State of Arizona Air Monitoring Network Plan

For the Year 2009

Arizona Department of Environmental Quality
Air Quality Division
Air Assessment Section

Final Report

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1.0 INTRODUCTION

This document fulfills the obligation, under the Code of Federal Regulations (CFR), Title 40, Section 58.10(a), requiring Arizona Department of Environmental Quality (ADEQ) to complete and submit to the U.S. Environmental Protection Agency (EPA) an annual network monitoring plan for the year 2009.

40 CFR, Part 51 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. Subpart J of Part 51 specifies that Part 58 Subpart B contains the requirements for establishing air quality surveillance systems to monitor ambient air quality.

Air quality surveillance systems consist of networks of monitors at carefully-chosen physical locations referred to as sites or stations. Some of the networks, sites, and monitors are:

- State and Local Air Monitoring Stations (SLAMS)
- National Core multipollutant monitoring stations (NCore)
- Photochemical Assessment Monitoring Stations (PAMS)
- Chemical Speciation Network (CSN)
- National Air Toxics Trends Sites (NATTS)
- Special Purpose Monitors (SPM)
- Urban Haze monitoring sites
- Interagency Monitoring of PROtected Visual Environments (IMPROVE)
- ADEQ visibility stations located in or near mandatory Class I areas (national parks and wilderness areas). Class I monitoring sites are subject to specific siting and operational guidance developed by the IMPROVE Steering Committee.
- AIRNow information sites
- Source-oriented monitoring sites operated independently by permittees (Industry)
- Meteorological sites

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 meet the requirements in 40 CFR Part 58 appendices A, C, D, and E as follows:

- Appendix A – Quality Assurance Requirements for SLAMS, SPMs, and PSD (Prevention of Significant Deterioration) Air Monitoring
- Appendix C – Ambient Air Quality Monitoring Methodology
- Appendix D – Network Design Criteria for Ambient Air Quality Monitoring
- Appendix E – Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring

Results of the annual network review and planning are used to determine how well the network is achieving its required air monitoring objectives, how well it meets data users' needs, and how it should be modified (through termination of existing stations, relocation of stations, establishment of new stations, monitoring of additional parameters, and/or changes to the sampling schedule) in order to continue to meet its objectives and data needs. The network review and planning are performed for the purpose of improving the network and ensuring that it provides adequate, representative, and useful air quality data.

2.0 PROGRAM AND NETWORK DESCRIPTIONS

Compliance Networks

The compliance networks operated by ADEQ are used to demonstrate compliance with several EPA programs. The largest compliance network in Arizona 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 (**NO_2**), sulfur dioxide (**SO_2**), ozone(**O_3**), particulate matter (**PM_{10}** and **$PM_{2.5}$**), and lead (**Pb**). In 2009, revised Pb monitoring requirements were added to the NAAQS: (1.) sources (by January 1, 2010) having annual ambient air emissions that are expected to exceed one ton and (2.) urban areas with population greater than 500,000 without regard to expected level of emissions. The criteria pollutants are measured using instruments that have been certified by the EPA as Federal Reference Methods (FRM) or Federal Equivalent Methods (FEM). 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 MSA by pollutant
- Objectives and spatial scales
- Sampling frequency
- Collocation and special NCore-related requirements
- Meteorology
- Probe location and other restrictions within a site
- Periodic performance evaluations
- Quality Assurance and data reporting

Data from NCore monitoring sites can be used to demonstrate NAAQS compliance.

PAMS monitoring sites collect specified O_3 precursor concentrations as mandated by the 1990 Clean Air Act (CAA) Amendments. In addition, ADEQ participates in Federal grant programs such as NATTS and the CSN, which require their own monitoring networks. Data collected by these networks of monitors are used to assess and report pollutant concentrations, provide data used in modeling and SIP applications, track national trends, and monitor specific point-source emissions.

NCore Network

The NCore Multipollutant Monitoring Network is a national network of monitoring sites that integrates multiple instruments, including some with trace-level capabilities, to provide representative measurements of area pollutants. NCore sites are required under 40CFR, Part 58, Appendix C – AMBIENT AIR QUALITY MONITORING METHODOLOGY. Additional NCore information is available from the following EPA website:
http://www.epa.gov/ttn/amtic/ncore/index.html

The NCore Monitoring Plan is included as Appendix F to this Monitoring Network Plan.

SIP and Maintenance Area Networks

ADEQ maintains several air monitoring networks for the purpose of tracking compliance in areas that are currently not attaining one or more of the NAAQS or areas where the NAAQS have been met but on-going demonstration of compliance is required. Monitoring requirements for these areas are described in their associated SIPs.

Source Oriented Networks

Historically, ADEQ has required several of the major point sources in the state to conduct ambient monitoring for criteria pollutants, primarily PM_{10} and SO_2, in and around specific facilities. These monitoring networks constitute a subset of the compliance monitoring network described above. ADEQ activities with respect to these networks have been limited to regular performance audits and review of ambient data submitted by the individual sources. Recently, however, SIP support has required the submittal of data by some sources to the Air Quality System (AQS), including review of quality assurance documents kept by the sources to support their ambient monitoring programs. Sources located near Class I areas are being required to collect $PM_{2.5}$ data to assess impacts on visibility.

National Air Toxics Trend Sites (NATTS)

The NATTS network was designed to monitor and record the concentrations of certain air toxics on a national scale. ADEQ accepted federal funding and responsibility for this program in Arizona in 2003. 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 in the risks of human exposure. These changes 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. The ADEQ JLG Supersite is the designated NATTS site for the Phoenix metropolitan area.

Photochemical Assessment Monitoring Stations (PAMS)

Section 182(c)(1) of the 1990 CAA Amendments requires the Administrator to promulgate rules for enhanced monitoring of O_3 and concurrent monitoring of oxides of nitrogen (NOx), speciated volatile organic compounds (VOCs), CO, and meteorology to obtain comprehensive and representative O_3 data. Immediately following the promulgation of those rules, the affected states began to implement a program to improve ambient monitoring activities and the monitoring of emissions of NOx and VOCs. Each SIP for the affected areas must contain commitments to implement the appropriate ambient monitoring network for such air pollutants. The subsequent revisions to 40 CFR 58 (1993) required states to establish PAMS as part of their SIP monitoring networks in O_3 nonattainment areas classified as serious, severe, or extreme. The principal reasons for requiring the collection of additional ambient air pollutant and meteorological data are the widespread nonattainment of the O_3 NAAQS and the need for a more comprehensive air quality database for O_3 and its precursors. ADEQ operates two PAMS sites, JLG Supersite and Queen Valley, to represent the Phoenix metropolitan area.

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 $PM_{2.5}$.The program began in 1999 with 54 Speciation Trends Network (STN) sites across the nation located primarily in or near larger Metropolitan Statistical Areas (MSAs) and has increased to 200 sites nationwide. Monitoring at JLG Supersite includes one STN speciation sampler and two IMPROVE samplers as part of the CSN network. The collocated IMPROVE samplers provide precision information for the IMPROVE network and are used for comparison of the speciation results from both programs. In 2009, the Met One SASS carbon channel on the STN speciation sampler will be replaced with a URG 3000N carbon sampler as part of the national program.

Urban Haze Networks

ADEQ operates an urban haze network in the Phoenix metropolitan area and provides funding for operation of the Tucson area network by the Pima Department of Environmental Quality. The purpose of the networks is to provide policy-makers and the public with information regarding urban haze levels, track short-term and long-term urban haze trends, assess source contributions to urban haze, and better evaluate the effectiveness of air pollution control strategies on urban haze. Equipment used to evaluate urban visibility includes transmissometers, nephelometers, particulate monitors, and digital camera systems.

Class I Area Network and IMPROVE Program

Visibility monitoring networks track impairment in specified national parks and wilderness areas. These parks and wilderness areas are called Class I Areas and were designated based on an evaluation required by Congress in the 1977 federal CAA Amendments. The evaluation, which was performed by the U.S. Forest Service (USFS) and National Park Service (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 have visual air quality as an important resource for visitors. Of the 156 Class I Areas designated across the nation, 12 are located in Arizona. Nine sites are located in USFS areas and three sites are located in NPS areas. From the Class I Area designations, EPA initiated a nationally-operated monitoring network in 1987 called the Interagency Monitoring of PROtected Visual Environments (IMPROVE) program. The purpose of the IMPROVE network is to characterize broad regional trends and visibility conditions using monitoring data collected in or near Class I Areas across the United States. ADEQ currently operates 11 sites with IMPROVE instrumentation.

AIRNow Reporting

ADEQ currently utilizes four urban nephelometers to approximate and report $PM_{2.5}$ data to the AIRNow Web site to provide near real-time data for public use. The $PM_{2.5}$ value is calculated by applying a correlation developed between the nephelometer and filter-based measurements. The program is voluntary and was originally intended to fill gaps in the AIRNow network until actual continuous methods were available.

Meteorological Network

ADEQ collects meteorological data at sites throughout the state to provide weather information for those air quality monitoring sites not located near official weather-observing stations. Table 7.3-1 lists the sites and parameters measured in this network.

E-BAM Network of PM_{10} & $PM_{2.5}$ Special Purpose Monitors

The current network of E-BAM continuous particulate special purpose monitors (listed in Table 2.0-1) is composed of lightweight, portable monitors typically enclosed in self-contained, environmentally sealed containers. They can be battery or solar powered for operation at sites without fixed electrical power. E-BAMs continuously sample and report particulate concentrations. Data are sampled every second and concentrations recorded every minute. E-BAM monitors have been used by many agencies, particularly in the western United Sates, to provide continuous, real-time particulate concentration data that are very useful for making informed smoke management decisions related to prescribed burns. The Green Valley BAMs were replaced by E-BAMs in October, 2008. The E-BAM temporarily placed at Cottonwood will be moved to its permanent location in Camp Verde in 2009 when renovations to the site are complete. E-BAM instruments are used for special-purpose monitoring only. They are not classified as FRMs or FEMs and may not be used to demonstrate NAAQS compliance. Hourly data from the E-BAM monitors can be viewed at: http://www.phoenixvis.net/PPMmain.aspx.

Table 2.0-1 Location of E-BAM Monitors

Site Name	Address
Camp Verde (PM_{10})	Highway 260 & McCracken, Camp Verde, AZ
Flagstaff Middle School (PM_{10})	755 N. Bonito, Flagstaff, AZ 86001
Green Valley (PM_{10}, $PM_{2.5}$)	1285 W. Camino Encanto, Green Valley, AZ 85614
Prescott College AQD (PM_{10})	336 Grove Ave, Prescott, AZ 86301
Sedona Post Office (PM_{10})	190 W. Highway 89A, Sedona, AZ 86336
Show Low (PM_{10})	561 E. Deuce of Clubs, Show Low, AZ 85901

3.0 MONITORING NETWORK EVALUATION

This section describes ADEQ's current monitoring network and identifies monitors that are mandated by regulations, SIPs, maintenance plans, and grant requirements (such as NATTS). It also compares the status of the network to the EPA monitoring rules. Network changes - site and instrument, current and planned - are described in the following section and summarized in Section 3.2.

3.1 Network Changes

Site Closures

Prescott College AQD – The site does not meet site requirements because of the close proximity to tall trees and to a nearby road with a high traffic count. These conditions make the Prescott College site unsuitable for continued, long-term placement. In addition, environmental control issues (the instrument is in a room at the College that may not be temperature-controlled in summer months) have impacted the operation of the seasonal O_3 monitor. A search for a suitable site will begin in 2009 with the objective of moving the monitor to a new location before the start of the 2010 O_3 season.

Tucson U of A Central – The building that housed the site was demolished in 2009 and the site converted to a parking lot. The nephelometer, aethalometer, anemometer, and temp/RH monitors were removed and relocated to storage in Phoenix for potential future use. The aethalometer is not required for any current program and there are three other nephelometers in the Tucson area.

New Sites

Lake Havasu City – Kingman MSA – This area (population between 50,000 and 350,000) will require an O_3 monitor to be sited to capture maximum concentration in the MSA. That location will likely be in or near Lake Havasu City and a suitable site will be selected following careful analysis of the potential sites that will be identified by our search process and in accordance to O_3 network monitoring guidelines to be published by EPA in 2009.

Prescott College AQD replacement – A site will be selected from available sites in or near the city of Prescott and in accordance with O_3 network monitoring guidelines to be published by EPA in 2009.

Lead Source Network – EPA has identified two potential sites for implementation of the Pb monitoring rule: Hayden and Claypool-Miami, areas close to smelters. ADEQ, or its permitted sources, will be identifying locations for these monitors in 2009 in accordance with monitoring guidance to be published by EPA in 2009. In accordance with the November 12th, 2008 revision of 40 CFR Part 58, Appendix A, paragraph 3.3.4.3, collocated TSP monitors will be required at the site with the "highest Pb concentrations in the network" - which would be Hayden if based on historical or National Emissions Inventory (NEI) data.

Ozone non-urban networks – The O_3 monitoring regulation requires three non-urban monitors in Arizona. New sites are not required because O_3 monitors are currently operated by the NPS at Grand Canyon National Park, Petrified Forest National Park, and Chiricahua National Monument in Arizona.

ADEQ operates O_3 monitors at two non-urban sites: Alamo Lake and Tonto National Monument. ADEQ believes these sites meet the non-urban network requirement.

Instrument Changes

Yuma Courthouse PM_{10} and $PM_{2.5}$ Monitors – Access to the roof-mounted PM_{10} and $PM_{2.5}$ monitors is considered dangerous and not suitable for continued operation. The monitors had previously been mounted on a different roof at the Courthouse which was considered adequate.

The collocated, filter-based PM_{10} monitors are no longer required for NAAQS compliance following the addition of a continuous PM_{10} TEOM in November 2007 and will be removed from this location. One of these, or an identical model filter-based PM_{10} monitor, will be added to another site in the PM_{10} network to meet minimum collocation requirements. The sites being considered for this collocation are Payson Well Site and Bullhead City. This change is planned for the end of June 2009.

The continuous PM_{10} TEOM and the filter-based $PM_{2.5}$ monitors will be moved to a safer, more suitable location. The Yuma Supersite is considered the best choice to host the relocated monitors. This change is also planned for the end of June 2009.

Rillito PM_{10} Monitor – The Rillito 24-hour design value for 2006-2008 places it in the category of every other day monitoring. ADEQ is considering installation of a TEOM at this site, but would be required to make extensive modifications to the site as well as obtain funding for purchase of a TEOM. This will be studied further in 2009.

JLG Supersite aethalometer – Review of monitoring programs indicate this instrument is not specifically required for any monitoring program and operation of this instrument will be discontinued in 2009. Data collected from this instrument and its predecessor, a less capable, single-beam model, that began operation in 1993, are currently being reviewed and will be reported to AQS.

JLG Supersite trace-level CO and SO_2 – These high-sensitivity instruments are required as part of NCore and will replace the current CO and SO_2 monitors used for NAAQS compliance following a period of concurrent operation. Data from these monitors will be reported to AQS.

JLG Supersite NOy – See Appendix F (NCore) for waiver request to substitute NOx for NOy.

JLG Supersite STN carbon channel – Being replaced by URG3000N as part of a national program to produce results more consistent with those from IMPROVE samplers.

Mexico Particulate Monitors – The Andersen dichot monitors were replaced with Thermo 2000D Partisol samplers in 2009. These monitors are now operated for ADEQ by a consultant.

Nogales Post Office $PM_{2.5}$ – The Met One BAM 1020 will be upgraded in 2009 to an FEM model.

Rillito PM_{10} – Replacement of the Partisol monitor with a TEOM is being investigated.

3.2 Summary of Network Changes

Table 3.2-1 Monitors to be closed in 2009-10

Site Name	AQS ID	Classification	Scale	Monitor Objective	Parameter(s) Measured	Reported to AQS	Reason for Monitor
Yuma Courthouse	04-027-0006	SLAMS	Neighborhood	Maximum concentration	PM_{10}, $PM_{2.5}$	Yes	Population Exposure
JLG Supersite	04-013-9997	SPM	Neighborhood	Visibility	Aethalometer	Yes	Special Studies - Urban Haze
JLG Supersite	04-013-9997	SLAMS/NCore	Neighborhood	Ozone precursor	NOy	Yes	Consistently very close to NOx during all seasons
Prescott College AQD	04-025-8033	SPM	Neighborhood	Population	Ozone	Yes	Required for MSA
Tucson U of A Central	04-019-1027	Urban Haze	Neighborhood	Visibility	Aethalometer	No	Special Studies - Urban Haze
Tucson U of A Central	04-019-1027	Urban Haze	Neighborhood	Visibility	Nephelometer	No	Special Studies - Urban Haze
Tucson U of A Central	04-019-1027	SPM	Neighborhood	Visibility	Wind	No	Meteorology
Tucson U of A Central	04-019-1027	SPM	Neighborhood	Visibility	Temp/RH	No	Meteorology

Table 3.2-2 Monitors to be Added 2009-10

Site Name	AQS ID	Classification	Scale	Objective	Parameter(s) Measured	Report to AQS	Reason for Monitor
JLG Supersite	04-013-9997	NCore	Neighborhood	Population	Various	Yes	NCore Network
Yuma Supersite	04-027-8011	SLAMS	Neighborhood	Population	PM_{10}, $PM_{2.5}$	Yes	NAAQS Compliance
Miami		SLAMS	Neighborhood	Source	Lead	Yes	Required by New Rule
Hayden		SLAMS	Neighborhood	Source	Lead	Yes	Required by New Rule
Lake Havasu City		SLAMS	Neighborhood	Population	Ozone	Yes, in future	Required for MSA
Prescott		SLAMS	Neighborhood	Population	Ozone	Yes, in future	Required for MSA

4.0 REQUIRED MONITORING

4.1 EPA Minimum Network Requirements

Minimum monitoring activities required by the revised monitoring regulation are described in 40 CFR Part 58, Appendix D. In the revised monitoring rule, EPA removed minimum requirements for CO, SO_2, NO, and Pb. A more recent revision set Pb concentration limits of 0.15 $\mu g/m^3$ for sources expected to emit more than one ton per year and for urban areas with populations exceeding 500,000. The minimum monitoring requirements for ozone and particulates are based upon MSA and Combined Statistical Areas (CSA) as defined in the most recent decennial census and the historical pollutant concentration in that area relative to the NAAQS. Tables 4.1-1 through 4.1-3 list the minimum monitoring requirements for $PM_{2.5}$, PM_{10}, and O_3.

The NAAQS for O_3 was changed in March 2008 and includes a secondary standard for eight-hour O_3 (both standards are 0.075 ppm). EPA plans to provide updated O_3 monitoring guidance sometime in the second quarter of 2009. EPA revised the primary and secondary NAAQS for Pb on November 12, 2008. Both standards are set at 0.15 $\mu g/m^3$.

Table 4.1-1 $PM_{2.5}$ Monitoring Requirements (SLAMS, NCore)

Population (MSA)	Most recent 3 yr design value ≥ 85% NAAQS	Most recent 3 yr design value <85% NAAQS
>1M	3	2
500K-1M	2	1
50K-500K	1	0 or 1*

* NCore sites and population-oriented, maximum concentration sites require a minimum of 1.

Table 4.1-2 PM_{10} Monitoring Requirements (SLAMS)

Population (MSA)	High Concentration Exceeds NAAQS by 20% or more (>180µg/m^3)	Medium Concentration Exceeds 80% of NAAQS (>120µg/m^3)	Low Concentration Less than 80% of NAAQS (<120 µg/m^3)
>1M	6-10	4-8	2-4
500K-1M	4-8	2-4	1-2
250K-500K	3-4	1-2	0-1
100K-250K	1-2	0-1	0

Table 4.1-3 Ozone Monitoring Requirements (SLAMS, NCore)

Population (MSA)	Most recent 3 yr design value ≥ 85% of NAAQS or no design value available	Most recent 3 yr design value <85% NAAQS
>10M	4	2
4-10M	3	1
350K-4M	2	1
50K-350K	1	0 or 1*

*** NCore sites require a minimum of 1**

Table 4.1-4 illustrates the Arizona MSAs and their respective populations as defined in the 2008 census estimates.

Table 4.1-4 Arizona MSAs as of the July 2008 census estimate

MSA Name	Area included	Population
Phoenix – Mesa – Scottsdale	Maricopa & Pinal Counties	4,281,899
Tucson	Pima County	1,012,018
Prescott	Yavapai County	215,503
Yuma	Yuma County	194,322
Flagstaff	Coconino County	128,558
Lake Havasu City – Kingman	Mohave	196,281

4.2 EPA Minimum Sample Frequencies

$PM_{2.5}$

The 40 CFR Part 58.12 (d)(1) states that manual $PM_{2.5}$ samplers at required SLAMS stations must operate on at least a one-in-three day schedule at sites without a collocated continuously operating $PM_{2.5}$ monitor. For SLAMS $PM_{2.5}$ sites with both manual and continuous $PM_{2.5}$ monitors operating, the monitoring agency may request approval from the EPA Regional Administrator for a reduction to one-in-six day $PM_{2.5}$ sampling at SLAMS stations and also for seasonal sampling. The EPA Regional Administrator may grant sampling frequency reductions after consideration of factors including, but not limited to, the historical $PM_{2.5}$ data quality assessments, the location of current $PM_{2.5}$ design value sites, and their regulatory data needs. Sites that have design values that are within plus or minus 10 percent of the NAAQS (±10% of 35µg/m^3 is 31.5 to 38.5) and sites where the 24-hour values exceed the NAAQS for a period of three consecutive years are required to maintain at least a one-in-three day sampling frequency. Sites that have a design value within plus or minus five percent of the daily $PM_{2.5}$ NAAQS (±5% of 35µg/m^3 is 33.25 to 36.75) must have an FRM or FEM operating on a daily schedule.

ADEQ operates a $PM_{2.5}$ FRM sampler on the one-in-three day sampling frequency at one required SLAMS site, JLG Supersite. ADEQ also operates a non-FRM continuous $PM_{2.5}$ sampler (FDMS TEOM) at the site. Data from both monitors are reported to AQS. The data from the continuous monitor are reported to AQS using parameter code 88500 and began March 17, 2005.

The Nogales Post Office $PM_{2.5}$ FRM sampler has a design value above the NAAQS and is operated on a one-in-six day sampling frequency. ADEQ also operates a non-FRM continuous $PM_{2.5}$ sampler (BAM) at the site. Data from both monitors are reported to AQS. The data from the continuous monitor are reported to AQS using parameter code 88501 and began March 2, 2005. ADEQ plans to upgrade the BAM sampler to FEM status. Nogales is the only nonattainment area for $PM_{2.5}$ in Arizona.

Table 4.2-1 $PM_{2.5}$ Design Values and Sampling Frequencies

Site Name	3-Yr Average 98th Percentile 2006-2008 (µg/m^3)	Current Sample Frequency	Historical Sample Frequency	New Required Frequency
Douglas Red Cross	15	1 in 6	1 in 6	1 in 6
Flagstaff Middle School	18	1 in 6	1 in 6	1 in 6
JLG Supersite	22	1 in 3 FRM and Daily FDMS TEOM	1999-2000 FRM Daily;1 in 3 FRM; Daily FDMS TEOM	1 in 3
Nogales Post Office	40	1 in 6 FRM and Daily BAM	1 in 6 FRM and Daily BAM	1 in 6 FRM and Daily BAM
Prescott Valley	12*	1 in 6	N/A	1 in 6
Yuma Courthouse	21*	1 in 6	N/A	1 in 6

* Values shown are annual design values, not 3-year design values since the sites were installed in 2008.

PM_{10}

The monitoring rule in 40 CFR Part 58.12 (e) states that for PM_{10} 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…" In rural areas of Arizona where there is only one PM_{10} monitor to represent the area, such as Ajo, Hayden, and Yuma, sites can be considered de facto maximum-concentration sites whose operating frequencies must be determined using the Ratio-to-Standard diagram in 40 CFR Part 58.12 (e).

Table 4.2-2 lists the PM_{10} design values for single monitor areas. Ajo, Hayden, and Rillito, require every-other-day monitoring and Yuma requires every-day monitoring. Since every-other-day collection (filters) would be economically and operationally impractical for ADEQ, continuous monitors will be used by ADEQ. Continuous monitors are operating at the Nogales Post Office (BAM monitor) and Yuma Courthouse sites, alongside the filter monitors. At Yuma Courthouse, the BAM monitor was replaced with a TEOM monitor in November 2007. All monitors at the Yuma Courthouse will be moved or discontinued (see Instrument Changes). TEOM monitors were installed at Ajo and Hayden in the first quarter of 2009. A TEOM is being considered for installation at the Rillito site.

Table 4.2-2 PM_{10} Design Values and Sampling Frequencies of Maximum Concentration Monitors

Site Name	Max 24-Hr 2006-2008 ($\mu g/m^3$)	Ratio Design Value/NAAQS	Current Sample Frequency	Historical Sample Frequency	Required Frequency
Ajo	124	0.83	Continuous	1 in 6	Every other day
Bullhead City	72	0.48	1 in 6	1 in 6	1 in 6
Douglas Red Cross	97	0.65	1 in 6	1 in 6	1 in 6
Hayden Old Jail	102	0.68	Continuous	1 in 6	Every other day
Nogales Post Office	240	1.6	1 in 6 and Continuous	1 in 6 and Continuous	1 in 6
Paul Spur Chemical Lime Plant	87*	0.58	1 in 6	1 in 6	1 in 6
Payson Well Site	66	0.44	1 in 6	1 in 6	1 in 6
Rillito	124	0.83	1 in 6	1 in 6	Every other day
Yuma Courthouse	151	1.01	1 in 6 and Continuous	1 in 6 and Continuous	Every day

* Without the 2008 exclusion, the Max 24-hour value would be 160 and the ratio 1.07 which would require every day monitoring.

4.3 ADEQ Minimum Network Status

The sections below address the minimum requirements for MSAs under the jurisdiction of ADEQ: Flagstaff, Yuma, Prescott, and Lake Havasu City - Kingman. Monitoring in the Maricopa-Pinal MSA and Tucson MSA will be addressed by Maricopa, Pinal, and Pima counties in their respective monitoring plans.

$PM_{2.5}$

According to Tables 4.1-1 and 4.1-4, the minimum $PM_{2.5}$ monitoring network for Arizona, excluding Maricopa, Pinal and Pima Counties, must consider sites in the Prescott, Yuma, and Flagstaff MSAs. Beginning in January 2008, filter based FRM monitors were added to ADEQ monitoring sites in Prescott and Yuma; Flagstaff has had an FRM monitor since the program began in 1999. Table 4.3-1 lists the most recent three-year average 98^{th} percentile design value concentrations for the existing ADEQ network of $PM_{2.5}$ monitors. Note: the Payson monitor was closed at the end of 2007 and moved to the Prescott Valley site since design values were well below the NAAQS and monitoring was no longer required.

Table 4.3-1 $PM_{2.5}$ Design Values to determine Monitoring Requirements

$PM_{2.5}$ Concentrations (µg/m^3) Most Recent Design Value for 3-Year Average 98th Percentile (85% NAAQS is 29.75)		
Site	**MSA Represented**	**Value**
Nogales Post Office (2006-2008) FRM	None – Santa Cruz County	40
JLG Supersite (2006-2008) FRM	Phoenix MSA	22
Douglas Red Cross (2006-2008) FRM	None – Cochise County	15
Flagstaff Middle School (2006-2008) FRM	Flagstaff MSA	18
Prescott Valley FRM (began 1/1/2008)	Prescott MSA	12*
Yuma Courthouse FRM (began 1/1/2008)	Yuma MSA	21*

* Values shown are annual design values, not 3-year design values since the sites were installed in 2008.

ADEQ operates non reference method $PM_{2.5}$ continuous monitors at Nogales Post Office (BAM) and JLG Supersite (FDMS TEOM).

PM_{10}

According to Tables 4.1-2 and 4.1-4, the minimum PM_{10} monitoring network for Arizona, excluding Maricopa, Pinal and Pima Counties, must consider sites in the Prescott, Yuma, Flagstaff, and Lake Havasu City-Kingman MSAs. They all fall under the 100K-250K population category for PM_{10} monitoring. ADEQ currently operates one or more FRM filter-based PM_{10} samplers in each MSA.

Prescott MSA (Yavapai County) – ADEQ has operated a reference method PM_{10} sampler at Prescott Valley since March 2003. The maximum 24-hour value recorded over the last three years (2006-2008) of operation is 63 µg/m^3, approximately 42 percent of the NAAQS. Therefore, the site is considered a low category as described in Table 4.1-2 and the single monitoring site at Prescott Valley is adequate to meet the rule requirement.

Yuma MSA (Yuma County) – ADEQ currently operates a reference method PM_{10} sampler at the Yuma Courthouse, operating on a one-in-six day schedule. A continuous PM_{10} monitor is also operated at this site to meet the every-day frequency required. The site is also required under the current SIP Maintenance Plan described in additional detail in section 4.3 of this document. Maximum 24-hour concentrations recorded in 2006, 2007, and 2008 were 151, 147, and 92 µg/m^3. The area is considered to be in the medium category and this monitoring site in Yuma is adequate to meet the rule requirement. This site (all instruments) will be relocated in 2009 (cf. tables 3.2-1 and 3.2-2).

Flagstaff MSA (Coconino County) – ADEQ has operated PM_{10} samplers at two sites in the Flagstaff MSA (Flagstaff Middle School and Sedona Post Office since 1992). In 2000-2008, the maximum 24-hour concentration recorded at Flagstaff Middle School was 56 µg/m^3 (37 percent of the NAAQS); the maximum concentration at Sedona Post Office was 36 µg/m^3 (24 percent of the NAAQS). Both sites are less than 80 percent of the PM_{10} NAAQS. Therefore, the sites are considered low category and a single monitoring site in the MSA is adequate to meet the rule requirement. Since the Sedona Post Office monitor has a long record of low values, it was closed in December 2007 and replaced with a non-reference method E-BAM continuous sampler. ADEQ will continue operation of the Flagstaff Middle

School PM_{10} monitor in 2009. A non-reference method E-BAM continuous sampler was installed at the Flagstaff Middle School site to provide continuous measurements for public information.

Lake Havasu City-Kingman MSA (Mohave County) – ADEQ has operated a PM_{10} monitor at Bullhead City since September, 2003. In the 2006-2008 period, the maximum value was 72 $\mu g/m^3$ and the design value to max ratio was 0.48 verifying the correctness of the 1-in-6 frequency. The Bullhead City monitor is required because it is in a maintenance area.

Ozone

According to Tables 4.1-3 and 4.1-4, the minimum O_3 monitoring network for Arizona, excluding Maricopa, Pinal and Pima Counties, must consider sites in the Prescott, Yuma, Flagstaff, and Lake Havasu City-Kingman MSAs. All are in the 50K-350K population category.

Yuma MSA (Yuma County) – ADEQ closed the Yuma Game and Fish monitor at the end of the 2008 monitoring season due to logistical problems beyond ADEQ's control. ADEQ reopened the Yuma Supersite SLAMS (used during the Western Arizona Sonora Border Air Quality Study in 2006-2007) and operated an O_3 monitor there during the 2008 season beginning in May for data comparison and is now the only site in this MSA.

Prescott MSA (Yavapai County) – ADEQ operated an O_3 monitor in Prescott from 1981-1984 and reported the data to AQS. The design value during this period was 0.062. ADEQ also operated a monitor at Hillside from 1996 through the 2005 season. The design value for 2003-2005 was 0.072 ppm, which exceeds 85 percent of the eight-hour NAAQS. However, the Hillside site represented upwind transport of O_3 into the central Arizona and did not, by design, represent the Yavapai County or Prescott MSA population. Because an adequate data record did not exist to represent the MSA, ADEQ established an SPM O_3 monitoring site at Prescott College with measurements beginning April 1, 2008. This site will be relocated when a suitable site is found.

Flagstaff MSA (Coconino County) – ADEQ operated O_3 monitors at three sites in the Flagstaff MSA from 1977 through 1985 and reported the data to AQS. The most recent design value from 1983-1985 data was 0.071 ppm. The NPS has been operating an O_3 site at the South Rim of the Grand Canyon since approximately 1990. The latest data available from that site indicates a three year average of the fourth highest eight-hour concentration of 0.077 ppm in 2005-2007 at this monitor, which is above 85 percent of the NAAQS. Because it has been over 20 years since ADEQ collected O_3 data in the city of Flagstaff, ADEQ added an SPM O_3 instrument to the Flagstaff Middle School site for comparison with NPS data. Measurements began April 1, 2008.

Lake Havasu City-Kingman MSA (Mohave County) – Following future site selection and installation, ADEQ will monitor O_3 at this site.

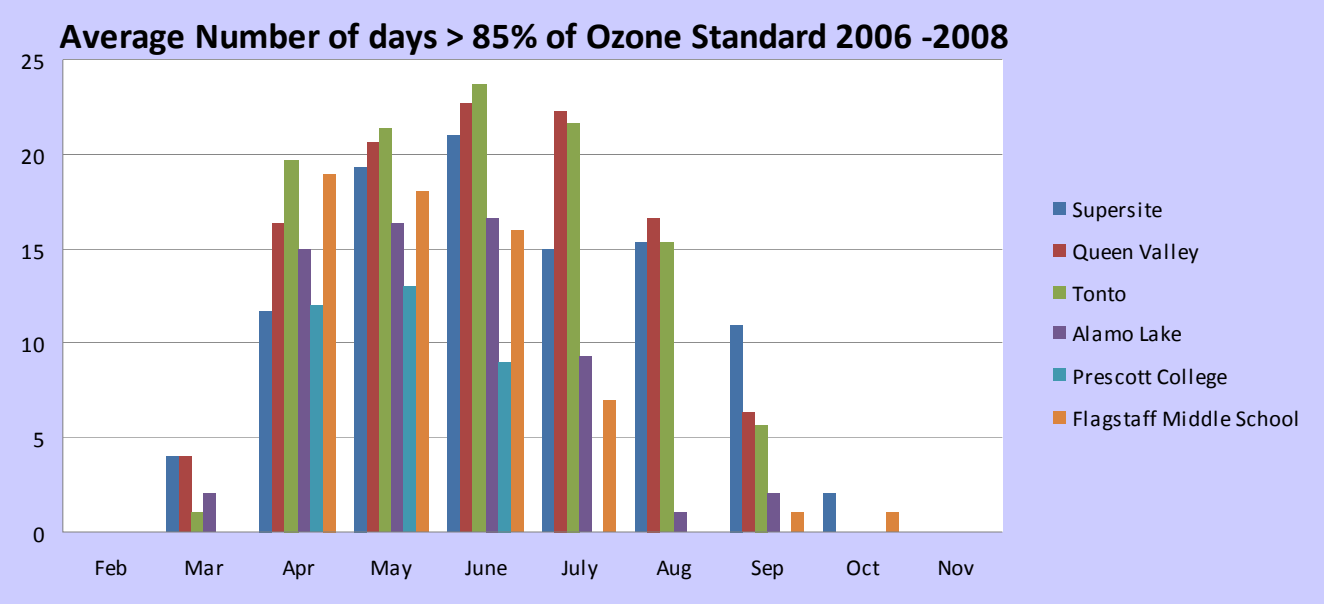
Ozone Season

In accordance with 40 CFR Part 58, Appendix D, Paragraph 4.1(i), ADEQ was granted a modification to the January through December O_3 season defined in the regulation. The 1998 EPA guidance document entitled, "Guideline for Selecting and Modifying the Ozone Monitoring Season Based on an Eight-Hour Ozone Standard" supports a shorter O_3 season for Arizona based upon data collected from 1990 through 1995.

