flow rate verification automated PM analyzers	--	--	--	--	--	--	--
Frequency of one-point QC check gaseous instruments	--	--	--	--	--	--	--
Last Annual PE audit for gaseous parameters	--	--	--	--	--	--	--
Last two semi-annual flow rate audits PM and Pb	--	--	--	--	--	--	--

Air Toxics -NATTS						
Local Site Name	JLG Supersite	JLG Supersite	JLG Supersite	JLG Supersite	JLG Supersite	JLG Supersite
Pollutant (POC)	Carbonyl (6)	Carbonyl (7)	VOC (6)	VOC (7)	SVOC (6)	PM ₁₀ metals speciation (1)
Parameter code	Multiple	Multiple	Multiple	Multiple	Multiple	Multiple
Basic monitoring objective	Research	Research	Research	Research	Research	Research
Site type(s)	Population Exposure	QA Collocated	Population Exposure	QA Collocated	Population Exposure	Population Exposure
Monitor type	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS
Network Affiliation (s)	PAMS, NATTS	PAMS, NATTS	PAMS, NATTS	PAMS, NATTS	NATTS	NATTS
Instrument manufacturer and model	ATEC 8000	ATEC 8000	ATEC 2200	ATEC 2200	Tisch PUF+	Thermo Partisol 2000
Method code	202	202	101	101	118	202
FRM/FEM/ARM/other	--	--	--	--	--	--
Collecting Agency	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ
Analytical Lab (weight, toxics, other)	ERG	ERG	ERG	ERG	ERG	ERG
Reporting Agency	ERG	ERG	ERG	ERG	ERG	ERG
Spatial Scale (micro, neighborhood)	Neighborhood	Neighborhood	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Monitoring start date (MM/DD/YYYY)	05/15/1999	05/15/1999	06/06/2001	06/06/2001	07/08/2007	01/01/2005
Current sampling frequency (1:3, continuous)	1:6	Every other month	1:6	Every other month	1:6	1:6
Calculated sampling frequency (1:3 / 1:1)	--	--	--	--	--	--
Sampling season (MM/DD-MM/DD)	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31
Probe height (meters)	4.7	4.7	4.7	4.7	4.1	4.7
Distance from supporting structure (meters)	2	2	2	2	1.2	2
Distance from obstructions on roof (meters)	--	--	--	--	--	--
Distance from obstructions not on roof (meters)	20	20	20	20	20	20
Distance from trees (meters)	20	20	20	20	20	20
Obstruction Height above Probe (meters)	6	6	6	6	6	6
Tree Height above Probe (meters)	6	6	6	6	6	6
Distance to furnace or incinerator flue (meters)	--	--	--	--	--	--
Distance between collocated monitors (meters)	--	--	--	--	--	--
Unrestricted airflow (degrees)	360	360	360	360	360	360
Restricted airflow (degrees)	--	--	--	--	--	--
Prevailing wind direction (degrees)	--	--	--	--	--	--
Probe material for reactive gases	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	--	--
Residence time for reactive gases (seconds)	--	--	--	--	--	--
Changes within the next 18 months? (Y/N)	N	N	N	N	N	N
Comparison against the annual PM _{2.5} ? (Y/N)	--	--	--	--	--	--
Frequency of flow rate verification manual PM and Pb samplers	--	--	--	--	--	Monthly
Frequency of flow rate verification automated PM analyzers	--	--	--	--	--	--
Frequency of one-point QC check gaseous instruments	--	--	--	--	--	--
Last Annual PE audit for gaseous parameters	--	--	--	--	--	--
Last two semi-annual flow rate audits PM and Pb	--	--	--	--	--	10/27/2014, 11/24/2014

Air Toxics - UATMP	
Local Site Name	South Phoenix
Pollutant (POC)	VOC (6)
Parameter code	Multiple
Basic monitoring objective	Research
Site type(s)	Population Exposure
Monitor type	SLAMS
Network Affiliation (s)	UATMP
Instrument manufacturer and model	ATEC 8001
Method code	101
FRM/FEM/ARM/other	--
Collecting Agency	ADEQ
Analytical Lab (weight, toxics, other)	ERG
Reporting Agency	ERG
Spatial Scale (micro, neighborhood)	Neighborhood
Monitoring start date (MM/DD/YYYY)	8/5/2001
Current sampling frequency (1:3, continuous)	1:12
Calculated sampling frequency (1:3 / 1:1)	--
Sampling season (MM/DD-MM/DD)	01/01-12/31
Probe height (meters)	4.6
Distance from supporting structure (meters)	1.6
Distance from obstructions on roof (meters)	--
Distance from obstructions not on roof (meters)	8.0
Distance from trees (meters)	4.8
Obstruction Height above Probe (meters)	8.0
Tree Height above Probe (meters)	8.0
Distance to furnace or incinerator flue (meters)	--
Distance between collocated monitors (meters)	--
Unrestricted airflow (degrees)	335
Restricted airflow (degrees)	240-265
Prevailing wind direction (degrees)	250-260
Probe material for reactive gases	Stainless Steel
Residence time for reactive gases (seconds)	--
Changes within the next 18 months? (Y/N)	N
Comparison against the annual PM2.5? (Y/N)	--
Frequency of flow rate verification manual PM and Pb samplers	--
Frequency of flow rate verification automated PM analyzers	--
Frequency of one-point QC check gaseous instruments	--
Last Annual PE audit for gaseous parameters	--
Last two semi-annual flow rate audits PM and Pb	--

Visibility - Urban Haze - Camera					
Local Site Name	ADEQ Building	Banner Mesa Medical Center	Estrella Mountain Community College	North Mountain Summit	North Mountain Summit
Pollutant (POC)	Visibility (1)	Visibility (1)	Visibility (1)	Visibility (1)	Visibility (2)
Parameter code	--	--	--	--	--
Basic monitoring objective	Public Information	Public Information	Public Information	Public Information	Public Information
Site type(s)	Population Exposure	Population Exposure	Population Exposure	Population Exposure	Population Exposure
Monitor type	--	--	--	--	--
Network Affiliation (s)	--	--	--	--	--
Instrument manufacturer and model	CANON EOS Rebel T2i	CANON EOS Rebel T2i	CANON EOS Rebel T2i	CANON EOS Rebel T2i	CANON EOS Rebel T2i
Method code	--	--	--	--	--
FRM/FEM/ARM/other	--	--	--	--	--
Collecting Agency	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ
Analytical Lab (weight, toxics, other)	--	--	--	--	--
Reporting Agency	ADEQ	ADEQ	ADEQ	ADEQ	ADEQ
Spatial Scale (micro, neighborhood)	Urban	Urban	Urban	Urban	Urban
Monitoring start date (MM/DD/YYYY)	07/01/2002	01/01/1993	01/01/1993	01/01/1993	01/01/1993
Current sampling frequency (1:3, continuous)	Every 5 min.	Every 5 min.	Every 5 min.	Every 5 min.	Every 5 min.
Calculated sampling frequency (1:3 / 1:1)	--	--	--	--	--
Sampling season (MM/DD-MM/DD)	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31
Probe height (meters)	--	--	--	--	--
Distance from supporting structure (meters)	--	--	--	--	--
Distance from obstructions on roof (meters)	--	--	--	--	--
Distance from obstructions not on roof (meters)	--	--	--	--	--
Distance from trees (meters)	--	--	--	--	--
Obstruction Height above Probe (meters)	--	--	--	--	--
Tree Height above Probe (meters)	--	--	--	--	--
Distance to furnace or incinerator flue (meters)	--	--	--	--	--
Distance between collocated monitors (meters)	--	--	--	--	--
Unrestricted airflow (degrees)	--	--	--	--	--
Restricted airflow (degrees)	--	--	--	--	--
Prevailing wind direction (degrees)	--	--	--	--	--
Probe material for reactive gases	--	--	--	--	--
Residence time for reactive gases (seconds)	--	--	--	--	--
Changes within the next 18 months? (Y/N)	N	N	N	N	N
Comparison against the annual PM2.5? (Y/N)	--	--	--	--	--
Frequency of flow rate verification manual PM and Pb samplers	--	--	--	--	--
Frequency of flow rate verification automated PM analyzers	--	--	--	--	--
Frequency of one-point QC check gaseous instruments	--	--	--	--	--
Last Annual PE audit for gaseous parameters	--	--	--	--	--
Last two semi-annual flow rate audits PM and Pb	--	--	--	--	--

Visibility - Urban Haze - Nephelometer			
Local Site Name	Dysart	Estrella	Vehicle Emissions Laboratory
Pollutant (POC)	Bscat/PM2.5 (1)	Bscat/PM2.5 (1)	Bscat/PM2.5 (1)
Parameter code	--	--	--
Basic monitoring objective	Public Information	Public Information	Public Information
Site type(s)	Population Exposure	Population Exposure	Population Exposure
Monitor type	--	--	--
Network Affiliation (s)	--	--	--
Instrument manufacturer and model	Optec NGN 2 Nephelometer	Optec NGN 2 Nephelometer	Optec NGN 2 Nephelometer
Method code	--	--	--
FRM/FEM/ARM/other	--	--	--
Collecting Agency	ADEQ	ADEQ	ADEQ
Analytical Lab (weight, toxics, other)	--	--	--
Reporting Agency	ADEQ	ADEQ	ADEQ
Spatial Scale (micro, neighborhood)	Urban	Urban	Urban
Monitoring start date (MM/DD/YYYY)	01/01/2003	01/01/2003	06/25/2003
Current sampling frequency (1:3, continuous)	Every 5 min.	Every 5 min.	Every 5 min.
Calculated sampling frequency (1:3 / 1:1)	--	--	--
Sampling season (MM/DD-MM/DD)	01/01-12/31	01/01-12/31	01/01-12/31
Probe height (meters)	5	5	5
Distance from supporting structure (meters)	--	--	--
Distance from obstructions on roof (meters)	--	--	--
Distance from obstructions not on roof (meters)	--	--	--
Distance from trees (meters)	--	5	10
Obstruction Height above Probe (meters)	--	--	--
Tree Height above Probe (meters)	--	--	--
Distance to furnace or incinerator flue (meters)	--	--	--
Distance between collocated monitors (meters)	--	--	--
Unrestricted airflow (degrees)	360	360	360
Restricted airflow (degrees)	--	--	--
Prevailing wind direction (degrees)	--	--	--
Probe material for reactive gases	--	--	--
Residence time for reactive gases (seconds)	--	--	--
Changes within the next 18 months? (Y/N)	N	N	N
Comparison against the annual PM2.5? (Y/N)	--	--	--
Frequency of flow rate verification manual PM and Pb samplers	--	--	--
Frequency of flow rate verification automated PM analyzers	--	--	--
Frequency of one-point QC check gaseous instruments	--	--	--
Last Annual PE audit for gaseous parameters	--	--	--
Last two semi-annual flow rate audits PM and Pb	--	--	--

Visibility - Urban Haze - Transmissometer		
Local Site Name	Phoenix Transmissometer Receiver	Phoenix Transmissometer Transmitter
Pollutant (POC)	Bext (1)	Bext (1)
Parameter code	--	--
Basic monitoring objective	Public Information	Public Information
Site type(s)	Population Exposure	Population Exposure
Monitor type	--	--
Network Affiliation (s)	--	--
Instrument manufacturer and model	Optec LVP-2 Transmissometer Receiver	Optec LVP-2 Transmissometer Transmitter
Method code	--	--
FRM/FEM/ARM/other	--	--
Collecting Agency	ADEQ	ADEQ
Analytical Lab (weight, toxics, other)	--	--
Reporting Agency	ADEQ	ADEQ
Spatial Scale (micro, neighborhood)	Urban	Urban
Monitoring start date (MM/DD/YYYY)	12/01/1992	12/01/1992
Current sampling frequency (1:3, continuous)	Continuous	Continuous
Calculated sampling frequency (1:3 / 1:1)	--	--
Sampling season (MM/DD-MM/DD)	01/01-12/31	01/01-12/31
Probe height (meters)	30	27
Distance from supporting structure (meters)	--	--
Distance from obstructions on roof (meters)	5	--
Distance from obstructions not on roof (meters)	--	--
Distance from trees (meters)	--	--
Obstruction Height above Probe (meters)	--	--
Tree Height above Probe (meters)	--	--
Distance to furnace or incinerator flue (meters)	--	--
Distance between collocated monitors (meters)	--	--
Unrestricted airflow (degrees)	240	360
Restricted airflow (degrees)	--	--
Prevailing wind direction (degrees)	--	--
Probe material for reactive gases	--	--
Residence time for reactive gases (seconds)	--	--
Changes within the next 18 months? (Y/N)	N	N
Comparison against the annual PM2.5? (Y/N)	--	--
Frequency of flow rate verification manual PM and Pb samplers	--	--
Frequency of flow rate verification automated PM analyzers	--	--
Frequency of one-point QC check gaseous instruments	--	--
Last Annual PE audit for gaseous parameters	--	--
Last two semi-annual flow rate audits PM and Pb	--	--

Visibility - Urban Haze - Temp/RH			
Local Site Name	Dysart	Estrella	Phoenix Transmissometer Receiver
Pollutant (POC)	Temp R/H (1)	Temp R/H (1)	Temp R/H (1)
Parameter code	62101, 62201	62101, 62201	62101, 62201
Basic monitoring objective	--	--	--
Site type(s)	Population Exposure	Population Exposure	Population Exposure
Monitor type	--	--	--
Network Affiliation (s)	--	--	--
Instrument manufacturer and model	Vaisala HMP 155 Probe	Vaisala HMP 155 Probe	Vaisala HMP 155 Probe
Method code	040	040	040
FRM/FEM/ARM/other	--	--	--
Collecting Agency	ADEQ	ADEQ	ADEQ
Analytical Lab (weight, toxics, other)	--	--	--
Reporting Agency	ADEQ	ADEQ	ADEQ
Spatial Scale (micro, neighborhood)	Urban	Urban	Urban
Monitoring start date (MM/DD/YYYY)	07/16/2003	02/11/2003	01/01/1994
Current sampling frequency (1:3, continuous)	Continuous	Continuous	Continuous
Calculated sampling frequency (1:3 / 1:1)	--	--	--
Sampling season (MM/DD-MM/DD)	01/01-12/31	01/01-12/31	01/01-12/31
Probe height (meters)	5	5	32
Distance from supporting structure (meters)	--	--	--
Distance from obstructions on roof (meters)	--	--	10
Distance from obstructions not on roof (meters)	--	--	--
Distance from trees (meters)	--	5	--
Obstruction Height above Probe (meters)	--	--	--
Tree Height above Probe (meters)	--	--	--
Distance to furnace or incinerator flue (meters)	--	--	--
Distance between collocated monitors (meters)	--	--	--
Unrestricted airflow (degrees)	360	360	360
Restricted airflow (degrees)	--	--	--
Prevailing wind direction (degrees)	--	--	--
Probe material for reactive gases	--	--	--
Residence time for reactive gases (seconds)	--	--	--
Changes within the next 18 months? (Y/N)	N	N	N
Comparison against the annual PM2.5? (Y/N)	--	--	--
Frequency of flow rate verification manual PM and Pb samplers	--	--	--
Frequency of flow rate verification automated PM analyzers	--	--	--
Frequency of one-point QC check gaseous instruments	--	--	--
Last Annual PE audit for gaseous parameters	--	--	--
Last two semi-annual flow rate audits PM and Pb	--	--	--