Figure 4.3-1, a summary of data from the sites operated by ADEQ, illustrates that O_3 concentrations have not typically exceeded 85 percent of the NAAQS during the period from November through February and only occasionally in the month of March.

ADEQ will operate the seasonal monitors from April 1st through October 31st. These site are: Alamo Lake, Queen Valley, Yuma Supersite, Tonto National Monument, Flagstaff Middle School, and Prescott College AQD. The JLG Supersite will continue to operate on a January to December schedule.

Figure 4.3-1 – Historical Ozone Concentration



PAMS

The Arizona PAMS network consists of two ambient air monitoring sites in the Phoenix MSA and a wind profiler site for the collection of upper air meteorological data. VOC and carbonyl samplers collect ambient air in hydrocarbon (HC) canisters and in cartridges containing silica substrate impregnated with acidified 2, 4-Dinitrophenylhydrazine (DNPH), respectively, which are routinely analyzed for chemical constituents. The Phoenix area PAMS sites and monitors are described below.

JLG Supersite – Type 2 PAMS Site: 17th Ave. & Campbell, Phoenix. The JLG Supersite was designated a PAMS site in 1999. To meet the revised EPA requirement for daily monitoring, ADEQ

contracted with an outside vendor for the operation of an automated gas chromatograph mass spectrometer (Auto GC/MS) monitoring system for collection and analysis of PAMS VOCs data at JLG Supersite for the 2007 monitoring season. The hourly data were reviewed and submitted to AQS. A comparison with the canister samples collected for Toxics VOCs indicated the Auto GC/MS measurements were within 15 percent of the canister method results. Analysis of the 2007 results has been completed and the successful operation of the Auto GC/MS and the reliability of the results for analysis plus the additional information that continuous measurements can provide could support a decision to purchase an Auto GC/MS to be operated at JLG Supersite during PAMS season in lieu of canister sampling. However, consultation with current users of Auto GC equipment in several different agencies confirmed that purchase and installation would cost approximately $100,000 and successful operation would require half an FTE on a continuing basis. Since the required manual method of eight three-hour canisters running daily is impractical due to increased expenses for staff, shipping, and analysis, ADEQ plans to return 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 as part of the five-year Network Assessment due July 1, 2010. ADEQ also operates carbonyl, O_3, NOx, and surface meteorological monitoring equipment at JLG Supersite (see Table 4.3-2).

Table 4.3-2 JLG Supersite PAMS Instrumentation

Parameter	Dates	Method	Duration
VOC	6/1/09 – 8/31/09	Canister	Every 6th day, 24 Hr
Carbonyl	6/1/09 – 8/31/09	Multi-port sampler	Every 6th day, 24 Hr, and 3 - 3hr samples (0500-0800, 0800-1100, 1100-1400)
Ozone	1/1/09 – 12/31/09	Continuous Ozone	Hourly average
Oxides of Nitrogen	4/1/09 – 10/31/09	Continuous NOx	Hourly average
Meteorology	1/1/09 – 12/31/09	Wind Speed/Direction, Temperature, RH	Hourly average

Queen Valley – Type 3 PAMS Site: 50 N. Queen Anne Drive, Queen Valley. Queen Valley was designated a PAMS site in 2001. The site is located near the southeastern edge of the photochemical modeling grid domain. Pollutants collected at the site include VOCs, O_3, and total reactive NOx. Carbonyl samples are not required at Type 3 sites.

Table 4.3-3 Queen Valley PAMS Instrumentation

Parameter	Dates	Method	Duration
VOC	6/1/09 – 8/31/09	Multi-port sampler	Every 6th day, 24Hr, and 3 - 3hr samples (0500-0800, 1300-1600, 1600-1900)
Ozone	4/1/09 – 10/31/09	Continuous Ozone	Hourly average
Reactive Oxides of Nitrogen	4/1/09 – 10/31/09	Continuous NOy	Hourly average
Meteorology	1/1/09 – 12/31/09	Temperature, RH	Hourly average

Upper Air Meteorology Site: Vehicle Emissions Laboratory station, 600 N 40th St., Phoenix. A radar wind profiler collects continuous upper air meteorological data for determination of mixing heights. This site also includes a pyranometer to measure total solar radiation, UV solar radiation, wind speed, wind direction, temperature, and relative humidity. Barometric pressure and precipitation measurements are collected by the National Weather Service (NWS) site at nearby Sky Harbor Airport.

Table 4.3-4 PAMS Upper Air Meteorology Site (Vehicle Emissions Laboratory)

Parameter	Dates	Method	Duration
Meteorology	1/1/09-12/31/09	• Radar Acoustic Sounding System (RASS) • pyranometer (total solar radiation) • ultra-violet (UV solar) • wind speed/direction • temperature • relative humidity	Hourly average

4.4 ADEQ Nonattainment and Maintenance Area Monitoring Activity

Table 4.4-1 lists the ADEQ and source operated monitors used to determine SIP compliance. Unless otherwise indicated, the ADEQ monitors at the SIP sites measure the pollutant indicated.

Table 4.4-1 Nonattainment and Maintenance Monitoring Activity

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

Area and County	Pollutant	Classification	ADEQ SIP Sites
Phoenix, Maricopa	CO	Maintenance/ Attainment	JLG Supersite
Phoenix, Maricopa	O_3 1-hr	Maintenance/ Attainment	JLG Supersite, Tonto National Monument
Phoenix-Apache Junction, Maricopa and Pinal	O_3 8-hr	"Basic" Nonattainment	Tonto National Moument, Alamo Lake, JLG Supersite, Queen Valley
Ajo, Pima	PM_{10}	Moderate Nonattainment	ADOT Maintenance Yard
Bullhead City, Mohave	PM_{10}	Maintenance/ Attainment	Bullhead City (Post Office)
Douglas, Cochise	PM_{10}	Moderate Nonattainment	Douglas Red Cross ADEQ also operates one PM_{10} site at the Agua Prieta Fire Station in Mexico.
Paul Spur, Cochise	PM_{10}	Moderate Nonattainment	Paul Spur Chemical Lime Plant
Hayden, Gila and Pinal	PM_{10}	Moderate Nonattainment	Hayden Old Jail
Miami, Gila	PM_{10}	Moderate Nonattainment	Freeport McMoRan sites: Golf Course & Miami Ridgeline
Nogales, Santa Cruz	PM_{10}	Moderate Nonattainment	Nogales Post Office. ADEQ also operates one PM_{10} site at Nogales Fire Station in Mexico.
Payson, Gila	PM_{10}	Maintenance/ Attainment	Payson Well Site

Area and County	Pollutant	Classification	ADEQ SIP Sites
Phoenix, Maricopa, and Pinal (Apache Junction portion) Phoenix (Salt River Area)	PM_{10}	Serious Nonattainment	Bethune Elementary School, JLG Supersite
Rillito, Pima	PM_{10}	Moderate Nonattainment	Rillito Both ADEQ and the source, APCC operate instruments at this site.
Yuma, Yuma	PM_{10}	Moderate Nonattainment	Yuma Courthouse
Hayden, Gila, and Pinal	*SO_2*	*Nonattainment – Primary*	*ADEQ: 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.*
Miami, Gila	*SO_2*	*Nonattainment – Primary*	*ADEQ: Miami Ridgeline* *Freeport McMoRan (SO2, MET) Jones Ranch, Miami Townsite.*
Regional Haze, 12 Class I areas	Visibility Impairing pollutants	Statewide	Chiricahua Entrance Station, Douglas Red Cross, Greer Water Treatment Plant, Indian Gardens-Grand Canyon, Ike's Backbone, Meadview, Organ Pipe Cactus National Monument, Petrified Forest National Park, Pleasant Valley Ranger Station, Queen Valley, Saguaro National Park-West, Saguaro National Park-East, Sycamore Canyon, Tonto National Moument

4.5 Source Compliance Network

Historically, ADEQ has required several of the major point sources in the state to conduct ambient monitoring for selected criteria pollutants in and around specific facilities. ADEQ activities with respect to these networks have been limited to regular performance audits and review of ambient data. Recently, ADEQ has begun to submit a portion of these data to the EPA AQS database to support SIP compliance. Sources are required to review these data and submit quality assurance documents to ADEQ with the data.

Table 4.5-1 describes the current source operated network. This monitoring plan does not intend to implement changes to these networks. The mechanism to alter these networks is through the permitting process in consultation with ADEQ's Permits and Planning Sections.

Table 4.5-1 Source-Operated Monitoring Sites

Site Name	City	Pollutant(s)	AQS Submittal
APCC – Rillito	Rillito	PM_{10}	No
ASARCO – Globe Highway	Winkelman	SO_2	Yes, begin w/ 2008 data
ASARCO – Hayden – Garfield Ave.	Hayden	SO_2	Yes, begin w/ 2008 data
ASARCO – Montgomery Ranch	Hayden	SO_2	Yes, begin w/ 2008 data
ASARCO – Hayden Junction	Hayden Junction	SO_2	Yes, begin w/ 2008 data
ASARCO – Hayden Old Jail	Hayden	SO_2	Yes, begin w/ 2008 data
FMMI - Miami Ridgeline	Miami	PM_{10}	Yes, begin w/ 2002 data

Site Name	City	Pollutant(s)	AQS Submittal
FMMI – Golf Course	Miami	PM_{10} collocated	Yes, begin w/ 2002 data
FMMI – Miami– Jones Ranch	Miami	SO_2	Yes, begin w/ 2008 data
FMMI – Miami – Townsite	Miami	SO_2	Yes, begin w/ 2008 data
PCC – Clarkdale NW	Clarkdale	PM_{10}	No
PCC – Clarkdale SE	Clarkdale	PM_{10}	No
TEP – Springerville – Coyote Hills	Springerville	$NO_2/PM_{10}/SO_2$	No
TEP – Springerville – Coal Yard	Springerville	PM_{10}	No

4.6 Compliance with 40 CFR Part 58.10 (c)

A process for relocating violating $PM_{2.5}$ monitors is described at 40 CFR Part 58.10 (c). The rule requires that the annual monitoring network plan must 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, including 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 of this chapter. The affected state or local 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 plan.
3. If the change must be accomplished prior to annual monitoring 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 affected monitor.

5.0 MONITORING PLAN QUALITY ASSURANCE

5.1 40 CFR Part 58 Appendix A – Quality Assurance Requirements

Appendix A specifies the quality assurance requirements for SLAMS, SPMs, and PSD Air Monitoring. It describes requirements for the quality system, measurement quality checks for the monitors, calculations for data quality assessments, and reporting requirements.

5.2 Quality System Requirements

ADEQ is the Primary Quality Assurance Organization (PQAO) for the monitors it operates. The Quality Assurance (QA) Team is in the Data Management & Quality Assurance Unit in the Air Assessment Section along with the Air Monitoring Unit. The QA Team has several responsibilities to ensure a quality monitoring program is operated by ADEQ:

- coordinating the preparation of the Quality Assurance Project Plan (QAPP) documents and Standard Operating Procedures (SOPs) for monitoring programs and projects,
- conducting performance audits on ADEQ, source, and Pinal County monitors, and
- conducting Technical Systems Audits (TSAs) on ADEQ monitor operators and on the Filter Laboratory.

The QA Team Lead is a member of ADEQ's agency level QA team.

Quality Documents

ADEQ has a Quality Management Plan in place for the agency that was completed in August 2005. Air Assessment submitted a Quality Assurance Project Plan to EPA Region 9 in November 2001. ADEQ uses the QAPPs prepared for EPA for the IMPROVE and STN monitoring programs.

ADEQ's revised *National Air Toxics Trends Stations, Air Toxics Monitoring Program, & Photochemical Assessment Monitoring Stations QAPP* (submitted September 2007) was approved by EPA Region 9 in February 2008.

A QAPP was prepared for the $PM_{2.5}$ program when it began in 1999. Updates to the QAPP were submitted to Region 9 in August 2006. QA Plans for gases and particulate matter are next for revision and may be combined into a single project plan document. All instrument SOPs have been completed and submitted to EPA Region 9.

Audit Team Responsibilities

The QA Team conducts performance audits of Air Assessment monitors, Pinal County monitors, and some source monitors. All gas and flow rate standards used by the QA teams are traceable to NIST. Standards are checked annually. The gas calibrator and O_3 standard used by the Team are checked twice per year.

The QA Team conducts technical system audits of the ADEQ Filter Laboratory. The QATeam has updated the SOP used for TSAs of ADEQ's Filter Laboratory.

The Team has prepared procedures for conducting TSAs of the Southern Regional Office (SRO) and Northern Regional Office (NRO) staff who act as operators for the Monitoring Unit.

The Team conducts performance audits of 11 IMPROVE samplers. ADEQ will conduct TSAs on only the 6 protocol samplers. Two samplers per year will receive the TSA.

EPA Audit Responsibilities

ADEQ has agreed to participate in the EPA National Performance Audit Program (NPAP) and the PM Performance Evaluation Program (PEP). ADEQ has consented to have EPA use a portion of ADEQ's grant funds to conduct these audit programs through IFC Consultants. NPAP and PEP audits are expected to occur in 2009/2010.

EPA Region 9 conducted a TSA of the Air Assessment Monitoring Program in December 2004. The next TSA is scheduled for September 2009. A TSA of the NATTS station was initially planned for January, 2009, but it has been postponed indefinitely.

ADEQ's filter lab participated in EPA's (OAQPS) Inter-Lab (round-robin) testing with excellent results that may be obtained from OAQPS.

5.3 Measurement Quality Checks – Precision Measurements

5.3.1 Particulate Monitors – Manual Methods – PM_{10}

ADEQ operates two types of PM_{10} samplers with different methods: dichots and partisols. The dichots are located at the two Mexico locations. Because the dichot samplers in Mexico are not collocated, precision data are not collected for this method. PM_{10} concentrations from the dichot samplers are reported to AQS designated as monitor type 'Other'. In 2009, the Anderson dichots were replaced by Thermo 2000-D Partisol samplers. Data are reported to AQS in standard (81102) and local conditions (85101).

The partisol samplers are located at 10 sites. Concentration data from all 10 sites are reported to AQS in standard and local conditions. All sites are designated as SLAMS. Section 3.3.1 of CFR Part 58 Appendix A indicates that 15 percent of the sites must be collocated. The collocated monitors must be within four meters of each other and at least one meter apart for flow rates less than 200 liters/min. ADEQ's collocated samplers are listed in Table 5.3-1 and comply with these requirements. All concentrations from the collocated samplers are reported to the AQS with parameter occurrence code (POC) 2.

Collocated samples are collected every 6th day for precision measurements. Flow rate verification is checked monthly and instrument calibrations are performed twice a year by Monitoring Unit staff.

Table 5.3-1 PM_{10} Precision Monitoring by Method

Sampling Method	Total Number of Sites	Number of Precision Sites
Dichot	2 (Mexico)	0
Partisol	10	2 (Paul Spur & Yuma Courthouse*)

*Collocated site will be moved in 2009 to either Payson Well Site or Bullhead City.

ADEQ will continue to report PM_{10} concentrations to AQS for three monitors at two sites (Miami Ridgeline and Golf Course-collocated site) designated as 'Industrial' to support SIP requirements for the Miami attainment area. These monitors are operated by the Freeport-McMoRan (formerly Phelps Dodge Corporation) as a permit requirement. Freeport-McMoRan supplies flow check and calibration reports to ADEQ which conducts performance audits to verify adherence to quality assurance procedures.

5.3.2 Particulate Monitors – Manual Methods – $PM_{2.5}$

The $PM_{2.5}$ network must include collocated sampling at 15 percent of the monitoring sites operated by the reporting agency. If the area has less than four sampling sites at least one must have a precision measurement. The total number of sites shown in Table 5.3-2 includes all $PM_{2.5}$ samplers in the ADEQ network (this excludes sites operated by County and Tribal agencies).

Table 5.3-2 $PM_{2.5}$ Precision Monitoring

Sampling Method	Total Number of Sites[1]	Number of Precision Sites
FRM (R&P partisols)	6	2 (Nogales Post Office & JLG Supersite)

[1] Excludes sites operated by Tribal Programs, Maricopa County, Pima County, and Pinal County.

All six ADEQ sites (Douglas Red Cross, Flagstaff Middle School, JLG Supersite, Nogales Post Office, Prescott College AQD, and Yuma Courthouse) are designated as SLAMS. Concentrations from all samplers are reported to AQS. All concentrations from the collocated monitors are reported as POC 2.

Collocated samples are collected every sixth day to ensure an adequate number of precision measurements.

Flow rate verification is checked monthly and instrument calibrations are performed twice a year by Monitoring Unit staff.

5.3.3 Gas Monitors – SO_2, O_3, CO, NO_2

One-point zero span checks are conducted biweekly and multipoint calibrations are performed quarterly by the monitoring staff for all gas monitors. These measurements are reported to the AQS.

NPAP through-the-probe audits are conducted annually for precision measurements.

All shelters for the gas monitors contain temperature probes. The shelter temperature is checked daily via the Data Collection System to verify proper operating conditions for the monitors. Shelter temperatures are required to be 20º to 30º C.

5.4 Measurement Quality Checks – Accuracy Measurements

5.4.1 Particulate Monitors – Manual Methods

The QA Team conducts semi-annual performance evaluation audits (flow rate audits on ADEQ PM_{10} and $PM_{2.5}$ monitors). All accuracy measurements are reported to the AQS. PEP audits are conducted once a year by EPA and used for measuring bias.

5.4.2 Gas Monitors – SO_2, O_3, CO, NO_2

The QA Team conducts annual audits of all gas monitors. These are multi-point performance evaluation audits. The audit measurements are reported to the AQS. When the NCore program is implemented in July 2010 the audits will increase and be conducted on a semi-annual basis.

5.4.3 Meteorological Equipment

Meteorological equipment is audited by the QA Team annually. The meteorological equipment at the designated NCore site will be checked twice per year.

5.5 Calculations and Reporting

ADEQ submits the required AQS precision and accuracy report along with the Data Completeness Report to Region 9 in the annual Certification Letter per certification guidelines. As stated above, all collocated PM measurements are submitted quarterly to AQS as POC 2, with an indication of which monitor is the primary. AQS then calculates the precision statistics. The gaseous biweekly checks are submitted quarterly as precision records. Audit information for both PM monitors and gas monitors are also submitted quarterly.

The QA Team has developed a method following EPA guidelines for performing the calculations described in Section 4 of CFR Part 58 Appendix A on a regular schedule.

5.6 Ambient Air Quality Monitoring Methodology

ADEQ meets the required monitoring methodology for monitors used in compliance applications. A complete description of monitoring methods by site and monitor is located in section 6.0 of this document.

5.6.1 Monitoring Objectives and Spatial Scales

As stated in Appendix D of 40 CFR Part 58, ambient air monitoring networks must be designed to meet the following objectives:

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

To meet these objectives, the design of ambient air monitoring networks must consider the physical and chemical behaviors of the individual pollutants - including properties such as transport and dispersion. The locations of a network's monitoring stations are selected to achieve one or more of the six basic objectives specified in 40 CFR Part 58 Appendix D:

1. Determine the highest concentrations expected in the area covered by the network.
2. Measure representative concentrations in areas of high population density.
3. Determine the impact of significant sources or source categories on air quality.
4. Determine general background concentration levels.
5. Measure regional pollution transport among populated areas.
6. In support of secondary standards, to determine the welfare-related impacts in more rural and remote areas.

Appendix D of 40 CFR Part 58 provides guidance concerning spatial scales of air parcels in which the pollutant concentration is reasonably similar. Monitoring stations are sited in one of the following scales of representativeness: microscale, middle scale, neighborhood scale, urban scale, or regional scale (see Table 5.6.1-1). The scale is usually chosen based on the pollutant to be monitored; however, it may be determined by the site objective as in the case of monitoring O_3 levels downwind of a major metropolitan area.

Table 5.6.1-1 Scale of Representativeness

Scale of Representativeness	Dimension
Micro	several meters up to 100 meters
Middle	100 meters up to 0.5 kilometers
Neighborhood	0.5 kilometers up to 4 kilometers
Urban	4 kilometers up to 50 kilometers
Regional	rural areas or cities of homogeneous geography; can extend from tens to hundreds of kilometers
National and Global	thousands of kilometers

The typical relationship between the monitoring objectives and spatial scale is summarized in Table 5.6.1-2. Appendix D of 40 CFR Part 58 provides additional detail concerning spatial scales for specific pollutants.

Table 5.6.1-2 Monitoring Objectives

Monitoring Objective	Appropriate Siting Scales
Highest/Maximum Concentration	Micro, Middle, Neighborhood (sometimes urban)
Population	Neighborhood, Urban
Source Impact	Micro, Middle, Neighborhood
General/Background	Neighborhood, Urban, Regional
Regional Transport	Urban/Regional
Plant and Animal Welfare Impacts	Urban/Regional

5.6.2 General Monitoring Requirements

- NCore Multipollutant Site – ADEQ JLG Supersite will be designated as an urban NCore site in the timeframe specified in the revised 40 CFR Part 58. The scale of this site is neighborhood, which complies with the recommendations in Part 58. Continuous monitoring methods will be employed where available. The data will be reported (AQS) and made available for air quality trends analyses, model evaluation, and NAAQS compliance.
- SLAMS – Although Part 58 states that SLAMS sites, other than NCore, are intended to address specific air quality management interests and are frequently single-pollutant measurement sites, many of ADEQ's SLAMS sites are multipollutant for several reasons including the size of ADEQ's territory and the economic benefits achieved when such sites meet multiple pollutant-objective requirements.

5.6.3 Pollutant-Specific Design Criteria for SLAMS Sites

See also section *4.3 ADEQ Minimum Network Status* in this document for specific information on the monitoring networks in three MSAs under ADEQ jurisdiction: Flagstaff, Prescott, and Yuma. The following sections include more general pollutant-specific design criteria.

- Ozone – More than the specified minimum could be required to support public data reporting, air quality mapping, compliance, and O_3-related research. This is particularly true of the Phoenix-Mesa-Scottsdale MSA that includes Maricopa and Pinal Counties but not of the Flagstaff, Prescott, or Yuma MSAs. Factors considered were the MSAs geographic sizes, population densities, meteorology, terrain, air transport, and the presence of O_3 precursors. Section 3.2 provides background information on the current and historical O_3 monitoring sites. EPA is preparing revised O_3 monitoring guidance requirements for the new NAAQS. Written guidance has not been received from EPA to date. The frequency of performance evaluation audits will increase to twice per year at the NCore monitoring site when the program is implemented. ADEQ will continue to participate in the NPAP program as well.
- Carbon Monoxide – There are no minimum requirements for the number of CO monitoring stations, but continued operation of existing sites is required – the JLG Supersite, in this case. In addition, where SLAMS (and, presumably NCore) CO monitoring is ongoing, at least one site

must be maximum concentration. At present, the CO monitoring objective at the JLG Supersite is population, but other sites in the Phoenix MSA combine to meet the maximum concentration requirement.

- Nitrogen Dioxide – There are no minimum requirements for NO_2 but existing sites must continue to monitor unless authorized by the Regional Administrator to be discontinued. As with continued CO monitoring, continued NO_2 monitoring implies that at least one NO_2 monitoring site must be a maximum concentration site. The JLG Supersite objective for NO_2 monitoring is population, but other sites in the Phoenix MSA combine to meet the requirement.
- Sulfur Dioxide – There are no minimum requirements for SO_2 but existing sites must continue to monitor unless authorized by the Regional Administrator to be discontinued. ADEQ monitors SO_2 emissions at the JLG Supersite and at several mining sites.
- Lead – The new Pb standard is 0.15 $\mu g/m^3$. Source-oriented Pb monitoring is planned for two sites (Hayden and Miami). Non-source-oriented monitoring is being performed as part of the PM_{10} metals (NATTS) data collection.
- Particulate Matter (PM_{10}) – Refer to section *4.3 ADEQ Minimum Network Status*.
- Fine Particulate Matter ($PM_{2.5}$) – Refer to section *4.3 ADEQ Minimum Network Status*.
- Coarse Particulate Matter (PM_{10}-$PM_{2.5}$) – The ADEQ NCore site will meet requirements.

6.0 PROPOSED 2009-2010 COMPLIANCE MONITORING NETWORK

Table 6.0-1 lists the air quality monitoring sites to be operated by ADEQ in 2009 and 2010. The list includes sites operated for public information and Air Quality Index (AQI) forecasting (AIRNow).

Table 6.0-1 PROPOSED 2009-2010 COMPLIANCE MONITORING NETWORK

Site Name	AQS - ID	Classification	Scale [1]	Objective [2]	Parameter(s) Measured	Reported to AQS
Agua Prieta Fire Station	80-026-1000	SPM	Neighborhood	Population	$PM_{10/fine}$ – Partisol	Yes
Ajo	04-019-0001	SLAMS	Neighborhood	Population	Continuous PM_{10}	Yes
Alamo Lake	04-012-8000	SLAMS	Regional	Transport	O_3	Yes
Bullhead City	04-015-1003	SLAMS	Neighborhood	Population	PM_{10}	Yes
Camp Verde	None	Public information	Neighborhood	Population	PM_{10} E-BAM	No
Douglas Red Cross	04-003-1005	SLAMS	Neighborhood	Population	PM_{10}	Yes
		SLAMS	Neighborhood	Population	$PM_{2.5}$	Yes
Dysart	04-013-4010	AIRNow	Neighborhood	Population	Bscat as $PM_{2.5}$	No
Estrella	04-013-8005	AIRNow	Neighborhood	Population	Bscat as $PM_{2.5}$	No
Flagstaff Middle School	04-005-1008	SLAMS	Neighborhood	Population	PM_{10}	Yes
		SLAMS	Neighborhood	Population	$PM_{2.5}$	Yes
		SPM	Neighborhood	Population	O_3	Yes
		Public information	Neighborhood	Population	PM_{10} E-BAM	No
Green Valley Fire Administration	04-019-8031	Public information	Neighborhood	Population	Continuous PM_{10}	No
		Public information	Neighborhood	Population	Continuous $PM_{2.5}$	No
Hayden Old Jail	04-007-1001	SLAMS	Neighborhood	Source Impact	SO_2	Yes
		SLAMS	Neighborhood	Source Impact	Continuous PM_{10}	Yes
Miami Ridgeline (ADEQ)	04-007-0009	SLAMS	Neighborhood	Source Impact	SO_2	Yes
Miami Ridgeline (FMMI)	04-007-0009	INDUSTRIAL	Neighborhood	Source Impact	PM_{10}	Yes
Miami – Golf Course (FMMI)	04-007-8000	INDUSTRIAL	Neighborhood	Source Impact	$PM_{2.5}$	Yes
Nogales Post Office	04-023-0004	SLAMS	Neighborhood	Population	PM_{10}	Yes
		SLAMS	Neighborhood	Population	$PM_{2.5}$ Collocated	Yes
		SPM	Neighborhood	Population	Continuous PM_{10}	Yes
		SPM	Neighborhood	Population	Continuous $PM_{2.5}$	Yes
Paul Spur Chemical Lime Plant	04-003-0011	SLAMS	Middle	Source Impact	PM_{10} Collocated	Yes
Payson Well Site	04-007-0008	SLAMS	Neighborhood	Population	PM_{10}	Yes
Phoenix Area Monitors:						
Bethune Elementary School	04-013-8006	SPM	Neighborhood	Population	PM_{10}	Yes
South Phoenix	04-013-4003	SLAMS	Neighborhood	Population	VOC (Toxics)	Yes
JLG Supersite	04-013-9997	SLAMS (NCore)	Neighborhood	Population	CO – High sensitivity	In 2009
		SLAMS (PAMS - Type 2)	Neighborhood	Population	NO_x	Yes
		SLAMS (PAMS - Type 2) NCore	Neighborhood	Population	O_3	Yes
		SLAMS (NATTS/PAMS Type 2)	Neighborhood	Population	VOC	Yes
		SLAMS (NATTS/PAMS Type 2)	Neighborhood	Population	Carbonyls	Yes

Site Name	AQS - ID	Classification	Scale [1]	Objective [2]	Parameter(s) Measured	Reported to AQS
JLG Supersite continued	04-013-9997	SLAMS (NATTS)	Neighborhood	Population	Hexavalent Chromium	Yes
		SLAMS (NATTS)	Neighborhood	Population	SVOCs	Yes
		SLAMS (NCore)	Neighborhood	Population	SO_2 – High sensitivity	In 2009
		SLAMS (NCore)	Neighborhood	Population	$PM_{2.5}$	Yes
		SLAMS (NATTs)	Neighborhood	Population	Speciated PM_{10}	Yes
		AIRNow	Neighborhood	Population	Bscat as $PM_{2.5}$	No
		IMPROVE & CSN	Neighborhood	Population	IMPROVE Collocated	No
		SLAMS (CSN/NCore)	Neighborhood	Population	Speciated $PM_{2.5}$	Yes
		SLAMS (NCore)	Neighborhood	Population	Temperature, Wind Direction and Speed, Relative Humidity	Yes
		SPM	Neighborhood	Population	Continuous PM_{10}	No
		SPM (NCore)	Neighborhood	Population	Continuous $PM_{2.5}$	Yes
Vehicle Emissions Laboratory	04-013-9998	SLAMS (PAMS MET)	Urban	Population	Delta T, Solar Radiation, Upper MET(profiler)	Solar only
		AIRNOW	Neighborhood	Population	Bscat as $PM_{2.5}$	No
Prescott College AQD	04-025-8033	SPM	Neighborhood	Population	O_3	Yes
		Public information	Neighborhood	Population	PM_{10} E-BAM	No
Prescott Valley	04-025-2002	SLAMS	Neighborhood	Population	PM_{10}	Yes
		SPM	Neighborhood	Population	$PM_{2.5}$	Yes
Queen Valley	04-021-8001	SLAMS (PAMS – Type 3)	Urban	Transport	O_3	Yes
		SLAMS (PAMS – Type 3)	Urban	Transport	VOC	Yes
		SLAMS (PAMS – type 3)	Urban	Transport	NO_Y	Yes
Rillito	04-019-0020	SLAMS	Neighborhood	Source Impact	PM_{10}	Yes
Sedona Post Office	None	Public information	Neighborhood	Population	PM_{10} E-BAM	No
Show Low	None	Public information	Neighborhood	Population	PM_{10} E-BAM	No
Sonora Nogales Fire Station	80-026-0005	SPM	Neighborhood	Population	$PM_{10/fine}$ – Partisol	Yes
Tonto National Monument	04-007-0010	SLAMS	Regional	Downwind Concentration	O_3	Yes
Yuma Supersite	04-027-0004	SLAMS	Neighborhood	Population	PM_{10}	Yes
		SLAMS	Neighborhood	Population	Continuous PM_{10}	Yes
		SLAMS	Neighborhood	Population	O_3	Yes

[1] Refer to Table 5.6.1-1 for definitions.
[2] Refer to Table 5.6.1-2 for definitions.

7.0 ADEQ SUPPLEMENTARY NETWORKS

7.1 Class I Visibility Network

Visibility monitoring networks track impairment in specified national parks and wilderness areas. These parks and wilderness areas are called Class I Areas and were designated based on an evaluation required by Congress in the 1977 federal CAA Amendments. The evaluation which was performed by the U.S. Forest Service (USFS) and National Park Service (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 have visual air quality as an important resource for visitors. Of the 156 Class I Areas designated across the nation, 12 are located in Arizona.

From the Class I Area designations, EPA initiated a nationally-operated monitoring network in 1987 called the Interagency Monitoring of PROtected Visual Environments (IMPROVE) program. The purpose of the network is to characterize broad regional trends and visibility conditions using monitoring data collected in or near Class I Areas across the United States. Originally the national IMPROVE network was made up of approximately 30 sites at Class I areas; during 1999-2000 the number of sites increased to approximately 110. In 1996 ADEQ began to add monitoring sites in or near Class 1 areas in the state in order to supplement the IMPROVE network.

The Arizona Class I Visibility Network consists of a combination of visibility monitoring sites established by ADEQ and those established by the IMPROVE committee. Monitoring for this purpose is conducted at the sites described in Table 7.1-1. Table 7.1-2 describes supplemental monitoring conducted by ADEQ to support the IMPROVE program and Regional Haze planning and technical analysis.

Table 7.1-1 2009-10 Class I Visibility Monitoring Site Locations In Arizona

Geographic Area Represented	Monitoring Location
Background	Meadview, Organ Pipe National Monument
Chiricahua National Monument, Chiricahua Wilderness Area and Galiuro FS Wilderness	Chiricahua Entrance Station
Grand Canyon National Park	Hance Camp and Indian Gardens
Mazatzal and Pine Mountain USFS Wilderness	Humboldt Mountain, 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	Camp Raymond

Table 7.1-2 - Arizona Class I Supplementary Monitoring

Site Name	Parameter(s) Measured
Chiricahua Entrance Station	Light Scattering (Bscat)
Grand Canyon National Park – Hance Camp	Light Scattering (Bscat)
Grand Canyon National Park – Indian Garden	Light Scattering (Bscat)
Greer Water Treatment Plant	Light Scattering (Bscat), Wind
Ike's Backbone	Light Scattering (Bscat), Wind
Organ Pipe National Monument	Light Scattering (Bscat)
Petrified Forest National Park	Light Scattering (Bscat)
Pleasant Valley Ranger Station	Light Scattering (Bscat), Wind
Queen Valley	Light Scattering (Bscat)
Saguaro National Park – West Unit	Light Scattering (Bscat), Wind
Sycamore Canyon (Camp Raymond)	Light Scattering (Bscat), Wind

7.2 Urban Haze Network

ADEQ monitors the Phoenix and Tucson metropolitan areas with a network of instruments to characterize and quantify the extent of urban haze. There are no established federal or state standards for acceptable levels of urban haze. ADEQ began studying the nature and causes of urban hazes by conducting a study in the winter of 1989-90 in Phoenix and the winter of 1992-93 in Tucson. These studies recommended long-term, year-round monitoring of visibility. In 1993, ADEQ began deploying visibility monitoring equipment in Phoenix and Tucson. These visibility monitoring data are needed to provide policymakers and the public with information, track short- and long-term trends, assess source contributions to urban haze, and better evaluate the effectiveness of air pollution control strategies. Equipment used to evaluate urban visibility includes transmissometers, nephelometers, aethalometers, particulate monitors, and digital camera systems.

The Phoenix urban haze network includes two transmissometers (located in Phoenix and Mesa) for measuring light extinction along a fixed path length of about three to five kilometers, four nephelometers for measuring light scattering, six digital camera systems to record visual characteristics of the urban area, and particulate filters for quantifying and characterizing particulate matter. The Tucson urban haze network includes one transmissometer for measuring light extinction along a fixed path length of about three to five kilometers, three nephelometers for measuring light scattering, and a digital camera system operated by Pima County to record visual characteristics of the urban area. The sites are described in Table 7.2-1. The U of A Central site in Tucson was closed due to the demolition of the building housing it and not replaced

Table 7.2-1 Arizona Urban Haze Networks

Site Name	Parameter(s) Measured
Phoenix Network	
ADEQ Building	High Resolution Digital Camera
Dysart	Light Scattering (Bscat)
Estrella	Light Scattering (Bscat)
Estrella Mountain Community College	2 High Resolution Digital Cameras
JLG Supersite	Light Scattering (Bscat), Aethalometer (Babs), 2 IMPROVE
Mesa Transmissometer (Mesa City Building to Banner Mesa Medical Center)	Transmissometer (Bext), High Resolution Digital Camera
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)
Tucson network	
22nd St./Craycroft	Light Scattering (Bscat)
Children's Park	Light Scattering (Bscat)
Tucson Transmissometer (U of A Clinical Science Building to Pima county health & Welfare Building)	Transmissometer (Bext)

7.3 Meteorology Network

ADEQ collects meteorological data to provide weather information for the monitoring sites not located near official weather stations. Much of the equipment is located at visibility monitoring sites. Two locations collect data used to meet PAMS meteorological requirements. All meteorological data (with the exception of profiler and sodar measurements) receive two levels of quality assurance checks. The equipment is audited annually. The sites and instrumentation operated by ADEQ are listed in Table 7.3-1.

Table 7.3-1 Meteorology Network

Site	Temperature	Temperature Lapse Rate system	Relative Humidity	Wind	Total Horizontal Solar Radiation	Ultraviolet Solar Radiation	Wind Profiler	Report to AQS	Comments
22nd St./Craycroft	X		X					No	
Agua Prieta Fire Station	X		X	X				No	
Ajo				X				No	
Children's Park	X		X					No	
Chiricahua Entrance Station	X		X					No	
Dysart	X		X					No	
Estrella	X		X					No	
Grand Canyon NP – Indian Garden	X		X						
Green Valley Fire Administration				X					
Greer Water Treatment Plant	X		X	X				No	
Ike's Backbone	X		X	X				No	
JLG Supersite	X		X	X				Yes	For PAMS support
Mesa Transmissometer Receiver (Mesa City Building)	X		X					No	
Nogales Post Office				X				No	
Organ Pipe NM	X		X					No	
Paul Spur Chemical Lime Plant - South				X				No	
Payson Well Site	X		X	X				No	
Petrified Forest National Park	X		X						
Phoenix Transmissometer Receiver (Holiday Inn Hotel)	X		X					No	
Pleasant Valley	X		X	X				No	
Queen Valley	X		X					No	For PAMS support
Rillito				X				No	
Saguaro Ntl Park West	X		X	X				No	
Sycamore Canyon	X		X	X				No	
Tucson Transmissometer Receiver (Pima County Health & Welfare Bldg.)	X		X					No	
Tucson U of A Central	X		X	X				No	
VEI	X	X	X	X	X	X	X	Solar only	For PAMS support
Yuma Agri Center Farm	X		X	X				No	
Yuma Mesa	X		X	X				No	

Appendix A – Definitions and Abbreviations

AAAD	Air Assessment Ambient Database
ADEQ	Arizona Department of Environmental Quality
AQI	Air Quality Index
AQS	Air Quality System (EPA database)
Bext	Total light extinction
Bscat	Light scattering
Babs	Light Absorption
BAM	Beta Attenuation Monitor
CAA	Clean Air Act
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CSA	Community Statistical Area
CSN	Chemical Speciation Network
DNPH	2, 4-Dinitrophenylhydrazine
E-BAM	Environmental Proof - Beta Attenuation Monitor
EPA	Environmental Protection Agency
FEM	Federal Equivalent Method
FRM	Federal Reference Method
HAP	Hazardous Air Pollutants
HC	Hydrocarbons
IMPROVE	Interagency Monitoring of PROtected Visual Environments
MCAQD	Maricopa County Air Quality Department
MET	Meteorological measurements (wind, temperature, relative humidity)
MSA	Metropolitan Statistical Area
$\mu g/m^3$	Micrograms per cubic meter
NAAQS	National Ambient Air Quality Standard
NATA	National Air Toxics Assessment
NATTS	National Air Toxics Trends Station
NCore	National Core multipollutant monitoring stations
NEI	National Emissions Inventory
NM	National Monument
NO_2	Nitrogen Dioxide
NOx	Nitrogen oxides measured in two ranges; 0-1 ppm and trace level 0-0.2 ppm
NOy	Trace Level Nitrogen oxides
NPAP	National Performance Audit Program
NPS	National Park Service
NOR	Northern Regional Office
NWS	National Weather Service
O_3	Ozone
PAMS	Photochemical Assessment Monitoring Station
Pb	Lead
PCAQCD	Pinal County Air Quality Control District
PDEQ	Pima County Department of Environmental Quality
PEP	Performance Evaluation Program

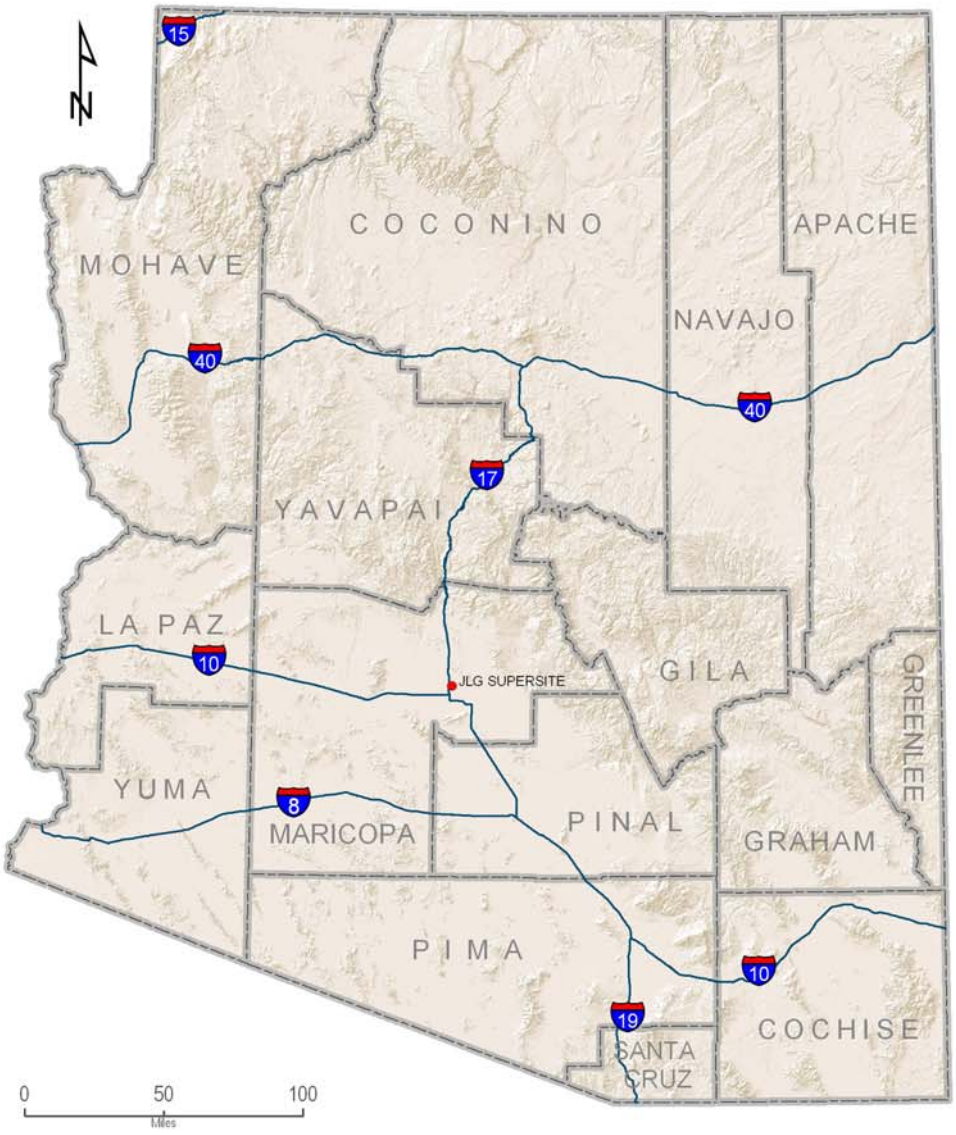
$PM_{2.5}$	Particulate matter < 2.5 microns
PM_{10}	Particulate matter < 10 microns
POC	Parameter Occurrence Code
PQAO	Primary Quality Assurance Organization
PSD	Prevention of Significant Deterioration
QA	Quality Assurance
QAPP	Quality Assurance Program Plan
SIP	State Implementation Plan
SLAMS	State and Local Air Monitoring Stations
SO_2	Sulfur Dioxide
SOP	Standard Operating Procedure
SPM	Special Purpose Monitor
SRO	Sothern Regional Office
TEOM	Tapered Element Oscillating Microbalance
TSA	Technical System Audit
USFS	United States Forest Service
VOC	Volatile Organic Compound

Appendix B – Network Maps

There are 8 maps in this section illustrating the location of ADEQ and Source monitors:

- CO Network
- NO_2 Network
- Ozone Network
- SO_2 Network
- PM Network (including PM_{10}, $PM_{2.5}$, E-BAM)
- Meteorological Network
- Visibility Network
- Class I Wilderness areas

CO Network



OPERATOR

- ADEQ

SITE
JLG SUPERSITE

Source: AADD

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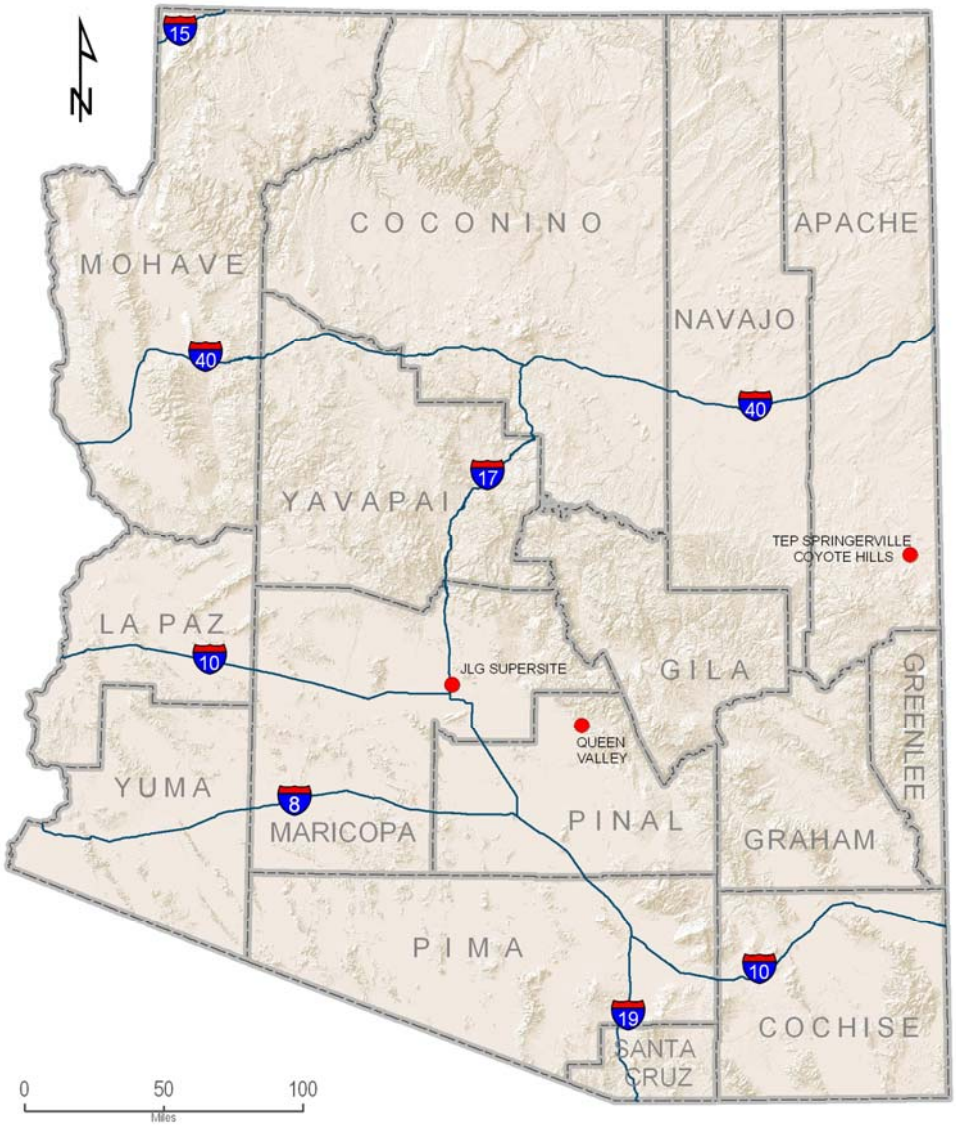
NO2 Network



OPERATOR

- ADEQ

SITE	PARAMETERS
JLG SUPERSITE	NOX, REACTIVE NOX - SEASONAL
QUEEN VALLEY	REACTIVE NOX - SEASONAL
TEP - SPRINGERVILLE - COYOTE HILLS	NOX

Source: AAAD

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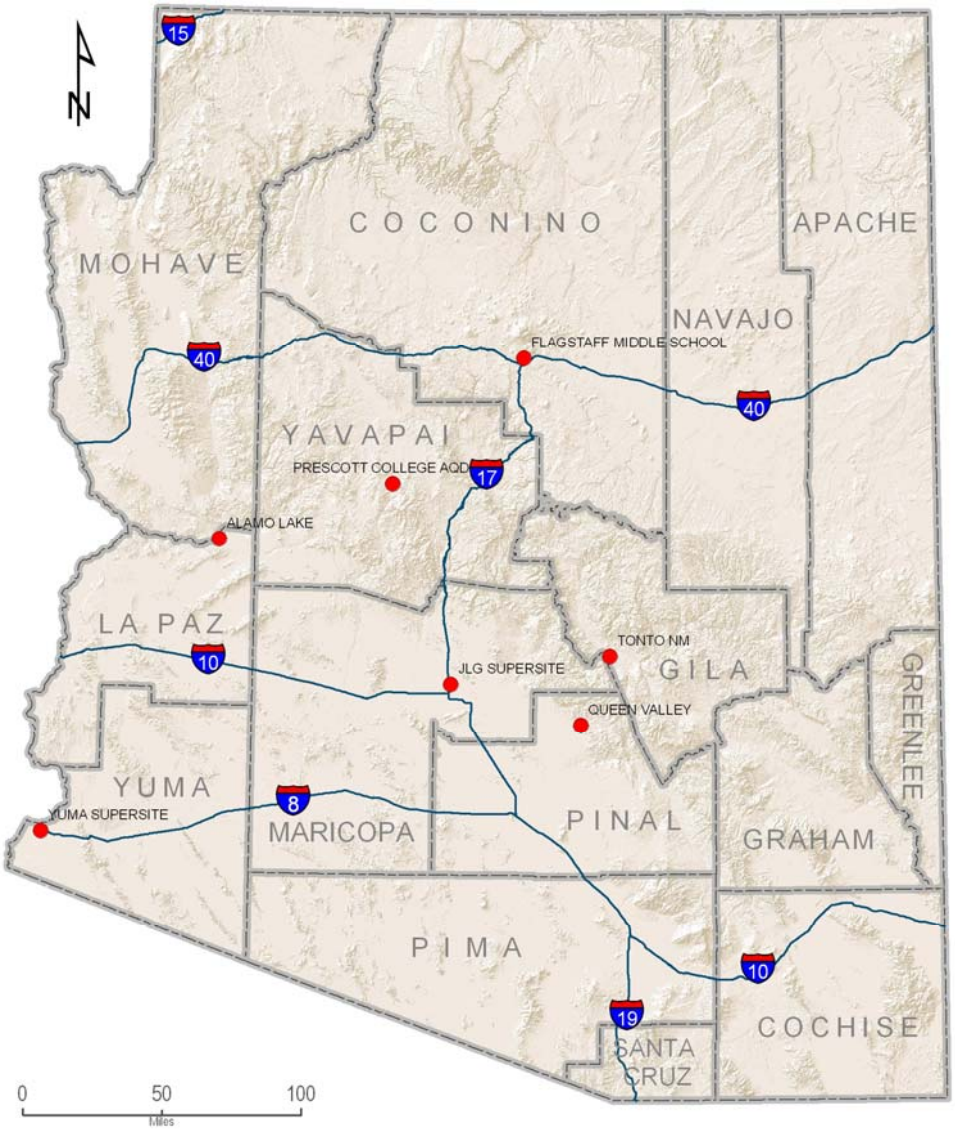
Ozone Network



OPERATOR

- ADEQ

SITE
ALAMO LAKE
FLAGSTAFF MIDDLE SCHOOL
JLG SUPERSITE
PRESCOTT COLLEGE AQD
QUEEN VALLEY
TONTO NM
YUMA SUPERSITE

Source: AAAD

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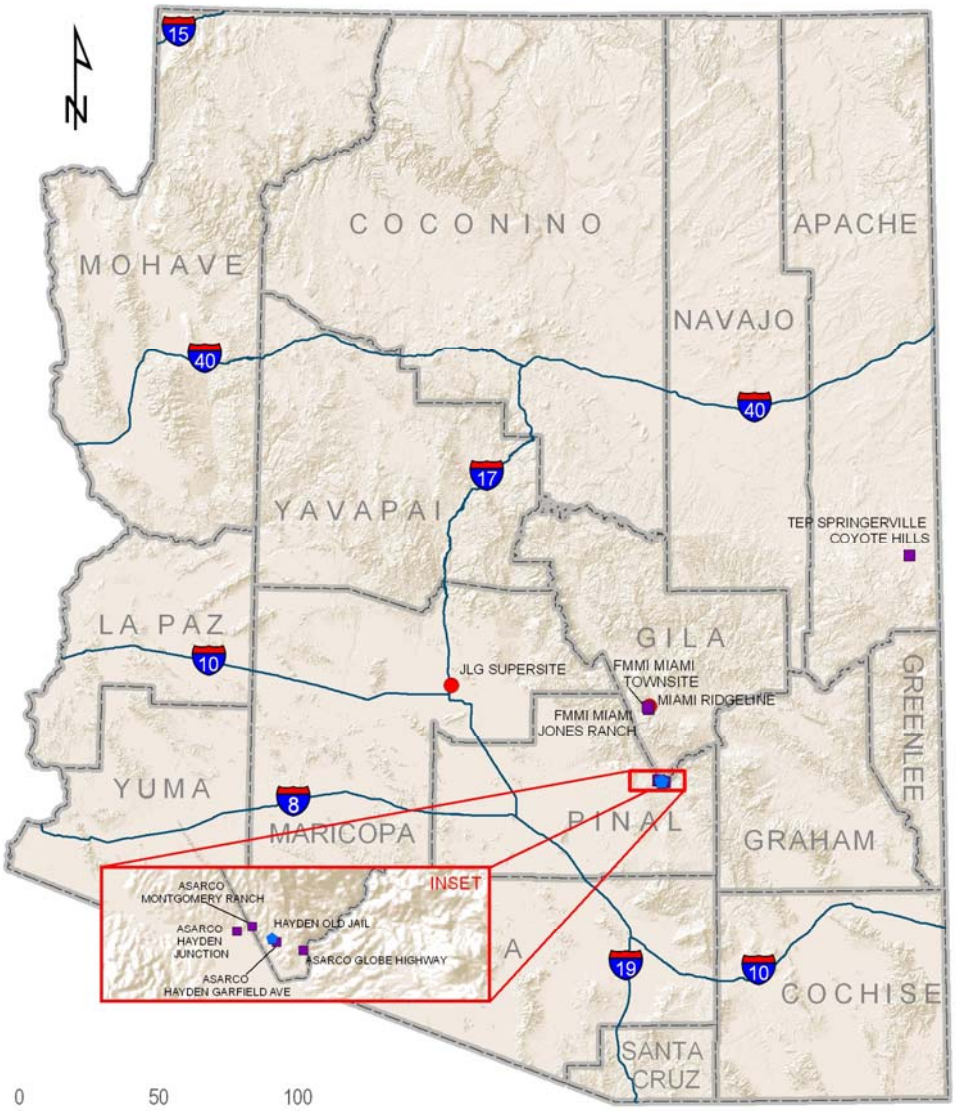
SO2 Network



SITE
ASARCO GLOBE HIGHWAY
ASARCO HAYDEN GARFIELD AVE
ASARCO HAYDEN JUNCTION
ASARCO MONTGOMERY RANCH
FMMI MIAMI JONES RANCH
FMMI MIAMI TOWNSITE
HAYDEN OLD JAIL
JLG SUPERSITE
MIAMI RIDGELINE
TEP SPRINGERVILLE COYOTE HILLS

Source: AADAD

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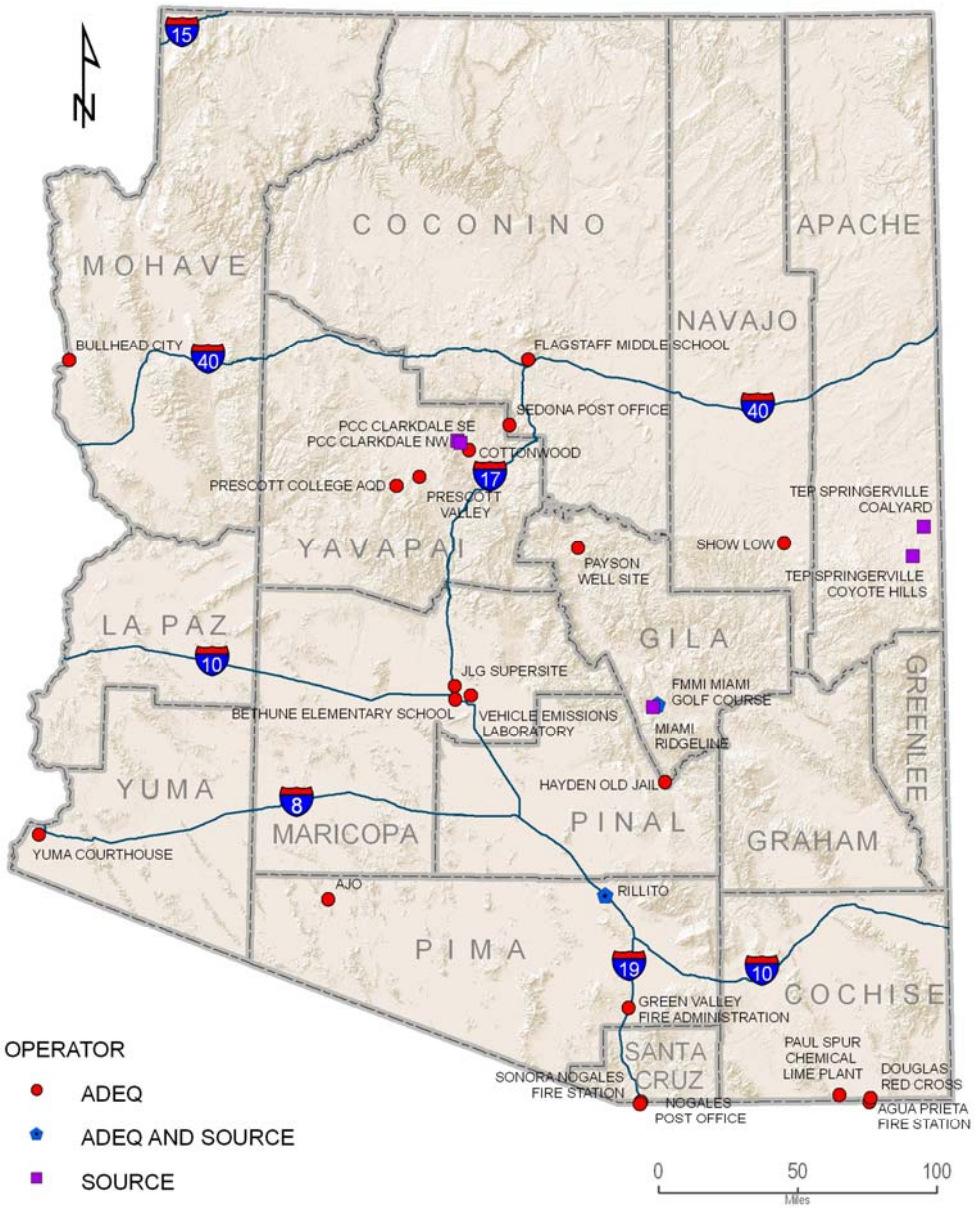
P M N e t w o r k



SITE	PARAMETERS
AGUA PRIETA FIRE STATION	PM10
AJO	PM10
BETHUNE ELEMENTARY SCHOOL	PM10
BULLHEAD CITY	PM10
COTTONWOOD	PM10, EBAM-PM10
DOUGLAS RED CROSS	PM10, PM2.5
FLAGSTAFF MIDDLE SCHOOL	PM10, PM2.5, EBAM-PM10
FMMI MIAMI GOLF COURSE	PM10, COLLOCATED
GREEN VALLEY FIRE ADMINISTRATION	EBAM-PM10 PM2.5
HAYDEN OLD JAIL	PM10
JLG SUPERSITE	PM10, PM2.5
MIAMI RIDGELINE	PM10
NOGALES POST OFFICE	PM10, PM2.5, COLLOCATED

SITE	PARAMETERS
PAUL SPUR CHEMICAL LIME PLANT	PM10, COLLOCATED
PAYSON WELL SITE	PM10
PCC CLARKDALE NW	PM10
PCC CLARKDALE SE	PM10
PRESCOTT COLLEGE AQD	EBAM-PM10
PRESCOTT VALLEY	PM10, PM2.5
RILLITO	PM10
SEDONA POST OFFICE	EBAM-PM10
SHOW LOW	EBAM-PM10
SONORA NOGALES FIRE STATION	PM10
TEP SPRINGERVILLE COALYARD	PM10
TEP SPRINGERVILLE COYOTE HILLS	PM10
YUMA COURTHOUSE	PM10, COLLOCATED

Source: AAAD

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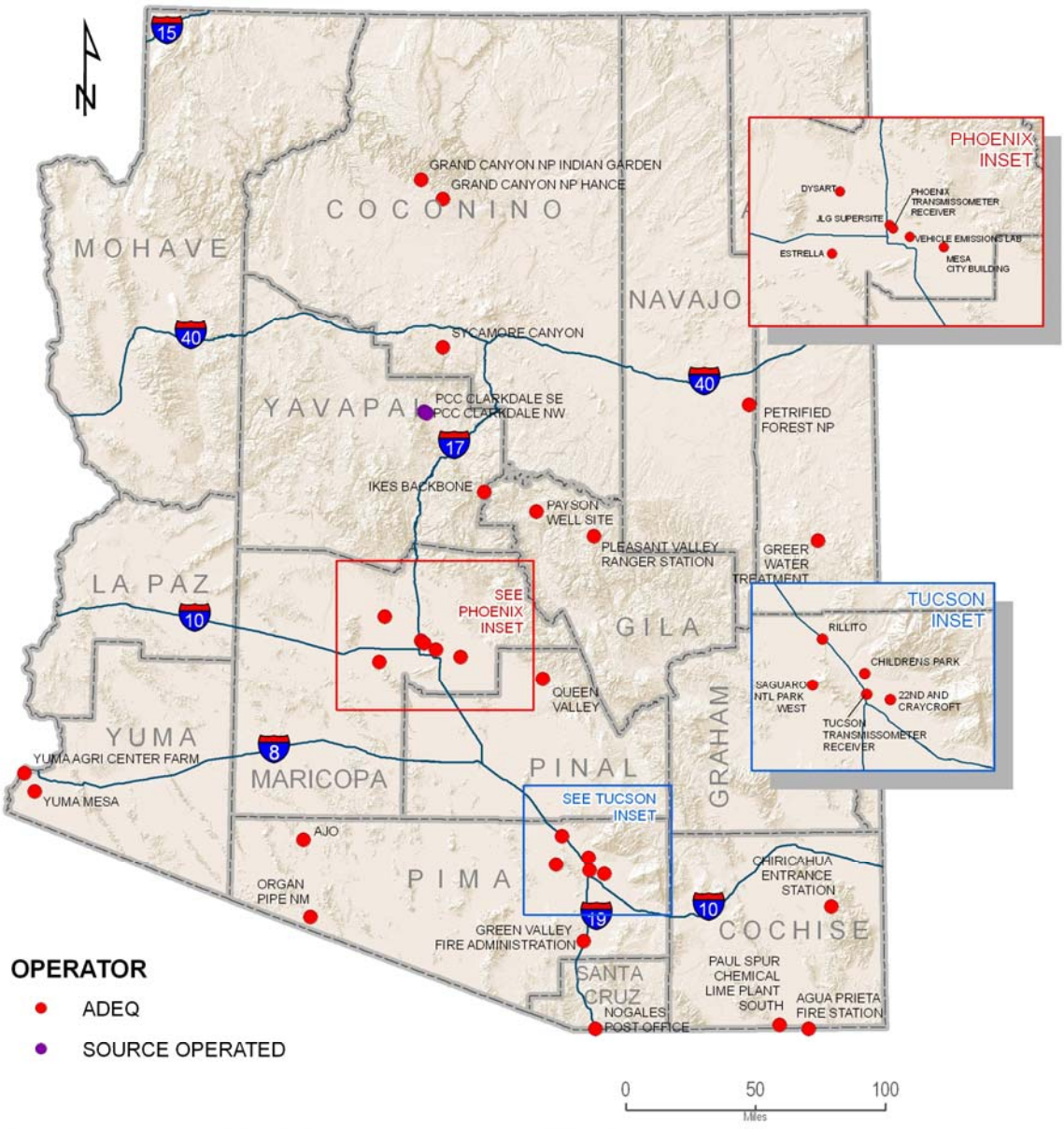
Meteorological Network



SITE	PARAMETERS
22ND AND CRAYCROFT	TEMP/RH
AGUA PRIETA FIRE STATION	WIND, TEMP/RH
AJO	WIND
CHILDRENS PARK	TEMP/RH
CHIRICAHUA ENTRANCE STATION	TEMP/RH
DYSART	TEMP/RH
ESTRELLA	TEMP/RH
GRAND CANYON NP HANCE	TEMP/RH
GRAND CANYON NP INDIAN GARDEN	TEMP/RH
GREEN VALLEY FIRE ADMINISTRATION	WIND
GREER WATER TREATMENT PLANT	WIND, TEMP/RH
IKES BACKBONE	WIND, TEMP/RH
JLG SUPERSITE	WIND, TEMP/RH
MESA CITY BUILDING	TEMP/RH
NOGALES POST OFFICE	WIND
ORGAN PIPE NM	TEMP/RH

SITE	PARAMETERS
PAUL SPUR CHEMICAL LIME PLANT SOUTH	WIND
PAYSON WELL SITE	WIND, TEMP/RH
PETRIFIED FOREST NP	TEMP/RH
PHOENIX TRANSMISSOMETER RECEIVER	TEMP/RH
PLEASANT VALLEY RANGER STATION	WIND, TEMP/RH
QUEEN VALLEY	TEMP/RH
RILLITO	WIND
SAGUARO NTL PARK WEST	WIND, TEMP/RH
SYCAMORE CANYON	WIND, TEMP/RH
TUCSON TRANSMISSOMETER RECEIVER	TEMP/RH
VEHICLE EMISSIONS LABORATORY	WIND, DELTA TEMP, HORIZ & UV SOLAR
YUMA AGRI CENTER FARM	WIND, TEMP/RH
YUMA MESA	WIND, TEMP/RH
PCC CLARKDALE NW	WIND, RH
PCC CLARKDALE SE	WIND, RH

Source: AAAD

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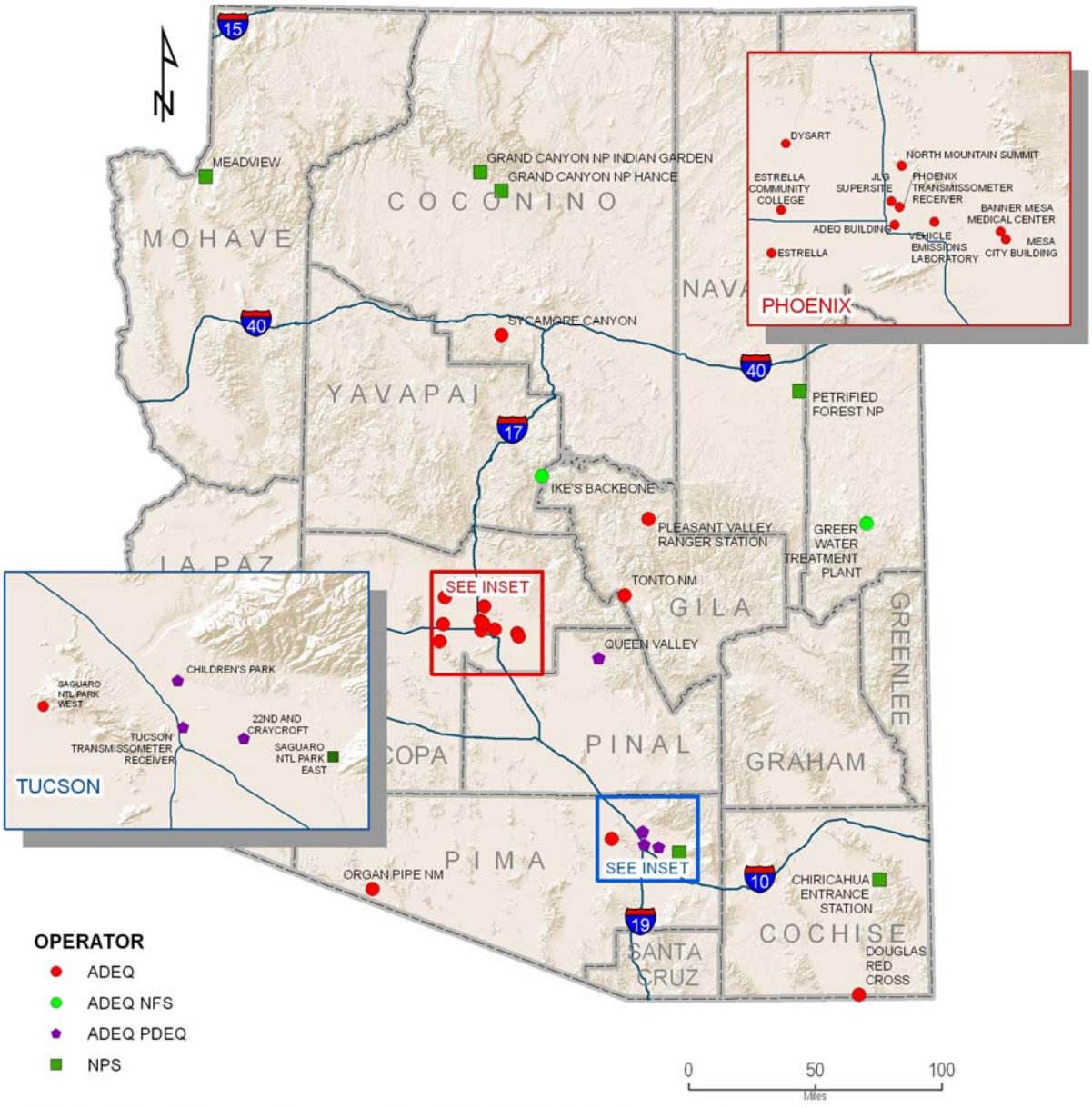
Visibility Network