Visibility - IMPROVE

Local Site Name	Chiricahua Entrance Station	Douglas Red Cross	Grand Canyon National Park - Hance Camp	Greer Water Treatment Plant	Ike's Backbone	JLG Supersite	JLG Supersite	Meadview
Pollutant (POC)	IMPROVE	IMPROVE	IMPROVE	IMPROVE	IMPROVE	IMPROVE	IMPROVE	IMPROVE
Parameter code	Multiple	Multiple	Multiple	Multiple	Multiple	Multiple	Multiple	Multiple
Basic monitoring objective	Research	Research	Research	Research	Research	Research	Research	Research
Site type(s)	Background	Other	Background	Other	Other	Other	Other	Background
Monitor type	--	--	--	--	--	--	--	--
Network Affiliation (s)	IMPROVE	IMPROVE	IMPROVE	IMPROVE	IMPROVE	IMPROVE	IMPROVE	IMPROVE
Instrument manufacturer and model	--	--	--	--	--	--	--	--
Method code	Various	Various	Various	Various	Various	Various	Various	Various
FRM/FEM/ARM/other	Other	Other	Other	Other	Other	Other	Other	Other
Collecting Agency	NPS	ADEQ	NPS	NFS	UC Davis	ADEQ	ADEQ	NFS
Analytical Lab (weight, toxics, other)	--	--	--	--	--	--	--	--
Reporting Agency	UC Davis	UC Davis	UC Davis	UC Davis	UC Davis	UC Davis	UC Davis	UC Davis
Spatial Scale (micro, neighborhood)	Regional	Regional	Regional	Regional	Regional	Neighborhood	Neighborhood	Regional
Monitoring start date (MM/DD/YYYY)	03/02/1988	06/02/2004	09/24/1997	02/29/2000	04/02/2000	04/25/2001	04/25/2001	09/04/1991
Current sampling frequency (1:3, continuous)	1:3	1:3	1:3	1:3	1:3	1:3	1:3	1:3
Calculated sampling frequency (1:3 / 1:1)	--	--	--	--	--	--	--	--
Sampling season (MM/DD-MM/DD)	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31
Probe height (meters)	4	3	--	3.5	3.3	5.5	5.5	4.5
Distance from supporting structure (meters)	--	--	--	1	1.3	--	--	--
Distance from obstructions on roof (meters)	--	--	--	--	--	--	--	--
Distance from obstructions not on roof (meters)	10	8	--	--	--	15	15	--
Distance from trees (meters)	10	6	--	44	--	15	15	--
Obstruction Height above Probe (meters)	--	--	--	--	--	5	5	--
Tree Height above Probe (meters)	--	--	--	7	--	5	5	--
Distance to furnace or incinerator flue (meters)	--	--	--	--	--	--	--	--
Distance between colocated monitors (meters)	--	--	--	--	--	4	4	--
Unrestricted airflow (degrees)	360	360	--	360	360	360	360	360
Restricted airflow (degrees)	--	--	--	--	--	--	--	--
Prevailing wind direction (degrees)	--	--	--	--	--	--	--	--
Probe material for reactive gases	--	--	--	--	--	--	--	--
Residence time for reactive gases (seconds)	--	--	--	--	--	--	--	--
Changes within the next 18 months? (Y/N)	N	N	N	N	N	N	N	N
Comparison against the annual PM2.5? (Y/N)	N	N	N	N	N	N	N	N
Frequency of flow rate verification manual PM and Pb samplers	--	--	--	--	--	--	--	--
Frequency of flow rate verification automated PM analyzers	--	--	--	--	--	--	--	--
Frequency of one-point QC check gaseous instruments	--	--	--	--	--	--	--	--
Last Annual PE audit for gaseous parameters	--	--	--	--	--	--	--	--
Last two semi-annual flow rate audits PM and Pb	--	--	--	--	--	--	--	--

Visibility - IMPROVE - continued

Local Site Name	Organ Pipe National Monument	Petrified Forest National Park	Pleasant Valley Ranger Station	Queen Valley	Saguaro National Park East	Saguaro National Park West	Sycamore Canyon	Tonto National Monument
Pollutant (POC)	IMPROVE	IMPROVE	IMPROVE	IMPROVE	IMPROVE	IMPROVE	IMPROVE	IMPROVE
Parameter code	Multiple	Multiple	Multiple	Multiple	Multiple	Multiple	Multiple	Multiple
Basic monitoring objective	Research	Research	Research	Research	Research	Research	Research	Research
Site type(s)	Other	Background	Other	Other	Background	Other	Background	Background
Monitor type	--	--	--	--	--	--	--	--
Network Affiliation (s)	IMPROVE	IMPROVE	IMPROVE	IMPROVE	IMPROVE	IMPROVE	IMPROVE	IMPROVE
Instrument manufacturer and model	--	--	--	--	--	--	--	--
Method code	Various	Various	Various	Various	Various	Various	Various	Various
FRM/FEM/ARM/other	Other	Other	Other	Other	Other	Other	Other	Other
Collecting Agency	NPS	NPS	NFS	ADEQ	NPS	NPS	ADEQ / UC Davis	NPS
Analytical Lab (weight, toxics, other)	--	--	--	--	--	--	--	--
Reporting Agency	UC Davis	UC Davis	UC Davis	UC Davis	UC Davis	UC Davis	UC Davis	UC Davis
Spatial Scale (micro, neighborhood)	Regional	Regional	Regional	Regional	Regional	Regional	Regional	Regional
Monitoring start date (MM/DD/YYYY)	01/15/2003	03/02/1988	02/10/2000	04/30/2001	06/04/1988	04/19/2001	09/11/1991	04/23/1988
Current sampling frequency (1:3, continuous)	1:3	1:3	1:3	1:3	1:3	1:3	1:3	1:3
Calculated sampling frequency (1:3 / 1:1)	--	--	--	--	--	--	--	--
Sampling season (MM/DD-MM/DD)	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31	01/01-12/31
Probe height (meters)	3.4	4	3.5	5.2	--	3.3	4	5
Distance from supporting structure (meters)	1.4	--	1.2	2.7	--	1	1.5	1.5
Distance from obstructions on roof (meters)	--	--	--	--	--	--	--	--
Distance from obstructions not on roof (meters)	--	--	--	--	--	--	--	--
Distance from trees (meters)	13	--	10	--	--	15	15	8
Obstruction Height above Probe (meters)	--	--	--	--	--	--	--	--
Tree Height above Probe (meters)	--	--	0.6	--	--	2	--	--
Distance to furnace or incinerator flue (meters)	--	--	--	--	--	--	--	--
Distance between collocated monitors (meters)	--	--	--	--	--	--	--	--
Unrestricted airflow (degrees)	360	360	360	360	--	360	360	360
Restricted airflow (degrees)	--	--	--	--	--	--	--	--
Prevailing wind direction (degrees)	--	--	--	--	--	--	--	--
Probe material for reactive gases	--	--	--	--	--	--	--	--
Residence time for reactive gases (seconds)	--	--	--	--	--	--	--	--
Changes within the next 18 months? (Y/N)	N	N	N	N	N	N	N	N
Comparison against the annual PM2.5? (Y/N)	N	N	N	N	N	N	N	N
Frequency of flow rate verification manual PM and Pb samplers	--	--	--	--	--	--	--	--
Frequency of flow rate verification automated PM analyzers	--	--	--	--	--	--	--	--
Frequency of one-point QC check gaseous instruments	--	--	--	--	--	--	--	--
Last Annual PE audit for gaseous parameters	--	--	--	--	--	--	--	--
Last two semi-annual flow rate audits PM and Pb	--	--	--	--	--	--	--	--

Appendix D – Site Information Data Tables

Note: Some measurements are rounded and/or estimations

This appendix contains detailed information about sites that are fully or partially operated by ADEQ, as well as sites that ADEQ has a strong association with (e.g. IMPROVE sites). All current sites and those closed after July 1, 2015 are included in this appendix. Sites that were closed after July 1, 2015 contain a note indicating so in the site summary section. This appendix also contains general information about the air quality monitors at each site. See Appendix C for more detailed information on specific monitors and networks.

AQS ID	ADEQ ID	SITE NAME	Appendix D PAGE #
	21737	ADEQ Building	5
04-019-0001	16316	Ajo	6
04-012-8000	34961	Alamo Lake	7
	19489	Banner Mesa Medical Center	9
04-015-1003	16365	Bullhead City	10
04-003-8001	16679	Chiricahua Entrance Station	11
04-003-1005	16503	Douglas Red Cross	12
04-013-4010	19550	Dysart	14
04-013-8005	16506	Estrella	15
	21736	Estrella Mountain Community College	16
04-005-1008	16707	Flagstaff Middle School	17
04-007-1002	16593	Globe Highway	18
04-005-8102	16682	Grand Canyon National Park – Hance Camp	19
04-001-8001	16323	Greer Water Treatment Plant	20
04-007-1001	16326	Hayden Old Jail	21
04-025-8104	16421	Ike’s Backbone	22
04-013-9997	16328	JLG Supersite	23
04-015-9000	21298	Meadview	26
04-007-8000	16629	Miami Golf Course	27
04-007-0011	16631	Miami Jones Ranch	28
04-007-0009	16382	Miami Ridgeline	29
04-007-0012	16632	Miami Townsite	30
04-023-0004	16511	Nogales Post Office	31
	16480	North Mountain Summit	33
04-019-0005	16681	Organ Pipe National Monument	34
04-003-0011	16391	Paul Spur Chemical Lime Plant	35
04-007-0008	16317	Payson Well Site	36
04-001-0012	16473	Petrified Forest National Park	37
	16829	Phoenix Transmissometer Receiver	38
	16330	Phoenix Transmissometer Transmitter	39
04-007-8100	16446	Pleasant Valley Ranger Station	40
04-025-8033	133011	Prescott College AQD	41
04-021-8001	16394	Queen Valley	42
04-019-0020	16499	Rillito	44
04-019-0021	16474	Saguaro National Park East	45
04-019-9000	16475	Saguaro National Park West	46
	142818	Sedona Fire Station AQD	47
04-013-4003	16377	South Phoenix	48
04-005-8103	16476	Sycamore Canyon	49

,

04-007-0010	16447	Tonto National Monument	50
04-013-9998	16363	Vehicle Emissions Laboratory	51
04-027-8011	11319	Yuma Supersite	53

Definitions for Appendix D – Site Information Data Tables

Local Site Name	Official name for the site as written in ADEQ's AirVision Database
Site Narrative	Brief summary of the site location and surroundings

Site Information

AQS ID	Unique identifier from EPA's Air Quality System database
ADEQ ID	Unique identifier from the AZURITE / AAAD database for each monitoring site
Street Address	Physical Street Address or cross streets of the monitoring site
County	Arizona county the monitor is located within
CBSA	Core Based Statistical Area that the site is located within. A CBSA is a U.S. geographic area defined by the Office of Management and Budget based around an urban center of at least 10,000 people and adjacent areas that are socioeconomically tied to the urban center by commuting.
Surrounding Area	Description of area around monitoring site (residential, commercial, industrial, agricultural, desert, forest, mobile, blighted area, and military reservation)
Distance to Roadway	Distance and direction from the edge of the nearest roadway to the instrument in meters
Traffic Count of Nearest Major Roadway	ADOT supplied traffic count for the nearest major roadway. Includes distance and direction of roadway if differs from the nearest roadway.
Groundcover	Type of surface at the base of the instrument (e.g. sand, cement, rooftop, metal, asphalt, etc.)
Latitude	The North/South geographic location of a site in decimal degrees
Longitude	The East/West geographic location of a site in decimal degrees
Elevation	The vertical distance above sea level of the site in meters
Site Established Date	Date site was first used as a monitoring site

Monitoring Information

Pollutant	The pollutant(s) or parameter(s) being collected or measured at the site
Basic monitoring objective	Purpose of monitoring for the parameter at the site (Public Information, NAAQS Comparison, or Research.)
Site type(s)	A brief description of the intended purpose of the monitor's measurements (Extreme Downwind, Highest Concentration, Max Ozone Concentration, Max Precursor Impact, Population Exposure, Source Oriented, Upwind Background, General / Background, Regional Transport, Welfare-Related Impacts, Quality Assurance, or Other)
Monitor type(s)	The associated monitoring network for the monitor (IMPROVE, Index Site, Industrial, NATTS, NCore, Non-EPA Federal, PAMS, Proposed NCore, QA Collocated, SLAMS, Special Purpose, Supplemental Speciation, Trends Speciation, Tribal Monitor, Unofficial PAMS)
Spatial scale	Area represented by an air quality monitor (microscale: 0 – 100 m, middle scale: 0.1 – 0.5 km, neighborhood: 0.5 – 4 km, urban: 4 – 50 km, regional: ~50 – 500 km, or national/global)
Monitor Start Date	Date that a pollutant, parameter, or measurement was started at the site

Instrument manufacture and model	The specific make and model of the monitor or instrument used in the network
----------------------------------	--

Site Photos

Aerial View	Image of site and the surrounding area (using Google Earth)
Site View	Most current photo of monitors at the site

ADEQ Building

The high-resolution digital camera sits on the northeast corner of the building and points toward Camelback Mountain, which lies 13.4 km to the northeast. The pictures of the local view are updated every 5 minutes and can be viewed on the internet at <http://phoenixvis.net/index.aspx>. The area between the site and Camelback Mountain is primarily residential with some commercial areas.

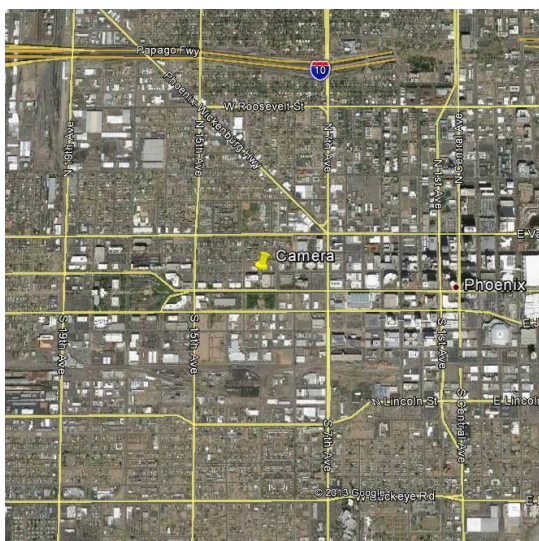
Site Information

AQS ID	None	ADEQ ID	21737
Street Address	1110 W. Washington St. Phoenix, AZ 85007		
County	Maricopa	Groundcover	Rooftop
CBSA	Phoenix-Mesa-Scottsdale	Latitude	33.4483
Surrounding Area	Residential/Commercial	Longitude	-112.0878
Distance to roadway	84 m – S – Washington St.	Elevation	329 m
Traffic count of Nearest Major Roadway	10,852 – Washington St.	Site Established Date	07/01/2002

Monitoring Information

Pollutant	Visibility			
Basic monitoring objective	Public Information			
Site type(s)	Population Exposure			
Monitor type(s)	--			
Instrument manufacture and model	CANON EOS Rebel T2i			
Spatial scale	Urban			
Monitor Start Date	07/01/2002			

Site Photos



Aerial view of ADEQ Building



Camera on rooftop of ADEQ Building –
4/2010

Ajo

The site is located at the Pima County Maintenance Yard, with the wind system mounted to the north of the instruments. The closest structure to the site is an east-west oriented ADOT office/trailer to the south. To the east lie the stabilized tailings pile associated with the Ajo mining operation that closed in 1985.

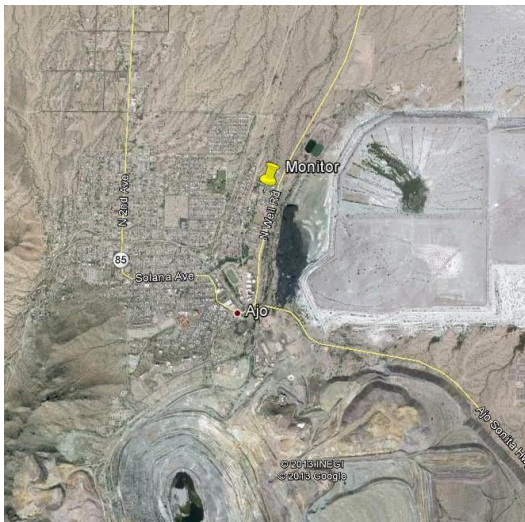
Site Information

AQS ID	04-019-0001	ADEQ ID	16316
Street Address	1211 Well Rd. Ajo, AZ 85321		
County	Pima	Groundcover	Gravel
CBSA	Tucson	Latitude	32.3820
Surrounding Area	Residential/Commercial	Longitude	-112.8575
Distance to roadway	109 m – E – Ajo Well Rd. 1	Elevation	515 m
Traffic count of Nearest Major Roadway	500 – Ajo Well Rd. 1	Site Established Date	07/01/1969

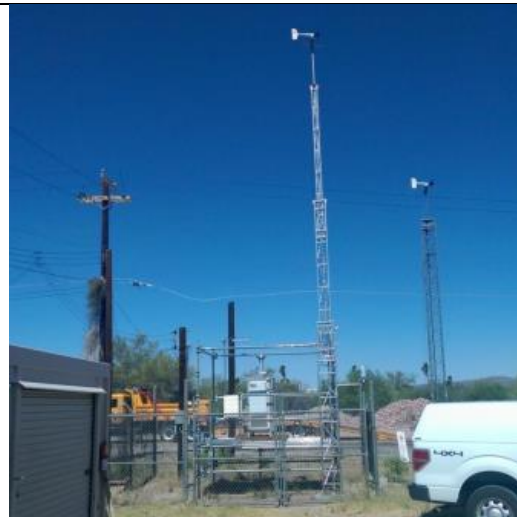
Monitoring Information

Pollutant	PM ₁₀	Wind	Temp/RH	
Basic monitoring objective	NAAQS Comparison	--	--	
Site type(s)	Population Exposure	Population Exposure	Population Exposure	
Monitor type(s)	SLAMS	--	--	
Instrument manufacture and model	Thermo TEOM 1400AB	RM Young 5305 Anemometer	Vaisala HMP 155 Probe	
Spatial scale	Neighborhood	Neighborhood	Neighborhood	
Monitor Start Date	02/11/1991	07/01/1969	02/11/2014	

Site Photos



Aerial view of Ajo



Ajo fenced area and meteorological tower
5/2014

Alamo Lake
The site was established to replace the Hillside site and is located in Alamo Lake State Park, which is approximately 49 km north of Wenden, AZ. The surrounding area consists of mostly desert, with a lake about 1 km to the northeast. A small water pump/storage tank (1,000 gallon) lies 7 meters to the east of the shelter.

Site Information			
AQS ID	04-012-8000	ADEQ ID	34961
Street Address	Alamo Lake State Park		
County	La Paz	Groundcover	Gravel
CBSA	None	Latitude	34.2439
Surrounding Area	Desert	Longitude	-113.5586
Distance to roadway	80 m – NE – Alamo Rd.	Elevation	403 m
Traffic count of Nearest Major Roadway	230 – Alamo Rd.	Site Established Date	05/20/2005

Monitoring Information				
Pollutant	O ₃	SO ₂	PM ₁₀	PM _{2.5}
Basic monitoring objective	NAAQS Comparison	NAAQS Comparison	NAAQS Comparison	NAAQS Comparison
Site type(s)	Regional Transport	General / Background	General / Background	General / Background
Monitor type(s)	SLAMS	SPM	SLAMS	SLAMS
Instrument manufacture and model	Teledyne API 400E	Ecotech EC9850T	Met One BAM 1020	Met One BAM 1020
Spatial scale	Regional	Regional	Regional	Regional
Monitor Start Date	05/20/2005	01/14/2014	10/30/2013	11/05/2013

Monitoring Information				
Pollutant	NO ₂			
Basic monitoring objective	NAAQS Comparison			
Site type(s)	General / Background			
Monitor type(s)	SPM			
Instrument manufacture and model	Ecotech EC9841			
Spatial scale	Regional			
Monitor Start Date	7/1/2014			

Site Photos



Regional view of Alamo Lake



Alamo Lake shelter with PM inlets – 7/2014

Banner Mesa Medical Center

The high-resolution digital camera points to the Superstition Mountains, which lie 32 km east of the site. The pictures of the local views are updated every 5 minutes and can be viewed on the internet at <http://phoenixvis.net/index.aspx>. The area between the site and the mountains is primarily residential with some commercial areas.

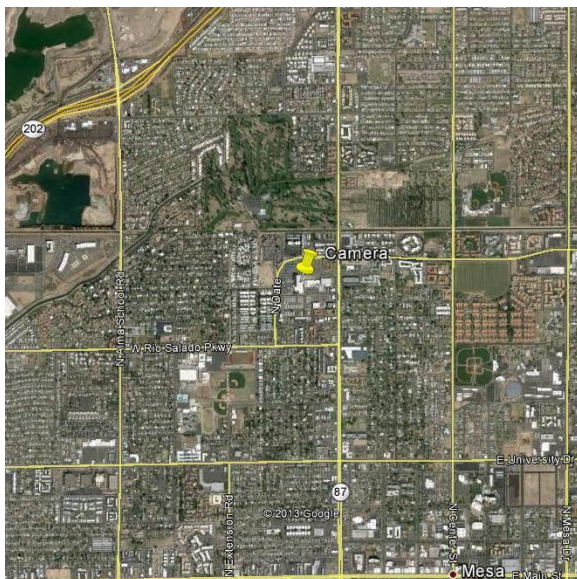
Site Information

AQS ID	None	ADEQ ID	19489
Street Address	525 W. Brown Rd. Mesa, AZ 85201		
County	Maricopa	Groundcover	Rooftop
CBSA	Phoenix-Mesa-Scottsdale	Latitude	33.4335
Surrounding Area	Residential	Longitude	-111.8428
Distance to roadway	170 m – N – W Brown St.	Elevation	454 m
Traffic count of Nearest Major Roadway	32,760 – Country Club Dr. – 260m – E	Site Established Date	01/01/1993

Monitoring Information

Pollutant	Visibility			
Basic monitoring objective	Public Information			
Site type(s)	Population Exposure			
Monitor type(s)	--			
Instrument manufacture and model	CANON EOS Rebel T2i			
Spatial scale	Urban			
Monitor Start Date	01/01/1993			

Site Photos



Aerial view of Banner Mesa Medical Center





Banner Mesa Medical Center Camera–
05/2013

Bullhead City	
The site is located on the rooftop of the U.S. Post Office Building, northeast of SR 95 and 7 th Street. The surrounding area is commercial and residential to the west and south. The Colorado River lies to the west less than 400 meters. To the northeast/east, about 575 meters, is the Bullhead City Airport.	

Site Information			
AQS ID	04-015-1003	ADEQ ID	16365
Street Address	990 Highway 95 Bullhead City, AZ 86429		
County	Mohave	Groundcover	Rooftop
CBSA	Lake Havasu City-Kingman	Latitude	35.1538
Surrounding Area	Commercial/Residential	Longitude	-114.5668
Distance to roadway	40 m – W – SR 95	Elevation	167 m
Traffic count of Nearest Major Roadway	25,500 – SR 95	Site Established Date	11/01/1997

Monitoring Information				
Pollutant	PM ₁₀			
Basic monitoring objective	NAAQS Comparison			
Site type(s)	Population Exposure			
Monitor type(s)	SLAMS			
Instrument manufacture and model	Thermo TEOM 1400AB			
Spatial scale	Neighborhood			
Monitor Start Date	11/05/1997			

Site Photos	
 <p>Aerial view of Bullhead City</p>	 <p>Roof of Bullhead City Post Office– 06/2012</p>

Chiricahua Entrance Station

The site is operated by the NPS. The surrounding area is wilderness and desert. The Chiricahua National Monument lies 3.8 km to the northeast.

Site Information

AQS ID	04-003-8001	ADEQ ID	16679
Street Address	13063 E. Bonita Canyon Rd. Wilcox, AZ 85643		
County	Cochise	Groundcover	Dirt/Rocks
CBSA	Sierra Vista-Douglas	Latitude	32.0094
Surrounding Area	Desert	Longitude	-109.3891
Distance to roadway	99 m – E – Bonita Canyon Rd.	Elevation	1,570 m
Traffic count of Nearest Major Roadway	216 – Bonita Canyon Rd.	Site Established Date	01/01/1988

Monitoring Information

Pollutant	IMPROVE			
Basic monitoring objective	Research			
Site type(s)	Background			
Monitor type(s)	IMPROVE			
Instrument manufacture and model	--			
Spatial scale	Regional			
Monitor Start Date	03/02/1988			

Site Photos



Regional view of Chiricahua Entrance Station



Chiricahua Entrance Station shelter and IMPROVE – 07/2008

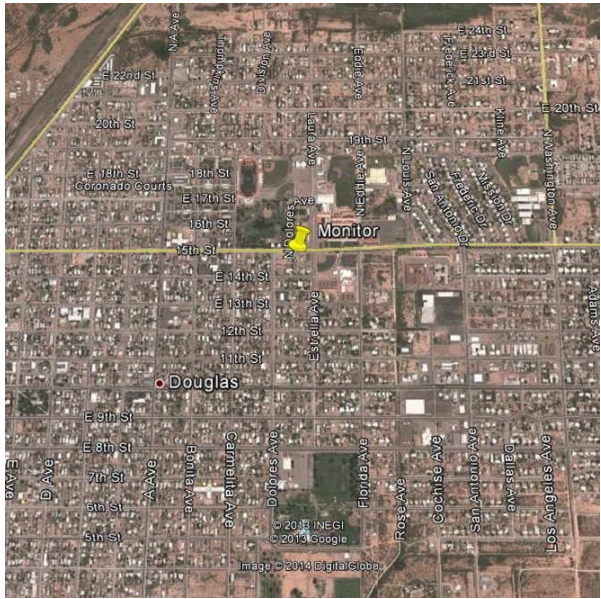
Douglas Red Cross
The site is located at the Red Cross building on the south side of 15 th Street. The surrounding area is a mix of residential and commercial land use. The site is about 1,685 meters from the Arizona/Mexico border. Due to an oversight when loading IMPROVE data to the AQS database, a second AQS ID was created (04-003-9000) for IMPROVE data. This is an IMPROVE protocol site.

Site Information			
AQS ID	04-003-1005	ADEQ ID	16503
Street Address	1445 E. 15 th St. Douglas, AZ 85607		
County	Cochise	Groundcover	Dirt/Grass
CBSA	Sierra Vista-Douglas	Latitude	31.3492
Surrounding Area	Commercial/Residential	Longitude	-109.5396
Distance to roadway	30 m – N – 14 th St.	Elevation	1,231 m
Traffic count of Nearest Major Roadway	2,474 – 14 th St.	Site Established Date	09/01/1998

Monitoring Information				
Pollutant	PM ₁₀	PM _{2.5}	Temp/RH	Wind
Basic monitoring objective	NAAQS Comparison	NAAQS Comparison	--	--
Site type(s)	Population Exposure	Population Exposure	Population Exposure	Population Exposure
Monitor type(s)	SLAMS	SLAMS	--	--
Instrument manufacture and model	Thermo TEOM 1400AB	Met One BAM 1020	Vaisala HMP 155 Probe	RM Young 5305 Anemometer
Spatial scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Monitor Start Date	09/02/1998	11/02/2000	08/16/2012	08/06/2012

Monitoring Information				
Pollutant	IMPROVE			
Basic monitoring objective	Research			
Site type(s)	Other			
Monitor type(s)	IMPROVE			
Instrument manufacture and model	--			
Spatial scale	Regional			
Monitor Start Date	06/02/2004			

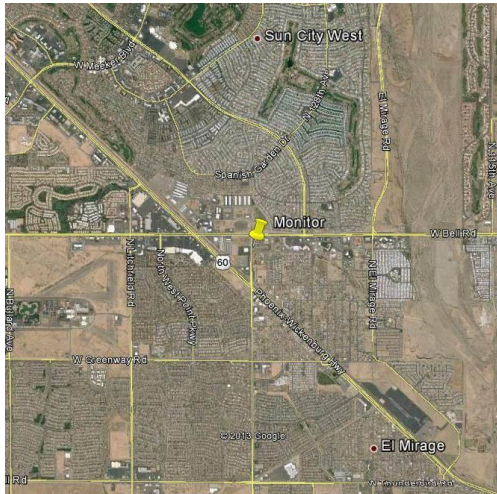

Site Photos



Dysart	
The site is located in the Maricopa County Facility Maintenance Yard at the southeast corner of Bell Road and Dysart Road and is shared with MCAQD. The surrounding area is commercial and residential.	

Site Information			
AQS ID	04-013-4010	ADEQ ID	19550
Street Address	16825 N. Dysart Rd. Surprise, AZ 85374		
County	Maricopa	Groundcover	Gravel
CBSA	Phoenix-Mesa-Scottsdale	Latitude	33.6370
Surrounding Area	Commercial/Residential	Longitude	-112.3393
Distance to roadway	14 m – W – Dysart Rd	Elevation	357 m
Traffic count of Nearest Major Roadway	51,673 – Bell Rd. – 150m – N	Site Established Date	01/01/2003

Monitoring Information				
Pollutant	Bscat/PM2.5	Temp/ RH		
Basic monitoring objective	Public Information	--		
Site type(s)	Population Exposure	Population Exposure		
Monitor type(s)	--	--		
Instrument manufacture and model	Optec NGN 2 Nephelometer	Vaisala HMP155 Probe		
Spatial scale	Urban	Urban		
Monitor Start Date	01/01/2003	07/16/2003		

Site Photos	
 <p>Aerial view of Dysart</p>	 <p>Dysart ADEQ Nephelometer tower attached to county shelter – 03/2013</p>

Estrella

The site is located in the southeast corner of the Maricopa County Maintenance Yard at Estrella Park. The surrounding area consist of the Estrella Mountains to the east, south, and west; a golf course 256 meters to the west; and a mixture of open land, agricultural lands, residential, and commercial activity to the north.

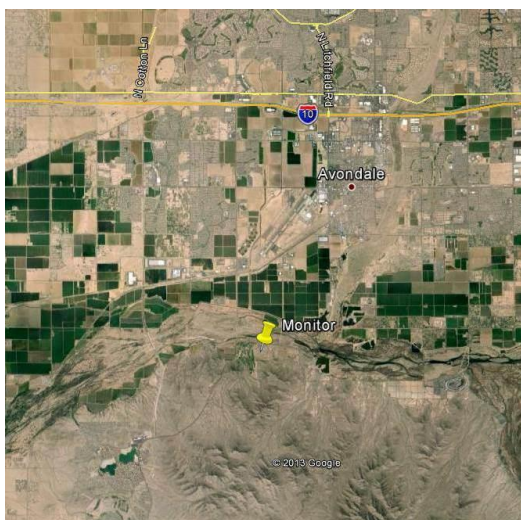
Site Information

AQS ID	04-013-8005	ADEQ ID	16506
Street Address	15099 W. Casey Abbott Rd. Goodyear, AZ 85338		
County	Maricopa	Groundcover	Grass/Gravel
CBSA	Phoenix-Mesa-Scottsdale	Latitude	33.3833
Surrounding Area	Desert/Recreation Area	Longitude	-112.3728
Distance to roadway	258 m – N – W. Vineyard Ave.	Elevation	277 m
Traffic count of Nearest Major Roadway	910 – W. Vineyard Ave.	Site Established Date	01/01/1995

Monitoring Information

Pollutant	Bscat/PM2.5	Temp/ RH		
Basic monitoring objective	Public Information	--		
Site type(s)	Population Exposure	Population Exposure		
Monitor type(s)	--	--		
Instrument manufacture and model	Optec NGN 2 Nephelometer	Vaisala HMP155 Probe		
Spatial scale	Urban	Urban		
Monitor Start Date	01/01/2003	02/11/2003		

Site Photos



Aerial view of Estrella



Estrella Nephelometer tower – 06/2012

Estrella Mountain Community College

One high-resolution digital camera points to the Estrella Mountains, which lies 11 km to the southwest, and the other camera points to the White Tanks mountain range which is 20 km to the northeast. The pictures of the local views are updated every 5 minutes and can be viewed on the internet at <http://phoenixvis.net/index.aspx>. The area between the site and the mountain ranges is a mixture of residential, commercial, and agricultural uses.