URBAN VISIBILITY NETWORK	
SITE	PARAMETER(S)
22ND AND CRAYCROFT	BSCAT
ADEQ BUILDING	VISIMAGE
BANNER MESA MEDICAL CENTER	VISIMAGE
CHILDRENS PARK	BSCAT
DOUGLAS RED CROSS	AEROSOL
DYSART	BSCAT
ESTRELLA	BSCAT
ESTRELLA COMMUNITY COLLEGE	VISIMAGE 2
JLG SUPERSITE	AEROSOL, BSCAT
MESA CITY BUILDING	BEXT
NORTH MOUNTAIN SUMMIT	VISIMAGE
PHOENIX TRANSMISSOMETER RECEIVER	BEXT
TUCSON TRANSMISSOMETER RECEIVER	BEXT
VEHICLE EMISSIONS LABORATORY	BSCAT

WILDERNESS VISIBILITY NETWORK	
SITE	PARAMETER(S)
CHIRICACHUCA ENTRANCE STATION	AEROSOL, BSCAT
GRAND CANYON NP HANCE CAMP	AEROSOL
GRAND CANYON NP INDIAN GARDENS	AEROSOL, BSCAT
GREER WATER TREATMENT PLANT	AEROSOL, BSCAT
IKES BACKBONE	AEROSOL, BSCAT
MEADVIEW	AEROSOL
ORGAN PIPE NM	AEROSOL, BSCAT
PETRIFIED FOREST NP	AEROSOL, BSCAT
PLEASANT VALLEY RANGER STATION	AEROSOL, BSCAT
QUEEN VALLEY	AEROSOL, BSCAT
SAGUARO NTL PARK EAST	AEROSOL
SAGUARO NTL PARK WEST	AEROSOL, BSCAT
SYCAMORE CANYON	AEROSOL, BSCAT
TONTO NP MONUMENT	AEROSOL

Source: AAAD

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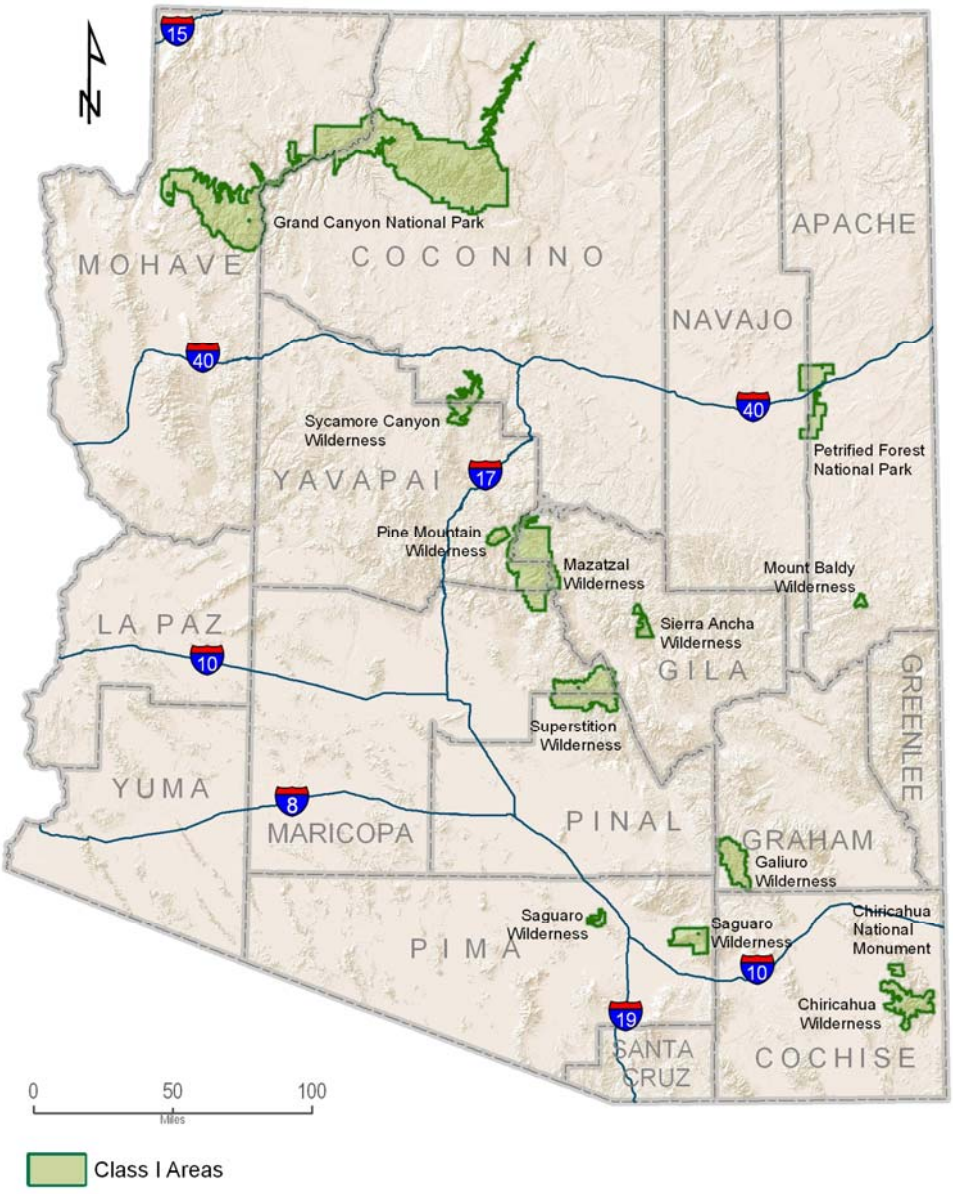
Class I Areas



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Appendix C – Site Review Data Tables

Note: Some measurements are rounded and/or estimations.

22nd St./Craycroft
Site Purpose: monitor urban haze. The site is located in southeast Tucson at a city storage yard for waste containers and is jointly operated by ADEQ and PDEQ. The surrounding area includes a large covered water reservoir to the north and in general is predominantly residential, with some commercial activity that lines nearby arterial routes. The major pollutant source is vehicular traffic at the intersection of 22nd Street and Craycroft Road, which lies about 360 meters northeast of the site.

Site Information			
AQS ID	04-019-1011	ADEQ ID	16410
Address	1237 S. Beverly Ave. Tucson, AZ 85711		
County	Pima	Groundcover	Gravel
MSA	Tucson	Latitude	32.2040
Surrounding Area	Residential	Longitude	-110.8780
Distance to road	264 m – N	Elevation	787 m
Traffic count	50,000 – 22nd St.	Site Established Date	01/01/1973

Monitoring Information			
Pollutant/Atmospheric parameter	Bscat	Temp/RH	
Network or Program	Urban Haze	SPM	
Monitor location	Tower	Tower	
Monitoring objective	Visibility	Visibility	
Spatial scale	Urban	Urban	
Monitor type	Nephelometer	Probe	
Analysis method	Light Scatter	None	
Make of monitor	Optec	Vaisala	
Model of monitor	NGN 2	HMP 45C	
Method code	--	--	
Monitor start date	01/01/2001	06/23/2003	
Operation schedule	Continuous	Continuous	
Sampling season	All year	All year	
In climate controlled shelter	N	N	
Probe height from ground	5 m	5 m	
Probe distance from structure	--	1 m	
Distance from closest obstruction	5 m	6 m	
Distance from trees	30 m	30 m	
Unrestricted airflow degrees	360°	360°	
Dist. between collocated monitors	--	--	
Last monitor audit	02/05/2009	02/05/2009	
Monitor audit frequency	Annual	Annual	
Flow rate verification frequency	--	--	
One-point QC check frequency	--	--	
PEP audit date	--	--	
NPAP audit date	--	--	
Changes in next 18 months	N	N	

ADEQ Building
Site Purpose: monitor urban haze. The high-resolution digital camera sits on the northeast corner of the building and points toward Camelback Mountain, which lies 13,400 meters to the northeast. The pictures of the local view are updated every 15 minutes and can be viewed on the internet at http://www.phoenixvis.net/came1/index.html. The area between the site and Camelback Mountain is primarily residential with some commercial areas.

Site Information			
AQS ID	None	ADEQ ID	21737
Address	1110 W. Washington St. Phoenix, AZ 85007		
County	Maricopa	Groundcover	Rooftop
MSA	Phoenix	Latitude	33.4483
Surrounding Area	Residential/Commercial	Longitude	-112.0878
Distance to road	84 m – S	Elevation	329 m
Traffic count	11,200 – Washington St.	Site Established Date	07/01/2003

Monitoring Information			
Pollutant/Atmospheric parameter	None		
Network or Program	Urban Haze		
Monitor location	Rooftop		
Monitoring objective	Visibility		
Spatial scale	Urban		
Monitor type	High Res Digital Camera		
Analysis method	None		
Make of monitor	Olympus		
Model of monitor	SP500UZ		
Method code	--		
Monitor start date	07/01/2003		
Operation schedule	Every 15 min.		
Sampling season	All year		
In climate controlled shelter	N		
Probe height from ground	--		
Probe distance from structure	--		
Distance from closest obstruction	--		
Distance from trees	--		
Unrestricted airflow degrees	--		
Dist. between collocated monitors	--		
Last monitor audit	--		
Monitor audit frequency	--		
Flow rate verification frequency	--		
One-point QC check frequency	--		
PEP audit date	--		
NPAP audit date	--		
Changes in next 18 months	N		

Agua Prieta Fire Station
Site Purpose: special purpose monitoring. The site is located approximately 640 meters south of the Arizona/Mexico border. The surrounding area is primarily residential, but experiences a large amount of particulate pollution due to the overuse of wood and oil fires by the residents and local businesses.

Site Information			
AQS ID	80-026-1000	ADEQ ID	16361
Address	Calle 6 & Ave. 15 Agua Prieta, Sonora, Mexico		
County	Sonora	Groundcover	Rooftop
MSA	None	Latitude	31.3283
Surrounding Area	Residential	Longitude	-109.5472
Distance to road	6 m – W	Elevation	1,200 m
Traffic count	n/a	Site Established Date	01/01/1995

Monitoring Information			
Pollutant/Atmospheric parameter	PM_{10}/fine	Wind	Temp/RH
Network or Program	SPM	SPM	SPM
Monitor location	Metal platform	Rooftop	Rooftop
Monitoring objective	Population	Population	Population
Spatial scale	Neighborhood	Neighborhood	Neighborhood
Monitor type	Dichot	Anemometer	Probe
Analysis method	Gravimetric	None	None
Make of monitor	Anderson	RM Young	Vaisala
Model of monitor	SA-241	5103	HMP 45C
Method code	073	--	--
Monitor start date	12/02/2004	12/18/1998	12/18/1998
Operation schedule	1:6	Continuous	Continuous
Sampling season	All year	All year	All year
In climate controlled shelter	N	N	N
Probe height from ground	7 m	10 m	8 m
Probe distance from structure	--	--	--
Distance from closest obstruction	30 m	30 m	30 m
Distance from trees	20 m	20 m	20 m
Unrestricted airflow degrees	360°	360°	360°
Dist. between collocated monitors	--	--	--
Last monitor audit	03/08/2007	05/03/2007	03/08/2007
Monitor audit frequency	--	--	--
Flow rate verification frequency	--	--	--
One-point QC check frequency	--	--	--
PEP audit date	--	--	--
NPAP audit date	--	--	--
Changes in next 18 months	Will be replaced with Partisol 2000D, maintained, &audited by a contractor	Will be audited by a contractor	Will be audited by a contractor

Ajo
Site Purpose: NAAQS compliance network. The site is located at the Pima County Maintenance Yard, with the wind system mounted to the north of the instrument trailer. The closest structure to the site is an east-west oriented ADOT office/trailer to the south. To the east lies the stabilized tailings pile associated with the Ajo mining operation which is now inactive.

Site Information			
AQS ID	04-019-0001	ADEQ ID	16316
Address	1131 N. Well Rd. Ajo, AZ 85321		
County	Pima	Groundcover	Gravel
MSA	Tucson	Latitude	32.3820
Surrounding Area	Residential/Commercial	Longitude	-112.8575
Distance to road	109 m – E	Elevation	515 m
Traffic count	~150 – Ajo Well Rd. 1	Site Established Date	07/01/1969

Monitoring Information			
Pollutant/Atmospheric parameter	PM_{10}	Wind	
Network or Program	SLAMS	SPM	
Monitor location	Metal Platform	Tower	
Monitoring objective	Population	Population	
Spatial scale	Neighborhood	Neighborhood	
Monitor type	TEOM	Anemometer	
Analysis method	Tapered Element Oscillating Microbalance Technology	None	
Make of monitor	R & P	RM Young	
Model of monitor	1400AB	5103	
Method code	079	--	
Monitor start date	02/19/2009	06/11/2003	
Operation schedule	Continuous	Continuous	
Sampling season	All Year	All year	
In climate controlled shelter	N	N	
Probe height from ground	4 m	10 m	
Probe distance from structure	--	--	
Distance from closest obstruction	7 m	--	
Distance from trees	35 m	35 m	
Unrestricted airflow degrees	360°	360°	
Dist. between collocated monitors	--	--	
Last monitor audit	04/20/2009	04/20/2009	
Monitor audit frequency	Biannual	Annual	
Flow rate verification frequency	Monthly	Biannual	
One-point QC check frequency	--	--	
PEP audit date	--	--	
NPAP audit date	--	--	
Changes in next 18 months	N	N	

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

Site Information			
AQS ID	04-012-8000	ADEQ ID	34961
Address	Alamo Lake State Park		
County	La Paz	Groundcover	Gravel
MSA	None	Latitude	34.2439
Surrounding Area	Desert	Longitude	-113.5586
Distance to road	30 m – E	Elevation	403 m
Traffic count	n/a	Site Established Date	05/20/2005

Monitoring Information			
Pollutant/Atmospheric parameter	O_3		
Network or Program	SLAMS		
Monitor location	Shelter		
Monitoring objective	Transport		
Spatial scale	Regional		
Monitor type	O_3 Analyzer		
Analysis method	UV Photometric		
Make of monitor	Thermo		
Model of monitor	49C		
Method code	047		
Monitor start date	05/20/2005		
Operation schedule	Continuous		
Sampling season	April – Oct.		
In climate controlled shelter	Y		
Probe height from ground	5 m		
Probe distance from structure	2 m		
Distance from closest obstruction	7 m		
Distance from trees	12 m		
Unrestricted airflow degrees	360°		
Dist. between collocated monitors	--		
Last monitor audit	09/26/2008		
Monitor audit frequency	Annual		
Flow rate verification frequency	--		
One-point QC check frequency	Every 2 weeks		
PEP audit date	--		
NPAP audit date	--		
Changes in next 18 months	N		

Banner Mesa Medical Center
Site Purpose: monitor urban haze. The high-resolution digital camera points to the Superstition Mountains, which lies 32,000 meters east of the site. The pictures of the local views are updated every 15 minutes and can be viewed on the internet at http://www.phoenixvis.net/supm1/index.html. The transmissometer transmitter is at the Mesa City Building in downtown Mesa. The area between the sites is primarily residential, with some commercial areas.

Site Information			
AQS ID	None	ADEQ ID	19489
Address	525 W. Brown Rd. Mesa, AZ 85201		
County	Maricopa	Groundcover	Rooftop
MSA	Mesa	Latitude	33.4335
Surrounding Area	Residential	Longitude	-111.8428
Distance to road	20 m – N	Elevation	454 m
Traffic count	9,900 – Brown Rd.	Site Established Date	07/01/1993

Monitoring Information			
Pollutant/Atmospheric parameter	None	Bext	
Network or Program	Urban Haze	Urban Haze	
Monitor location	Rooftop	Rooftop	
Monitoring objective	Visibility	Urban Haze	
Spatial scale	Urban	Urban	
Monitor type	High Res Digital Camera	Transmissometer Receiver	
Analysis method	None	Light Attenuation	
Make of monitor	Olympus	Optec	
Model of monitor	SP500UZ	LVP-2	
Method code	--	--	
Monitor start date	07/01/2003	01/01/1994	
Operation schedule	Every 15 min	Continuous	
Sampling season	All year	All year	
In climate controlled shelter	N	N	
Probe height from ground	--	--	
Probe distance from structure	--	--	
Distance from closest obstruction	--	--	
Distance from trees	--	--	
Unrestricted airflow degrees	--	--	
Dist. between collocated monitors	--	--	
Last monitor audit	--	--	
Monitor audit frequency	--	--	
Flow rate verification frequency	--	--	
One-point QC check frequency	--	--	
PEP audit date	--	--	
NPAP audit date	--	--	
Changes in next 18 months	N	N	

Bethune Elementary School
Site Purpose: NAAQS compliance network. In November of 2004 the monitor was moved from the rooftop of the school to ground level on the northwest side of the school. The surrounding area is primarily residential and is 1,400 meters south from downtown Phoenix. I-17 is 570meters to the south.

Site Information			
AQS ID	04-013-8006	ADEQ ID	17786
Address	1310 S. 15th Ave. Phoenix, AZ 85007		
County	Maricopa	Groundcover	Gravel
MSA	Phoenix	Latitude	33.4349
Surrounding Area	Residential	Longitude	-112.0930
Distance to road	5 m – N	Elevation	325 m
Traffic count	8,511 – 15th Ave.	Site Established Date	12/23/2002

Monitoring Information			
Pollutant/Atmospheric parameter	PM_{10}		
Network or Program	SLAMS		
Monitor location	Metal Structure		
Monitoring objective	Population		
Spatial scale	Neighborhood		
Monitor type	Partisol 2000		
Analysis method	Gravimetric		
Monitor start date	07/03/2005		
Make of monitor	R & P		
Model of monitor	2000 F		
Method code	126		
Operation schedule	1:6		
Sampling season	All year		
In climate controlled shelter	N		
Probe height from ground	4 m		
Probe distance from structure	--		
Distance from closest obstruction	15 m		
Distance from trees	10-20 m		
Unrestricted airflow degrees	360°		
Dist. between collocated monitors	--		
Last monitor audit	02/25/2009		
Monitor audit frequency	Biannual		
Flow rate verification frequency	Monthly		
One-point QC check frequency	--		
PEP audit date	--		
NPAP audit date	--		
Changes in next 18 months	N		

Bullhead City
Site Purpose: NAAQS compliance network. The site is located on the rooftop of the U.S. Post Office Building, northeast of SR 95 and 7th 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, which has daily commercial flights.

Site Information			
AQS ID	04-015-1003	ADEQ ID	16365
Address	990 Highway 95 Bullhead City, AZ 86429		
County	Mohave	Groundcover	Rooftop
MSA	Kingman	Latitude	35.1539
Surrounding Area	Commercial/Residential	Longitude	-114.5661
Distance to road	~30 m – W	Elevation	156 m
Traffic count	~20,000 – SR 95	Site Established Date	11/01/1997

Monitoring Information			
Pollutant/Atmospheric parameter	PM_{10}		
Network or Program	SLAMS		
Monitor location	Rooftop		
Monitoring objective	Population		
Spatial scale	Neighborhood		
Monitor type	Partisol 2000		
Analysis method	Gravimetric		
Make of monitor	R & P		
Model of monitor	2000 F		
Method code	126		
Monitor start date	09/02/03		
Operation schedule	1:6		
Sampling season	All year		
In climate controlled shelter	N		
Probe height from ground	8 m		
Probe distance from structure	10 m		
Distance from closest obstruction	7 m		
Distance from trees	--		
Unrestricted airflow degrees	360°		
Dist. between collocated monitors	--		
Last monitor audit	03/03/2009		
Monitor audit frequency	Biannual		
Flow rate verification frequency	Monthly		
One-point QC check frequency	--		
PEP audit date	--		
NPAP audit date	--		
Changes in next 18 months	N		

Children's Park
Site Purpose: monitor urban haze. The site is a City of Tucson water well site positioned at the convergence of the Rillito River and Pima Wash. The site is jointly operated by ADEQ and PDEQ. The surrounding area consists of trees to the east and west, which may restrict the airflow to the monitors; residence to the north/northwest; county park trails to the north, northwest, and west; and heavy commercial activity to the south and east.

Site Information			
AQS ID	04-019-1028	ADEQ ID	16551
Address	400 W. River Rd. Tucson, AZ 85704		
County	Pima	Groundcover	Gravel
MSA	Tucson	Latitude	32.2950
Surrounding Area	Residential	Longitude	-110.9820
Distance to road	500 m – N	Elevation	697 m
Traffic count	52,800 – 29th St.	Site Established Date	08/01/1997

Monitoring Information			
Pollutant/Atmospheric parameter	Bscat	Temp/RH	
Network or Program	Urban Haze	SPM	
Monitor location	Tower	Tower	
Monitoring objective	Visibility	Visibility	
Spatial scale	Urban	Urban	
Monitor type	Nephelometer	Probe	
Analysis method	Light Scatter	None	
Make of monitor	Optec	Vaisala	
Model of monitor	NGN 2	HMP 45C	
Method code	--	--	
Monitor start date	07/04/2003	06/17/2003	
Operation schedule	Continuous	Continuous	
Sampling season	All year	All year	
In climate controlled shelter	N	N	
Probe height from ground	5 m	5 m	
Probe distance from structure	--	1 m	
Distance from closest obstruction	--	--	
Distance from trees	4 m	4 m	
Unrestricted airflow degrees	360°	360°	
Dist. between collocated monitors	--	--	
Last monitor audit	04/30/2008	04/30/2008	
Monitor audit frequency	Annual	Annual	
Flow rate verification frequency	--	--	
One-point QC check frequency	--	--	
PEP audit date	--	--	
NPAP audit date	--	--	
Changes in next 18 months	N	N	

Chiricahua Entrance Station
Site Purpose: monitor regional haze and IMPROVE program. The site is operated by the NPS, with cooperative operation with ADEQ for the nephelometer. The surrounding area is wilderness and desert. The Chiricahua National Monument lies 3,800 meters to the northeast.

Site Information			
AQS ID	04-003-8001	ADEQ ID	16679
Address	13063 E. Bonita Canyon Rd. Wilcox, AZ 85643		
County	Cochise	Groundcover	Dirt/Rocks
MSA	None	Latitude	32.0094
Surrounding Area	Desert	Longitude	-109.3891
Distance to road	99 m – E	Elevation	1,570 m
Traffic count	199 – SR 181	Site Established Date	01/01/1988

Monitoring Information			
Pollutant/Atmospheric parameter	Bscat	Temp/RH	Aerosol
Network or Program	Class I	SPM	IMPROVE
Monitor location	Tower	Tower	Shelter
Monitoring objective	Visibility	Visibility	Visibility
Spatial scale	Regional	Regional	Regional
Monitor type	Nephelometer	Probe	IMPROVE
Analysis method	Light Scatter	None	Various
Make of monitor	Optec	Vaisala	Various
Model of monitor	NGN 2	HMP 45C	Various
Method code	--	--	--
Monitor start date	12/17/2003	12/17/2003	04/02/2000
Operation schedule	Continuous	Continuous	1:3
Sampling season	All year	All year	All Year
In climate controlled shelter	N	N	N
Probe height from ground	6 m	6 m	4 m
Probe distance from structure	3 m	3 m	1 m
Distance from closest obstruction	--	--	10 m
Distance from trees	10 m	10 m	10 m
Unrestricted airflow degrees	360°	360°	360°
Dist. between collocated monitors	--	--	--
Last monitor audit	07/30/2008	07/30/2008	--
Monitor audit frequency	Annual	Annual	--
Flow rate verification frequency	--	--	--
One-point QC check frequency	--	--	--
PEP audit date	--	--	--
NPAP audit date	--	--	--
Changes in next 18 months	N	N	N

Cottonwood
Site Purpose: monitor smoke/public information. The sited is located on the Cottonwood Police Station building. In March of 2008 the monitor was moved from Camp Verde Ranger Station, due to renovations, to this location. The area surrounding the site consists of residential, commercial/industrial, and some scattered open desert parcels.

Site Information			
AQS ID	None	ADEQ ID	134096
Address	199 S. 6th St. Cottonwood, AZ 86326		
County	Yavapi	Groundcover	Rooftop
MSA	None	Latitude	34.7371
Surrounding Area	Residential/Commercial	Longitude	-112.0210
Distance to road	183 m – S	Elevation	1,010 m
Traffic count	5,623 – 6th St.	Site Established Date	04/03/2008

Monitoring Information			
Pollutant/Atmospheric parameter	PM_{10}		
Network or Program	SPM		
Monitor location	Rooftop		
Monitoring objective	Population		
Spatial scale	Neighborhood		
Monitor type	EBAM		
Analysis method	Beta Ray Attenuation		
Make of monitor	Met One		
Model of monitor	E-BAM		
Method code	--		
Monitor start date	04/03/2008		
Operation schedule	Continuous		
Sampling season	All Year		
In climate controlled shelter	N		
Probe height from ground	2.1 m		
Probe distance from structure	--		
Distance from closest obstruction	--		
Distance from trees	--		
Unrestricted airflow degrees	360°		
Dist. between collocated monitors	--		
Last monitor audit	--		
Monitor audit frequency	--		
Flow rate verification frequency	--		
One-point QC check frequency	--		
PEP audit date	--		
NPAP audit date	--		
Changes in next 18 months	N		

Douglas Red Cross
Site Purpose: NAAQS compliance network. The site is located at the Red Cross building on the south side of 15th 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.

Site Information			
AQS ID	04-003-1005	ADEQ ID	16503
Address	1445 E. 15th St. Douglas, AZ 85607		
County	Cochise	Groundcover	Dirt/Grass
MSA	Douglas	Latitude	31.3492
Surrounding Area	Commercial/Residential	Longitude	-109.5396
Distance to road	30 m – N	Elevation	1,231 m
Traffic count	1,200 – 15th St.	Site Established Date	09/01/1998

Monitoring Information			
Pollutant/Atmospheric parameter	PM_{10}	$PM_{2.5}$	Aerosol
Network or Program	SLAMS	SLAMS	IMPROVE
Monitor location	Metal Platform	Metal Platform	Shelter
Monitoring objective	Population	Population	Visibility
Spatial scale	Neighborhood	Neighborhood	Regional
Monitor type	Partisol 2000	Partisol 2000	IMPROVE
Analysis method	Gravimetric	Gravimetric	Various
Make of monitor	R & P	R & P	Various
Model of monitor	2000 F	2000 F	Various
Method code	126	143	--
Monitor start date	04/01/2004	04/01/2004	06/02/2004
Operation schedule	1:6	1:6	1:3
Sampling season	All year	All year	All Year
In climate controlled shelter	N	N	N
Probe height from ground	4 m	4 m	3 m
Probe distance from structure	--	--	--
Distance from closest obstruction	10 m	8 m	10 m
Distance from trees	>10 m	>10 m	10 m
Unrestricted airflow degrees	300°	300°	300°
Dist. between collocated monitors	--	--	--
Last monitor audit	01/29/2009	01/29/2009	1/29/2009
Monitor audit frequency	Biannual	Biannual	Every 3 Years
Flow rate verification frequency	Monthly	Monthly	--
One-point QC check frequency	--	--	--
PEP audit date	--	05/16/2005	--
NPAP audit date	--	--	--
Changes in next 18 months	N	N	N

Dysart
Site Purpose: monitor urban haze and AQI forecasting/AIRNow program. The site is located in the Maricopa County Facility Maintenance Yard at the corner of Bell Road and Dysart Road and is shared with MCAQD. The surrounding area is commercial and residential, which has been experiencing tremendous growth for years.

Site Information			
AQS ID	04-013-4010	ADEQ ID	19550
Address	16825 N. Dysart Rd. Surprise, AZ 85374		
County	Maricopa	Groundcover	Gravel
MSA	Phoenix	Latitude	33.6370
Surrounding Area	Commercial/Residential	Longitude	-112.3393
Distance to road	14 m – W	Elevation	357 m
Traffic count	10,000 – Dysart Rd.	Site Established Date	01/01/2003

Monitoring Information			
Pollutant/Atmospheric parameter	Bscat / $PM_{2.5}$	Temp/RH	
Network or Program	Urban Haze/ AIRNow	SPM	
Monitor location	Tower	Tower	
Monitoring objective	Population	Population	
Spatial scale	Neighborhood	Neighborhood	
Monitor type	Nephelometer	Probe	
Analysis method	Light Scatter with correlation to $PM_{2.5}$	None	
Make of monitor	Optec	Rotronics	
Model of monitor	NGN 2	MP101A	
Method code	--	--	
Monitor start date	06/16/2003	07/16/2003	
Operation schedule	Continuous	Continuous	
Sampling season	All year	All year	
In climate controlled shelter	N	N	
Probe height from ground	6 m	6 m	
Probe distance from structure	--	1 m	
Distance from closest obstruction	--	--	
Distance from trees	--	--	
Unrestricted airflow degrees	360°	360°	
Dist. between collocated monitors	--	--	
Last monitor audit	02/19/2009	02/19/2009	
Monitor audit frequency	Annual	Annual	
Flow rate verification frequency	--	--	
One-point QC check frequency	--	--	
PEP audit date	--	--	
NPAP audit date	--	--	
Changes in next 18 months	N	N	

Estrella
Site Purpose: monitor urban haze and AQI forecasting/AIRNow program. The site is located in the southeast corner of the Maricopa County Maintenance Yard of 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
Address	15099 W. Casey Abbott Rd. Goodyear, AZ 85338		
County	Maricopa	Groundcover	Grass/Gravel
MSA	Phoenix	Latitude	33.3833
Surrounding Area	Desert/Recreation Area	Longitude	-112.3728
Distance to road	258 m – N	Elevation	277 m
Traffic count	<100 – W. Vineyard Ave.	Site Established Date	01/01/1995

Monitoring Information			
Pollutant/Atmospheric parameter	Bscat / $PM_{2.5}$	Temp/RH	
Network or Program	Urban Haze/ AIRNow	SPM	
Monitor location	Tower	Tower	
Monitoring objective	Population	Population	
Spatial scale	Neighborhood	Neighborhood	
Monitor type	Nephelometer	Probe	
Analysis method	Light Scatter with correlation to $PM_{2.5}$	None	
Make of monitor	Optec	Rotronics	
Model of monitor	NGN 2	MP101A	
Method code	--	--	
Monitor start date	02/11/2003	02/11/2003	
Operation schedule	Continuous	Continuous	
Sampling season	All year	All year	
In climate controlled shelter	N	N	
Probe height from ground	6 m	6 m	
Probe distance from structure	--	1 m	
Distance from closest obstruction	--	--	
Distance from trees	5 m	5 m	
Unrestricted airflow degrees	360°	360°	
Dist. between collocated monitors	--	--	
Last monitor audit	11/19/2008	11/19/2008	
Monitor audit frequency	Annual	Annual	
Flow rate verification frequency	--	--	
One-point QC check frequency	--	--	
PEP audit date	--	--	
NPAP audit date	--	--	
Changes in next 18 months	N	N	

Estrella Mountain Community College
Site Purpose: monitor urban haze. One high-resolution digital camera points to the Estrella Mountains, which lies 11,000 meters to the southwest, and the other camera points to the White Tanks mountain range which is 20,000 meters northeast. The pictures of the local views are updated every 15 minutes and can be viewed on the internet at http://www.phoenixvis.net/esmo1/index.html. The area between the site and the mountain ranges is a mixture of residential, commercial, and agricultural land.

Site Information			
AQS ID	None	ADEQ ID	21736
Address	3000 N. Dysart Rd. Avondale, AZ 85323		
County	Maricopa	Groundcover	Rooftop
MSA	Phoenix	Latitude	33.4836
Surrounding Area	Residential	Longitude	-112.3503
Distance to road	155 m – S	Elevation	305 m
Traffic count	8,175 – Thomas Rd.	Site Established Date	07/01/2003

Monitoring Information			
Pollutant/Atmospheric parameter	None	None	
Network or Program	Urban Haze	Urban Haze	
Monitor location	Rooftop	Rooftop	
Monitoring objective	Visibility	Visibility	
Spatial scale	Urban	Urban	
Monitor type	High Res Digital Camera	High Res Digital Camera	
Analysis method	None	None	
Make of monitor	Olympus	Olympus	
Model of monitor	SP500UZ	SP500UZ	
Method code	--	--	
Monitor start date	01/01/2003	01/01/2003	
Operation schedule	Every 15 min	Every 15 min	
Sampling season	All year	All year	
In climate controlled shelter	N	N	
Probe height from ground	--	--	
Probe distance from structure	--	--	
Distance from closest obstruction	--	--	
Distance from trees	--	--	
Unrestricted airflow degrees	--	--	
Dist. between collocated monitors	--	--	
Last monitor audit	--	--	
Monitor audit frequency	--	--	
Flow rate verification frequency	--	--	
One-point QC check frequency	--	--	
PEP audit date	--	--	
NPAP audit date	--	--	
Changes in next 18 months	N	N	

Flagstaff Middle School
Site Purpose: NAAQS compliance network and monitor smoke/public information. The site is situated west of Bonito Road on the rooftop of the 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.