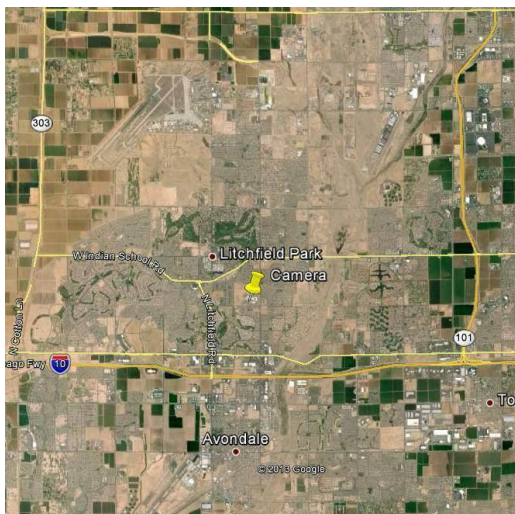
Site Information

AQS ID	None	ADEQ ID	21736
Street Address	3000 N. Dysart Rd. Avondale, AZ 85323		
County	Maricopa	Groundcover	Rooftop
CBSA	Phoenix-Mesa-Scottsdale	Latitude	33.4836
Surrounding Area	Residential	Longitude	-112.3503
Distance to roadway	155 m – S – Thomas Rd.	Elevation	305 m
Traffic count of Nearest Major Roadway	9,798 – Thomas Rd.	Site Established Date	01/01/1993

Monitoring Information

Pollutant	Visibility			
Basic monitoring objective	Public Information			
Site type(s)	Population Exposure			
Monitor type(s)	--			
Instrument manufacture and model	CANON EOS Rebel T2i			
Spatial scale	Urban			
Monitor Start Date	01/01/1993			

Site Photos



Aerial view of Estrella Mountain
Community College

No photo

Flagstaff Middle School

The site is west of Bonito Road on the rooftop of a Flagstaff Middle School building. The surrounding area is generally residential, with Thorpe Park located about 800 meters to the west, and US Route 180 approximately 415 meters to the east. At the end of 2013 the O₃, and the PM₁₀, and PM_{2.5} Partisols, will be removed from this site. Only the PM_{2.5} E-BAM unit will remain at the site.

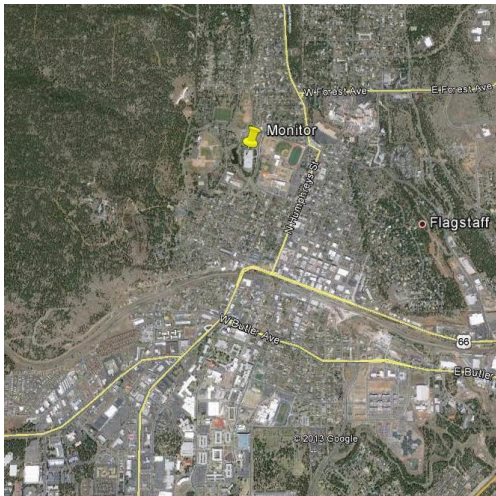
Site Information

AQS ID	04-005-1008	ADEQ ID	16707
Street Address	755 N. Bonito St. Flagstaff, AZ 86001		
County	Coconino	Groundcover	Rooftop
CBSA	Flagstaff	Latitude	35.2061
Surrounding Area	Residential	Longitude	-111.6528
Distance to roadway	80 m – E – N. Bonito St.	Elevation	2,120 m
Traffic count of Nearest Major Roadway	3,200 – N. Bonito St.	Site Established Date	10/29/1996

Monitoring Information

Pollutant	O ₃	PM _{2.5}		
Basic monitoring objective	NAAQS Comparison	Public Information		
Site type(s)	Max O ₃ Concentration	Population Exposure		
Monitor type(s)	SLAMS	Special Purpose		
Instrument manufacture and model	Teledyne API 400E	Met One E-BAM		
Spatial scale	Neighborhood	Neighborhood		
Monitor Start Date	03/13/2008	09/09/1999		

Site Photos



Aerial view of Flagstaff Middle School



O₃ sample cane at Flagstaff – 11/2012

Globe Highway

This site is the location of the collocated TSP Pb monitors in Hayden, AZ. ASARCO mine also maintains a SO₂ analyzer, Pb sampler, PM sampler, wind monitor, rain gage, and temp/RH at the site. The site is located on the southwest end of a small canyon and may be influenced by both broad and local meteorological conditions. The Site is located approximately 1 km to the east/southeast of the ASARCO smelting facility. Surrounding trees are below inlet height and have no vegetation.

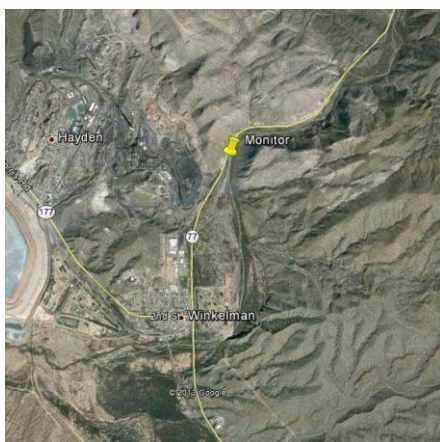
Site Information

AQS ID	04-007-1002	ADEQ ID	16593
Street Address	SR 77 Winkelman, AZ 85292		
County	Gila	Groundcover	Gravel
CBSA	Payson	Latitude	33.002
Surrounding Area	Desert/Residential	Longitude	-110.765
Distance to roadway	10 m – W – SR 77	Elevation	602 m
Traffic count of Nearest Major Roadway	2,700 – SR 77	Site Established Date	01/01/1975

Monitoring Information

Pollutant	Pb	Pb	Temp/RH	Wind
Basic monitoring objective	NAAQS Comparison	NAAQS Comparison	--	--
Site type(s)	Highest Concentration, Source Oriented	Highest Concentration, Source Oriented	Highest Concentration, Source Oriented	Highest Concentration, Source Oriented
Monitor type(s)	SLAMS	QA Collocated	--	--
Instrument manufacture and model	Tisch TE-8550-BL TSP	Tisch TE-8550-BL TSP	Vaisala HMP 155 Probe	RM Young 5305 Anemometer
Spatial scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Monitor Start Date	10/01/2010	10/01/2010	04/15/2011	04/15/2011

Site Photos



Aerial view of Globe Highway



Shelter, towers, and TSP monitors at Globe Highway – 07/2013

Grand Canyon National Park - Hance Camp

The site is operated by the NPS. The site is 183 meters south of East Rim Drive and 1,931 meters south of Grandview Point turnoff. The site is in a clearing surrounded by forest.

Site Information

AQS ID	04-005-8102	ADEQ ID	16682
Street Address	West of SR 64 - Grand Canyon, AZ 86023		
County	Coconino	Groundcover	Dirt
CBSA	Flagstaff	Latitude	35.9731
Surrounding Area	Desert	Longitude	-111.9841
Distance to roadway	200 m – E – SR 64	Elevation	2,235 m
Traffic count of Nearest Major Roadway	6,579 – SR 64	Site Established Date	09/24/1997

Monitoring Information

Pollutant	IMPROVE			
Basic monitoring objective	Research			
Site type(s)	Background			
Monitor type(s)	IMPROVE			
Instrument manufacture and model	--			
Spatial scale	Regional			
Monitor Start Date	09/24/1997			

Site Photos



Regional view of Grand Canyon NP - Hance Camp



Grand Canyon NP - Hance Camp shelter – date unknown

Greer Water Treatment Plant

The site is located in the Apache National Forest and is operated the USFS. The surrounding area is forest with the town of Greer approximately 4 km to the south/southwest.

Site Information

AQS ID	04-001-8001	ADEQ ID	16323
Street Address	SR 260 & SR 373 Greer, AZ 85927		
County	Apache	Groundcover	Grass
CBSA	None	Latitude	34.0583
Surrounding Area	Forest	Longitude	-109.4400
Distance to roadway	1,600 m – N – SR 373	Elevation	2,503 m
Traffic count of Nearest Major Roadway	1,044 – SR 373	Site Established Date	01/01/2000

Monitoring Information

Pollutant	IMPROVE			
Basic monitoring objective	Research			
Site type(s)	Other			
Monitor type(s)	IMPROVE			
Instrument manufacture and model	--			
Spatial scale	Regional			
Monitor Start Date	02/29/2000			

Site Photos



Aerial view of Greer Water Treatment Plant



Shelter at Greer Water Treatment Plant – 08/2014

Hayden Old Jail

The site is located in a shelter next to the old Hayden Jail building near the center of town. The instruments were previously located in the jail building and were moved to a shelter next to the jail due to safety and siting concerns. The surrounding area consists mainly of residential and commercial. The site is located approximately 1 km to the west of the ASARCO smelting facility. ASARCO mine also maintains a sulfur dioxide analyzer at the site.

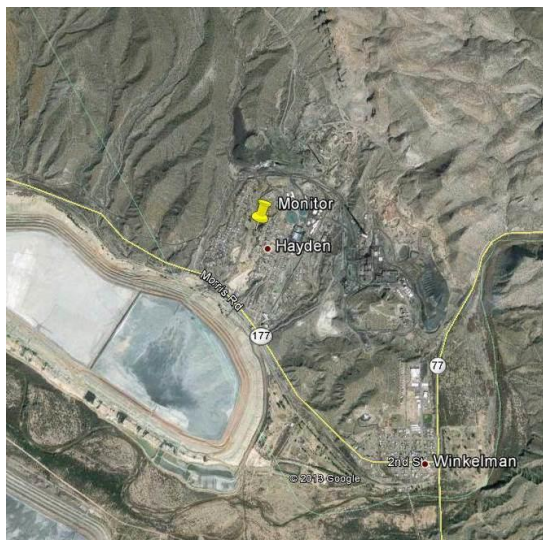
Site Information

AQS ID	04-007-1001	ADEQ ID	16326
Street Address	Canyon Dr. & Kennecott Ave. Hayden, AZ 85235		
County	Gila	Groundcover	Shelter
CBSA	Payson	Latitude	33.0062
Surrounding Area	Residential	Longitude	-110.7864
Distance to roadway	10 m – E – Canyon Dr.	Elevation	625 m
Traffic count of Nearest Major Roadway	1,790 – Velasco Ave. – 242m – E	Site Established Date	01/01/1969

Monitoring Information

Pollutant	SO ₂	PM ₁₀	Temp/RH	Wind
Basic monitoring objective	NAAQS Comparison	NAAQS Comparison	--	--
Site type(s)	Source Oriented	Source Oriented	Source Oriented	Source Oriented
Monitor type(s)	SLAMS	SLAMS	--	--
Instrument manufacture and model	Ecotech EC9850T	Thermo TEOM 1400AB	Vaisala HMP 155 Probe	RM Young 5305 Anemometer
Spatial scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Monitor Start Date	01/01/1975	01/06/1981	02/02/2011	02/02/2011

Site Photos



Aerial view of Hayden Old Jail



Hayden Old Jail shelter, PM inlet and meteorological tower – 05/2014

Ike's Backbone

The site is operated by the USFS. The surrounding area is Tonto National Forest, which includes Mazatzal and Pine Mountain Wilderness areas. The site is located on a small ridge with the Verde River and mountains nearby.

Site Information

AQS ID	04-025-8104	ADEQ ID	16421
Street Address	Fossil Creek Rd. and Childs Rd. Strawberry, AZ 85544		
County	Coconino	Groundcover	Rocks/Plants
CBSA	Flagstaff	Latitude	34.3406
Surrounding Area	Forest	Longitude	-111.6825
Distance to roadway	1000m – N – Childs Rd	Elevation	1,303 m
Traffic count of Nearest Major Roadway	475 – Fossil Creek Rd. – 6500m – NE	Site Established Date	04/02/2000

Monitoring Information

Pollutant	IMPROVE			
Basic monitoring objective	Research			
Site type(s)	Other			
Monitor type(s)	IMPROVE			
Instrument manufacture and model	--			
Spatial scale	Regional			
Monitor Start Date	04/02/2000			

Site Photos



Regional view of Ike's Backbone



IMPROVE at Ike's Backbone – 2011

JLG Supersite			
The site was established to represent air quality in the central core of the Phoenix metropolitan area. The surrounding area is primarily residential neighborhoods, with I-17 approximately 1.6 km to the west. This is also an IMPROVE protocol site.			

Site Information			
AQS ID	04-013-9997	ADEQ ID	16328
Street Address	4530 N. 17 th Ave. Phoenix, AZ 85015		
County	Maricopa	Groundcover	Gravel
CBSA	Phoenix-Mesa-Scottsdale	Latitude	33.5038
Surrounding Area	Residential	Longitude	-112.0957
Distance to roadway	10 m – E – 17 th Ave.	Elevation	354 m
Traffic count of Nearest Major Roadway	17 th Ave – Not counted 1,557 – Campbell Ave. – 158m – S 17,639 – N 19 th Ave. – 367m – W	Site Established Date	07/01/1993

Monitoring Information				
Pollutant	CO	NO ₂ / NO _x	NO _y	O ₃
Basic monitoring objective	NAAQS Comparison	NAAQS Comparison. Research	NAAQS Comparison	NAAQS Comparison
Site type(s)	Highest Concentration	Highest Concentration, Population Exposure	Population Exposure	Max O ₃ Concentration
Monitor type(s)	SLAMS, NCore, PAMS	SLAMS, PAMS	NCore	SLAMS, NCore, PAMS
Instrument manufacture and model	Ecotech EC9830T	Ecotech EC9841B	Ecotech 9843	Teledyne API 400E
Spatial scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Monitor Start Date	07/01/1993	07/01/1993	01/01/2011	07/01/1993

Monitoring Information				
Pollutant	SO ₂	Carbonyl	VOC	SVOC
Basic monitoring objective	NAAQS Comparison	Research	Research	Research
Site type(s)	Population Exposure	Population Exposure, Max Precursor Impact	Population Exposure, Max Precursor Impact	Population Exposure
Monitor type(s)	SLAMS, NCore	PAMS, NATTS	PAMS, NATTS	NATTS
Instrument manufacture and model	Ecotech EC9850T	ATEC 8000	ATEC 2200	Tisch TE-1000BL
Spatial scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Monitor Start Date	03/03/2005	05/15/1999	05/15/1999	07/08/2007

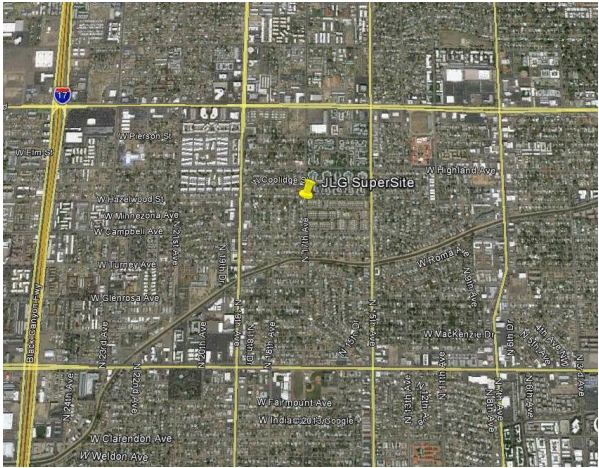
Monitoring Information				
Pollutant	Pb-PM ₁₀ / PM ₁₀ metals speciation	PM ₁₀	PM _{10-2.5}	PM _{2.5}
Basic monitoring objective	NAAQS Comparison, Research	NAAQS Comparison	Research	NAAQS Comparison
Site type(s)	Population Exposure	Population Exposure	Population Exposure	Population Exposure
Monitor type(s)	SLAMS, NCore, NATTS	SLAMS	NCore	SLAMS, NCore
Instrument manufacture and model	Thermo Partisol 2000	Met One BAM 1020	Met One BAM 1020	Met One BAM 1020
Spatial scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Monitor Start Date	01/01/2005	07/01/1993	11/10/2010	07/01/2003

Monitoring Information				
Pollutant	PM _{2.5}	PM _{2.5} Speciation	PM _{2.5} Speciation	Temp/RH
Basic monitoring objective	NAAQS Comparison	Research	Research	--
Site type(s)	Population Exposure	Population Exposure	Population Exposure	Population Exposure
Monitor type(s)	SLAMS, NCore	Supplemental Speciation, NCore	Supplemental Speciation, NCore	--
Instrument manufacture and model	Thermo Partisol 2000	Met One SuperSASS	URG 3000N	Vaisala HMP 155 Probe
Spatial scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Monitor Start Date	07/01/2003	02/21/2000	02/21/2000	07/01/1993

Monitoring Information				
Pollutant	Wind	IMPROVE	IMPROVE	
Basic monitoring objective	--	Research	Research	
Site type(s)	Population Exposure	Other	Other	
Monitor type(s)	--	IMPROVE	IMPROVE	
Instrument manufacture and model	RM Young 5305 Anemometer	--	--	
Spatial scale	Neighborhood	Neighborhood	Neighborhood	
Monitor Start Date	07/01/1993	04/25/2001	04/25/2001	

Aerial view of the JLG Supersite, showing the site location marked by a yellow pin. The surrounding area includes residential and commercial buildings, streets, and a highway (I-75) to the left.