Site Information			
AQS ID	04-005-1008	ADEQ ID	16707
Address	755 N. Bonito St. Flagstaff, AZ 86001		
County	Coconino	Groundcover	Rooftop
MSA	Flagstaff	Latitude	35.2061
Surrounding Area	Residential	Longitude	-111.6528
Distance to road	70 m – E	Elevation	2,120 m
Traffic count	2,300 – N. Bonito St.	Site Established Date	10/29/1996

Monitoring Information			
Pollutant/Atmospheric parameter	O_3	PM_{10}	$PM_{2.5}$
Network or Program	SLAMS	SLAMS	SLAMS
Monitor location	Rooftop	Rooftop	Rooftop
Monitoring objective	Population	Population	Population
Spatial scale	Neighborhood	Neighborhood	Neighborhood
Monitor type	O_3 Analyzer	Partisol 2000	Partisol 2000
Analysis method	UV Photometric	Gravimetric	Gravimetric
Make of monitor	Thermo	R & P	R & P
Model of monitor	49C	2000 F	2000 F
Method code	047	126	143
Monitor start date	03/13/2008	04/01/2004	09/16/2003
Operation schedule	Continuous	1:6	1:6
Sampling season	April – Oct.	All year	All year
In climate controlled shelter	Y	N	N
Probe height from ground	10 m	6 m	6 m
Probe distance from structure	0.5 m	--	--
Distance from closest obstruction	--	10 m	10 m
Distance from trees	15 m	15 m	15 m
Unrestricted airflow degrees	360°	300°	300°
Dist. between collocated monitors	--	--	--
Last monitor audit	05/18/2009	05/18/2009	05/18/2009
Monitor audit frequency	Annual	Biannual	Biannual
Flow rate verification frequency	--	Monthly	Monthly
One-point QC check frequency	Every 2 weeks	--	--
PEP audit date	--	--	05/11/2006
NPAP audit date	--	--	--
Changes in next 18 months	N	N	N

Flagstaff Middle School continued

Site Information			
AQS ID	04-005-1008	ADEQ ID	16707
Address	755 N. Bonito Flagstaff, AZ 86001		
County	Coconino	Groundcover	Rooftop
MSA	Flagstaff	Latitude	35.2061
Surrounding Area	Residential	Longitude	-111.6528
Distance to road	70 m – W	Elevation	2,105 m
Traffic count	2,300 – N. Bonito St.	Site Established Date	10/29/1996

Monitoring Information			
Pollutant/Atmospheric parameter	PM_{10}		
Network or Program	SPM		
Monitor location	Rooftop		
Monitoring objective	Population		
Spatial scale	Neighborhood		
Monitor type	EBAM		
Analysis method	Beta Ray Attenuation		
Make of monitor	Met One		
Model of monitor	E-BAM		
Method code	--		
Monitor start date	07/03/2007		
Operation schedule	Continuous		
Sampling season	All year		
In climate controlled shelter	N		
Probe height from ground	6 m		
Probe distance from structure	--		
Distance from closest obstruction	10 m		
Distance from trees	15 m		
Unrestricted airflow degrees	300°		
Dist. between collocated monitors	--		
Last monitor audit	--		
Monitor audit frequency	--		
Flow rate verification frequency	--		
One-point QC check frequency	--		
PEP audit date	--		
NPAP audit date	--		
Changes in next 18 months	N		

Grand Canyon National Park - Hance Camp
Site Purpose: monitor regional haze and IMPROVE program. The site is operated by the NPS. The site is 183 meters south of East Rim Drive, 1,931 meters south of Grandview Point turnoff. The site is in a clearing surrounded by forest.

Site Information			
AQS ID	None	ADEQ ID	16682
Address	West of SR 64 - Grand Canyon, AZ 86023		
County	Coconino	Groundcover	Dirt
MSA	Flagstaff	Latitude	35.9731
Surrounding Area	Desert	Longitude	-111.9841
Distance to road	200 m – E	Elevation	2,235 m
Traffic count	3,075 – SR 64	Site Established Date	09/24/1997

Monitoring Information			
Pollutant/Atmospheric parameter	Aerosol		
Network or Program	IMPROVE		
Monitor location	Shelter		
Monitoring objective	Visibility		
Spatial scale	Regional		
Monitor type	IMPROVE		
Analysis method	Various		
Make of monitor	Various		
Model of monitor	Various		
Method code	--		
Monitor start date	04/26/2000		
Operation schedule	1:3		
Sampling season	All year		
In climate controlled shelter	N		
Probe height from ground	n/a		
Probe distance from structure	n/a		
Distance from closest obstruction	n/a		
Distance from trees	n/a		
Unrestricted airflow degrees	n/a		
Dist. between collocated monitors	--		
Last monitor audit	--		
Monitor audit frequency	--		
Flow rate verification frequency	--		
One-point QC check frequency	--		
PEP audit date	--		
NPAP audit date	--		
Changes in next 18 months	N		

Grand Canyon National Park - Indian Gardens
Site Purpose: monitor regional haze and IMPROVE program. The site is owned by the NPS, who operates the ADEQ nephelometer at the site. The IMPROVE monitor is located southwest of the nephelometer site, at a latitude of 36.0778, longitude of -112.1289, and an elevation of 1,183 meters. The sites are located in the Indian Gardens picnic area in the Grand Canyon, near the ranger station on the south side of the canyon along the Bright Angel Trail.

Site Information			
AQS ID	None	ADEQ ID	16683
Address	Bright Angel Trail Grand Canyon, AZ 86023		
County	Coconino	Groundcover	Dirt/Rocks
MSA	Flagstaff	Latitude	36.0783
Surrounding Area	Desert	Longitude	-112.1268
Distance to road	8,047 m – S	Elevation	1,164 m
Traffic count	1,250 – Entrance Road	Site Established Date	10/01/1989

Monitoring Information			
Pollutant/Atmospheric parameter	Bscat	Temp/RH	Aerosol
Network or Program	Class I	SPM	IMPROVE
Monitor location	Tower	Tower	Shelter
Monitoring objective	Visibility	Visibility	Visibility
Spatial scale	Regional	Regional	Regional
Monitor type	Nephelometer	Probe	IMPROVE
Analysis method	Light Scatter	None	Various
Make of monitor	Optec	Vaisala	Various
Model of monitor	NGN 2	HMP 45C	Various
Method code	--	--	--
Monitor start date	06/09/2004	10/04/1989	07/01/2000
Operation schedule	Continuous	Continuous	1:3
Sampling season	All year	All year	All year
In climate controlled shelter	N	N	N
Probe height from ground	5 m	5 m	4 m
Probe distance from structure	--	0.5 m	2 m
Distance from closest obstruction	6 m	6 m	--
Distance from trees	6 m	6 m	6 m
Unrestricted airflow degrees	180°	180°	300°
Dist. between collocated monitors	--	--	--
Last monitor audit	04/25/2008	04/03/2009	--
Monitor audit frequency	Annual	Annual	--
Flow rate verification frequency	--	--	--
One-point QC check frequency	--	--	--
PEP audit date	--	--	--
NPAP audit date	--	--	--
Changes in next 18 months	N	N	N

Green Valley Fire Administration
Site Purpose: monitor smoke/public information. The site is operated jointly by ADEQ and PDEQ and located on the Fire Administration building. The area surrounding the site is mostly residential, with some desert areas. To the east about 750 meters is I-19 and approximately 1,600 meters to the west is the tailings pile from the nearby mine.

Site Information			
AQS ID	04-019-8031	ADEQ ID	128562
Address	1285 W. Camino Encanto Green Valley, AZ 85614		
County	Pima	Groundcover	Rooftop
MSA	Tucson	Latitude	31.8273
Surrounding Area	Residential/Commercial	Longitude	-111.0113
Distance to road	20 m – N	Elevation	917 m
Traffic count	4,533 – Camion Encanto	Site Established Date	07/01/2007

Monitoring Information			
Pollutant/Atmospheric parameter	PM_{10}	$PM_{2.5}$	
Network or Program	SPM	SPM	
Monitor location	Rooftop	Rooftop	
Monitoring objective	Source	Source	
Spatial scale	Middle	Middle	
Monitor type	EBAM	EBAM	
Analysis method	Beta Ray Attenuation	Beta Ray Attenuation	
Make of monitor	Met One	Met One	
Model of monitor	EBAM	EBAM	
Method code	--	--	
Monitor start date	11/1/2008	11/1/2008	
Operation schedule	Continuous	Continuous	
Sampling season	All year	All year	
In climate controlled shelter	N	N	
Probe height from ground	6 m	6 m	
Probe distance from structure	--	--	
Distance from closest obstruction	4 m	4 m	
Distance from trees	17 m	17 m	
Unrestricted airflow degrees	360°	360°	
Dist. between collocated monitors	--	--	
Last monitor audit	--	--	
Monitor audit frequency	--	--	
Flow rate verification frequency	Monthly	Monthly	
One-point QC check frequency	--	--	
PEP audit date	--	--	
NPAP audit date	--	--	
Changes in next 18 months	N	N	

Greer Water Treatment Plant
Site Purpose: monitor regional haze and IMPROVE program. The site is located in the Apache National Forest and is operated by ADEQ and the USFS. The surrounding area is forest with the town of Greer approximately 4,000 meters to the south/southwest.

Site Information			
AQS ID	None	ADEQ ID	16323
Address	SR 260 & SR 373 Greer, AZ 85927		
County	Apache	Groundcover	Grass
MSA	None	Latitude	34.0583
Surrounding Area	Forest	Longitude	-109.4400
Distance to road	1,600 m – N	Elevation	2,503 m
Traffic count	1,300 – SR 260	Site Established Date	01/01/2000

Monitoring Information			
Pollutant/Atmospheric parameter	Bscat	Wind	Temp/RH
Network or Program	Class I	SPM	SPM
Monitor location	Tower	Tower	Tower
Monitoring objective	Visibility	Visibility	Visibility
Spatial scale	Regional	Regional	Regional
Monitor type	Nephelometer	Anemometer	Probe
Analysis method	Light Scatter	None	None
Make of monitor	Optec	RM Young	Vaisala
Model of monitor	NGN 2	5103	HMP 45C
Method code	--	--	--
Monitor start date	01/01/2000	06/11/2003	01/01/2000
Operation schedule	Continuous	Continuous	Continuous
Sampling season	All year	All year	All year
In climate controlled shelter	N	N	N
Probe height from ground	5 m	9 m	5 m
Probe distance from structure	--	--	1 m
Distance from closest obstruction	150 m	150 m	150 m
Distance from trees	50 m	50 m	50 m
Unrestricted airflow degrees	360°	360°	360°
Dist. between collocated monitors	--	--	--
Last monitor audit	09/17/2008	09/17/2008	09/17/2008
Monitor audit frequency	Annual	Annual	Annual
Flow rate verification frequency	--	--	--
One-point QC check frequency	--	--	--
PEP audit date	--	--	--
NPAP audit date	--	--	--
Changes in next 18 months	N	N	N

Greer Water Treatment Plant continued

Site Information			
AQS ID	None	ADEQ ID	16323
Address	SR 260 & SR 373 Greer, AZ 85927		
County	Apache	Groundcover	Grass
MSA	n/a	Latitude	34.0583
Surrounding Area	Forest	Longitude	-109.4400
Distance to road	1,600 m – N	Elevation	2,516 m
Traffic count	1,300 – SR 260	Site Established Date	01/01/2000

Monitoring Information			
Pollutant/Atmospheric parameter	Aerosol		
Network or Program	IMPROVE		
Monitor location	Shelter		
Monitoring objective	Visibility		
Spatial scale	Regional		
Monitor type	IMPROVE		
Analysis method	Various		
Make of monitor	Various		
Model of monitor	Various		
Method code	--		
Monitor start date	02/29/2000		
Operation schedule	1:3		
Sampling season	All year		
In climate controlled shelter	N		
Probe height from ground	4 m		
Probe distance from structure	1 m		
Distance from closest obstruction	150 m		
Distance from trees	50 m		
Unrestricted airflow degrees	360°		
Dist. between collocated monitors	--		
Last monitor audit	09/17/2008		
Monitor audit frequency	Annual		
Flow rate verification frequency	--		
One-point QC check frequency	--		
PEP audit date	--		
NPAP audit date	--		
Changes in next 18 months	N		

Hayden Old Jail
Site Purpose: NAAQS compliance network and a source permit requirement. The site is located at the old Hayden Jail building near the center of town. The surrounding area consists mainly of residential and commercial. ASARCO mine also maintains a sulfur dioxide analyzer at the site.

Site Information			
AQS ID	04-007-1001	ADEQ ID	16326
Address	Canyon Dr. & Kennecott Ave. Hayden, AZ 85235		
County	Gila	Groundcover	Building
MSA	Payson	Latitude	33.0062
Surrounding Area	Residential	Longitude	-110.7864
Distance to road	5 m – E	Elevation	625 m
Traffic count	~2,235 – Kennecott Ave.	Site Established Date	01/01/1969

Monitoring Information			
Pollutant/Atmospheric parameter	SO_2	PM_{10}	
Network or Program	SLAMS	SLAMS	
Monitor location	Shelter	Rooftop	
Monitoring objective	Source	Source	
Spatial scale	Neighborhood	Neighborhood	
Monitor type	SO_2 Analyzer	TEOM	
Analysis method	Pulsed Fluorescence	Tapered Element Oscillating Microbalance Technology	
Make of monitor	Thermo	R & P	
Model of monitor	43C	1400AB	
Method code	060	079	
Monitor start date	01/01/1975	03/03/2009	
Operation schedule	Continuous	Continuous	
Sampling season	All year	All year	
In climate controlled shelter	Y	N	
Probe height from ground	7 m	6 m	
Probe distance from structure	2 m	--	
Distance from closest obstruction	3 m	3 m	
Distance from trees	15 m	15 m	
Unrestricted airflow degrees	360°	360°	
Dist. between collocated monitors	--	--	
Last monitor audit	05/04/2009	05/04/2009	
Monitor audit frequency	Annual	Biannual	
Flow rate verification frequency	--	Monthly	
One-point QC check frequency	Every 2 weeks	--	
PEP audit date	--	--	
NPAP audit date	10/11/2006	--	
Changes in next 18 months	N	N	

Ike's Backbone
Site Purpose: monitor regional haze and IMPROVE program. The site is operated by ADEQ and the USFS. The surrounding area is Tonto National Forest, which includes Mazatzal and Pine Mountain Wilderness areas with the Verde River and mountains nearby.

Site Information			
AQS ID	None	ADEQ ID	16421
Address	Fossil Creek Rd. and Childs Rd. Strawberry, AZ 85544		
County	Coconino	Groundcover	Rocks/Plants
MSA	Flagstaff	Latitude	34.3406
Surrounding Area	Forest	Longitude	-111.6825
Distance to road	n/a	Elevation	1,303 m
Traffic count	n/a	Site Established Date	04/02/2000

Monitoring Information			
Pollutant/Atmospheric parameter	Bscat	Wind	Temp/RH
Network or Program	Class I	SPM	SPM
Monitor location	Tower	Tower	Tower
Monitoring objective	Visibility	Visibility	Visibility
Spatial scale	Regional	Regional	Regional
Monitor type	Nephelometer	Anemometer	Probe
Analysis method	Light Scatter	None	None
Make of monitor	Optec	RM Young	Visalia
Model of monitor	NGN 2	5103	HMP 45C
Method code	--	--	--
Monitor start date	06/13/2003	06/01/2001	06/01/2001
Operation schedule	Continuous	Continuous	Continuous
Sampling season	All year	All year	All Year
In climate controlled shelter	N	N	N
Probe height from ground	5 m	9 m	5 m
Probe distance from structure	2 m	6 m	2 m
Distance from closest obstruction	7 m	7 m	7 m
Distance from trees	18 m	18 m	18 m
Unrestricted airflow degrees	360°	360°	360°
Dist. between collocated monitors	--	--	--
Last monitor audit	11/25/2008	11/25/2008	11/25/2008
Monitor audit frequency	Annual	Annual	Annual
Flow rate verification frequency	--	--	--
One-point QC check frequency	--	--	--
PEP audit date	--	--	--
NPAP audit date	--	--	--
Changes in next 18 months	N	N	N

Ike's Backbone continued

Site Information			
AQS ID	None	ADEQ ID	16421
Address	Fossil Creek Rd. and Childs Rd. Strawberry, AZ 85544		
County	Coconino	Groundcover	Rocks/Plants
MSA	Flagstaff	Latitude	34.3406
Surrounding Area	Forest	Longitude	-111.6825
Distance to road	n/a	Elevation	1,625 m
Traffic count	n/a	Site Established Date	06/01/2001

Monitoring Information			
Pollutant/Atmospheric parameter	Aerosol		
Network or Program	IMPROVE		
Monitor location	Shelter		
Monitoring objective	Visibility		
Spatial scale	Regional		
Monitor type	IMPROVE		
Analysis method	Various		
Make of monitor	Various		
Model of monitor	Various		
Method code	--		
Monitor start date	03/28/2000		
Operation schedule	1:3		
Sampling season	All year		
In climate controlled shelter	N		
Probe height from ground	4 m		
Probe distance from structure	1 m		
Distance from closest obstruction	7 m		
Distance from trees	18 m		
Unrestricted airflow degrees	360°		
Dist. between collocated monitors	--		
Last monitor audit	11/25/2008		
Monitor audit frequency	Annual		
Flow rate verification frequency	--		
One-point QC check frequency	--		
PEP audit date	--		
NPAP audit date	--		
Changes in next 18 months	N		

JLG Supersite
Site Purpose: NAAQS compliance network, PAMS, NATTS, CSN, NCORE, AIRNow, AQI forecasting, monitor urban haze, and meteorological support. 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 roughly 1,609 meters west.

Site Information			
AQS ID	04-013-9997	ADEQ ID	16328
Address	4530 N. 17th Ave. Phoenix, AZ 85015		
County	Maricopa	Groundcover	Gravel
MSA	Phoenix	Latitude	33.5038
Surrounding Area	Residential	Longitude	-112.0957
Distance to road	8.5 m – E	Elevation	354 m
Traffic count	20,214 – Campbell Ave.	Site Established Date	07/01/1993

Monitoring Information			
Pollutant/Atmospheric parameter	CO	Trace CO	NOx
Network or Program	SLAMS	NCore	SLAMS/PAMS/ NCore
Monitor location	Shelter	Shelter	Shelter
Monitoring objective	Population	Population	Population
Spatial scale	Neighborhood	Neighborhood	Neighborhood
Monitor type	CO Analyzer	CO Analyzer	NOx Analyzer
Analysis method	Gas Filter Correlation	Gas Filter Correlation	Chemilumin-escence
Make of monitor	Thermo	Thermo	Thermo
Model of monitor	48C	48C	42C
Method code	054	054	074
Monitor start date	12/11/2002	12/11/2002	07/01/1993
Operation schedule	Continuous	Continuous	Continuous
Sampling season	All Year	All Year	All Year
In climate controlled shelter	Y	Y	Y
Probe height from ground	5 m	5 m	5 m
Probe distance from structure	--	--	--
Distance from closest obstruction	8 m	8 m	8 m
Distance from trees	5 m	5 m	5 m
Unrestricted airflow degrees	210°	210°	210°
Dist. between collocated monitors	--	--	--
Last monitor audit	02/18/2009	02/18/2009	07/23/2008
Monitor audit frequency	Annual	Annual	Annual
Flow rate verification frequency	--	--	--
One-point QC check frequency	Every 2 weeks	Every 2 weeks	Every 2 weeks
PEP audit date	--	--	--
NPAP audit date	05/06/2008	--	05/06/2008
Changes in next 18 months	N	To be ionstaled	N

JLG Supersite continued

Site Information			
AQS ID	04-013-9997	ADEQ ID	16328
Address	4530 N. 17th Ave. Phoenix, AZ 85015		
County	Maricopa	Groundcover	Gravel
MSA	Phoenix	Latitude	33.5036
Surrounding Area	Residential	Longitude	-112.0950
Distance to road	8.5 m – E	Elevation	354 m
Traffic count	20,214 – Campbell Ave.	Site Established Date	07/01/1993

Monitoring Information			
Pollutant/Atmospheric parameter	O_3	SO_2	Trace SO_2
Network or Program	SLAMS/PAMS/ NCore	SLAMS	NCore
Monitor location	Shelter	Shelter	Shelter
Monitoring objective	Population	Population	Population
Spatial scale	Urban	Neighborhood	Neighborhood
Monitor type	O_3 Analyzer	SO_2 Analyzer	SO_2 Analyzer
Analysis method	UV Photometric	Pulsed Fluorescence	Pulsed Fluorescence
Make of monitor	Thermo	Thermo	Ecotech
Model of monitor	49C	43C	43C
Method code	047	060	060
Monitor start date	07/01/1993	03/03/2005	03/03/2005
Operation schedule	Continuous	Continuous	Continuous
Sampling season	All Year	All year	All year
In climate controlled shelter	Y	Y	Y
Probe height from ground	5 m	5 m	5 m
Probe distance from structure	--	--	--
Distance from closest obstruction	8 m	8 m	8 m
Distance from trees	5 m	5 m	5 m
Unrestricted airflow degrees	210°	210°	210°
Dist. between collocated monitors	--	--	--
Last monitor audit	07/22/2008	10/08/2008	10/08/2008
Monitor audit frequency	Annual	Annual	Annual
Flow rate verification frequency	--	--	--
One-point QC check frequency	Every 2 weeks	Every 2 weeks	Every 2 weeks
PEP audit date	--	--	--
NPAP audit date	05/06/2008	05/06/2008	--
Changes in next 18 months	N	N	To be installed

JLG Supersite continued

Site Information			
AQS ID	04-013-9997	ADEQ ID	16328
Address	4530 N. 17th Ave. Phoenix, AZ 85015		
County	Maricopa	Groundcover	Gravel
MSA	Phoenix	Latitude	33.5036
Surrounding Area	Residential	Longitude	-112.0950
Distance to road	8.5 m – E	Elevation	354 m
Traffic count	20,214 – Campbell Ave.	Site Established Date	07/01/1993

Monitoring Information			
Pollutant/Atmospheric parameter	VOC	Carbonyls	Hexavalent Chromium
Network or Program	SLAMS/NATTS/ PAMS	SLAMS/NATTS/ PAMS	SLAMS/NATTS
Monitor location	Shelter	Shelter	Metal Roof
Monitoring objective	Population	Population	Population
Spatial scale	Urban	Urban	Urban
Monitor type	VOC Canister Sampler	Carbonyl Cartridge Sampler	Toxic Air Sampler
Analysis method	TO15/TO14	TO-11A	CARB Method
Make of monitor	Tisch Environmental	ATEC	Xontech
Model of monitor	2200	8000	924
Method code	101/126	202	921
Monitor start date	06/06/2001	05/15/1999	01/01/2006
Operation schedule	1:6	1:6	1:6
Sampling season	All year	All year	All year
In climate controlled shelter	Y	Y	N
Probe height from ground	5 m	5 m	5 m
Probe distance from structure	--	--	--
Distance from closest obstruction	8 m	8 m	8 m
Distance from trees	5 m	5 m	5 m
Unrestricted airflow degrees	210°	210°	210°
Dist. between collocated monitors	--	--	--
Last monitor audit	--	--	03/11/2009
Monitor audit frequency	Annual	Annual	Biannual
Flow rate verification frequency	--	--	--
One-point QC check frequency	Annual	Annual	--
PEP audit date	--	--	--
NPAP audit date	--	--	--
Changes in next 18 months	N	N	N

JLG Supersite continued

Site Information			
AQS ID	04-013-9997	ADEQ ID	16328
Address	4530 N. 17th Ave. Phoenix, AZ 85015		
County	Maricopa	Groundcover	Gravel
MSA	Phoenix	Latitude	33.5036
Surrounding Area	Residential	Longitude	-112.0950
Distance to road	8.5 m – E	Elevation	354 m
Traffic count	20,214 – Campbell Ave.	Site Established Date	07/01/1993

Monitoring Information			
Pollutant/Atmospheric parameter	SVOC	VOC	$PM_{10-2.5}$
Network or Program	NATTS	PAMS	NCore
Monitor location	Shelter	Shelter	Shelter
Monitoring objective	Population	Population	Population
Spatial scale	Urban	Urban	Neighborhood
Monitor type	PUF	Canister Sampler	#
Analysis method	Lab Analysis	Lab Analysis	Difference Method
Make of monitor	Tisch Environmental	Met One	#
Model of monitor	TE-1000BL	8001	#
Method code	118	--	#
Monitor start date	07/08/2007	06/01/2009	--
Operation schedule	1:6		1:6
Sampling season	All year	Jun - Aug	All year
In climate controlled shelter	N	Y	N
Probe height from ground	4.5 m	4.5 m	*
Probe distance from structure	--	--	*
Distance from closest obstruction	8 m	8 m	*
Distance from trees	5 m	5 m	*
Unrestricted airflow degrees	210°	210°	*
Dist. between collocated monitors	--	--	--
Last monitor audit	--	--	--
Monitor audit frequency	Biannual	--	--
Flow rate verification frequency	--	--	--
One-point QC check frequency	Monthly	Annual	--
PEP audit date	--	--	--
NPAP audit date	--	--	--
Changes in next 18 months	N	N	N

Information not available, as monitor to be installed in 2009.

* Measurements not taken, as monitors not yet installed due to no determination on which monitor/method to use.

JLG Supersite continued

Site Information			
AQS ID	04-013-9997	ADEQ ID	16328
Address	4530 N. 17th Ave. Phoenix, AZ 85015		
County	Maricopa	Groundcover	Gravel
MSA	Phoenix	Latitude	33.5036
Surrounding Area	Residential	Longitude	-112.0950
Distance to road	8.5 m – E	Elevation	354 m
Traffic count	20,214 – Campbell Ave.	Site Established Date	07/01/1993

Monitoring Information			
Pollutant/Atmospheric parameter	Speciated $PM_{10-2.5}$	PM_{10}	$PM_{2.5}$
Network or Program	NCore	SLAMS	NCore
Monitor location	Shelter	Shelter	Shelter
Monitoring objective	Population	Population	Population
Spatial scale	Neighborhood	Neighborhood	Neighborhood
Monitor type	#	TEOM	FDMS TEOM
Analysis method	#	Tapered Element Oscillating Microbalance Technology	Tapered Element Oscillating Microbalance Technology
Make of monitor	#	R & P	R & P
Model of monitor	#	1400 AB	1400 AB
Method code	#	079	761
Monitor start date	--	05/02/2005	03/17/2005
Operation schedule	#	Continuous	Continuous
Sampling season	All year	All year	All Year
In climate controlled shelter	#	Y	Y
Probe height from ground	*	5 m	5 m
Probe distance from structure	*	--	--
Distance from closest obstruction	*	8 m	8 m
Distance from trees	*	5 m	5 m
Unrestricted airflow degrees	*	210°	210°
Dist. between collocated monitors	--	--	--
Last monitor audit	--	05/25/2009	05/25/2009
Monitor audit frequency	--	Biannual	Biannual
Flow rate verification frequency	--	Monthly	Monthly
One-point QC check frequency	--	--	--
PEP audit date	--	--	--
NPAP audit date	--	--	--
Changes in next 18 months	This monitor has yet to be determined by EPA and is not currently installed.	N	N

Information not available, as monitor to be installed in 2009.

* Measurements not taken, as monitors not yet installed due to no determination on which monitor/method to use.

JLG Supersite continued

Site Information			
AQS ID	04-013-9997	ADEQ ID	16328
Address	4530 N. 17th Ave. Phoenix, AZ 85015		
County	Maricopa	Groundcover	Gravel
MSA	Phoenix	Latitude	33.5036
Surrounding Area	Residential	Longitude	-112.0950
Distance to road	8.5 m – E	Elevation	354 m
Traffic count	20,214 – Campbell Ave.	Site Established Date	07/01/1993

Monitoring Information			
Pollutant/Atmospheric parameter	PM_{10}/Metal Speciation	$PM_{2.5}$	$PM_{2.5}$
Network or Program	SLAMS/NATTS	SLAMS/NCore	SLAMS/NCore
Monitor location	Metal Roof	Metal Roof	Metal Roof
Monitoring objective	Population	Population	Population
Spatial scale	Neighborhood	Neighborhood	Neighborhood
Monitor type	Partisol 2000	Partisol 2025	Partisol 2025
Analysis method	Gravimetric	Gravimetric	Gravimetric
Make of monitor	R & P	R & P	R & P
Model of monitor	2000 F	2025	2025
Method code	126/202	145	145
Monitor start date	01/01/2005	11/21/2003	04/01/2009
Operation schedule	1:6	1:3	1:3
Sampling season	All year	All Year	All Year
In climate controlled shelter	N	N	N
Probe height from ground	5 m	5 m	5 m
Probe distance from structure	--	--	--
Distance from closest obstruction	8 m	8 m	8 m
Distance from trees	5 m	5 m	5 m
Unrestricted airflow degrees	210°	210°	210°
Dist. between collocated monitors	--	--	--
Last monitor audit	01/22/2009	05/25/2009	--
Monitor audit frequency	Biannual	Biannual	Biannual
Flow rate verification frequency	Monthly	Monthly	Monthly
One-point QC check frequency	--	--	--
PEP audit date	--	01/27/2008	--
NPAP audit date	--	--	--
Changes in next 18 months	N	N	N

JLG Supersite continued

Site Information			
AQS ID	04-013-9997	ADEQ ID	16328
Address	4530 N. 17th Ave. Phoenix, AZ 85015		
County	Maricopa	Groundcover	Gravel
MSA	Phoenix	Latitude	33.5036
Surrounding Area	Residential	Longitude	-112.0950
Distance to road	8.5 m – E	Elevation	354 m
Traffic count	20,214 – Campbell Ave.	Site Established Date	07/01/1993

Monitoring Information			
Pollutant/Atmospheric parameter	Speciated $PM_{2.5}$	Bscat / $PM_{2.5}$	Babs
Network or Program	SLAMS/CSN/ NCore	Urban Haze/ AIRNow	SLAMS/NATTS
Monitor location	Metal Roof	Tower	Shelter
Monitoring objective	Population	Population	Population
Spatial scale	Neighborhood	Neighborhood	Neighborhood
Monitor type	Speciation FRM/ SASS	Nephelometer	Aethalometer
Analysis method	Various	Light Scatter with correlation to $PM_{2.5}$	Light Absorption
Make of monitor	Met One	Optec	Magee Scientific
Model of monitor	Super SASS	NGN 2	AE21ER
Method code	811/812/813	--	866
Monitor start date	02/21/2000	02/12/2003	01/01/1993
Operation schedule	1:6	Continuous	Continuous
Sampling season	All year	All year	All year
In climate controlled shelter	N	N	Y
Probe height from ground	5 m	5 m	5 m
Probe distance from structure	--	--	--
Distance from closest obstruction	8 m	8 m	8 m
Distance from trees	5 m	5 m	5 m
Unrestricted airflow degrees	210°	210°	210°
Dist. between collocated monitors	--	--	--
Last monitor audit	05/25/2009	05/25/2009	03/11/2009
Monitor audit frequency	Biannual	Annual	Annual
Flow rate verification frequency	Every 2 weeks	--	--
One-point QC check frequency	--	--	Weekly
PEP audit date	--	--	--
NPAP audit date	--	--	--
Changes in next 18 months	N	N	Y

JLG Supersite continued

Site Information			
AQS ID	04-013-9997	ADEQ ID	16328
Address	4530 N. 17th Ave. Phoenix, AZ 85015		
County	Maricopa	Groundcover	Gravel
MSA	Phoenix	Latitude	33.5036
Surrounding Area	Residential	Longitude	-112.0950
Distance to road	8.5 m – E	Elevation	354 m
Traffic count	20,214 – Campbell Ave.	Site Established Date	07/01/1993

Monitoring Information			
Pollutant/Atmospheric parameter	Wind	Temp/RH	Temp/RH
Network or Program	SLAMS/NCore	NCore	Urban Haze
Monitor location	Tower		Tower
Monitoring objective	Population	Population	Population
Spatial scale	Neighborhood	Neighborhood	Neighborhood
Monitor type	Anemometer	Probe	Probe
Analysis method	None	None	None
Make of monitor	RM Young	#	Rotronics
Model of monitor	5103	#	MP101A
Method code	040	#	021
Monitor start date	02/12/2003	#	06/24/2003
Operation schedule	Continuous	Continuous	Continuous
Sampling season	All year	All year	All year
In climate controlled shelter	N	N	N
Probe height from ground	10 m	#	5.75 m
Probe distance from structure	--	#	--
Distance from closest obstruction	8 m	#	8 m
Distance from trees	5 m	#	5 m
Unrestricted airflow degrees	360°	#	210°
Dist. between collocated monitors	--	--	--
Last monitor audit	03/11/2009	#	02/18/2009
Monitor audit frequency	Biannual	#	Biannual
Flow rate verification frequency	--	--	--
One-point QC check frequency	--	--	--
PEP audit date	--	--	--
NPAP audit date	--	--	--
Changes in next 18 months	N	To be installed in 2009	N

Information not available, as monitor to be installed in 2009.

JLG Supersite continued

Site Information			
AQS ID	04-013-9997	ADEQ ID	16328
Address	4530 N. 17th Ave. Phoenix, AZ 85015		
County	Maricopa	Groundcover	Gravel
MSA	Phoenix	Latitude	33.5036
Surrounding Area	Residential	Longitude	-112.0950
Distance to road	8.5 m – E	Elevation	354 m
Traffic count	20,214 – Campbell Ave.	Site Established Date	07/01/1993

Monitoring Information			
Pollutant/Atmospheric parameter	Aerosol	Aerosol	
Network or Program	IMPROVE	IMPROVE	
Monitor location	Metal Roof	Metal Roof	
Monitoring objective	Population	Population	
Spatial scale	Neighborhood	Neighborhood	
Monitor type	IMPROVE	IMPROVE collocated	
Analysis method	Various	Various	
Make of monitor	Various	Various	
Model of monitor	Various	Various	
Method code	--	--	
Monitor start date	04/25/2001	04/25/2001	
Operation schedule	1:3	1:3	
Sampling season	All year	All year	
In climate controlled shelter	N	N	
Probe height from ground	5.5 m	5.5 m	
Probe distance from structure	--	--	
Distance from closest obstruction	8 m	8 m	
Distance from trees	5 m	5 m	
Unrestricted airflow degrees	210°	210°	
Dist. between collocated monitors	2 m	2 m	
Last monitor audit	10/07/2008	10/07/2008	
Monitor audit frequency	Every 3 Years	Every 3 Years	
Flow rate verification frequency	Annual	Annual	
One-point QC check frequency	--	--	
PEP audit date	--	--	
NPAP audit date	--	--	
Changes in next 18 months	N	N	

Meadview
Site Purpose: monitor regional haze and IMPROVE program. The site is located on the north end of Meadview, AZ, which is a small town near the Nevada/Arizona border, where the Grand Canyon meets Lake Mead. The surrounding area is primarily desert. To the southwest 64,400 meters is US 93, which is the closest highway to the site and about 96,560 meters to the southeast is downtown Kingman.