Eastern side of JLG Supersite two shelters, roof top, and meteorological tower – 08/2012



Meadview

The site is located within the Lake Mead National Recreation Area on the north end of Meadview, AZ, where the Grand Canyon meets Lake Mead. The surrounding area is primarily desert. To the southwest 64.4 km is US 93, which is the closest highway to the site and about 96.5 km to the southeast is downtown Kingman. This is an IMPROVE protocol site.

Site Information

AQS ID	04-015-9000	ADEQ ID	21298
Street Address	Pierce Ferry Rd. Meadview, AZ 86444		
County	Mohave	Groundcover	Gravel/Desert
CBSA	Lake Havasu City-Kingman	Latitude	36.0194
Surrounding Area	Desert/Residential	Longitude	-114.0685
Distance to roadway	100 m – E – Pierce Ferry Rd	Elevation	907 m
Traffic count of Nearest Major Roadway	0 – Pierce Ferry Rd.	Site Established Date	09/04/1991

Monitoring Information

Pollutant	IMPROVE			
Basic monitoring objective	Research			
Site type(s)	Background			
Monitor type(s)	IMPROVE			
Instrument manufacture and model	--			
Spatial scale	Regional			
Monitor Start Date	09/04/1991			

Site Photos



Regional view of Meadview



Photo of Meadview shelter – 06/2015

Miami Golf Course

This site is the location of the TSP-Pb monitor in Miami, AZ. Freeport McMoRan Copper and Gold Inc. also maintained two particulate matter monitors at the site but were removed as of January 2014. The site is located near the Cobre Valley Country Club with residential areas to the south and east and the Freeport McMoRan facility approximately 2 km to the west/southwest. Surrounding trees are below inlet height and have no vegetation.

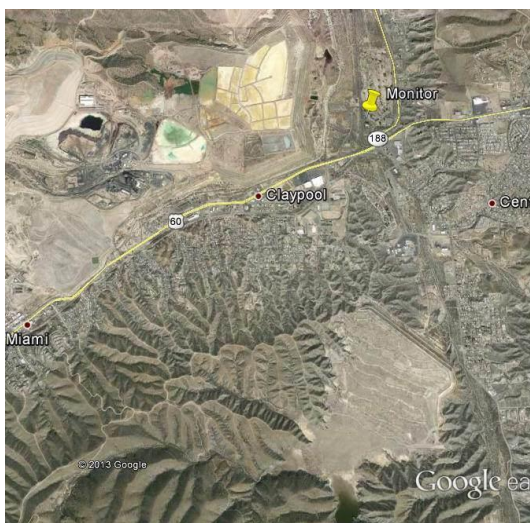
Site Information

AQS ID	04-007-8000	ADEQ ID	16629
Street Address	SR 188 and US 60 Miami, AZ 85539		
County	Gila	Groundcover	Gravel
CBSA	Payson	Latitude	33.4190
Surrounding Area	Residential	Longitude	-110.8296
Distance to roadway	220 – SE – SR 188	Elevation	1000 m
Traffic count of Nearest Major Roadway	3,300 – SR 188	Site Established Date	01/01/1997

Monitoring Information

Pollutant	Pb	PM ₁₀	Temp/RH	Wind
Basic monitoring objective	NAAQS Comparison	NAAQS Comparison	--	--
Site type(s)	Source Oriented	Source Oriented	Source Oriented	Source Oriented
Monitor type(s)	SLAMS	SLAMS	--	--
Instrument manufacture and model	Tisch TE-8550-BL TSP	Thermo TEOM 1400AB	Vaisala HMP 155 Probe	RM Young 5305 Anemometer
Spatial scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Monitor Start Date	10/01/2010	7/26/2012	06/08/2011	06/08/2011

Site Photos



Aerial view of Miami Golf Course



Fenced Miami Golf Course site – 05/2014

Miami Jones Ranch

This site is one of three SO₂ sites in the Miami area. Freeport McMoRan Copper and Gold Inc. operate a SO₂ instrument at this site as well. The site is located south of the town of Miami and is over 3 km south/southwest of the smelter. The site located in the desert hills overlooking the town and is off a gravel/dirt road.

Site Information

AQS ID	04-007-0011	ADEQ ID	16631
Street Address	Cherry Flats Rd. Miami, AZ 85539		
County	Gila	Groundcover	Gravel
CBSA	Payson	Latitude	33.3853
Surrounding Area	Residential	Longitude	-110.8673
Distance to roadway	15m – SE – Cherry Flats Rd.	Elevation	1,242 m
Traffic count of Nearest Major Roadway	n/a	Site Established Date	01/01/1997

Monitoring Information

Pollutant	SO ₂			
Basic monitoring objective	NAAQS Comparison			
Site type(s)	Source Oriented			
Monitor type(s)	SLAMS			
Instrument manufacture and model	Ecotech EC9850T			
Spatial scale	Neighborhood			
Monitor Start Date	02/01/2013			

Site Photos



Aerial view of Miami Jones Ranch



Fenced Miami Jones Ranch site – 05/2014

Miami Ridgeline

This is one of three SO₂ site in the Miami area. The site is located inside on private property off of Linden Road and sits on the side of a north-south oriented ridge, which slopes in a northerly direction toward the town of Miami. The surrounding area is desert. Freeport McMoRan Copper and Gold Inc. also maintain a PM₁₀ monitor at the site. The Freeport McMoRan smelter is 1.6 km to the north of the site.

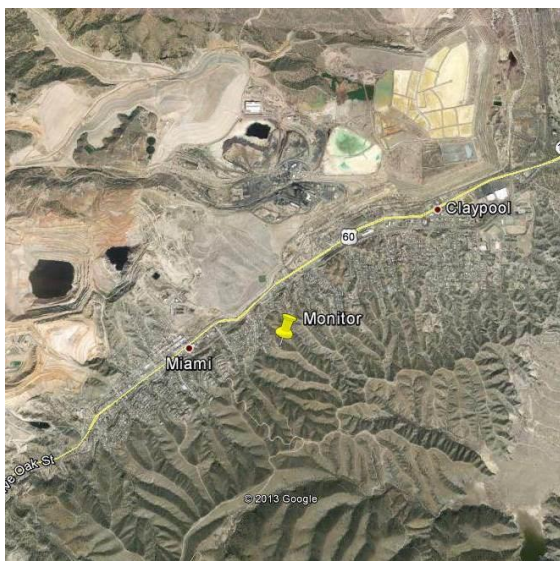
Site Information

AQS ID	04-007-0009	ADEQ ID	16382
Street Address	4030 Linden St. Miami, AZ 85539		
County	Gila	Groundcover	Dirt
CBSA	Payson	Latitude	33.3992
Surrounding Area	Residential	Longitude	-110.8589
Distance to roadway	40 m – N – Linden St.	Elevation	1,085 m
Traffic count of Nearest Major Roadway	Linden St – Not Counted 510 – Loomis Ave. – 230m – W	Site Established Date	01/01/1993

Monitoring Information

Pollutant	SO ₂			
Basic monitoring objective	NAAQS Comparison			
Site type(s)	Source Oriented			
Monitor type(s)	SLAMS			
Instrument manufacture and model	Thermo 43C			
Spatial scale	Neighborhood			
Monitor Start Date	10/05/1995			

Site Photos



Aerial view of Miami Ridgeline



Fenced Miami Ridgeline site – 05/2014

Miami Townsite

This site is one of three SO₂ sites in the Miami area. Freeport McMoRan Copper and Gold Inc. run a SO₂ instrument at this site as well. This site is located on the western side of Miami, near the center of the town. There is a church to the west and a Police Station to the west with residential to the north and south. The road is located to the south of the site. The smelter is over 2 km to the northwest of the site.

Site Information

AQS ID	04-007-0012	ADEQ ID	16382
Street Address	Sullivan ST & Davis Canyon Miami, AZ 85539		
County	Gila	Groundcover	Gravel
CBSA	Payson	Latitude	33.3973
Surrounding Area	Residential	Longitude	-110.8744
Distance to roadway	16.5 m – SE – Sullivan St.	Elevation	1,042 m
Traffic count of Nearest Major Roadway	470 – Sullivan St.	Site Established Date	0/01/1997

Monitoring Information

Pollutant	SO ₂			
Basic monitoring objective	NAAQS Comparison			
Site type(s)	Source Oriented			
Monitor type(s)	SLAMS			
Instrument manufacture and model	Ecotech EC9850T			
Spatial scale	Neighborhood			
Monitor Start Date	02/01/2013			

Site Photos



Aerial view of Miami Townsite



Fenced Miami Townsite – 05/2014

Nogales Post Office			
The site is located on the rooftop of the U.S. Post Office building, which lies approximately 670 meters north from the Arizona/Mexico Border. The surrounding area is a mixture of commercial and residential land use. This site is used to meet the PM _{2.5} collocation requirement.			

Site Information			
AQS ID	04-023-0004	ADEQ ID	16511
Street Address	300 N. Morley Ave. Nogales, AZ 85621		
County	Santa Cruz	Groundcover	Rooftop
CBSA	Nogales	Latitude	31.3372
Surrounding Area	Residential/Commercial	Longitude	-110.9367
Distance to roadway	37.6 m – NW – Morley Ave.	Elevation	1,176 m
Traffic count of Nearest Major Roadway	7,199 – Morley Ave.	Site Established Date	01/01/1980

Monitoring Information				
Pollutant	PM ₁₀	PM ₁₀	PM _{2.5}	PM _{2.5}
Basic monitoring objective	NAAQS Comparison	NAAQS Comparison	NAAQS Comparison	NAAQS Comparison
Site type(s)	Population Exposure	Population Exposure	Highest Concentration	Highest Concentration
Monitor type(s)	SLAMS	QA Collocated	SLAMS	QA Collocated
Instrument manufacture and model	Met One BAM 1020	Thermo Partisol 2000	Met One BAM 1020	Thermo Partisol 2000
Spatial scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Monitor Start Date	01/01/1980	01/01/1980	04/01/1999	04/01/1999

Monitoring Information				
Pollutant	Temp/RH	Wind		
Basic monitoring objective	--	--		
Site type(s)	Population Exposure	Population Exposure		
Monitor type(s)	--	--		
Instrument manufacture and model	Vaisala HMP 155 Probe	RM Young 5305 Anemometer		
Spatial scale	Neighborhood	Neighborhood		
Monitor Start Date	08/11/2011	01/01/1980		

Site Photos



Aerial view of Nogales Post Office

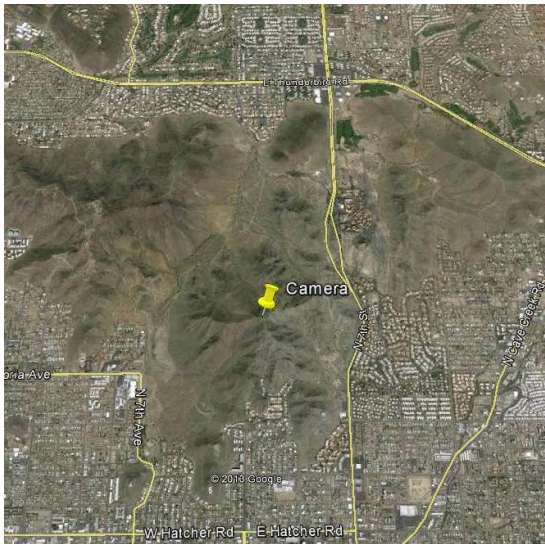



Particulate and meteorological monitors on roof of Nogales Post Office – 04/2013

North Mountain Summit	
The site is located on a mountaintop in the North Mountain Recreation Area of Phoenix. The high-resolution digital camera faces South Mountain, which lies 27 km to the south. The pictures of the local views are updated every 5 minutes and can be viewed on the internet at http://phoenixvis.net/index.aspx . The surrounding area is desert recreation area to the north and west and residential with some commercial activity to the south and east.	

Site Information			
AQS ID	None	ADEQ ID	16480
Street Address	West side of 7 th St. in North Mountain Recreation Area Phoenix, AZ		
County	Maricopa	Groundcover	Dirt/Desert
CBSA	Phoenix-Mesa-Scottsdale	Latitude	33.5855
Surrounding Area	Residential/Desert	Longitude	-112.0722
Distance to roadway	850 m – E – 7 th St.	Elevation	625 m
Traffic count of Nearest Major Roadway	28,210 – 7 th St.	Site Established Date	01/01/1993

Monitoring Information				
Pollutant	Visibility	Visibility		
Basic monitoring objective	Public Information	Public Information		
Site type(s)	Population Exposure	Population Exposure		
Monitor type(s)	--	--		
Instrument manufacture and model	CANON EOS Rebel T2i	CANON EOS Rebel T2i		
Spatial scale	Urban	Urban		
Monitor Start Date	01/01/1993	01/01/1993		

Site Photos	
 <p>Aerial view of North Mountain Summit</p>	 <p>Camera located on tower at North Mountain Summit – 04/2013</p>

Organ Pipe National Monument

The site is owned by the NPS, who operates the monitor at the site. The site is located 1 km south/southwest of the national monument visitor center, which is about 35.4 km south of Why, AZ. The site is about seven meters from a water pump house and lies about 540 meters east of a small mountain range. The surrounding area is predominately desert. This is an IMPROVE protocol site.

Site Information

AQS ID	04-019-0005	ADEQ ID	16681
Street Address	SR 85 & Puerto Blanco Rd. Ajo, AZ 85321		
County	Pima	Groundcover	Gravel
CBSA	Tucson	Latitude	31.9499
Surrounding Area	Desert	Longitude	-112.8010
Distance to roadway	400 m – E – SR 85	Elevation	505 m
Traffic count of Nearest Major Roadway	1,525 – SR 85	Site Established Date	01/01/1971

Monitoring Information

Pollutant	IMPROVE			
Basic monitoring objective	Research			
Site type(s)	Other			
Monitor type(s)	IMPROVE			
Instrument manufacture and model	--			
Spatial scale	Regional			
Monitor Start Date	01/15/2003			

Site Photos



Regional view of Organ Pipe NM



Shelter at Organ Pipe NM – 04/2014

Paul Spur Chemical Lime Plant

The site is located approximately 1 km to the northeast of the Chemical Lime Plant, just south of SR 80 between Bisbee and Douglas, and 3.5 km north of the Arizona/Mexico border. In 2011 the meteorological instruments were re-located to this site when the Paul Spur Chemical Lime Plant South site was closed. Other than the nearby Chemical Lime Plant, the surrounding area is predominately desert. The Chemical Lime Plant is not operational at this time.

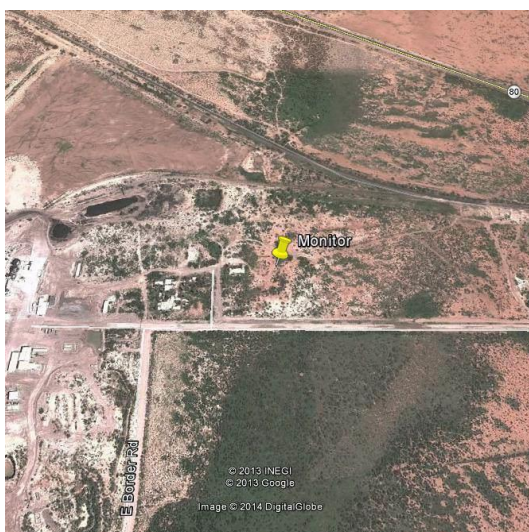
Site Information

AQS ID	04-003-0011	ADEQ ID	16391
Street Address	SR 80 & Paul Spur Rd. Paul Spur, AZ 85603		
County	Cochise	Groundcover	Dirt
CBSA	Sierra Vista-Douglas	Latitude	31.3658
Surrounding Area	Desert	Longitude	-109.7309
Distance to roadway	107 m – S – Paul Spur Rd.	Elevation	1,278 m
Traffic count of Nearest Major Roadway	Paul Spur Rd – Not Counted 4,920 – SR 80 – 230m – N	Site Established Date	01/01/1985

Monitoring Information

Pollutant	PM ₁₀	Temp/RH	Wind	
Basic monitoring objective	NAAQS Comparison	--	--	
Site type(s)	Source Oriented	Source Oriented	Source Oriented	
Monitor type(s)	SLAMS	--	--	
Instrument manufacture and model	Thermo TEOM 1400AB	Vaisala HMP 155 Probe	RM Young 5305 Anemometer	
Spatial scale	Middle	Middle	Middle	
Monitor Start Date	01/06/1991	12/01/2011	12/01/2011	

Site Photos



Aerial view of Paul Spur CLP



Particulate monitors and meteorological tower at Paul Spur CLP – 03/2013

Payson Well Site

The site is located in the southern area of Payson, in a field at a well water site. To the south of the site are two tanks. In general, the surrounding area is commercial with some residential land use and 200 meters to the south east is SR 87. Site was moved 90m NE on the same parcel to meet siting requirements. The Thermo Partisol 2000 will be replaced with a continuous Met One BAM 1020 starting July 1, 2014.

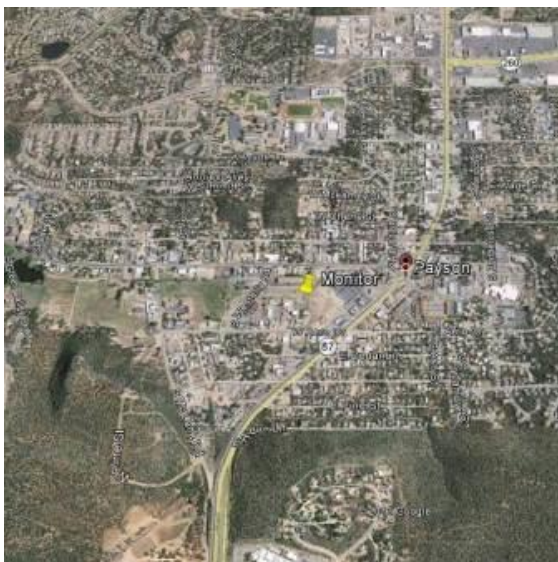
Site Information

AQS ID	04-007-0008	ADEQ ID	16317
Street Address	204 W. Aero Dr. Payson, AZ 85541		
County	Gila	Groundcover	Gravel
CBSA	Payson	Latitude	34.2297
Surrounding Area	Residential/Commercial	Longitude	-111.3295
Distance to roadway	134 m – S – Aero Dr.	Elevation	1,501 m
Traffic count of Nearest Major Roadway	1,724 – Aero Dr.	Site Established Date	01/01/1991

Monitoring Information

Pollutant	PM ₁₀	PM _{2.5}	Temp/RH	Wind
Basic monitoring objective	NAAQS Comparison	Public Information	--	--
Site type(s)	Population Exposure	Population Exposure	Population Exposure	Population Exposure
Monitor type(s)	SLAMS	Special Purpose	--	--
Instrument manufacture and model	Met One BAM 1020	Met One E-BAM	Vaisala HMP 45C Probe	RM Young 5103 Anemometer
Spatial scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Monitor Start Date	01/01/1991	05/16/2012	05/30/1991	05/30/1991

Site Photos



Aerial view of Payson Well Site



Payson Well Site continuous particulate monitor probe and shelter – 07/2014

Petrified Forest National Park

The site is operated by the NPS and is located 1.6 km north of park headquarters. The park sits along I-40 and the surrounding area is desert.

Site Information

AQS ID	04-001-0012	ADEQ ID	16473
Street Address	I-40 & Petrified Forest Rd. Petrified Forest National Park, AZ		
County	Apache	Groundcover	Dirt
CBSA	None	Latitude	35.0770
Surrounding Area	Desert	Longitude	-109.7690
Distance to roadway	1,050 m – SW – I-40	Elevation	1,766 m
Traffic count of Nearest Major Roadway	15,246 – I-40	Site Established Date	03/02/1988

Monitoring Information

Pollutant	IMPROVE			
Basic monitoring objective	Research			
Site type(s)	Background			
Monitor type(s)	IMPROVE			
Instrument manufacture and model	--			
Spatial scale	Regional			
Monitor Start Date	03/02/1988			

Site Photos



Photo of Petrified Forest NP taken from IMPROVE website – date unknown

Phoenix Transmissometer Receiver

The site is located in downtown Phoenix on the rooftop of the Holiday Inn Hotel near 2nd Avenue and Osborn Road. The transmitter is located on top of the Phoenix Baptist Hospital 4.5 km to the northwest. The area between the two sites is a mix of residential and commercial.

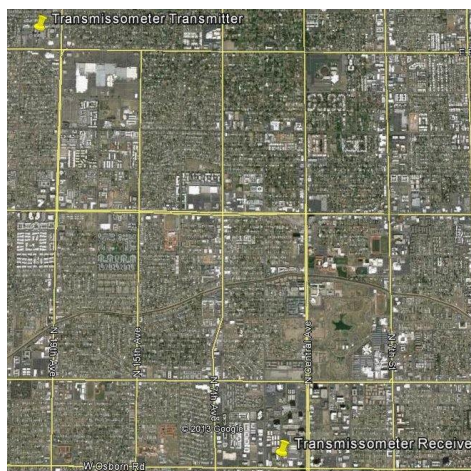
Site Information

AQS ID	None	ADEQ ID	16829
Street Address	3600 N. 2 nd Ave. Phoenix, AZ 85013		
County	Maricopa	Groundcover	Rooftop
CBSA	Phoenix-Mesa-Scottsdale	Latitude	33.4901
Surrounding Area	Commercial/Residential	Longitude	-112.0767
Distance to roadway	25 m – E – Central Ave.	Elevation	337 m
Traffic count of Nearest Major Roadway	1,5470 – Central Ave.	Site Established Date	12/01/1992

Monitoring Information

Pollutant	Bext	Temp R/H		
Basic monitoring objective	Public Information	--		
Site type(s)	Population Exposure	Population Exposure		
Monitor type(s)	--	--		
Instrument manufacture and model	Optec LVP-2 Transmissometer Receiver	Vaisala HMP155 Probe		
Spatial scale	Urban	Urban		
Monitor Start Date	12/01/1992	01/01/1994		

Site Photos



Aerial view of Phoenix Transmissometer Receiver



Phoenix Transmissometer Receiver on hotel rooftop – 12/2012

Phoenix Transmissometer Transmitter

The transmitter is located on the rooftop of Phoenix Baptist Hospital at 19th Avenue and Bethany Home Road. The receiver is located at the Holiday Inn Hotel 4.5 km to the southeast. The area between the two sites is a mix of residential and commercial. A new LED bulb was installed in May 2014.

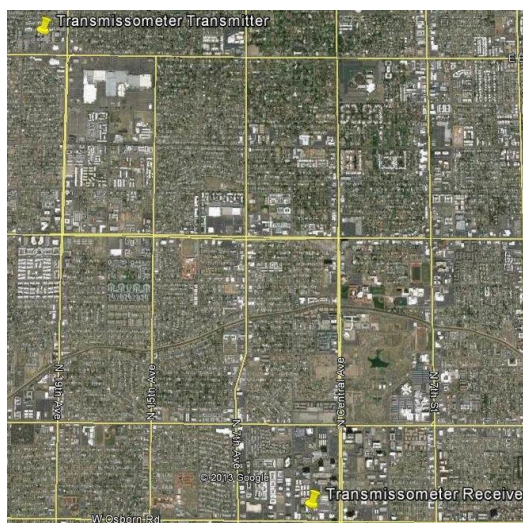
Site Information

AQS ID	None	ADEQ ID	16330
Street Address	2000 W. Bethany Home Rd. Phoenix, AZ 85015		
County	Maricopa	Groundcover	Rooftop
CBSA	Phoenix-Mesa-Scottsdale	Latitude	33.5253
Surrounding Area	Commercial/Residential	Longitude	-112.1019
Distance to roadway	120 m – S – Beth. Home Rd.	Elevation	340 m
Traffic count of Nearest Major Roadway	40,950 – Bethany Home Rd.	Site Established Date	12/01/1992

Monitoring Information

Pollutant	Bext			
Basic monitoring objective	Public Information			
Site type(s)	Population Exposure			
Monitor type(s)	--			
Instrument manufacture and model	Optec LVP-2 Transmissometer			
Spatial scale	Urban			
Monitor Start Date	12/01/1992			

Site Photos



Aerial view of Phoenix Transmissometer Transmitter



Phoenix Transmissometer Transmitter Pathway – 2005

Pleasant Valley Ranger Station

The site is operated by USFS. The site is located on a hilltop south of Young, AZ, within the Sierra Ancha Wilderness and Tonto National Forest. The surrounding area is a transitional zone between desert and forest. The site lies 1,160 meters to the south of SR 288.

Site Information

AQS ID	04-007-8100	ADEQ ID	16446
Street Address	SR 288 & Old Cherry Rd. Young, AZ 85541		
County	Gila	Groundcover	Dirt
CBSA	Payson	Latitude	34.0908
Surrounding Area	Desert/Forest	Longitude	-110.9419
Distance to roadway	250 m – N – SR 288	Elevation	1,587 m
Traffic count of Nearest Major Roadway	143 – SR 288	Site Established Date	01/01/2000

Monitoring Information

Pollutant	IMPROVE			
Basic monitoring objective	Research			
Site type(s)	Other			
Monitor type(s)	IMPROVE			
Instrument manufacture and model	--			
Spatial scale	Regional			
Monitor Start Date	02/10/2000			

Site Photos



Regional view of Pleasant Valley Ranger Station

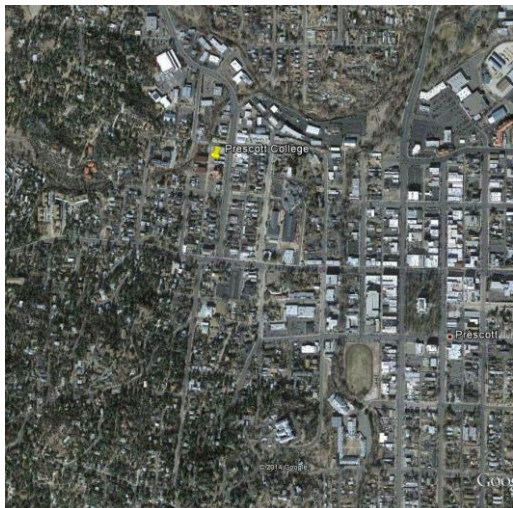



Shelter at Pleasant Valley Ranger Station – 03/2015

Prescott College AQD	
The site was relocated at Prescott College from the Mogollon Building to the Penstemon Building due to Mogollon Building's renovation and to meet siting requirements in 2013. The surrounding area is residential and commercial, with a high traffic street approximately 45 meters to the east.	

Site Information			
AQS ID	04-025-8033	ADEQ ID	133011
Street Address	330 Grove Ave., Prescott, AZ 86301		
County	Yavapai	Groundcover	Rooftop
CBSA	Prescott	Latitude	34.5451
Surrounding Area	Residential/Commercial	Longitude	-112.4768
Distance to roadway	45m – E – Grove Ave.	Elevation	1,636 m
Traffic count of Nearest Major Roadway	13,300 – Grove Ave.	Site Established Date	12/05/2006

Monitoring Information				
Pollutant	O ₃	PM _{2.5}		
Basic monitoring objective	NAAQS Comparison	Public Information		
Site type(s)	Max O ₃ Concentration	Population Exposure		
Monitor type(s)	SLAMS	Special Purpose		
Instrument manufacture and model	Teledyne 400e	Met One E-BAM		
Spatial scale	Neighborhood	Neighborhood		
Monitor Start Date	03/25/2008	07/13/2011		

Site Photos	
 <p>Aerial view of Prescott College AQD</p>	 <p>Prescott College AQD – 06/2015</p>

Queen Valley	
The site is located in northern Pinal County on the far east/southeastern outskirts of the Phoenix metropolitan area. It is located 635 meters southeast of the small town of Queen Valley, AZ and the surrounding area is primarily desert. This is a downwind PAMS type 3 site. This is also an IMPORVE protocol site.	

Site Information			
AQS ID	04-021-8001	ADEQ ID	16394
Street Address	10 S. Queen Anne Dr. Queen Valley, AZ 85219		
County	Pinal	Groundcover	Gravel
CBSA	Phoenix-Mesa-Scottsdale	Latitude	33.2938
Surrounding Area	Desert	Longitude	-111.2857
Distance to roadway	87 m – E – Queen Anne Dr.	Elevation	668 m
Traffic count of Nearest Major Roadway	1,284 – Queen Anne Dr.	Site Established Date	01/01/1998

Monitoring Information				
Pollutant	O ₃	NO _y	VOC	Temp/RH
Basic monitoring objective	NAAQS Comparison	Research	Research	--
Site type(s)	Downwind	Downwind	Downwind	Downwind
Monitor type(s)	SLAMS, PAMS	PAMS	PAMS	--
Instrument manufacture and model	Teledyne API 400E	Thermo 42C TL Reactive	ATEC 8001	Vaisala HMP 45C Probe
Spatial scale	Regional	Regional	Regional	Regional
Monitor Start Date	01/01/1998	01/01/1998	05/20/2001	06/23/2003

Monitoring Information				
Pollutant	Wind	IMPROVE		
Basic monitoring objective	--	Research		
Site type(s)	Downwind	Other		
Monitor type(s)	--	IMPROVE		
Instrument manufacture and model	RM Young 5103 Anemometer	--		
Spatial scale	Regional	Regional		
Monitor Start Date	06/23/2003	04/30/2001		

Site Photos



Regional view of Queen Valley

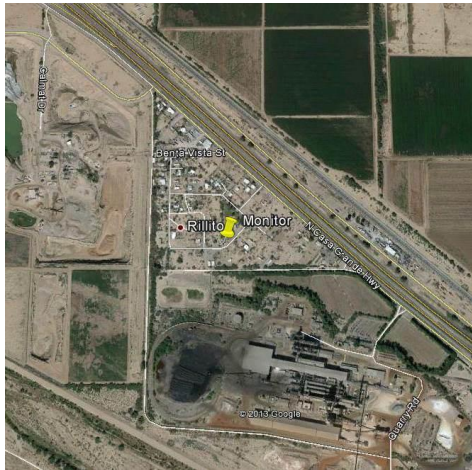



Shelter and meteorological tower at Queen Valley site – 08/2014

Rillito	
In February of 2007 the site was moved from the Water St. location 91 meters southwest to its current location at a city water pumping station. The surrounding area is primarily residential and industrial, with I-10 approximately 260 meters to the northeast. The site is located within the small town of Rillito, AZ and is approximately 500 meters to the north/northwest of the Cal Portland Rillito Cement Plant.	