Site Information			
AQS ID	None	ADEQ ID	21298
Address	Pierce Ferry Rd. Meadview, AZ 86444		
County	Mohave	Groundcover	Gravel
MSA	Lake Havasu City	Latitude	36.0193
Surrounding Area	Desert/Residential	Longitude	-114.0684
Distance to road	100 m – E	Elevation	902 m
Traffic count	698 – Pierce Ferry Rd.	Site Established Date	09/04/1991

Monitoring Information			
Pollutant/Atmospheric parameter	Aerosol		
Network or Program	IMPROVE		
Monitor location	Shelter		
Monitoring objective	Background		
Spatial scale	Regional		
Monitor type	IMPROVE		
Analysis method	Various		
Make of monitor	Various		
Model of monitor	Various		
Method code	--		
Monitor start date	02/01/2003		
Operation schedule	1:3		
Sampling season	All year		
In climate controlled shelter	N		
Probe height from ground	n/a		
Probe distance from structure	n/a		
Distance from closest obstruction	n/a		
Distance from trees	n/a		
Unrestricted airflow degrees	n/a		
Dist. between collocated monitors	--		
Last monitor audit	--		
Monitor audit frequency	--		
Flow rate verification frequency	--		
One-point QC check frequency	--		
PEP audit date	--		
NPAP audit date	--		
Changes in next 18 months	N		

Mesa City Building
Site Purpose: monitor urban haze. The site is located on the rooftop of Mesa City Building and consists of the trasmissometer receiver. The transmissometer transmitter is located at the Banner Mesa Medical. The distance between the two sites is approximately 4,000 meters and consists of mostly residential areas with some commercial activity.

Site Information			
AQS ID	None	ADEQ ID	19686
Address	55 N. Center St. Mesa, AZ 85201		
County	Maricopa	Groundcover	Rooftop
MSA	Mesa	Latitude	33.4156
Surrounding Area	Residential/Commercial	Longitude	-111.8306
Distance to road	34 m – W	Elevation	400 m
Traffic count	11,100 – Center St.	Site Established Date	12/18/2002

Monitoring Information			
Pollutant/Atmospheric parameter	Bext	Temp/RH	
Network or Program	Urban Haze	SPM	
Monitor location	Rooftop	Rooftop	
Monitoring objective	Urban Haze	Urban Haze	
Spatial scale	Urban	Urban	
Monitor type	Transmissometer Receiver	Probe	
Analysis method	Light Attenuation	None	
Make of monitor	Optec	Rotronics	
Model of monitor	LVP-2	MP101A	
Method code	--	--	
Monitor start date	06/11/2003	05/30/2003	
Operation schedule	Continuous	Continuous	
Sampling season	All year	All year	
In climate controlled shelter	N	N	
Probe height from ground	--	30 m	
Probe distance from structure	--	1 m	
Distance from closest obstruction	--	1 m	
Distance from trees	--	--	
Unrestricted airflow degrees	--	90°	
Dist. between collocated monitors	--	--	
Last monitor audit	--	10/29/2008	
Monitor audit frequency	--	Annual	
Flow rate verification frequency	--	--	
One-point QC check frequency	--	--	
PEP audit date	--	--	
NPAP audit date	--	--	
Changes in next 18 months	N	N	

Miami Ridgeline
Site Purpose: NAAQS compliance network and a source permit requirement. The site is located inside the fence line 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 PM_{10} monitor at the site. The Freeport McMoRan smelter is 1,609 meters to the north of the site.

Site Information			
AQS ID	04-007-0009	ADEQ ID	16382
Address	4030 Linden St. Miami, AZ 85539		
County	Gila	Groundcover	Dirt
MSA	Payson	Latitude	33.3992
Surrounding Area	Residential	Longitude	-110.8589
Distance to road	40 m – N	Elevation	1,085 m
Traffic count	<20 – Linden St.	Site Established Date	0/01/1993

Monitoring Information			
Pollutant/Atmospheric parameter	SO_2		
Network or Program	SLAMS		
Monitor location	Shelter		
Monitoring objective	Source		
Spatial scale	Neighborhood		
Monitor type	SO_2 Analyzer		
Analysis method	Pulsed Fluorescence		
Make of monitor	Thermo		
Model of monitor	43C		
Method code	060		
Monitor start date	10/05/1995		
Operation schedule	Continuous		
Sampling season	All year		
In climate controlled shelter	Y		
Probe height from ground	4 m		
Probe distance from structure	2 m		
Distance from closest obstruction	5 m		
Distance from trees	5 m		
Unrestricted airflow degrees	180°		
Dist. between collocated monitors	--		
Last monitor audit	02/12/2009		
Monitor audit frequency	Annual		
Flow rate verification frequency	--		
One-point QC check frequency	Every 2 weeks		
PEP audit date	--		
NPAP audit date	05/07/2008		
Changes in next 18 months	N		

Nogales Post Office
Site Purpose: NAAQS compliance network. The site is located on the rooftop of the U.S. Post Office, which lies approximately 670 meters north from the Arizona/Mexico Border. The surrounding area is a mixture of commercial and residential land use.

Site Information			
AQS ID	04-023-0004	ADEQ ID	16511
Address	300 N. Morley Ave. Nogales, AZ 85621		
County	Santa Cruz	Groundcover	Rooftop
MSA	Nogales	Latitude	31.3372
Surrounding Area	Residential/Commercial	Longitude	-110.9367
Distance to road	14 m – NW	Elevation	1,176 m
Traffic count	7,128 – Morley Ave.	Site Established Date	01/01/1980

Monitoring Information			
Pollutant/Atmospheric parameter	PM_{10}	$PM_{2.5}$	$PM_{2.5}$ collocated
Network or Program	SLAMS	SLAMS	SLAMS
Monitor location	Rooftop	Rooftop	Rooftop
Monitoring objective	Population	Population	Population
Spatial scale	Neighborhood	Neighborhood	Neighborhood
Monitor type	Partisol 2000	Partisol 2000	Partisol 2000
Analysis method	Gravimetric	Gravimetric	Gravimetric
Make of monitor	R & P	R & P	R & P
Model of monitor	2000 F	2000 F	2000 F
Method code	126	143	143
Monitor start date	08/27/2003	09/26/2003	09/26/2003
Operation schedule	1:6	1:6	1:6
Sampling season	All year	All year	All year
In climate controlled shelter	N	N	N
Probe height from ground	7 m	7 m	7 m
Probe distance from structure	--	--	--
Distance from closest obstruction	8 m	8 m	8 m
Distance from trees	6 m	10 m	10 m
Unrestricted airflow degrees	300°	300°	300°
Dist. between collocated monitors	--	2 m	2 m
Last monitor audit	01/28/2009	01/28/2009	01/28/2009
Monitor audit frequency	Biannual	Biannual	Biannual
Flow rate verification frequency	Monthly	Monthly	Monthly
One-point QC check frequency	--	--	--
PEP audit date	--	11/14/2007	11/14/2007
NPAP audit date	--	--	--
Changes in next 18 months	N	N	N

Nogales Post Office continued

Site Information			
AQS ID	04-023-0004	ADEQ ID	16511
Address	300 N. Morley Ave. Nogales, AZ 85621		
County	Santa Cruz	Groundcover	Rooftop
MSA	Nogales	Latitude	31.3372
Surrounding Area	Residential/Commercial	Longitude	-110.9367
Distance to road	14 m – NW	Elevation	1,176 m
Traffic count	7,128 – Morley Ave.	Site Established Date	01/01/1980

Monitoring Information			
Pollutant/Atmospheric parameter	PM_{10}	$PM_{2.5}$	Wind
Network or Program	SPM	SPM	SPM
Monitor location	Rooftop	Rooftop	Pole
Monitoring objective	Population	Population	Population
Spatial scale	Neighborhood	Neighborhood	Neighborhood
Monitor type	BAM	BAM	Anemometer
Analysis method	Beta Ray Attenuation	Beta Ray Attenuation	None
Make of monitor	Met One	Met One	RM Young
Model of monitor	1020	1020	5103
Method code	122	731	--
Monitor start date	02/02/2004	02/02/2004	06/13/2003
Operation schedule	Continuous	Continuous	Continuous
Sampling season	All year	All year	All year
In climate controlled shelter	Y	Y	N
Probe height from ground	7 m	7 m	12 m
Probe distance from structure	--	--	--
Distance from closest obstruction	8 m	8 m	--
Distance from trees	12 m	12 m	20 m
Unrestricted airflow degrees	300°	300°	360°
Dist. between collocated monitors	--	--	--
Last monitor audit	01/28/2009	01/28/2009	01/28/2009
Monitor audit frequency	Biannual	Biannual	Annual
Flow rate verification frequency	Monthly	Monthly	--
One-point QC check frequency	--	--	--
PEP audit date	--	11/14/2007	--
NPAP audit date	--	--	--
Changes in next 18 months	N	N	N

North Mountain Summit
Site Purpose: monitor urban haze. The site is located on a mountain top in the North Mountain Recreation Area of Phoenix. The high-resolution digital camera points toward South Mountain, which lies 27,000 meters south. The pictures of the local views are updated every 15 minutes and can be viewed on the internet at http://www.phoenixvis.net/somt1/index.html. 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
Address	west side of 7th St in North Mountain Recreation Area Phoenix, AZ		
County	Maricopa	Groundcover	Dirt/Desert
MSA	Phoenix	Latitude	33.5855
Surrounding Area	Residential/Desert	Longitude	-112.0722
Distance to road	850 m – E	Elevation	625 m
Traffic count	35,900 – 7th St.	Site Established Date	01/01/1997

Monitoring Information			
Pollutant/Atmospheric parameter	None		
Network or Program	Urban Haze		
Monitor location	Tower		
Monitoring objective	Visibility		
Spatial scale	Urban		
Monitor type	High Res Digital Camera		
Analysis method	None		
Make of monitor	Olympus		
Model of monitor	SP500UZ		
Method code	--		
Monitor start date	07/01/2003		
Operation schedule	Every 15 min.		
Sampling season	All year		
In climate controlled shelter	N		
Probe height from ground	--		
Probe distance from structure	--		
Distance from closest obstruction	--		
Distance from trees	--		
Unrestricted airflow degrees	--		
Dist. between collocated monitors	--		
Last monitor audit	--		
Monitor audit frequency	--		
Flow rate verification frequency	--		
One-point QC check frequency	--		
PEP audit date	--		
NPAP audit date	--		
Changes in next 18 months	N		

Organ Pipe National Monument
Site Purpose: monitor regional haze and IMPROVE program. The site is owned by the NPS, who operates the ADEQ monitors at the site. The site is located 1,000 meters south/southwest of the national monument visitor center, which is about 35,400 meter south of Why, AZ. The site is about 7 meters from a water pump house and lies about 540 meters east of a small mountain range. The surrounding area is predominately desert.

Site Information			
AQS ID	04-019-0005	ADEQ ID	16681
Address	SR 85 & Puerto Blanco Rd. Ajo, AZ 85321		
County	Pima	Groundcover	Gravel
MSA	Tucson	Latitude	31.9499
Surrounding Area	Desert	Longitude	-112.8010
Distance to road	400 m – E	Elevation	505 m
Traffic count	1,465 – SR 85	Site Established Date	01/01/1971

Monitoring Information			
Pollutant/Atmospheric parameter	Bscat	Temp/RH	Aerosol
Network or Program	Class I	SPM	IMPROVE
Monitor location	Tower	Tower	Shelter
Monitoring objective	Background	Background	Background
Spatial scale	Regional	Regional	Regional
Monitor type	Nephelometer	Probe	IMPROVE
Analysis method	Light Scatter	None	Various
Make of monitor	Optec	Vaisala	Various
Model of monitor	NGN 2	HMP 45C	Various
Method code	--	--	--
Monitor start date	06/01/2003	06/18/2003	01/14/2003
Operation schedule	Continuous	Continuous	1:3
Sampling season	All year	All year	All year
In climate controlled shelter	N	N	N
Probe height from ground	5 m	5 m	5 m
Probe distance from structure	--	--	1.5 m
Distance from closest obstruction	8 m	8 m	7 m
Distance from trees	15 m	15 m	15 m
Unrestricted airflow degrees	360°	360°	360°
Dist. between collocated monitors	--	--	--
Last monitor audit	04/20/2008	04/20/2008	04/20/2009
Monitor audit frequency	Annual	Annual	Every 3 Years
Flow rate verification frequency	--	--	--
One-point QC check frequency	--	--	--
PEP audit date	--	--	--
NPAP audit date	--	--	--
Changes in next 18 months	N	N	N

Paul Spur Chemical Lime Plant
Site Purpose: NAAQS compliance network. The site is located about 3,500 meters north of the Arizona/Mexico boarder and is just south of SR 80 between Bisbee and Douglas. The surrounding area is predominately desert. The chemical lime plant is to the west/southwest.

Site Information			
AQS ID	04-003-0011	ADEQ ID	16391
Address	SR 80 & Paul Spur Rd. Paul Spur, AZ 85603		
County	Cochise	Groundcover	Dirt
MSA	Douglas	Latitude	31.3658
Surrounding Area	Desert	Longitude	-109.7309
Distance to road	50 m – S	Elevation	1,278 m
Traffic count	n/a	Site Established Date	01/01/1985

Monitoring Information			
Pollutant/Atmospheric parameter	PM_{10}	PM_{10}	
Network or Program	SLAMS	SLAMS	
Monitor location	Metal Platform	Metal Platform	
Monitoring objective	Source	Source	
Spatial scale	Middle	Middle	
Monitor type	Partisol 2000	Partisol 2000	
Analysis method	Gravimetric	Gravimetric	
Make of monitor	R & P	R & P	
Model of monitor	2000 F	2000 F	
Method code	126	126	
Monitor start date	07/20/2005	06/28/2005	
Operation schedule	1:6	1:6	
Sampling season	All year	All year	
In climate controlled shelter	N	N	
Probe height from ground	4 m	4 m	
Probe distance from structure	--	--	
Distance from closest obstruction	50 m	50 m	
Distance from trees	5 m	5 m	
Unrestricted airflow degrees	320°	320°	
Dist. between collocated monitors	1.5 m	1.5 m	
Last monitor audit	01/28/2009	01/28/2009	
Monitor audit frequency	Biannual	Biannual	
Flow rate verification frequency	Monthly	Monthly	
One-point QC check frequency	--	--	
PEP audit date	--	--	
NPAP audit date	--	--	
Changes in next 18 months	N	N	

Paul Spur Chemical Lime Plant South
Site Purpose: meteorological support. The site is located about 3,500 meters north of the Arizona/Mexico boarder and is just south of SR 80 between Bisbee and Douglas. The surrounding area is predominately desert. The chemical lime plant is to the north/northwest.

Site Information			
AQS ID	None	ADEQ ID	16392
Address	South of Stonridge Rd. Paul Spur, AZ 85603		
County	Cochise	Groundcover	Dirt/Grass
MSA	Douglas	Latitude	31.3543
Surrounding Area	Desert	Longitude	-109.7376
Distance to road	20 m – N	Elevation	1,287 m
Traffic count	n/a	Site Established Date	01/01/1985

Monitoring Information			
Pollutant/Atmospheric parameter	Wind		
Network or Program	SPM		
Monitor location	Tower		
Monitoring objective	Source		
Spatial scale	Middle		
Monitor type	Anemometer		
Analysis method	None		
Make of monitor	RM Young		
Model of monitor	5103		
Method code	--		
Monitor start date	12/16/1997		
Operation schedule	Continuous		
Sampling season	All year		
In climate controlled shelter	N		
Probe height from ground	10 m		
Probe distance from structure	--		
Distance from closest obstruction	--		
Distance from trees	--		
Unrestricted airflow degrees	360°		
Dist. between collocated monitors	--		
Last monitor audit	01/29/2009		
Monitor audit frequency	Annual		
Flow rate verification frequency	--		
One-point QC check frequency	--		
PEP audit date	--		
NPAP audit date	--		
Changes in next 18 months	N		

Payson Well Site
Site Purpose: NAAQS compliance network. The site is located in the southern area of Payson, at a water well site. To the southeast of the site are two tanks; the second taller tank lies beyond the first tank. In general, the surrounding area is commercial with some residential land use. Directly to the west, on the other side of a metal fence, is an auto repair shop and to the east, 290 meters, is SR 87.

Site Information			
AQS ID	04-007-0008	ADEQ ID	16317
Address	204 W. Aero Dr. Payson, AZ 85541		
County	Gila	Groundcover	Gravel
MSA	Payson	Latitude	34.2294
Surrounding Area	Residential/Commercial	Longitude	-111.3297
Distance to road	80 m – S	Elevation	1,501 m
Traffic count	1,724 – Aero Dr.	Site Established Date	01/01/1991

Monitoring Information			
Pollutant/Atmospheric parameter	PM_{10}	Wind	Temp/RH
Network or Program	SLAMS	SPM	SPM
Monitor location	Metal Platform	Tower	Tower
Monitoring objective	Population	Population	Population
Spatial scale	Neighborhood	Neighborhood	Neighborhood
Monitor type	Partisol 2000	Anemometer	Probe
Analysis method	Gravimetric	None	None
Make of monitor	R & P	RM Young	Vaisala
Model of monitor	2000 F	5103	HMP 45C
Method code	126	--	--
Monitor start date	01/16/2005	05/30/1991	06/19/2003
Operation schedule	1:6	Continuous	Continuous
Sampling season	All year	All year	All year
In climate controlled shelter	N	N	N
Probe height from ground	3 m	10 m	3 m
Probe distance from structure	--	--	1 m
Distance from closest obstruction	12 m	7 m	7 m
Distance from trees	5 m	5 m	5 m
Unrestricted airflow degrees	300°	360°	250°
Dist. between collocated monitors	--	--	--
Last monitor audit	05/18/2009	5/18/2009	5/18/2009
Monitor audit frequency	Biannual	Annual	Annual
Flow rate verification frequency	Monthly	--	--
One-point QC check frequency	--	--	--
PEP audit date	--	--	--
NPAP audit date	--	--	--
Changes in next 18 months	N	N	N

Petrified Forest National Park
Site Purpose: monitor regional haze and IMPROVE program. The site is operated by the NPS and is located 1,609 meters north of park headquarters. The park sits along I-40 and the surrounding area is desert.

Site Information			
AQS ID	None	ADEQ ID	16473
Address	I-40 & Petrified Forest Rd. Petrified Forest National Park, AZ		
County	Apache	Groundcover	Dirt
MSA	None	Latitude	35.0770
Surrounding Area	Desert	Longitude	-109.7690
Distance to road	n/a	Elevation	1,766 m
Traffic count	17,900 – I-40	Site Established Date	08/15/1986

Monitoring Information			
Pollutant/Atmospheric parameter	Aerosol		
Network or Program	IMPROVE		
Monitor location	Shelter		
Monitoring objective	Visibility		
Spatial scale	Regional		
Monitor type	IMPROVE		
Analysis method	Various		
Make of monitor	Various		
Model of monitor	Various		
Method code	--		
Monitor start date	04/03/2000		
Operation schedule	1:3		
Sampling season	All year		
In climate controlled shelter	N		
Probe height from ground	n/a		
Probe distance from structure	n/a		
Distance from closest obstruction	n/a		
Distance from trees	n/a		
Unrestricted airflow degrees	n/a		
Dist. between collocated monitors	--		
Last monitor audit	--		
Monitor audit frequency	--		
Flow rate verification frequency	--		
One-point QC check frequency	--		
PEP audit date	--		
NPAP audit date	--		
Changes in next 18 months	N		

Petrified Forest National Park South
Site Purpose: monitor regional haze and NAAQS compliance. The site is operated by the NPS and is located at the southwest entrance to the park. The surrounding area is desert.

Site Information			
AQS ID	04-017-0119	ADEQ ID	134093
Address	Near Old SW entrance on Old Route 180		
County	Navajo	Groundcover	Dirt
MSA	None	Latitude	34.8225
Surrounding Area	Desert	Longitude	-109.8919
Distance to road	n/a	Elevation	1,723 m
Traffic count	n/a	Site Established Date	01/01/1998

Monitoring Information			
Pollutant/Atmospheric parameter	Bscat	Temp/RH	
Network or Program	Class I	SPM	
Monitor location	Tower	Tower	
Monitoring objective	Visibility	Visibility	
Spatial scale	Regional	Regional	
Monitor type	Nephelometer	Probe	
Analysis method	Light Scatter	None	
Make of monitor	Optec	Vaisala	
Model of monitor	NGN 2	HMP 45C	
Method code	--	--	
Monitor start date	10/01/2003	10/1/2003	
Operation schedule	Continuous	Continuous	
Sampling season	All year	All year	
In climate controlled shelter	N	N	
Probe height from ground	5 m	5 m	
Probe distance from structure	0.5 m	0.5 m	
Distance from closest obstruction	--	--	
Distance from trees	--	--	
Unrestricted airflow degrees	360°	360°	
Dist. between collocated monitors	--	--	
Last monitor audit	12/04/2008	12/04/2008	
Monitor audit frequency	Annual	Annual	
Flow rate verification frequency	--	--	
One-point QC check frequency	--	--	
PEP audit date	--	--	
NPAP audit date	--	--	
Changes in next 18 months	N	N	

Phoenix Transmissometer Receiver
Site Purpose: monitor urban haze. 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 4,500 meters to the northwest. The area between the two sites is a mix of residential and commercial.

Site Information			
AQS ID	None	ADEQ ID	16829
Address	3600 N. 2nd Ave. Phoenix, AZ 85013		
County	Maricopa	Groundcover	Rooftop
MSA	Phoenix	Latitude	33.4901
Surrounding Area	Commercial/Residential	Longitude	-112.0767
Distance to road	25 m – E	Elevation	337 m
Traffic count	17,448 – 3rd Ave.	Site Established Date	12/01/1992

Monitoring Information			
Pollutant/Atmospheric parameter	Bext	Temp/RH	
Network or Program	Urban Haze	SPM	
Monitor location	Rooftop	Rooftop	
Monitoring objective	Urban Haze	Urban Haze	
Spatial scale	Urban	Urban	
Monitor type	Transmissometer Receiver	Probe	
Analysis method	Light Attenuation	None	
Make of monitor	Optec	Rotronics	
Model of monitor	LVP-2	MP101A	
Method code	--	--	
Monitor start date	06/09/2003	06/09/2003	
Operation schedule	Continuous	Continuous	
Sampling season	All year	All year	
In climate controlled shelter	N	N	
Probe height from ground	--	36 m	
Probe distance from structure	--	1 m	
Distance from closest obstruction	--	5 m	
Distance from trees	--	--	
Unrestricted airflow degrees	--	360°	
Dist. between collocated monitors	--	--	
Last monitor audit	--	10/08/2008	
Monitor audit frequency	--	Annual	
Flow rate verification frequency	--	--	
One-point QC check frequency	--	--	
PEP audit date	--	--	
NPAP audit date	--	--	
Changes in next 18 months	N	N	

Phoenix Transmissometer Transmitter
Site Purpose: monitor urban haze. The transmitter is located on the rooftop of Phoenix Baptist Hospital at 19th Avenue and Bethany Home Road. The receiver is located on Holiday Inn Hotel 4,500 meters to the southeast. The area between the two sites is a mix of residential and commercial.

Site Information			
AQS ID	None	ADEQ ID	16330
Address	2000 W. Bethany Home Rd. Phoenix, AZ 85015		
County	Maricopa	Groundcover	Rooftop
MSA	Phoenix	Latitude	33.5253
Surrounding Area	Commercial/Residential	Longitude	-112.1019
Distance to road	120 m – S	Elevation	340 m
Traffic count	38,597 – Bethany Home Rd.	Site Established Date	12/01/1992

Monitoring Information			
Pollutant/Atmospheric parameter	Bext		
Network or Program	Urban Haze		
Monitor location	Rooftop		
Monitoring objective	Urban Haze		
Spatial scale	Urban		
Monitor type	Transmissometer Transmitter		
Analysis method	Light Attenuation		
Make of monitor	Optec		
Model of monitor	LVP-2		
Method code	--		
Monitor start date	01/01/1994		
Operation schedule	Continuous		
Sampling season	All year		
In climate controlled shelter	N		
Probe height from ground	--		
Probe distance from structure	--		
Distance from closest obstruction	--		
Distance from trees	--		
Unrestricted airflow degrees	--		
Dist. between collocated monitors	--		
Last monitor audit	--		
Monitor audit frequency	--		
Flow rate verification frequency	--		
One-point QC check frequency	--		
PEP audit date	--		
NPAP audit date	--		
Changes in next 18 months	N		

Pleasant Valley Ranger Station
Site Purpose: monitor regional haze and IMPROVE program. The site is operated by ADEQ and the USFS. The location of the site is a hilltop, south of the town of Young, AZ. The surrounding area is wilderness and desert. The site lies 1,160 meters to the south of SR 288.

Site Information			
AQS ID	None	ADEQ ID	16446
Address	SR 288 & Old Cherry Rd. Young, AZ 85541		
County	Gila	Groundcover	Dirt
MSA	Payson	Latitude	34.0908
Surrounding Area	Desert/Forest	Longitude	-110.9419
Distance to road	250 m – N	Elevation	1,587 m
Traffic count	210 – SR 288	Site Established Date	01/01/2000

Monitoring Information			
Pollutant/Atmospheric parameter	Bscat	Wind	Temp/RH
Network or Program	Class I	SPM	SPM
Monitor location	Tower	Tower	Tower
Monitoring objective	Visibility	Visibility	Visibility
Spatial scale	Regional	Regional	Regional
Monitor type	Nephelometer	Anemometer	Probe
Analysis method	Light Scatter	None	None
Make of monitor	Optec	RM Young	Vaisala
Model of monitor	NGN 2	5103	HMP 45C
Method code	--	--	--
Monitor start date	01/10/2003	06/11/2003	02/06/2003
Operation schedule	Continuous	Continuous	Continuous
Sampling season	All year	All year	All year
In climate controlled shelter	N	N	N
Probe height from ground	5 m	9 m	5 m
Probe distance from structure	2 m	4 m	2 m
Distance from closest obstruction	--	--	--
Distance from trees	8 m	10 m	10 m
Unrestricted airflow degrees	360°	360°	360°
Dist. between collocated monitors	--	--	--
Last monitor audit	03/24/2009	03/24/2009	03/24/2009
Monitor audit frequency	Annual	Annual	Annual
Flow rate verification frequency	--	--	--
One-point QC check frequency	--	--	--
PEP audit date	--	--	--
NPAP audit date	--	--	--
Changes in next 18 months	N	N	N

Pleasant Valley Ranger Station continued

Site Information			
AQS ID	None	ADEQ ID	16446
Address	SR 288 & Old Cherry Rd. Young, AZ 85541		
County	Gila	Groundcover	Dirt
MSA	Payson	Latitude	34.0908
Surrounding Area	Desert/Forest	Longitude	-110.9419
Distance to road	250 m – N	Elevation	1,587 m
Traffic count	210 – SR 288	Site Established Date	01/01/2000

Monitoring Information			
Pollutant/Atmospheric parameter	Aerosol		
Network or Program	IMPROVE		
Monitor location	Shelter		
Monitoring objective	Visibility		
Spatial scale	Regional		
Monitor type	IMPROVE		
Analysis method	Various		
Make of monitor	Various		
Model of monitor	Various		
Method code	--		
Monitor start date	02/08/2000		
Operation schedule	1:3		
Sampling season	All year		
In climate controlled shelter	N		
Probe height from ground	4 m		
Probe distance from structure	1.5 m		
Distance from closest obstruction	--		
Distance from trees	10 m		
Unrestricted airflow degrees	360°		
Dist. between collocated monitors	--		
Last monitor audit	03/24/2008		
Monitor audit frequency	Annual		
Flow rate verification frequency	--		
One-point QC check frequency	--		
PEP audit date	--		
NPAP audit date	--		
Changes in next 18 months	N		

Prescott College AQD
Site Purpose: NAAQS compliance network, and monitor smoke/public information. The site is located at Prescott College on the rooftop of the Mogollon Building (#307). The surrounding area is residential and commercial, with a high traffic street approximately 20 meters to the east and large trees to the west.

Site Information			
AQS ID	04-025-8033	ADEQ ID	133011
Address	330 Grove Ave, Prescott, AZ 86301		
County	Yavapai	Groundcover	Rooftop
MSA	Prescott	Latitude	34.5467
Surrounding Area	Residential/Commercial	Longitude	-112.4761
Distance to road	8 m – E	Elevation	1,591 m
Traffic count	21,989 – Miller Valley/Grove	Site Established Date	12/05/2006

Monitoring Information			
Pollutant/Atmospheric parameter	O_3	PM_{10}	
Network or Program	SPM	SPM	
Monitor location	Rooftop	Rooftop	
Monitoring objective	Population	Population	
Spatial scale	Neighborhood	Neighborhood	
Monitor type	O_3 Analyzer	EBAM	
Analysis method	UV Photometric	Beta Ray Attenuation	
Make of monitor	Thermo	Met One	
Model of monitor	49C	E-BAM	
Method code	047	--	
Monitor start date	04/01/2008	12/05/2006	
Operation schedule	Continuous	Continuous	
Sampling season	April – Oct	All year	
In climate controlled shelter	Y	N	
Probe height from ground	6 m	6 m	
Probe distance from structure	--	--	
Distance from closest obstruction	--	--	
Distance from trees	12 m	7 m	
Unrestricted airflow degrees	250°	250°	
Dist. between collocated monitors	--	--	
Last monitor audit	05/18/2009	--	
Monitor audit frequency	Biannual	--	
Flow rate verification frequency	Monthly	--	
One-point QC check frequency	--	--	
PEP audit date	--	--	
NPAP audit date	--	--	
Changes in next 18 months	N	N	

Prescott Valley
Site Purpose: NAAQS compliance network. The site is located on the Prescott Police Department building about 1,100 meters to the north of SR 69. The surrounding area is mostly residential with some area of open desert. The population of Prescott Valley is approximately 33,068 people.

Site Information			
AQS ID	04-025-2002	ADEQ ID	18392
Address	7601 E. Civic Cir. Prescott Valley, AZ 86314		
County	Yavapai	Groundcover	Rooftop
MSA	Prescott	Latitude	34.5950
Surrounding Area	Residential	Longitude	-112.3310
Distance to road	25 m – S	Elevation	1,556 m
Traffic count	7,361 – Lakeshore Dr.	Site Established Date	03/12/2003

Monitoring Information			
Pollutant/Atmospheric parameter	PM_{10}	$PM_{2.5}$	
Network or Program	SLAMS	SLAMS	
Monitor location	Rooftop	Rooftop	
Monitoring objective	Population	Population	
Spatial scale	Neighborhood	Neighborhood	
Monitor type	Partisol 2000	Partisol 2000	
Analysis method	Gravimetric	Gravimetric	
Make of monitor	R & P	R & P	
Model of monitor	2000 F	2000 F	
Method code	126	143	
Monitor start date	12/28/2007	01/01/2008	
Operation schedule	1:6	1:6	
Sampling season	All year	All Year	
In climate controlled shelter	N	N	
Probe height from ground	7 m	7 m	
Probe distance from structure	--	--	
Distance from closest obstruction	20 m	20 m	
Distance from trees	--	--	
Unrestricted airflow degrees	360°	360°	
Dist. between collocated monitors	--	--	
Last monitor audit	05/18/2009	05/18/2009	
Monitor audit frequency	Biannual	Biannual	
Flow rate verification frequency	Monthly	Monthly	
One-point QC check frequency	--	--	
PEP audit date	--	--	
NPAP audit date	--	--	
Changes in next 18 months	N	N	

Queen Valley
Site Purpose: NAAQS compliance network, PAMS network, monitor regional haze, AQI forecasting, and IMPROVE program. The site is operated by ADEQ and PCAQCD. The site is located 635 meters southeast of Queen Valley, AZ and the surrounding area is primarily desert on the far eastern outskirts of the Phoenix metropolitan area. This is a downwind PAMS type 3 site.

Site Information			
AQS ID	04-021-8001	ADEQ ID	16394
Address	10 S. Queen Anne Dr. Queen Valley, AZ 85219		
County	Pinal	Groundcover	Gravel
MSA	Mesa	Latitude	33.2938
Surrounding Area	Desert	Longitude	-111.2857
Distance to road	87 m – W	Elevation	668 m
Traffic count	1,416 – Queen Anne Dr.	Site Established Date	01/01/1998

Monitoring Information			
Pollutant/Atmospheric parameter	O_3	NOy	VOC
Network or Program	SLAMS/PAMS	SLAMS/PAMS	SLAMS/PAMS
Monitor location	Shelter	Shelter	Shelter
Monitoring objective	Transport	Transport	Transport
Spatial scale	Urban	Urban	Urban
Monitor type	O_3 Analyzer	Trace Reactive NOx - Seasonal	VOC Canister Sampler
Analysis method	UV Photometric	Chemilumin-escence	TO14
Make of monitor	Thermo	Thermo	Tisch Environmental
Model of monitor	49C	42C TL	3 canister
Method code	047	574	101/126
Monitor start date	01/01/1998	01/01/1998	05/20/2001
Operation schedule	Continuous	Continuous	1:6
Sampling season	April – Oct.	April – Oct.	June – Aug.
In climate controlled shelter	Y	Y	Y
Probe height from ground	5 m	5 m	5 m
Probe distance from structure	--	--	--
Distance from closest obstruction	30 m	30 m	30 m
Distance from trees	3 m	3 m	3 m
Unrestricted airflow degrees	360°	360°	360°
Dist. between collocated monitors	--	--	--
Last monitor audit	08/07/2008	5/11/2009	03/04/2009
Monitor audit frequency	Annual	Annual	Every 3 Years
Flow rate verification frequency	--	--	--
One-point QC check frequency	Every 2 weeks	Every 2 weeks	--
PEP audit date	--	--	--
NPAP audit date	10/05/2006	--	--
Changes in next 18 months	N	N	N

Queen Valley continued

Site Information			
AQS ID	04-021-8001	ADEQ ID	16394
Address	10 S. Queen Anne Dr. Queen Valley, AZ 85219		
County	Pinal	Groundcover	Gravel
MSA	Mesa	Latitude	33.2936
Surrounding Area	Desert	Longitude	-111.2856
Distance to road	87 m – W	Elevation	661 m
Traffic count	1,416 – Queen Anne Dr.	Site Established Date	01/01/1998

Monitoring Information			
Pollutant/Atmospheric parameter	Bscat	Temp/RH	Aerosol
Network or Program	Class I	SPM	IMPROVE
Monitor location	Tower	Tower	Rooftop
Monitoring objective	Visibility	Visibility	Visibility
Spatial scale	Urban	Urban	Urban
Monitor type	Nephelometer	Probe	IMPROVE
Analysis method	Light Scatter	None	Various
Make of monitor	Optec	Vaisala	Various
Model of monitor	NGN 2	HMP 45C	Various
Method code	--	--	--
Monitor start date	06/24/2003	01/01/2006	04/19/2001
Operation schedule	Continuous	Continuous	1:3
Sampling season	All year	All year	All year
In climate controlled shelter	N	N	N
Probe height from ground	6 m	6 m	6 m
Probe distance from structure	--	1 m	--
Distance from closest obstruction	30 m	30 m	30 m
Distance from trees	3 m	3 m	4 m
Unrestricted airflow degrees	360°	360°	360°
Dist. between collocated monitors	--	--	--
Last monitor audit	01/21/2009	01/21/2009	03/04/2009
Monitor audit frequency	Annual	Annual	Annual
Flow rate verification frequency	--	--	--
One-point QC check frequency	--	--	--
PEP audit date	--	--	--
NPAP audit date	--	--	--
Changes in next 18 months	N	N	N

Rillito
Site Purpose: NAAQS compliance network and a source permit requirement. 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 east approximately 250 meters. Arizona Portland Cement Company also maintains PM_{10} monitors at the site.