Site Information			
AQS ID	04-019-0020	ADEQ ID	16499
Street Address	8840 W. Robinson St. Rillito, AZ 85653		
County	Pima	Groundcover	Dirt
CBSA	Tucson	Latitude	32.4143
Surrounding Area	Residential	Longitude	-111.1545
Distance to roadway	10 m – S – Robinson St.	Elevation	626 m
Traffic count of Nearest Major Roadway	2,634 – I-10 Frontage Rd. – 240m – NE	Site Established Date	01/01/1985



Monitoring Information				
Pollutant	PM ₁₀	Temp/RH	Wind	
Basic monitoring objective	NAAQS Comparison	--	--	
Site type(s)	Source Oriented	Source Oriented	Source Oriented	
Monitor type(s)	SLAMS	--	--	
Instrument manufacture and model	Thermo TEOM 1400AB	Vaisala HMP 45C Probe	RM Young 5103 Anemometer	
Spatial scale	Middle	Middle	Middle	
Monitor Start Date	01/03/1985	03/30/2010	01/08/2004	

Site Photos	
 <p>Aerial view of Rillito</p>	 <p>Rillito meteorological tower and particulate monitors on platform – 01/2015</p>

Saguaro National Park East			
The site is located within the Saguaro National Park East, 805 meters south of park headquarters and is operated jointly by PDEQ and NPS. The area surrounding the site is scattered residential to the west and desert to the east.			

Site Information			
AQS ID	04-019-0021	ADEQ ID	16474
Street Address	3905 S. Old Spanish Trail Tucson, AZ 85730		
County	Pima	Groundcover	Dirt
CBSA	Tucson	Latitude	32.1740
Surrounding Area	Residential/Desert	Longitude	-110.7360
Distance to roadway	82 m – W – Old Spanish Tr.	Elevation	938 m
Traffic count of Nearest Major Roadway	6,198 – Old Spanish Trail	Site Established Date	06/04/1988

Monitoring Information				
Pollutant	IMPROVE			
Basic monitoring objective	Research			
Site type(s)	Background			
Monitor type(s)	IMPROVE			
Instrument manufacture and model	--			
Spatial scale	Regional			
Monitor Start Date	06/04/1988			

Site Photos	
 <p>Regional view of Saguaro NP East</p>	 <p>Photo of Saguaro NP East taken from IMPROVE website – date unknown</p>

Saguaro National Park West

The site is located within the Saguaro National Park West. The site is operated by the NPS. The area surrounding the site is residential to the northwest and south/southeast and desert to the northeast. The site lies approximately 17 km southwest of I-10. This is an IMPROVE protocol site.

Site Information

AQS ID	04-019-9000	ADEQ ID	16475
Street Address	N. Sandario Rd. and W. Mile Wide Rd. Tucson, AZ		
County	Pima	Groundcover	Gravel
CBSA	Tucson	Latitude	32.2485
Surrounding Area	Desert	Longitude	-111.2175
Distance to roadway	27 m – W – Mile Wide Rd.	Elevation	718 m
Traffic count of Nearest Major Roadway	1,889 – Mile Wide Rd.	Site Established Date	12/29/1996

Monitoring Information

Pollutant	IMPROVE			
Basic monitoring objective	Research			
Site type(s)	Other			
Monitor type(s)	IMPROVE			
Instrument manufacture and model	--			
Spatial scale	Regional			
Monitor Start Date	04/19/2001			

Site Photos



Regional view of Saguaro NP West



Shelters at Saguaro NP West site – 07/2012

Sedona Fire Station AQD

In 2011, the EBAM instrument in Sedona was moved from the Sedona Post Office site to the Sedona Fire Station site due to concerns about local emissions affecting the monitor. The Sedona Fire Station site is located approximately 300 meters to the northeast of the Sedona Post Office site. The surrounding area is composed of residential and commercial use.

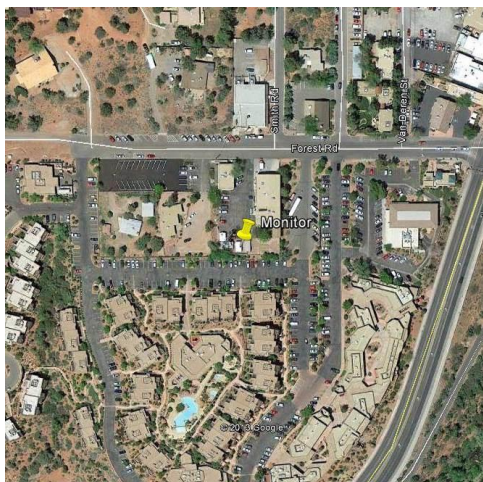
Site Information

AQS ID	None	ADEQ ID	142818
Street Address	310 Forest Rd, Sedona, AZ 86336		
County	Coconino	Groundcover	Rooftop
CBSA	Flagstaff	Latitude	34.8683
Surrounding Area	Commercial/Residential	Longitude	-111.7633
Distance to roadway	50m – N – Forest Rd	Elevation	1,326 m
Traffic count of Nearest Major Roadway	5,689 – SR 89A – 150m – E	Site Established Date	12/16/2011

Monitoring Information

Pollutant	PM _{2.5}			
Basic monitoring objective	Public Information			
Site type(s)	Population Exposure			
Monitor type(s)	Special Purpose			
Instrument manufacture and model	Met One E-BAM			
Spatial scale	Neighborhood			
Monitor Start Date	12/16/2011			

Site Photos



Aerial view of Sedona Fire Station



E-BAM on roof at Sedona Fire Station – 3/2012

South Phoenix

The site is owned by MCAQD. ADEQ operates the toxics sampler at the site. The site is situated in South Phoenix, at the edge of a high population area, bordering a mixture of residential and commercial properties. Two high population areas are located north and west of the site.

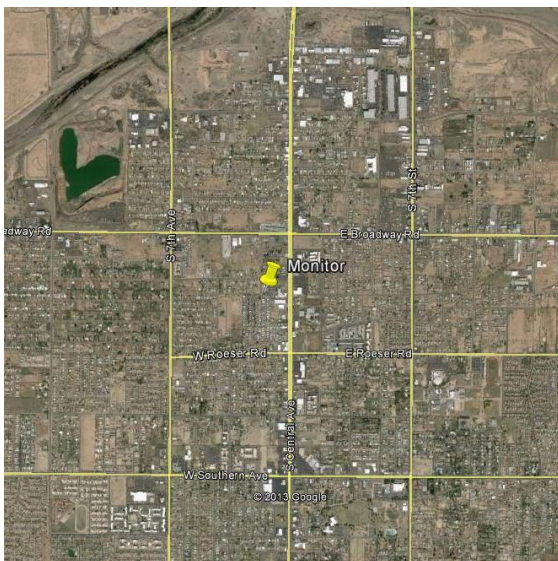
Site Information

AQS ID	04-013-4003	ADEQ ID	16377
Street Address	33 W. Tamarisk St. Phoenix, AZ 85041		
County	Maricopa	Groundcover	Asphalt
CBSA	Phoenix-Mesa-Scottsdale	Latitude	33.4030
Surrounding Area	Residential/Commercial	Longitude	-112.0750
Distance to roadway	83 m – N – Tamarisk St.	Elevation	330 m
Traffic count of Nearest Major Roadway	19,110 – Central Ave. – 165m – E	Site Established Date	01/01/1997

Monitoring Information

Pollutant	VOC			
Basic monitoring objective	Research			
Site type(s)	Population Exposure			
Monitor type(s)	UATMP			
Instrument manufacture and model	ATEC 8001			
Spatial scale	Neighborhood			
Monitor Start Date	8/5/2001			

Site Photos



Aerial view of South Phoenix



Shelter and meteorological tower at South Phoenix site – 04/2005

Sycamore Canyon

The site is located near the corner of Garland Prairie Road and Thomas Loop Road. This site was moved from a location near the Camp Raymond BSA camp. It was relocated approximately one mile to the north west.

Site Information

AQS ID	04-005-8103	ADEQ ID	16476
Street Address	Camp Kimball Rd. Flagstaff, AZ (Camp Raymond)		
County	Coconino	Groundcover	Dirt/Grass
CBSA	Flagstaff	Latitude	35.1406
Surrounding Area	Forest	Longitude	-111.9692
Distance to roadway	33 m – NW – Boy Scout Camp Rd	Elevation	2,046 m
Traffic count of Nearest Major Roadway	15,048 – I-40 – 12km – N	Site Established Date	09/11/1991

Monitoring Information

Pollutant	IMPROVE			
Basic monitoring objective	Research			
Site type(s)	Background			
Monitor type(s)	IMPROVE			
Instrument manufacture and model	--			
Spatial scale	Regional			
Monitor Start Date	09/11/1991			

Site Photos



Regional view of Sycamore Canyon





Shelter at Sycamore Canyon site – 11/2012

Tonto National Monument			
The site is jointly operated by ADEQ and USFS. The site is located within the Tonto National Forest at the base of Tonto National Monument, about 40 meters south of SR 188. The area surrounding the site is desert with Roosevelt Lake about 1 km to the north.			

Site Information			
AQS ID	04-007-0010	ADEQ ID	16447
Street Address	South of SR 188 Roosevelt, AZ 85545		
County	Gila	Groundcover	Dirt/Rock
CBSA	Payson	Latitude	33.6547
Surrounding Area	Desert	Longitude	-111.1074
Distance to roadway	17 m – NE – SR 188	Elevation	786 m
Traffic count of Nearest Major Roadway	800 – SR 188	Site Established Date	04/23/1988

Monitoring Information				
Pollutant	O ₃	IMPROVE		
Basic monitoring objective	NAAQS Comparison	Research		
Site type(s)	Downwind	Background		
Monitor type(s)	SLAMS	IMPROVE		
Instrument manufacture and model	Teledyne API 400E	--		
Spatial scale	Regional	Regional		
Monitor Start Date	05/22/2002	04/23/1988		

Site Photos	
 <p>Regional view of Tonto NM</p>	 <p>Shelter at Tonto NM site – 08/2013</p>

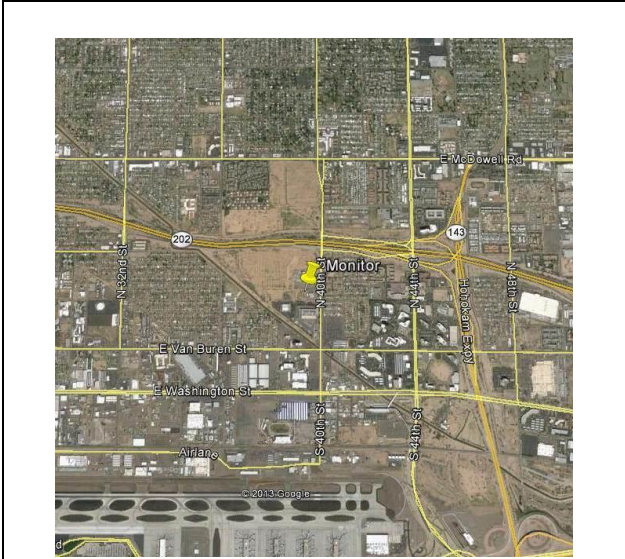
Vehicle Emissions Laboratory	
The site is located in the northwest corner of the Vehicle Emissions Laboratory property. The surrounding area is a both residential and commercial, with an open field directly to the northwest. The site is about 415 meters south of Red Mountain Freeway (Loop 202).	

Site Information			
AQS ID	04-013-9998	ADEQ ID	16363
Street Address	600 N. 40 th St. Phoenix, AZ 85008		
County	Maricopa	Groundcover	Gravel
CBSA	Phoenix-Mesa-Scottsdale	Latitude	33.4553
Surrounding Area	Residential/Commercial	Longitude	-111.9961
Distance to roadway	66 m – E – 40 th St.	Elevation	356 m
Traffic count of Nearest Major Roadway	10,740 – 40 th St.	Site Established Date	04/01/1987

Monitoring Information				
Pollutant	Bscat/PM2.5	Delta Temp	Horizontal Solar Radiation	Ultraviolet Solar Radiation
Basic monitoring objective	Public Information	Research	Research	Research
Site type(s)	Population Exposure	Population Exposure	Population Exposure	Population Exposure
Monitor type(s)	--	PAMS	PAMS	PAMS
Instrument manufacture and model	Optec NGN 2 Nephelometer	RM Young 7627	Li-Cor 200S2	Epply TUVB UV
Spatial scale	Urban	Neighborhood	Neighborhood	Neighborhood
Monitor Start Date	06/25/2003	08/20/2004	06/18/1999	08/20/2004

Monitoring Information				
Pollutant	Temp R/H	Wind		
Basic monitoring objective	--	--		
Site type(s)	Population Exposure	Population Exposure		
Monitor type(s)	--	--		
Instrument manufacture and model	Rotronics MP101A Probe	Vaisala HMP155 Probe		
Spatial scale	Neighborhood	Neighborhood		
Monitor Start Date	05/11/1999	05/11/1999		

Site Photos	
-------------	--



Aerial view of Vehicle Emissions Laboratory



Meteorological tower, and shelter at VEL –
12/2012

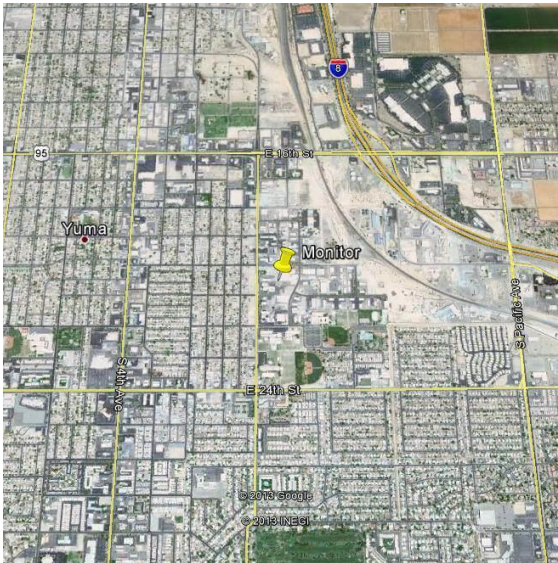
Yuma Supersite			
The site was reopened in 2008 and has been used to consolidate air quality monitors in the Yuma area to one site. The site is located on the southeast corner of the Rural Metro Administration Facility property. The surrounding area is commercial and industrial, with a dirt lot adjacent to the south and I-8 1 km to the northeast. In addition to NAAQS compliance, the site is also used to help understand transport of PM and Ozone.			