Site Information			
AQS ID	04-019-0020	ADEQ ID	16499
Address	8840 W. Robinson St. Rillito, AZ 85653		
County	Pima	Groundcover	Dirt
MSA	Tucson	Latitude	32.4143
Surrounding Area	Residential	Longitude	-111.1545
Distance to road	7 m – S	Elevation	626 m
Traffic count	2,634 – I-10 Frontage Rd.	Site Established Date	01/01/1985

Monitoring Information			
Pollutant/Atmospheric parameter	PM_{10}	Wind	
Network or Program	SLAMS	SPM	
Monitor location	Metal Platform	Tower	
Monitoring objective	Source	Source	
Spatial scale	Neighborhood	Neighborhood	
Monitor type	Partisol 2000	Anemometer	
Analysis method	Gravimetric	None	
Make of monitor	R & P	RM Young	
Model of monitor	2000 F	5103	
Method code	126	--	
Monitor start date	07/03/2005	01/08/2004	
Operation schedule	1:6	Continuous	
Sampling season	All year	All year	
In climate controlled shelter	N	N	
Probe height from ground	5 m	8 m	
Probe distance from structure	--	--	
Distance from closest obstruction	4 m	20 m	
Distance from trees	20 m	20 m	
Unrestricted airflow degrees	360°	360°	
Dist. between collocated monitors	--	--	
Last monitor audit	05/11/2009	11/3/2008	
Monitor audit frequency	Biannual	Annual	
Flow rate verification frequency	Monthly	--	
One-point QC check frequency	--	--	
PEP audit date	--	--	
NPAP audit date	--	--	
Changes in next 18 months	N	N	

Saguaro National Park East
Site Purpose: monitor regional haze and IMPROVE program. 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
Address	3905 S. Old Spanish Trail Tucson, AZ 85730		
County	Pima	Groundcover	Dirt
MSA	Tucson	Latitude	32.1740
Surrounding Area	Residential/Desert	Longitude	-110.7360
Distance to road	82 m – W	Elevation	938 m
Traffic count	6,198 – Old Spanish Tail	Site Established Date	06/04/1988

Monitoring Information			
Pollutant/Atmospheric parameter	Aerosol		
Network or Program	IMPROVE		
Monitor location	Shelter		
Monitoring objective	Visibility		
Spatial scale	Regional		
Monitor type	IMPROVE		
Analysis method	Various		
Make of monitor	Various		
Model of monitor	Various		
Method code	--		
Monitor start date	04/19/2001		
Operation schedule	1:3		
Sampling season	All year		
In climate controlled shelter	N		
Probe height from ground	n/a		
Probe distance from structure	n/a		
Distance from closest obstruction	n/a		
Distance from trees	n/a		
Unrestricted airflow degrees	n/a		
Dist. between collocated monitors	--		
Last monitor audit	--		
Monitor audit frequency	--		
Flow rate verification frequency	--		
One-point QC check frequency	--		
PEP audit date	--		
NPAP audit date	--		
Changes in next 18 months	N		

Saguaro National Park West
Site Purpose: monitor regional haze and IMPROVE program. The site is located within the Saguaro National Park-West. The site is operated by PDEQ and NPS and PDEQ takes care of the ADEQ monitors. The area surrounding the site is residential to the northwest and south/southeast and desert to the northeast. The site lies approximately 17,000 meters southwest of I-10.

Site Information			
AQS ID	None	ADEQ ID	16475
Address	N. Sandario Rd. and W. Mile Wide Rd. Tucson, AZ		
County	Pima	Groundcover	Gravel
MSA	Tucson	Latitude	32.2485
Surrounding Area	Desert	Longitude	-111.2175
Distance to road	27 m – W	Elevation	718 m
Traffic count	3,755 – Sandario Rd.	Site Established Date	12/29/1996

Monitoring Information			
Pollutant/Atmospheric parameter	Bscat	Wind	Temp/RH
Network or Program	Class I	SPM	SPM
Monitor location	Tower	Tower	Tower
Monitoring objective	Visibility	Visibility	Visibility
Spatial scale	Regional	Regional	Regional
Monitor type	Nephelometer	Anemometer	Probe
Analysis method	Light Scatter	None	None
Make of monitor	Optec	RM Young	Vaisala
Model of monitor	NGN 2	5103	HMP 45C
Method code	--	--	--
Monitor start date	12/29/1996	12/29/1996	06/23/2003
Operation schedule	Continuous	Continuous	Continuous
Sampling season	All year	All year	All year
In climate controlled shelter	N	N	N
Probe height from ground	4 m	8 m	4 m
Probe distance from structure	--	--	1 m
Distance from closest obstruction	--	--	--
Distance from trees	15 m	15 m	15 m
Unrestricted airflow degrees	360°	360°	360°
Dist. between collocated monitors	--	--	--
Last monitor audit	09/11/2008	09/11/2008	09/11/2008
Monitor audit frequency	Annual	Annual	Annual
Flow rate verification frequency	--	--	--
One-point QC check frequency	--	--	--
PEP audit date	--	--	--
NPAP audit date	--	--	--
Changes in next 18 months	N	N	N

Saguaro National Park West continued

Site Information			
AQS ID	None	ADEQ ID	16475
Address	N. Sandario Rd. and W. Mile Wide Rd. Tucson, AZ		
County	Pima	Groundcover	Gravel
MSA	Tucson	Latitude	32.2486
Surrounding Area	Desert	Longitude	-111.2178
Distance to road	27 m – W	Elevation	718 m
Traffic count	3,755 – Sandario Rd.	Site Established Date	12/29/1996

Monitoring Information			
Pollutant/Atmospheric parameter	Aerosol		
Network or Program	IMPROVE		
Monitor location	Shelter		
Monitoring objective	Visibility		
Spatial scale	Regional		
Monitor type	IMPROVE		
Analysis method	Various		
Make of monitor	Various		
Model of monitor	Various		
Method code	--		
Monitor start date	04/18/2001		
Operation schedule	1:3		
Sampling season	All year		
In climate controlled shelter	N		
Probe height from ground	4 m		
Probe distance from structure	--		
Distance from closest obstruction	--		
Distance from trees	15 m		
Unrestricted airflow degrees	360°		
Dist. between collocated monitors	--		
Last monitor audit	07/31/2007		
Monitor audit frequency	Every 3 Years		
Flow rate verification frequency	--		
One-point QC check frequency	--		
PEP audit date	--		
NPAP audit date	--		
Changes in next 18 months	N		

Salt River Pima DOAS
Site Purpose: special purpose monitoring. The site is located at the Salt River Pima Maricopa Indian Community's Northwest Water Reclamation Plant Lift Station. The site is about 40,234 meters south of the intersection of McKellips Road and Highway 101, on the west side of the freeway. The monitor measures emissions in the area of a busy highway for comparison with PAMS and toxics data collected in the metropolitan Phoenix area.

Site Information			
AQS ID	None	ADEQ ID	128640
Address	8805 E. McKellips Rd. Scottsdale, AZ 85256		
County	Maricopa	Groundcover	Rooftop
MSA	Phoenix	Latitude	33.4440
Surrounding Area	Agriculture	Longitude	-111.8918
Distance to road	25 m – W	Elevation	365 m
Traffic count	175,835 – SR 101	Site Established Date	12/01/2006

Monitoring Information			
Pollutant/Atmospheric parameter	Toxics		
Network or Program	SPM		
Monitor location	Rooftop		
Monitoring objective	Transport		
Spatial scale	Middle		
Monitor type	DOAS		
Analysis method	None		
Make of monitor	Opsis		
Model of monitor	ER 150		
Method code	--		
Monitor start date	12/01/2006		
Operation schedule	Continuous		
Sampling season	All year		
In climate controlled shelter	n/a		
Probe height from ground	n/a		
Probe distance from structure	n/a		
Distance from closest obstruction	n/a		
Distance from trees	n/a		
Unrestricted airflow degrees	n/a		
Dist. between collocated monitors	--		
Last monitor audit	--		
Monitor audit frequency	--		
Flow rate verification frequency	--		
One-point QC check frequency	--		
PEP audit date	--		
NPAP audit date	--		
Changes in next 18 months			

Sedona Post Office
Site Purpose: monitor smoke/public information. The site is located on the U.S. Post Office and was established to assess particulate concentrations in the Sedona area. Currently the site is used for neighborhood monitoring of smoke. The surrounding area is commercial and residential to the south and mainly hills to the north, east, and west. The site is located northeast of the intersection of SR 179 and SR 89A.

Site Information			
AQS ID	04-005-1010	ADEQ ID	16512
Address	190 W. Highway 89A Sedona, AZ 86336		
County	Coconino	Groundcover	Rooftop
MSA	Flagstaff	Latitude	34.8667
Surrounding Area	Commercial/Residential	Longitude	-111.765
Distance to road	45 m – S	Elevation	1,279 m
Traffic count	25,754 – SR 89A	Site Established Date	01/01/1990

Monitoring Information			
Pollutant/Atmospheric parameter	PM_{10}		
Network or Program	SPM		
Monitor location	Rooftop		
Monitoring objective	Population		
Spatial scale	Neighborhood		
Monitor type	EBAM		
Analysis method	Beta Ray Attenuation		
Make of monitor	Met One		
Model of monitor	E-BAM		
Method code	--		
Monitor start date	12/05/2006		
Operation schedule	Continuous		
Sampling season	All year		
In climate controlled shelter	N		
Probe height from ground	2 m		
Probe distance from structure	--		
Distance from closest obstruction	13 m		
Distance from trees	15 m		
Unrestricted airflow degrees	360°		
Dist. between collocated monitors	--		
Last monitor audit	--		
Monitor audit frequency	--		
Flow rate verification frequency	--		
One-point QC check frequency	--		
PEP audit date	--		
NPAP audit date	--		
Changes in next 18 months	N		

Show Low
Site Purpose: monitor smoke/public information. The site located on the Historical Museum building and was established to demonstrate NAAQS compliance. Currently the site is used for neighborhood monitoring of smoke. The surrounding area is residential and commercial. Show Low is the commercial and tourism hub of the western White Mountains and sees a seasonally increase in population by 5,000 people.

Site Information			
AQS ID	04-017-0007	ADEQ ID	16603
Address	561 E. Deuce of Clubs Show Low, AZ 85901		
County	Navajo	Groundcover	Rooftop
MSA	None	Latitude	34.2525
Surrounding Area	Commercial/Residential	Longitude	-110.0364
Distance to road	36 m – NW	Elevation	1,924 m
Traffic count	9,500 – Deuce of Clubs	Site Established Date	01/01/1974

Monitoring Information			
Pollutant/Atmospheric parameter	PM_{10}		
Network or Program	SPM		
Monitor location	Rooftop		
Monitoring objective	Population		
Spatial scale	Neighborhood		
Monitor type	EBAM		
Analysis method	Beta Ray Attenuation		
Make of monitor	Met One		
Model of monitor	E-BAM		
Method code	--		
Monitor start date	07/06/2007		
Operation schedule	Continuous		
Sampling season	All year		
In climate controlled shelter	N		
Probe height from ground	2 m		
Probe distance from structure	--		
Distance from closest obstruction	--		
Distance from trees	--		
Unrestricted airflow degrees	360°		
Dist. between collocated monitors	--		
Last monitor audit	--		
Monitor audit frequency	--		
Flow rate verification frequency	--		
One-point QC check frequency	--		
PEP audit date	--		
NPAP audit date	--		
Changes in next 18 months	N		

Sonora Nogales Fire Station
Site Purpose: special purpose monitoring. The site is located on the rooftop of the Fire Station. Nogales, Sonora, Mexico is located just south, approximately 600 meters of the Arizona/Mexico border. The surrounding area is dense urban commercial and residential use.

Site Information			
AQS ID	80-026-0005	ADEQ ID	16399
Address	Diaz and Avenue Adolfo Lopez Mateos Nogales, Sonora, Mexico		
County	Sonora	Groundcover	Rooftop
MSA	None	Latitude	31.3258
Surrounding Area	Commercial/Residential	Longitude	-110.9447
Distance to road	3 m – NE	Elevation	1,202 m
Traffic count	n/a	Site Established Date	11/01/1993

Monitoring Information			
Pollutant/Atmospheric parameter	PM_{10}/fine		
Network or Program	SPM		
Monitor location	Metal Platform		
Monitoring objective	Population		
Spatial scale	Neighborhood		
Monitor type	Dichot		
Analysis method	Gravimetric		
Make of monitor	Anderson		
Model of monitor	SA-241		
Method code	073		
Monitor start date	02/10/2003		
Operation schedule	1:6		
Sampling season	All year		
In climate controlled shelter	N		
Probe height from ground	30 m		
Probe distance from structure	3 m		
Distance from closest obstruction	3 m		
Distance from trees	--		
Unrestricted airflow degrees	250°		
Dist. between collocated monitors	--		
Last monitor audit	05/10/2007		
Monitor audit frequency	--		
Flow rate verification frequency	Every 6 weeks		
One-point QC check frequency	--		
PEP audit date	--		
NPAP audit date	--		
Changes in next 18 months	Will be replaced with partisol 2000D, maintained & audited by a contractor.		

South Phoenix
Site Purpose: toxics network. 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
Address	33 W. Tamarisk St. Phoenix, AZ 85041		
County	Maricopa	Groundcover	Asphalt
MSA	Phoenix	Latitude	33.4030
Surrounding Area	Residential/Commercial	Longitude	-112.0750
Distance to road	83 m – W	Elevation	330 m
Traffic count	24,900 – Central Ave.	Site Established Date	01/01/1997

Monitoring Information			
Pollutant/Atmospheric parameter	Toxics		
Network or Program	SLAMS		
Monitor location	Shelter		
Monitoring objective	Population		
Spatial scale	Neighborhood		
Monitor type	Multiport Canister Sampler		
Analysis method	TO15		
Make of monitor	ATEC		
Model of monitor	2200		
Method code	--		
Monitor start date	08/05/2001		
Operation schedule	1:12		
Sampling season	May-Aug.		
In climate controlled shelter	Y		
Probe height from ground	6 m		
Probe distance from structure	2 m		
Distance from closest obstruction	12 m		
Distance from trees	10 m		
Unrestricted airflow degrees	250°		
Dist. between collocated monitors	--		
Last monitor audit	--		
Monitor audit frequency	Annual		
Flow rate verification frequency	--		
One-point QC check frequency	--		
PEP audit date	--		
NPAP audit date	--		
Changes in next 18 months	N		

Springerville
Site Purpose: monitor smoke/public information. The site is located on the roof of the Apache County Public Health Services District building. There is an open field to the south and west of the site, with SR 180/SR 260 to the east, and buildings to the north.

Site Information			
AQS ID	None	ADEQ ID	135133
Address	323 S Mountain Ave Springerville, AZ 85936		
County	Apache	Groundcover	Rooftop
MSA		Latitude	34.1284
Surrounding Area	Residential/Commercial	Longitude	-109.2891
Distance to road	8 m – SW	Elevation	2,125 m
Traffic count		Site Established Date	09/24/2008

Monitoring Information			
Pollutant/Atmospheric parameter	PM_{10}		
Network or Program	SPM		
Monitor location	Rooftop		
Monitoring objective	Population		
Spatial scale	Neighborhood		
Monitor type	EBAM		
Analysis method	Beta Ray Attenuation		
Make of monitor	Met One		
Model of monitor	E-BAM		
Method code	--		
Monitor start date	09/24/2008		
Operation schedule	Continuous		
Sampling season	All year		
In climate controlled shelter	N		
Probe height from ground	8 m		
Probe distance from structure	--		
Distance from closest obstruction	--		
Distance from trees	30 m		
Unrestricted airflow degrees	250°		
Dist. between collocated monitors	--		
Last monitor audit	--		
Monitor audit frequency	--		
Flow rate verification frequency	Monthly		
One-point QC check frequency	--		
PEP audit date	--		
NPAP audit date	--		
Changes in next 18 months	N		

Sycamore Canyon
Site Purpose: monitor regional haze and IMPROVE program. The site is located near the entrance to Camp Raymond Boy Scout Camp. Minimal obstructions exist in the area surrounding the site and no routine human activity occurs in the area surrounding the site. Sycamore Canyon Wilderness Area is 800 meters south of the site.

Site Information			
AQS ID	None	ADEQ ID	16476
Address	Camp Kimball Rd. Flagstaff, AZ (Camp Raymond)		
County	Coconino	Groundcover	Dirt/Grass
MSA	Flagstaff	Latitude	35.1406
Surrounding Area	Forest	Longitude	-111.9692
Distance to road	33 m – NW	Elevation	2,046 m
Traffic count	n/a	Site Established Date	09/11/1991

Monitoring Information			
Pollutant/Atmospheric parameter	Bscat	Wind	Temp/RH
Network or Program	Class I	SPM	SPM
Monitor location	Tower	Tower	Tower
Monitoring objective	Visibility	Visibility	Visibility
Spatial scale	Regional	Regional	Regional
Monitor type	Nephelometer	Anemometer	Probe
Analysis method	Light Scatter	None	None
Make of monitor	Optec	RM Young	Vaisala
Model of monitor	NGN 2	5103	HMP 45C
Method code	--	--	--
Monitor start date	07/22/1998	06/13/2003	06/13/2003
Operation schedule	Continuous	Continuous	Continuous
Sampling season	All year	All year	All year
In climate controlled shelter	N	N	N
Probe height from ground	4 m	9.5 m	4 m
Probe distance from structure	--	--	1 m
Distance from closest obstruction	25 m	25 m	25 m
Distance from trees	15 m	15 m	15 m
Unrestricted airflow degrees	360°	360°	360°
Dist. between collocated monitors	--	--	--
Last monitor audit	09/24/2008	09/24/2008	09/24/2008
Monitor audit frequency	Annual	Annual	Annual
Flow rate verification frequency	--	--	--
One-point QC check frequency	--	--	--
PEP audit date	--	--	--
NPAP audit date	--	--	--
Changes in next 18 months	N	N	N

Sycamore Canyon continued

Site Information			
AQS ID	None	ADEQ ID	16476
Address	Camp Kimball Rd. Flagstaff, AZ (Camp Raymond)		
County	Coconino	Groundcover	Dirt/Grass
MSA	Flagstaff	Latitude	35.1406
Surrounding Area	Forest	Longitude	-111.9696
Distance to road	33 m – NW	Elevation	2,040 m
Traffic count	n/a	Site Established Date	09/11/1991

Monitoring Information			
Pollutant/Atmospheric parameter	Aerosol		
Network or Program	IMPROVE		
Monitor location	Shelter		
Monitoring objective	Visibility		
Spatial scale	Regional		
Monitor type	IMPROVE		
Analysis method	Various		
Make of monitor	Various		
Model of monitor	Various		
Method code	--		
Monitor start date	04/13/2000		
Operation schedule	1:3		
Sampling season	All year		
In climate controlled shelter	N		
Probe height from ground	4 m		
Probe distance from structure	--		
Distance from closest obstruction	25 m		
Distance from trees	15 m		
Unrestricted airflow degrees	360°		
Dist. between collocated monitors	--		
Last monitor audit	09/25/2008		
Monitor audit frequency	Annual		
Flow rate verification frequency	--		
One-point QC check frequency	--		
PEP audit date	--		
NPAP audit date	--		
Changes in next 18 months	N		

Tonto National Monument
Site Purpose: NAAQS compliance network, monitor regional haze, AQI forecasting, downwind transport from Phoenix area, and IMPROVE program. The site is jointly operated by USFS and ADEQ and is located 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 1,000 meters to the north.

Site Information			
AQS ID	04-007-0010	ADEQ ID	16447
Address	South of SR 188 Roosevelt, AZ 85545		
County	Gila	Groundcover	Dirt/Rock
MSA	Payson	Latitude	33.6350
Surrounding Area	Desert	Longitude	-111.1090
Distance to road	17 m – NE	Elevation	786 m
Traffic count	1,000 – SR 188	Site Established Date	04/23/1988

Monitoring Information			
Pollutant/Atmospheric parameter	O_3	Aerosol	
Network or Program	SLAMS	IMPROVE	
Monitor location	Shelter	Shelter	
Monitoring objective	Transport	Visibility	
Spatial scale	Regional	Regional	
Monitor type	O_3 Analyzer	IMPROVE	
Analysis method	UV Photometric	Various	
Make of monitor	Thermo	Various	
Model of monitor	49C	Various	
Method code	047	--	
Monitor start date	05/22/2002	04/03/2000	
Operation schedule	Continuous	1:3	
Sampling season	April – Oct.	All year	
In climate controlled shelter	Y	Y	
Probe height from ground	6 m	5 m	
Probe distance from structure	2 m	1.5 m	
Distance from closest obstruction	--	--	
Distance from trees	4 m	6 m	
Unrestricted airflow degrees	360°	360°	
Dist. between collocated monitors	--	--	
Last monitor audit	04/07/2009	05/04/2009	
Monitor audit frequency	Annual	Annual	
Flow rate verification frequency	--	--	
One-point QC check frequency	Every 2 weeks	--	
PEP audit date	--	--	
NPAP audit date	05/07/2008	--	
Changes in next 18 months	N	N	

Tucson Transmissometer Receiver
Site Purpose: monitor urban haze. The site is operated by ADEQ and PCDEQ. The receiver is on the rooftop of the Pima County Health and Welfare building, while the transmitter is located on the Clinical Science Building at University of Arizona's Health Sciences Center. The two locations are approximately 1,100 meters apart, with residential, and commercial buildings in between.

Site Information			
AQS ID	None	ADEQ ID	16826
Address	150 W. Congress St. Tucson, AZ 85701		
County	Pima	Groundcover	Rooftop
MSA	Tucson	Latitude	32.2217
Surrounding Area	Residential	Longitude	-110.9735
Distance to road	23 m – SE	Elevation	722 m
Traffic count	36,600 – Congress St.	Site Established Date	01/01/1990

Monitoring Information			
Pollutant/Atmospheric parameter	Bext	Temp/RH	
Network or Program	Urban Haze	SPM	
Monitor location	Rooftop	Rooftop	
Monitoring objective	Urban Haze	Urban Haze	
Spatial scale	Urban	Urban	
Monitor type	Transmissometer receiver	Probe	
Analysis method	Light Attenuation	None	
Make of monitor	Optec	Vaisala	
Model of monitor	LVP-2	HMP 45C	
Method code	--	--	
Monitor start date	01/01/1992	01/01/1994	
Operation schedule	Continuous	Continuous	
Sampling season	All year	All year	
In climate controlled shelter	N	N	
Probe height from ground	--	n/a	
Probe distance from structure	--	n/a	
Distance from closest obstruction	--	n/a	
Distance from trees	--	n/a	
Unrestricted airflow degrees	--	n/a	
Dist. between collocated monitors	--	--	
Last monitor audit	--	--	
Monitor audit frequency	--	--	
Flow rate verification frequency	--	--	
One-point QC check frequency	--	--	
PEP audit date	--	--	
NPAP audit date	--	--	
Changes in next 18 months	N	N	

Tucson Transmissometer Transmitter
Site Purpose: monitor urban haze. The site is operated by ADEQ and PCDEQ. The transmitter is located on the rooftop of the Clinical Science Building at University of Arizona's Health Sciences Center, which is about 483 meters east of I-19. The receiver is on the rooftop of Pima County Health and Welfare building. The two locations are approximately 1,100 meters apart, with residential, and commercial between.

Site Information			
AQS ID	None	ADEQ ID	16655
Address	1501 N. Campbell Ave. Tucson, AZ 85719		
County	Pima	Groundcover	Rooftop
MSA	Tucson	Latitude	32.2403
Surrounding Area	Residential/Commercial	Longitude	-110.9456
Distance to road	183 m – E	Elevation	786 m
Traffic count	40,300 – Campbell Ave.	Site Established Date	01/01/1990

Monitoring Information			
Pollutant/Atmospheric parameter	Bext		
Network or Program	Urban Haze		
Monitor location	Rooftop		
Monitoring objective	Urban Haze		
Spatial scale	Urban		
Monitor type	Transmissometer		
Analysis method	Light Attenuation		
Make of monitor	Optec		
Model of monitor	LVP-2		
Method code	--		
Monitor start date	01/01/1994		
Operation schedule	Continuous		
Sampling season	All year		
In climate controlled shelter	N		
Probe height from ground	--		
Probe distance from structure	--		
Distance from closest obstruction	--		
Distance from trees	--		
Unrestricted airflow degrees	--		
Dist. between collocated monitors	--		
Last monitor audit	--		
Monitor audit frequency	--		
Flow rate verification frequency	--		
One-point QC check frequency	--		
PEP audit date	--		
NPAP audit date	--		
Changes in next 18 months	N		

U of A Central
Site Purpose: monitor urban haze. The site is operated by ADEQ and PCDEQ. The site lies 509 meters northwest of the middle of the University of Arizona Campus. The surrounding area is mostly residential and commercial.

Site Information			
AQS ID	04-019-1027	ADEQ ID	16662
Address	1100 N. Fremont Ave. Tucson, AZ 85719		
County	Pima	Groundcover	Gravel
MSA	Tucson	Latitude	32.2400
Surrounding Area	Residential/Commercial	Longitude	-110.9556
Distance to road	50 m – S	Elevation	745 m
Traffic count	52,100 – Fremont Ave.	Site Established Date	01/01/1995

Monitoring Information			
Pollutant/Atmospheric parameter	Bscat	Wind	Temp/RH
Network or Program	Urban Haze	SPM	SPM
Monitor location	Tower	Tower	Tower
Monitoring objective	Visibility	Visibility	Visibility
Spatial scale	Urban	Urban	Urban
Monitor type	Nephelometer	Anemometer	Probe
Analysis method	Light Scatter	None	None
Make of monitor	Optec	RM Young	Vaisala
Model of monitor	NGN 2	5103	HMP 45C
Method code	--	--	--
Monitor start date	01/01/1997	01/01/1997	01/01/1997
Operation schedule	Continuous	Continuous	Continuous
Sampling season	All year	All year	All year
In climate controlled shelter	N	N	N
Probe height from ground	5 m	10 m	5 m
Probe distance from structure	--	--	1 m
Distance from closest obstruction	8 m	8 m	8 m
Distance from trees	--	--	--
Unrestricted airflow degrees	320°	360°	360°
Dist. between collocated monitors	--	--	--
Last monitor audit	11/13/2008	11/13/2008	11/13/2008
Monitor audit frequency	Annual	Annual	Annual
Flow rate verification frequency	--	--	--
One-point QC check frequency	--	--	--
PEP audit date	--	--	--
NPAP audit date	--	--	--
Changes in next 18 months	Site Closed 04/08/2009	Site Closed 04/08/2009	Site Closed 04/08/2009

U of A Central continued

Site Information			
AQS ID	04-019-1027	ADEQ ID	16662
Address	1100 N. Fremont Ave. Tucson, AZ 85719		
County	Pima	Groundcover	Gravel
MSA	Tucson	Latitude	32.2400
Surrounding Area	Residential/Commercial	Longitude	-110.9556
Distance to road	50 m – S	Elevation	745 m
Traffic count	52,100 – Fremont Ave.	Site Established Date	01/01/1995

Monitoring Information			
Pollutant/Atmospheric parameter	Babs		
Network or Program	Urban Haze		
Monitor location	Room		
Monitoring objective	Population		
Spatial scale	Urban		
Monitor type	Aethalometer		
Analysis method	Light Absorption		
Make of monitor	Magee Scientific		
Model of monitor	AE14ER		
Method code	--		
Monitor start date	05/11/2002		
Operation schedule	Continuous		
Sampling season	All year		
In climate controlled shelter	Y		
Probe height from ground	5 m		
Probe distance from structure	0.5 m		
Distance from closest obstruction	8 m		
Distance from trees	--		
Unrestricted airflow degrees	320°		
Dist. between collocated monitors	--		
Last monitor audit	--		
Monitor audit frequency	Annual		
Flow rate verification frequency	--		
One-point QC check frequency	--		
PEP audit date	--		
NPAP audit date	--		
Changes in next 18 months	Site Closed 04/08/2009		

Vehicle Emissions Laboratory
Site Purpose: NAAQS compliance network, AIR Now, AQI forecasting, PAMS, special study, monitor urban haze, and meteorological support. 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 north/northwest. The site is about 415 meters south of Red Mountain Freeway (Loop 202).

Site Information			
AQS ID	04-013-9998	ADEQ ID	16363
Address	600 N. 40th St. Phoenix, AZ 85008		
County	Maricopa	Groundcover	Gravel
MSA	Phoenix	Latitude	33.4553
Surrounding Area	Residential/Commercial	Longitude	-111.9961
Distance to road	66 m – E	Elevation	356 m
Traffic count	9,200 – 40th St.	Site Established Date	04/01/1987

Monitoring Information			
Pollutant/Atmospheric parameter	Bscat/$PM_{2.5}$	Wind	Temp/RH
Network or Program	SPM/AIRNow	SPM	SPM
Monitor location	Tower	Tower	Tower
Monitoring objective	Visibility	Population	Population
Spatial scale	Neighborhood	Neighborhood	Neighborhood
Monitor type	Nephelometer	Anemometer	Probe
Analysis method	Light Scatter with correlation to $PM_{2.5}$	None	None
Make of monitor	Optec	RM Young	Rotronics
Model of monitor	NGN 2	5103	MP101A
Method code	--	--	--
Monitor start date	06/30/2003	05/11/1999	06/30/2003
Operation schedule	Continuous	Continuous	Continuous
Sampling season	All year	All year	All year
In climate controlled shelter	N	N	N
Probe height from ground	5 m	10 m	5 m
Probe distance from structure	--	--	1 m
Distance from closest obstruction	30 m	30 m	30 m
Distance from trees	50 m	50 m	50 m
Unrestricted airflow degrees	360°	360°	360°
Dist. between collocated monitors	--	--	--
Last monitor audit	10/29/2008	10/29/2008	12/22/2008
Monitor audit frequency	Annual	Annual	Annual
Flow rate verification frequency	--	--	--
One-point QC check frequency	--	--	--
PEP audit date	--	--	--
NPAP audit date	--	--	--
Changes in next 18 months	N	N	N

Vehicle Emissions Laboratory continued

Site Information			
AQS ID	04-013-9998	ADEQ ID	16363
Address	600 N. 40th St. Phoenix, AZ 85008		
County	Maricopa	Groundcover	Gravel
MSA	Phoenix	Latitude	33.4553
Surrounding Area	Residential/Commercial	Longitude	-111.9961
Distance to road	66 m – E	Elevation	350 m
Traffic count	9,200 – 40th St.	Site Established Date	04/01/1987

Monitoring Information			
Pollutant/Atmospheric parameter	Delta Temp	Ultraviolet Solar Radiation	Total Horizontal Solar Radiation
Network or Program	PAMS	PAMS	PAMS
Monitor location	Tower	Tower	Tower
Monitoring objective	Population	Population	Population
Spatial scale	Neighborhood	Neighborhood	Neighborhood
Monitor type	Delta Temp System	Ultraviolet Sensor	Pyranometer
Analysis method	None	None	None
Make of monitor	RM Young	Epply	Li-Cor
Model of monitor	RTD 7627	TUVR	LI - 200S2
Method code	810	011	011
Monitor start date	08/20/2004	08/20/2004	06/18/1999
Operation schedule	Continuous	Continuous	Continuous
Sampling season	All year	All year	All year
In climate controlled shelter	N	N	N
Probe height from ground	2 m & 9 m	5 m	5 m
Probe distance from structure	1 m	0.5 m	0.5 m
Distance from closest obstruction	30 m	35 m	30 m
Distance from trees	50 m	50 m	50 m
Unrestricted airflow degrees	360°	360°	360°
Dist. between collocated monitors	--	--	--
Last monitor audit	04/08/2009	--	--
Monitor audit frequency	Annual	--	--
Flow rate verification frequency	--	--	--
One-point QC check frequency	--	--	--
PEP audit date	--	--	--
NPAP audit date	--	--	--
Changes in next 18 months	N	N	N

Vehicle Emissions Laboratory continued

Site Information			
AQS ID	04-013-9998	ADEQ ID	16363
Address	600 N. 40th St. Phoenix, AZ 85008		
County	Maricopa	Groundcover	Gravel
MSA	Phoenix	Latitude	33.4553
Surrounding Area	Residential/Commercial	Longitude	-111.9961
Distance to road	66 m – E	Elevation	350 m
Traffic count	9,200 – 40th St.	Site Established Date	04/01/1987

Monitoring Information			
Pollutant/Atmospheric parameter	Wind Profiler		
Network or Program	PAMS		
Monitor location	Ground		
Monitoring objective	Population		
Spatial scale	Neighborhood		
Monitor type	Wind Profiler		
Analysis method	None		
Make of monitor	Vaisala		
Model of monitor	LAP-3000		
Method code	--		
Monitor start date	01/01/1998		
Operation schedule	Continuous		
Sampling season	All year		
In climate controlled shelter	N		
Probe height from ground	--		
Probe distance from structure	--		
Distance from closest obstruction	5 m		
Distance from trees	50 m		
Unrestricted airflow degrees	360°		
Dist. between collocated monitors	--		
Last monitor audit	--		
Monitor audit frequency	--		
Flow rate verification frequency	--		
One-point QC check frequency	--		
PEP audit date	--		
NPAP audit date	--		
Changes in next 18 months	N		

Yuma Agriculture Center Farm
Site Purpose: meteorological support. The site is located on the property of the Yuma Agriculture Center Farm The surrounding area is mainly agricultural fields and a water retention pond. The closest building is a water well pump house 50 meters east.