Site Information			
AQS ID	04-027-8011	ADEQ ID	113219
Street Address	2323 S. Arizona Ave. Yuma, AZ 85364		
County	Yuma	Groundcover	Gravel
CBSA	Yuma	Latitude	32.6903
Surrounding Area	Commercial/Industrial	Longitude	-114.6144
Distance to roadway	91 m – W – Arizona Ave.	Elevation	60 m
Traffic count of Nearest Major Roadway	12,302 – Arizona Ave.	Site Established Date	02/01/2006

Monitoring Information				
Pollutant	O ₃	PM ₁₀	PM _{2.5}	Temp/RH
Basic monitoring objective	NAAQS Comparison	NAAQS Comparison	NAAQS Comparison	--
Site type(s)	Max O ₃ Concentration	Population Exposure	Regional Transport	Population Exposure
Monitor type(s)	SLAMS	SLAMS	SLAMS	--
Instrument manufacture and model	Teledyne API 400E	Thermo TEOM 1400AB	Met One BAM 1020	Vaisala HMP 155 Probe
Spatial scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Monitor Start Date	05/06/2008	12/01/2009	01/01/2010	03/17/2010

Monitoring Information				
Pollutant	Wind			
Basic monitoring objective	--			
Site type(s)	Population Exposure			
Monitor type(s)	--			
Instrument manufacture and model	RM Young 5305 Anemometer			
Spatial scale	Neighborhood			
Monitor Start Date	03/17/2010			

Site Photos



Aerial view of Yuma Supersite



Shelter and Meteorological Tower at Yuma Supersite – 4/2014

Appendix E – Criteria Pollutant Minimum Monitoring Requirements

This appendix contains tables that summarize the criteria pollutant minimum monitoring requirements for each MSA or CBSA that ADEQ is designated as the Primary Quality Assurance Organization (PQAO). Minimum monitoring requirements for the Phoenix-Mesa-Scottsdale and Tucson MSAs are not included within this appendix as ADEQ is not the PQAO for these MSAs.

O₃

(Note: Refer to section 4.1 and Table D-2 of Appendix D to 40 CFR Part 58)

Table 1. Minimum Monitoring Requirements for O₃.

MSA	County	2010 Census Population	2011-2013 8-hr Design Value (ppb)	Design Value Site	# of Required Monitors	# of Active Monitors	# of Additional Monitors Needed
Flagstaff	Coconino	134,421	69	Flagstaff Middle School	1	1	0
Prescott	Yavapai	211,033	69	Prescott College AQD	1	1	0
Yuma	Yuma	195,751	76	Yuma Supersite	1	1	0
Lake Havasu-Kingman	Mohave	200,186	N/A	N/A	0	0	0
Sierra Vista - Douglas	Cochise	131,346	N/A	N/A	0	0	0

Monitors required for SIP or Maintenance Plan: Alamo Lake, JLG Supersite, Queen Valley, and Tonto National Monument.

PM_{2.5}

(Note: Refer to sections 4.7.1, 4.7.2 and Table D-5 of Appendix D to 40 CFR Part 58)

Table 2 Minimum Monitoring Requirements for PM_{2.5} SLAMS. (FRM/FEM/ARM, see 40CFR 58 App D Section 4.7.1 and Table D-5)

MSA	County	2010 Census Population	2011-2013 Annual Design Value (µg/m ³)	Annual Design Value Site	2011-2013 Daily Design Value (µg/m ³)	Daily Design Value Site	# of Required Monitors	# of Required Continuous Monitors	# of Active Continuous Monitors	# of Additional Monitors Needed
Flagstaff	Coconino	134,421	5.3	Flagstaff Middle School	12	Flagstaff Middle School	0	0	1*	0
Prescott	Yavapai	211,033	4.2	Prescott Valley	10	Prescott Valley	0	0	1*	0
Yuma	Yuma	195,751	7.8	Yuma Supersite	16	Yuma Supersite	1	1	1	0
Lake Havasu-Kingman	Mohave	200,186	N/A	N/A	N/A	N/A	0	0	0	0
Sierra Vista - Douglas	Cochise	131,346	6.7	Douglas Red Cross	12	Douglas Red Cross	1	1	1	0

* Continuous monitors are not FRMs, FEMs, or ARMs

Monitors required for SIP or Maintenance Plan: Nogales Post Office.

PM₁₀

(Note: Refer to section 4.6 and Table D-4 of Appendix D to 40 CFR Part 58)

Table 3. Minimum Monitoring Requirements for PM₁₀.

MSA	County	2010 Census Population	2011-2013 Max Concentration [µg/m ³]	Max Concentration Site	# of Required Monitors	# of Active Monitors	# of Additional Monitors Needed
Flagstaff	Coconino	134,421	61	Flagstaff Middle School	0	1	0
Prescott	Yavapai	211,033	90	Prescott Valley	0	1	0
Yuma	Yuma	195,751	274	Yuma Supersite	1-2	1	0
Lake Havasu-Kingman	Mohave	200,186	185	Bullhead City	1-2	1	0
Sierra Vista - Douglas	Cochise	131,346	251	Douglas Red Cross	1-2	2	0

Monitors required for SIP or Maintenance Plan: Ajo, Bullhead City, Douglas Red Cross, Hayden Old Jail, JLG Supersite, Miami Golf Course, Miami Ridgeline, Nogales Post Office, Paul Spur Chemical Lime Plant, Payson Well Site, Rillito, and Yuma Supersite.

NO₂

(Note: Refer to section 4.3 of Appendix D to 40 CFR Part 58)

Table 4. Minimum Monitoring Requirements for NO₂.

CBSA	2010 Census Population	2010 Max AADT Counts	# of Required Near-road Monitors	# of Active Near-road Monitors	# of Additional Near-road Monitors Needed	# of Required Area-wide Monitors	# of Active Area-wide Monitors	# of Additional Area-wide Monitors Needed
Flagstaff	134,421	40,500	0	0	0	0	0	0
Prescott	211,033	38,000	0	0	0	0	0	0
Yuma	195,751	37,000	0	0	0	0	0	0
Lake Havasu – Kingman	200,186	34,500	0	0	0	0	0	0
Sierra Vista - Douglas	131,346	32,000	0	0	0	0	0	0

Monitors required for SIP or Maintenance Plan: None

Monitors required for PAMS: JLG Supersite

EPA Regional Administrator-required monitors per 40 CFR 58, App. D 4.3.4: None

SO₂

(Note: Refer to section 4.4 of Appendix D to 40 CFR Part 58)

Table 5. Minimum Monitoring Requirements for SO₂.

CBSA	County	2010 Census Population	2011 Total SO ₂ ¹ [tons/year]	Population Weighted Emissions Index ² [million persons-tons per year]	# of Required Monitors	# of Active Monitors	# of Additional Monitors Needed
Flagstaff	Coconino	134,421	10	1.34	0	0	0
Prescott	Yavapai	211,033	2000	422	0	0	0
Yuma	Yuma	195,751	12.6	2.40	0	0	0
Lake Havasu – Kingman	Mohave	200,186	14.44	2.89	0	0	0
Sierra Vista - Douglas	Cochise	131,346	3922	515	0	0	0

¹Using NEI data

²Calculated by multiplying CBSA population and total SO₂ and dividing product by one million

Monitors required for SIP or Maintenance Plan: Hayden Old Jail and Miami Ridgeline.

EPA Regional Administrator-required monitors per 40 CFR 58, App. D 4.4.3: None

CO

(Note: Refer to section 4.2 of Appendix D to 40 CFR Part 58)

Table 6. Minimum Monitoring Requirements for CO.

CBSA	2010 Census Population	# of Required Near-Road Monitors	# of Active Near-Road Monitors	# of Additional Monitors Needed
Flagstaff	134,421	0	0	0
Prescott	211,033	0	0	0
Yuma	195,751	0	0	0
Lake Havasu – Kingman	200,186	0	0	0
Sierra Vista - Douglas	131,346	0	0	0

Monitors required for SIP or Maintenance Plan: JLG Supersite

EPA Regional Administrator-required monitors per 40 CFR 58, App.D 4.2.2: None

Pb

(Note: Refer to section 4.5 of Appendix D to 40 CFR Part 58)

Table 7a. Minimum Monitoring Requirements for Pb at NCore.

NCore Site	CBSA	2010 Census Population	# of Required Monitors	# of Active Monitors	# of Additional Monitors Needed
JLG Supersite	State-wide Requirement	4,192,887	1	1	0

Table 7b. Minimum Source-Oriented Pb Monitoring above 0.5 Tons Per Year (including airports)¹

Source Name	Address	Pb Emissions (tons per year)	Emission Inventory Source & Data Year	Max 3-Month Design Value* [µg/m³]	Design Value Date (third month, year)	# of Required Monitors	# of Active Monitors	# of Additional Monitors Needed
ASARCO LLC	--	3.87	ADEQ 2011	0.27	June, 2011	1	1	0
Freeport McMoRan Copper and Gold Inc.	--	4.87	ADEQ 2011	0.06	April, 2011	1	1	0
Ernest A. Love Field	--	0.89	NEI 2011	--	--	0	0	0
Falcon Field	--	0.77	NEI 2011	--	--	0	0	0
Chandler Municipal	--	0.58	NEI 2011	--	--	0	0	0
Phoenix Goodyear	--	0.50	NEI 2011	--	--	0	0	0
Phoenix Deer Valley ²	--	1.16	NEI 2011	--	--	0	0	0

*consider data from the past 3 years.

¹Monitoring Required on all non-airport sources above 0.5 TPY and on Airports above 1.0 TPY²Phoenix Deer Valley is not on the list of Airports to be monitored for Pb

Monitors required for SIP or Maintenance Plan: None

EPA Regional Administrator-required monitors per 40 CFR 58, App. D 4.5(c): None

Appendix F – Letters to EPA

This appendix may contain letters to EPA that have occurred during current Network Plan time period. The letters may include siting waivers, requests for system modifications, and other communications outside of the Annual Network Plan.

ADEQ does not have any siting waivers, system modifications outside the Annual Network Plan, or other letters to EPA for the 2015 Network Plan.

Appendix G – ADEQ's Air Quality Monitoring Role in Arizona

This appendix contains a document to outline the responsibilities delineated to each monitoring agency in Arizona.

Interagency Air Quality Monitoring for the State of Arizona

Purpose:

40 CFR Part 58 Appendix D(e) states that "Full monitoring requirements apply separately to each affected State or local agency in the absence of an agreement between the affected agencies and the EPA Regional Administrator." EPA Region 9 indicated in their response to the 2013 Network Plan that an interagency document should be in place to delineate the shared monitoring requirements by overlapping agencies. This document is to fulfill this CFR requirement, to clarify the monitoring requirements, and to support requirements for the monitoring networks in Arizona.

The following table outlines Minimum Monitoring Requirements in the State of Arizona as required in 40 CFR 58 Appendix D. This does not take into account the breadth of monitoring that is required by the EPA Regional Administrator for the design of a complete monitoring program. Each State or local agency must work with the EPA Regional Administrator to develop a monitoring program for their area.

Agreement:

Arizona Department of Environmental Quality (ADEQ) assumes full responsibility for their minimum monitoring requirements outlined in Table 1. ADEQ is meeting the minimum monitoring for each requirement and will augment its monitoring network to fulfill future needs in all of its areas.

Sincerely,



Eric C. Massey, Director

Air Quality Division

cc: Jennifer Williams, US EPA, Region 9

Bradley Busby, ADEQ

Heather Colson, ADEQ

Mark Carrel, ADEQ

Craig Pearson, ADEQ

Table 1: Minimum Monitoring Requirements in Arizona

Pollutant/ Station	CFR Reference	CBSA/ Source required to monitor	Requirement Type	Minimum # Required	Agency fulfillment
Ncore	40 part 58 app D 3.0	State Requirement	1 Per State	1	ADEQ and PDEQ
O ₃	40 part 58 app D 4.1	Phoenix-Mesa-Scottsdale MSA	Population/Design Value Based	3	MCAQD and PCAQCD
O ₃	40 part 58 app D 4.1	Tucson MSA	Population/Design Value Based	2	PDEQ
O ₃	40 part 58 app D 4.1	Yuma MSA	Population/Design Value Based	1	ADEQ
O ₃	40 part 58 app D 4.1	Flagstaff MSA	Population/Design Value Based	1	ADEQ
O ₃	40 part 58 app D 4.1	Prescott MSA	Population/Design Value Based	1	ADEQ
O ₃	40 part 58 app D 4.1	Sierra-Vista MSA	Population/Design Value Based	1	ADEQ
O ₃	40 part 58 app D 4.1	Lake Havasu City MSA	Population/Design Value Based	1	ADEQ
CO	40 part 58 app D 4.2	Phoenix-Mesa-Scottsdale MSA	Collocated with NO ₂ by Population	1	MCAQD
NO ₂	40 part 58 app D 4.3	Phoenix-Mesa-Scottsdale MSA	Near-Road Population/Traffic Based	2	MCAQD
NO ₂	40 part 58 app D 4.3	Tucson MSA	Near-Road Population/Traffic Based	1	PDEQ
NO ₂	40 part 58 app D 4.3	Phoenix-Mesa-Scottsdale MSA	Population Based	1	MCAQD
SO ₂	40 part 58 app D 4.4	None	Weighted Population Index Based	0	None
Pb	40 part 58 app D 4.5	FMMI Smelter	Source Oriented	1	ADEQ
Pb	40 part 58 app D 4.5	ASARCO Hayden Smelter	Source Oriented	1	ADEQ
PM ₁₀	40 part 58 app D 4.6	Phoenix-Mesa-Scottsdale MSA	Population/Design Value Based	6-10	MCAQD and PCAQCD
PM ₁₀	40 part 58 app D 4.6	Tucson MSA	Population/Design Value Based	4-8	PDEQ
PM ₁₀	40 part 58 app D 4.6	Yuma MSA	Population/Design Value Based	1	ADEQ
PM ₁₀	40 part 58 app D 4.6	Flagstaff MSA	Population/Design Value Based	0	ADEQ
PM ₁₀	40 part 58 app D 4.6	Prescott MSA	Population/Design Value Based	0	ADEQ
PM ₁₀	40 part 58 app D 4.6	Sierra-Vista MSA	Population/Design Value Based	1	ADEQ
PM ₁₀	40 part 58 app D 4.6	Lake Havasu City MSA	Population/Design Value Based	1	ADEQ
PM _{2.5}	40 part 58 app D 4.7	Phoenix-Mesa-Scottsdale MSA	Population/Design Value Based	3	MCAQD and PCAQCD
PM _{2.5}	40 part 58 app D 4.7	Tucson MSA	Population/Design Value Based	2	PDEQ
PM _{2.5}	40 part 58 app D 4.7	Yuma MSA	Population/Design Value Based	1	ADEQ
PM _{2.5}	40 part 58 app D 4.7	Flagstaff MSA	Population/Design Value Based	0	ADEQ
PM _{2.5}	40 part 58 app D 4.7	Prescott MSA	Population/Design Value Based	0	ADEQ
PM _{2.5}	40 part 58 app D 4.7	Sierra-Vista MSA	Population/Design Value Based	1	ADEQ
PM _{2.5}	40 part 58 app D 4.7	Lake Havasu City MSA	Population/Design Value Based	1	ADEQ
PM _{2.5}	40 part 58 app D 4.7	Background Station	1 Per State	1	ADEQ
PM _{2.5}	40 part 58 app D 4.7	Transport Station	1 Per State	1	ADEQ
PM _{2.5}	40 part 58 app D 4.7	State STN Station	1 Per State	1	ADEQ
PM Coarse	40 part 58 app D 4.8	Required at Ncore Station	1 Per Ncore Station	2	ADEQ and PDEQ
PAMS	40 part 58 app D 5.0	Ozone Area Requirement	Per EPA Admin for Ozone Area	Per PAMS Plan	ADEQ