Site Information			
AQS ID	None	ADEQ ID	128530
Address	6425 W. 8 St. Yuma, AZ 85364		
County	Yuma	Groundcover	Dirt
MSA	Yuma	Latitude	32.7130
Surrounding Area	Agricultural	Longitude	-114.7080
Distance to road	40 m – N	Elevation	28 m
Traffic count	2,484 – County 8th St.	Site Established Date	01/01/2006

Monitoring Information			
Pollutant/Atmospheric parameter	Wind	Temp/RH	
Network or Program	SPM	SPM	
Monitor location	Tower	Tower	
Monitoring objective	Population	Population	
Spatial scale	Neighborhood	Neighborhood	
Monitor type	Anemometer	Probe	
Analysis method	None	None	
Make of monitor	RM Young	Vaisala	
Model of monitor	5103	HMP 45C	
Method code	--	--	
Monitor start date	06/01/2007	06/01/2007	
Operation schedule	Continuous	Continuous	
Sampling season	All year	All year	
In climate controlled shelter	N	N	
Probe height from ground	10 m	4 m	
Probe distance from structure	--	1 m	
Distance from closest obstruction	50 m	50 m	
Distance from trees	--	--	
Unrestricted airflow degrees	360°	360°	
Dist. between collocated monitors	--	--	
Last monitor audit	04/13/2009	04/13/2009	
Monitor audit frequency	Annual	Annual	
Flow rate verification frequency	--	--	
One-point QC check frequency	--	--	
PEP audit date	--	--	
NPAP audit date	--	--	
Changes in next 18 months	N	N	

Yuma Courthouse
Site Purpose: NAAQS compliance network. The site is located on the rooftop of the Courthouse. The surrounding area is a mixture of Government and private offices, residential areas, and agricultural fields.

Site Information			
AQS ID	04-027-0004	ADEQ ID	17027
Address	2440 W. 28th St. Yuma, AZ 85364		
County	Yuma	Groundcover	Rooftop
MSA	Yuma	Latitude	32.6772
Surrounding Area	Residential	Longitude	-114.6489
Distance to road	28 m – S	Elevation	40 m
Traffic count	26,573 – S. Ave. B (US 95)	Site Established Date	07/30/2002

Monitoring Information			
Pollutant/Atmospheric parameter	PM_{10}	PM_{10} collocated	PM_{10}
Network or Program	SLAMS	SLAMS	SLAMS
Monitor location	Rooftop	Rooftop	Shelter
Monitoring objective	Population	Population	Population
Spatial scale	Neighborhood	Neighborhood	Neighborhood
Monitor type	Partisol 2000	Partisol 2000	TEOM
Analysis method	Gravimetric	Gravimetric	Tapered Element Oscillating Microbalance Technology
Make of monitor	R & P	R & P	R & P
Model of monitor	2000 F	2000 F	1400 AB
Method code	126	126	079
Monitor start date	01/18/2005	1/28/2005	11/06/2007
Operation schedule	1:6	1:6	Continuous
Sampling season	All year	All year	All year
In climate controlled shelter	N	N	Y
Probe height from ground	8 m	8 m	8 m
Probe distance from structure	6 m	6 m	6 m
Distance from closest obstruction	6 m	6 m	6 m
Distance from trees	10 m	10 m	10 m
Unrestricted airflow degrees	320°	320°	320°
Dist. between collocated monitors	2 m	2 m	--
Last monitor audit	04/13/2009	04/13/2009	04/13/2009
Monitor audit frequency	Biannual	Biannual	Biannual
Flow rate verification frequency	Monthly	Monthly	Monthly
One-point QC check frequency	--	--	--
PEP audit date	--	--	--
NPAP audit date	--	--	--
Changes in next 18 months	N	N	N

Yuma Courthouse continued

Site Information			
AQS ID	04-027-0004	ADEQ ID	17027
Address	2440 W. 28th St. Yuma, AZ 85364		
County	Yuma	Groundcover	Rooftop
MSA	Yuma	Latitude	32.6772
Surrounding Area	Residential	Longitude	-114.6489
Distance to road	28 m – S	Elevation	40 m
Traffic count	26,573 – S. Ave. B (US 95)	Site Established Date	07/30/2002

Monitoring Information			
Pollutant/Atmospheric parameter	$PM_{2.5}$		
Network or Program	SLAMS		
Monitor location	Rooftop		
Monitoring objective	Population		
Spatial scale	Neighborhood		
Monitor type	Partisol 2000		
Analysis method	Gravimetric		
Make of monitor	R & P		
Model of monitor	2000 F		
Method code	143		
Monitor start date	01/01/2008		
Operation schedule	1:6		
Sampling season	All year		
In climate controlled shelter	N		
Probe height from ground	8 m		
Probe distance from structure	6 m		
Distance from closest obstruction	6 m		
Distance from trees	10 m		
Unrestricted airflow degrees	320°		
Dist. between collocated monitors	--		
Last monitor audit	04/13/2009		
Monitor audit frequency	Biannual		
Flow rate verification frequency	Monthly		
One-point QC check frequency	--		
PEP audit date	--		
NPAP audit date	--		
Changes in next 18 months	N		

Yuma Mesa
Site Purpose: metrological support. The site is located at U of A Agriculture Center. The surrounding area is citrus groves and open, grassy fields. Due to the adjacent area the Temp/RH monitor does not meet the EPA Meteorological guidance (EPA-454/R-99-005, EPA, 2000) since the monitors would need to be 100 meters from the trees and sitting to these specifications is impossible. Recommendation is to operate the site and consider potential effects of trees when analyzing data.

Site Information			
AQS ID	None	ADEQ ID	19040
Address	2186 W. County 15th St. S. Yuma, AZ 85365		
County	Yuma	Groundcover	Grass
MSA	Yuma	Latitude	32.6119
Surrounding Area	Agricultural	Longitude	-114.6339
Distance to road	32 m – S	Elevation	62 m
Traffic count	6,818 – E. County 15th St. S.	Site Established Date	05/01/2003

Monitoring Information			
Pollutant/Atmospheric parameter	Wind	Temp/RH	
Network or Program	SPM	SPM	
Monitor location	Tower	Tower	
Monitoring objective	Population	Population	
Spatial scale	Neighborhood	Neighborhood	
Monitor type	Anemometer	Probe	
Analysis method	None	None	
Make of monitor	RM Young	Vaisala	
Model of monitor	5103	HMP 45C	
Method code	--	--	
Monitor start date	05/13/2003	05/13/2003	
Operation schedule	Continuous	Continuous	
Sampling season	All year	All year	
In climate controlled shelter	N	N	
Probe height from ground	10 m	2 m	
Probe distance from structure	--	1 m	
Distance from closest obstruction	10 m	10 m	
Distance from trees	25 m	25 m	
Unrestricted airflow degrees	360°	360°	
Dist. between collocated monitors	--	--	
Last monitor audit	04/13/2009	04/13/2009	
Monitor audit frequency	Annual	Annual	
Flow rate verification frequency	--	--	
One-point QC check frequency	--	--	
PEP audit date	--	--	
NPAP audit date	--	--	
Changes in next 18 months	N	N	

Yuma Supersite
Site Purpose: NAAQS compliance network and AQI forecasting. The site has been reopened to do a comparison of ozone with the Yuma Game & Fish site and is used to indicate ozone transport into the Phoenix metropolitan area from the Arizona/Mexico boarder. 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 1,000 meters to the northeast is I-8.

Site Information			
AQS ID	None	ADEQ ID	113219
Address	2323 S. Arizona Ave. Yuma, AZ 85364		
County	Yuma	Groundcover	Rooftop
MSA	Yuma	Latitude	32.6903
Surrounding Area	Commercial/Industrial	Longitude	-114.6144
Distance to road	91 m – W	Elevation	60 m
Traffic count	19,473 – Arizona Ave.	Site Established Date	02/01/2006

Monitoring Information			
Pollutant/Atmospheric parameter	O_3		
Network or Program	SLAMS		
Monitor location	Shelter		
Monitoring objective	Population		
Spatial scale	Neighborhood		
Monitor type	O_3 Analyzer		
Analysis method	UV Photometric		
Make of monitor	Thermo		
Model of monitor	49C		
Method code	047		
Monitor start date	05/06/2008		
Operation schedule	Continuous		
Sampling season	April – Oct.		
In climate controlled shelter	Y		
Probe height from ground	5 m		
Probe distance from structure	2 m		
Distance from closest obstruction	35 m		
Distance from trees	--		
Unrestricted airflow degrees	360°		
Dist. between collocated monitors	--		
Last monitor audit	04/13/2009		
Monitor audit frequency	Annual		
Flow rate verification frequency	--		
One-point QC check frequency	Every 2 weeks		
PEP audit date	--		
NPAP audit date	--		
Changes in next 18 months	N		

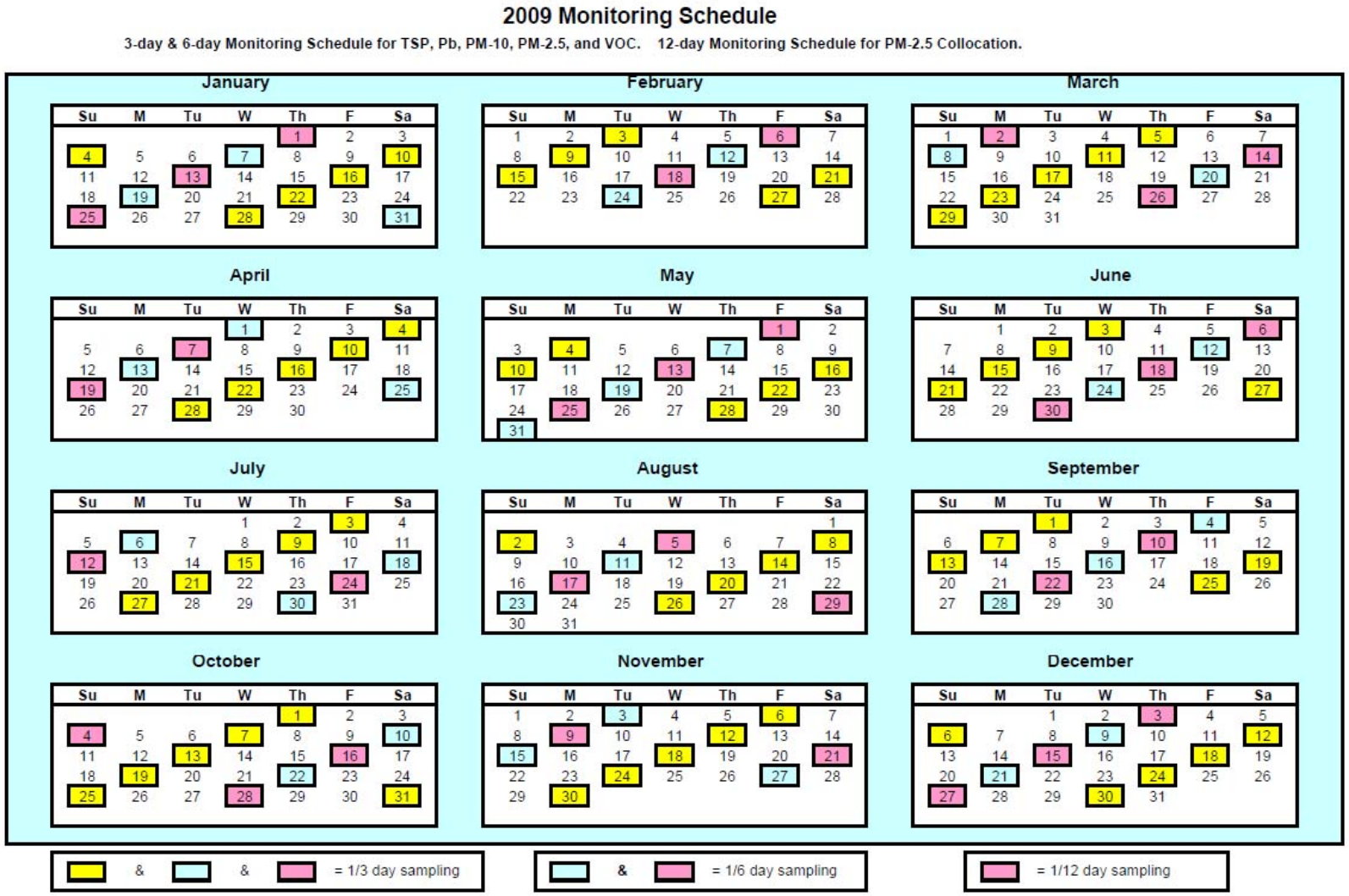
Appendix D – Site Cross Reference in Name Order

AQS ID	ADEQ ID	SITE NAME	PAGE
04-019-1011	16410	22nd St./Craycroft	47
	21737	ADEQ Building	48
80-026-1000	16361	Agua Prieta Fire Station	49
04-019-0001	16316	Ajo	50
04-012-8000	34961	Alamo Lake	51
	19489	Banner Mesa Medical Center	52
04-013-8006	17786	Bethune Elementary School	53
04-015-1003	16365	Bullhead City	54
04-019-1028	16551	Children's Park	55
04-003-8001	16679	Chiricahua Entrance Station	56
	134096	Cottonwood	57
04-003-1005	16503	Douglas Red Cross	58
04-013-4010	19550	Dysart	59
04-013-8005	16506	Estrella	60
	21736	Estrella Mountain Community College	61
04-005-1008	16707	Flagstaff Middle School	62
	16682	Grand Canyon National Park – Hance Camp	64
	16683	Grand Canyon National Park - Indian Garden	65
	128562	Green Valley Fire Administration	66
	16323	Greer Water Treatment Plant	67
04-007-1001	16326	Hayden Old Jail	69
	16421	Ike's Backbone	70
04-013-9997	16328	JLG Supersite	72
	21298	Meadview	81
	19686	Mesa City Building	82
04-007-0009	16382	Miami Ridgeline	83
04-023-0004	16511	Nogales Post Office	84
	16480	North Mountain Summit	86
04-019-0005	16681	Organ Pipe National Monument	87
04-003-0011	16391	Paul Spur Chemical Lime Plant	88
	16392	Paul Spur Chemical Lime Plant South	89
04-007-0008	16317	Payson Well Site	90
	16473	Petrified Forest National Park	91
04-017-0119	134093	Petrified Forest National Park South	92
	16829	Phoenix Transmissometer Receiver	93
	16330	Phoenix Transmissometer Transmitter	94
	16446	Pleasant Valley Ranger Station	95
	133011	Prescott College AQD	97
04-025-2002	18392	Prescott Valley	98
04-021-8001	16394	Queen Valley	99
04-019-0020	16499	Rillito	101
04-019-0021	16474	Saguaro National Park East	102

Appendix D continued

AQS ID	ADEQ ID	SITE NAME	PAGE
	16475	Saguaro National Park West	103
04-013-9994	128640	Salt River Pima DOAS	105
04-005-1010	16512	Sedona Post Office	106
04-017-0007	16603	Show Low	107
80-026-0005	16399	Sonora Nogales Fire Station	108
04-013-4003	16377	South Phoenix	109
	135133	Springerville	110
	16476	Sycamore Canyon	111
04-007-0010	16447	Tonto National Monument	113
	16826	Tucson Transmissometer Receiver	114
	16655	Tucson Transmissometer Transmitter	115
04-019-1027	16662	U of A Central	116
04-013-9998	16363	Vehicle Emissions Laboratory	118
	128530	Yuma Agriculture Center Farm	121
04-027-0004	17027	Yuma Courthouse	122
	19040	Yuma Mesa	124
	11319	Yuma Supersite	125

Appendix E – 2009 EPA Monitoring Schedule



2009 NCore Monitoring Plan

State of Arizona Air Monitoring Network Plan for the Year 2009

Appendix F – 2009 ADEQ NCore Monitoring Plan

JLG Supersite (04-013-9997) – ADEQ's NCore Site

JLG Supersite has a long history of multi-pollutant monitoring beginning in 1993 with the National Ambient Air Quality Standards (**NAAQS)**. Photochemical Assessment Monitoring Stations (**PAMS**) and Chemical Speciation Network (**CSN**) were added in 1999 and National Air Toxics Trends Sites (**NATTS)** in 2001. JLG Supersite also hosts collocated **IMPROVE** monitors and other instruments including Hexavalent Chromium, Speciated VOC (PAH), and meteorology. Trace-level carbon monoxide and sulfur dioxide instruments are being tested and readied for installation. All required monitoring (with the exception of PM10-2.5 speciation) will be operational on or before January 1, 2011. A NOy waiver request and justification are included in this appendix.

JLG Supersite is housed in two climate-controlled shelters in an urban neighborhood not overly influenced by local or topographical conditions. Ample exterior space is provided by the platform covering the two shelters and the space between them. A ten-meter tower is anchored to the platform. Multiplexed digital communications between this site and ADEQ's Phoenix office are being implemented as part of NCore modifications.

The required site and instrument information is contained in the following pages.

JLG Supersite
Site Purpose: NAAQS compliance network, PAMS, NATTS, CSN, NCORE, AIRNow, AQI forecasting, monitor urban haze, and meteorological support. 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 roughly 1,609 meters west.

Site Information			
AQS ID	04-013-9997	ADEQ ID	16328
Address	4530 N. 17th Ave. Phoenix, AZ 85015		
County	Maricopa	Groundcover	Gravel
MSA	Phoenix	Latitude	33.5038
Surrounding Area	Residential	Longitude	-112.0957
Distance to road	8.5 m – E	Elevation	354 m
Traffic count	20,214 – Campbell Ave.	Site Established Date	07/01/1993

Monitoring Information			
Pollutant/Atmospheric parameter	O_3	NOx	Trace CO
Network or Program	NCore/SLAMS/ PAMS	NCore/SLAMS/ PAMS	NCore
Monitor location	Shelter	Shelter	Shelter
Monitoring objective	Population	Population	Population
Spatial scale	Urban	Neighborhood	Neighborhood
Monitor type	O_3 Analyzer	NOx Analyzer	CO Analyzer
Analysis method	UV Photometric	Chemiluminescence	Gas Filter Correlation
Make of monitor	Thermo	Thermo	Thermo
Model of monitor	49C	42C	48C
Method code	047	074	054
Monitor start date	07/01/1993	07/01/1993	12/11/2002
Operation schedule	Continuous	Continuous	Continuous
Sampling season	All Year	Apr – Oct.	All Year
In climate controlled shelter	Y	Y	Y
Probe height from ground	5 m	5 m	5 m
Probe distance from structure	--	--	--
Distance from closest obstruction	8 m	8 m	8 m
Distance from trees	5 m	5 m	5 m
Unrestricted airflow degrees	210°	210°	210°
Dist. between collocated monitors	--	--	--
Last monitor audit	07/22/2008	07/23/2008	02/18/2009
Monitor audit frequency	Annual	Annual	Annual
Flow rate verification frequency	--	--	--
One-point QC check frequency	Every 2 weeks	Every 2 weeks	Every 2 weeks
PEP audit date	--	--	--
NPAP audit date	05/06/2008	05/06/2008	05/06/2008
Changes in next 18 months	N	N	N

JLG Supersite continued

Site Information			
AQS ID	04-013-9997	ADEQ ID	16328
Address	4530 N. 17th Ave. Phoenix, AZ 85015		
County	Maricopa	Groundcover	Gravel
MSA	Phoenix	Latitude	33.5036
Surrounding Area	Residential	Longitude	-112.0950
Distance to road	8.5 m – E	Elevation	354 m
Traffic count	20,214 – Campbell Ave.	Site Established Date	07/01/1993

Monitoring Information			
Pollutant/Atmospheric parameter	Trace SO_2	$PM_{10-2.5}$	Speciated $PM_{10-2.5}$
Network or Program	NCore	NCore	NCore
Monitor location	Shelter	Shelter	Shelter
Monitoring objective	Population	Population	Population
Spatial scale	Neighborhood	Neighborhood	Neighborhood
Monitor type	SO_2 Analyzer	#	#
Analysis method	Pulsed Fluorescence	Difference Method	#
Make of monitor	Ecotech	#	#
Model of monitor	43C	#	#
Method code	060	#	#
Monitor start date	03/03/2005	--	--
Operation schedule	Continuous	1:6	#
Sampling season	All year	All year	All year
In climate controlled shelter	Y	N	#
Probe height from ground	5 m	*	*
Probe distance from structure	--	*	*
Distance from closest obstruction	8 m	*	*
Distance from trees	5 m	*	*
Unrestricted airflow degrees	210°	*	*
Dist. between collocated monitors	--	--	--
Last monitor audit	10/08/2008	--	--
Monitor audit frequency	Annual	--	--
Flow rate verification frequency	--	--	--
One-point QC check frequency	Every 2 weeks	--	--
PEP audit date	--	--	--
NPAP audit date	05/06/2008	--	--
Changes in next 18 months	N	N	This monitor has yet to be determined by EPA and is not currently installed.

Information not available, as monitor to be installed in 2009.

* Measurements not taken, as monitors not yet installed due to no determination on which monitor/method to use.

JLG Supersite continued

Site Information			
AQS ID	04-013-9997	ADEQ ID	16328
Address	4530 N. 17th Ave. Phoenix, AZ 85015		
County	Maricopa	Groundcover	Gravel
MSA	Phoenix	Latitude	33.5036
Surrounding Area	Residential	Longitude	-112.0950
Distance to road	8.5 m – E	Elevation	354 m
Traffic count	20,214 – Campbell Ave.	Site Established Date	07/01/1993

Monitoring Information			
Pollutant/Atmospheric parameter	$PM_{2.5}$	$PM_{2.5}$	$PM_{2.5}$
Network or Program	NCore/SLAMS	NCore/SLAMS	NCore/SLAMS
Monitor location	Shelter	Metal Roof	Metal Roof
Monitoring objective	Population	Population	Population
Spatial scale	Neighborhood	Neighborhood	Neighborhood
Monitor type	FDMS TEOM	Partisol 2025	Partisol 2025
Analysis method	Tapered Element Oscillating Microbalance Technology	Gravimetric	Gravimetric
Make of monitor	R & P	R & P	R & P
Model of monitor	1400 AB	2025	2025
Method code	761	145	145
Monitor start date	03/17/2005	11/21/2003	04/01/2009
Operation schedule	Continuous	1:3	1:3
Sampling season	All Year	All Year	All Year
In climate controlled shelter	Y	N	N
Probe height from ground	5 m	5 m	5 m
Probe distance from structure	--	--	--
Distance from closest obstruction	8 m	8 m	8 m
Distance from trees	5 m	5 m	5 m
Unrestricted airflow degrees	210°	210°	210°
Dist. between collocated monitors	--	--	--
Last monitor audit	05/25/2009	05/25/2009	--
Monitor audit frequency	Biannual	Biannual	Biannual
Flow rate verification frequency	Monthly	Monthly	Monthly
One-point QC check frequency	--	--	--
PEP audit date	--	01/27/2008	--
NPAP audit date	--	--	--
Changes in next 18 months	N	N	N

JLG Supersite continued

Site Information			
AQS ID	04-013-9997	ADEQ ID	16328
Address	4530 N. 17th Ave. Phoenix, AZ 85015		
County	Maricopa	Groundcover	Gravel
MSA	Phoenix	Latitude	33.5036
Surrounding Area	Residential	Longitude	-112.0950
Distance to road	8.5 m – E	Elevation	354 m
Traffic count	20,214 – Campbell Ave.	Site Established Date	07/01/1993

Monitoring Information			
Pollutant/Atmospheric parameter	Speciated $PM_{2.5}$	Wind	Temp/RH
Network or Program	NCore/SLAMS/ CSN	NCore/SLAMS	NCore
Monitor location	Metal Roof	Tower	
Monitoring objective	Population	Population	Population
Spatial scale	Neighborhood	Neighborhood	Neighborhood
Monitor type	Speciation FRM/ SASS	Anemometer	Probe
Analysis method	Various	None	None
Make of monitor	Met One	RM Young	#
Model of monitor	Super SASS	5103	#
Method code	811/812/813	040	#
Monitor start date	02/21/2000	02/12/2003	#
Operation schedule	Continuous	Continuous	Continuous
Sampling season	All year	All year	All year
In climate controlled shelter	N	N	N
Probe height from ground	5 m	10 m	#
Probe distance from structure	--	--	#
Distance from closest obstruction	8 m	8 m	#
Distance from trees	5 m	5 m	#
Unrestricted airflow degrees	210°	360°	#
Dist. between collocated monitors	--	--	--
Last monitor audit	05/25/2009	03/11/2009	#
Monitor audit frequency	Biannual	Biannual	#
Flow rate verification frequency	Every 2 weeks	--	--
One-point QC check frequency	--	--	--
PEP audit date	--	--	--
NPAP audit date	--	--	--
Changes in next 18 months	N	N	To be installed in 2009

Information not available, as monitor to be installed in 2009.

JLG Supersite continued

Site Information			
AQS ID	04-013-9997	ADEQ ID	16328
Address	4530 N. 17th Ave. Phoenix, AZ 85015		
County	Maricopa	Groundcover	Gravel
MSA	Phoenix	Latitude	33.5036
Surrounding Area	Residential	Longitude	-112.0950
Distance to road	8.5 m – E	Elevation	354 m
Traffic count	20,214 – Campbell Ave.	Site Established Date	07/01/1993

Monitoring Information			
Pollutant/Atmospheric parameter	VOC	Carbonyls	Hexavalent Chromium
Network or Program	NATTS/PAMS/ SLAMS	NATTS/PAMS/ SLAMS	NATTS/SLAMS
Monitor location	Shelter	Shelter	Metal Roof
Monitoring objective	Population	Population	Population
Spatial scale	Urban	Urban	Urban
Monitor type	VOC Canister Sampler	Carbonyl Cartridge Sampler	Toxic Air Sampler
Analysis method	TO15/TO14	TO-11A	CARB Method
Make of monitor	Tisch Environmental	ATEC	Xontech
Model of monitor	2200	8000	924
Method code	101/126	202	921
Monitor start date	06/06/2001	05/15/1999	01/01/2006
Operation schedule	1:6	1:6	1:6
Sampling season	All year	All year	All year
In climate controlled shelter	Y	Y	N
Probe height from ground	5 m	5 m	5 m
Probe distance from structure	--	--	--
Distance from closest obstruction	8 m	8 m	8 m
Distance from trees	5 m	5 m	5 m
Unrestricted airflow degrees	210°	210°	210°
Dist. between collocated monitors	--	--	--
Last monitor audit	--	--	03/11/2009
Monitor audit frequency	Annual	Annual	Biannual
Flow rate verification frequency	--	--	--
One-point QC check frequency	Annual	Annual	--
PEP audit date	--	--	--
NPAP audit date	--	--	--
Changes in next 18 months	N	N	N

JLG Supersite continued

Site Information			
AQS ID	04-013-9997	ADEQ ID	16328
Address	4530 N. 17th Ave. Phoenix, AZ 85015		
County	Maricopa	Groundcover	Gravel
MSA	Phoenix	Latitude	33.5036
Surrounding Area	Residential	Longitude	-112.0950
Distance to road	8.5 m – E	Elevation	354 m
Traffic count	20,214 – Campbell Ave.	Site Established Date	07/01/1993

Monitoring Information			
Pollutant/Atmospheric parameter	SVOC	PM_{10}/Metal Speciation	VOC
Network or Program	NATTS	NATTS/SLAMS	PAMS
Monitor location	Shelter	Metal Roof	Shelter
Monitoring objective	Population	Population	Population
Spatial scale	Neighborhood	Neighborhood	Neighborhood
Monitor type	PUF	Partisol 2000	Canister Sampler
Analysis method	Lab Analysis	Gravimetric	TO-14
Make of monitor	Tisch Environmental	R & P	ATEC
Model of monitor	TE-1000BL	2000 F	8001
Method code	118	126/202	
Monitor start date	07/08/2007	01/01/2005	01/06/2009
Operation schedule	1:6	1:6	1:6
Sampling season	All year	All year	Apr – Oct
In climate controlled shelter	N	N	Y
Probe height from ground	4.5 m	5 m	5 m
Probe distance from structure	--	--	--
Distance from closest obstruction	8 m	8 m	8m
Distance from trees	5 m	5 m	5m
Unrestricted airflow degrees	210°	210°	210°
Dist. between collocated monitors	--	--	--
Last monitor audit	--	01/22/2009	--
Monitor audit frequency	Biannual	Biannual	Annual
Flow rate verification frequency	--	Monthly	Monthly
One-point QC check frequency	Monthly	--	--
PEP audit date	--	--	--
NPAP audit date	--	--	--
Changes in next 18 months	N	N	N

JLG Supersite continued

Site Information			
AQS ID	04-013-9997	ADEQ ID	16328
Address	4530 N. 17th Ave. Phoenix, AZ 85015		
County	Maricopa	Groundcover	Gravel
MSA	Phoenix	Latitude	33.5036
Surrounding Area	Residential	Longitude	-112.0950
Distance to road	8.5 m – E	Elevation	354 m
Traffic count	20,214 – Campbell Ave.	Site Established Date	07/01/1993

Monitoring Information			
Pollutant/Atmospheric parameter	CO	SO_2	PM_{10}
Network or Program	SLAMS	SLAMS	SLAMS
Monitor location	Shelter	Shelter	Shelter
Monitoring objective	Population	Population	Population
Spatial scale	Neighborhood	Neighborhood	Neighborhood
Monitor type	CO Analyzer	SO_2 Analyzer	TEOM
Analysis method	Gas Filter Correlation	Pulsed Fluorescence	Tapered Element Oscillating Microbalance Technology
Make of monitor	Thermo	Thermo	R & P
Model of monitor	48C	43C	1400 AB
Method code	054	060	079
Monitor start date	12/11/2002	03/03/2005	07/01/1993
Operation schedule	Continuous	Continuous	Continuous
Sampling season	All Year	All year	All year
In climate controlled shelter	Y	Y	Y
Probe height from ground	5 m	5 m	5 m
Probe distance from structure	--	--	--
Distance from closest obstruction	8 m	8 m	8 m
Distance from trees	5 m	5 m	5 m
Unrestricted airflow degrees	210°	210°	210°
Dist. between collocated monitors	--	--	--
Last monitor audit	02/18/2009	10/08/2008	05/25/2009
Monitor audit frequency	Annual	Annual	Biannual
Flow rate verification frequency	--	--	Monthly
One-point QC check frequency	Every 2 weeks	Every 2 weeks	--
PEP audit date	--	--	--
NPAP audit date	05/06/2008	05/06/2008	--
Changes in next 18 months	N	N	N

JLG Supersite continued

Site Information			
AQS ID	04-013-9997	ADEQ ID	16328
Address	4530 N. 17th Ave. Phoenix, AZ 85015		
County	Maricopa	Groundcover	Gravel
MSA	Phoenix	Latitude	33.5036
Surrounding Area	Residential	Longitude	-112.0950
Distance to road	8.5 m – E	Elevation	354 m
Traffic count	20,214 – Campbell Ave.	Site Established Date	07/01/1993

Monitoring Information			
Pollutant/Atmospheric parameter	Bscat / $PM_{2.5}$	Temp/RH	Aerosol
Network or Program	Urban Haze/ AIRNow	Urban Haze	IMPROVE
Monitor location	Tower	Tower	Metal Roof
Monitoring objective	Population	Population	Population
Spatial scale	Neighborhood	Neighborhood	Neighborhood
Monitor type	Nephelometer	Probe	IMPROVE
Analysis method	Light Scatter with correlation to $PM_{2.5}$	None	Various
Make of monitor	Optec	Rotronics	Various
Model of monitor	NGN 2	MP101A	Various
Method code	--	021	--
Monitor start date	02/12/2003	06/24/2003	04/25/2001
Operation schedule	Continuous	Continuous	1:3
Sampling season	All year	All year	All year
In climate controlled shelter	N	N	N
Probe height from ground	5 m	5.75 m	5.5 m
Probe distance from structure	--	--	--
Distance from closest obstruction	8 m	8 m	8 m
Distance from trees	5 m	5 m	5 m
Unrestricted airflow degrees	210°	210°	210°
Dist. between collocated monitors	--	--	2 m
Last monitor audit	05/25/2009	02/18/2009	10/07/2008
Monitor audit frequency	Annual	Biannual	Every 3 Years
Flow rate verification frequency	--	--	Annual
One-point QC check frequency	--	--	--
PEP audit date	--	--	--
NPAP audit date	--	--	--
Changes in next 18 months	N	N	N

JLG Supersite continued

Site Information			
AQS ID	04-013-9997	ADEQ ID	16328
Address	4530 N. 17th Ave. Phoenix, AZ 85015		
County	Maricopa	Groundcover	Gravel
MSA	Phoenix	Latitude	33.5036
Surrounding Area	Residential	Longitude	-112.0950
Distance to road	8.5 m – E	Elevation	354 m
Traffic count	20,214 – Campbell Ave.	Site Established Date	07/01/1993

Monitoring Information			
Pollutant/Atmospheric parameter	Aerosol		
Network or Program	IMPROVE		
Monitor location	Metal Roof		
Monitoring objective	Population		
Spatial scale	Neighborhood		
Monitor type	IMPROVE collocated		
Analysis method	Various		
Make of monitor	Various		
Model of monitor	Various		
Method code	--		
Monitor start date	04/25/2001		
Operation schedule	1:3		
Sampling season	All year		
In climate controlled shelter	N		
Probe height from ground	5.5 m		
Probe distance from structure	--		
Distance from closest obstruction	8 m		
Distance from trees	5 m		
Unrestricted airflow degrees	210°		
Dist. between collocated monitors	2 m		
Last monitor audit	10/07/2008		
Monitor audit frequency	Every 3 Years		
Flow rate verification frequency	Annual		
One-point QC check frequency	--		
PEP audit date	--		
NPAP audit date	--		
Changes in next 18 months	N		

Request for NOy Waiver

As stated in the *NCore Readiness Self-Assessment for State/local/Tribal Agencies document*, "Although the measurement of NOy is required in support of a number of monitoring objectives, available commercial instruments may indicate little difference in their measurement of NOy compared with the conventional measurement of NOx, particularly in areas with relatively fresh sources of nitrogen emissions. Therefore, in areas with negligible expected difference between NOy and NOx measured concentrations, the Administrator may allow for waivers that permit high-sensitivity NOx monitoring to be substituted for the required NOy monitoring at applicable NCore sites.". This is the case with NOy and NOx at the JLG Supersite NCore site. The Thermo instrument used to measure NOx is sensitive to 0.05 parts-per-billion.

A comparison of the 2008 NOy and NOx concentrations at Supersite during the 2008 ozone season (April – October) shows a difference of less than 2% for the entire season. This indicates that only very small concentrations of the NOz components of NOy are present at JLG Supersite. NOz components result from the atmospheric oxidation of NOx and include nitric acid (HNO_3), nitrate radical (NO_3), peroxyacetyl nitrates (PAN), and many others.

As a result of the above comparison showing the small difference between NOx and NOy at JLG Supersite, NOy will not be sampled and the NOx measurements can be used in lieu of NOy.

Pb-PM_{10} Non-Source-Oriented Monitor at NCore Site (JLG Supersite)

Paragraph 4.5(b) of Part 58 Appendix D specifies that the use of a Pb-PM_{10} monitor can be used instead of a TSP monitor "if no existing monitoring data indicating that the maximum arithmetic 3-month mean Pb concentration…was equal to or greater than 0.10 micrograms per cubic meter during the past three years." That is certainly the case at JLG Supersite. In fact, in the past three years the highest maximum value (which is always greater than the highest mean value) was only 0.017 micrograms per cubic meter – less than 20% of 0.10. While non-source-oriented lead monitoring is not required at NCore sites until January 1, 2011, ADEQ has been monitoring lead there since 2005.