State of Arizona Air Monitoring Network Plan

For the Year 2008

Arizona Department of Environmental Quality
Air Quality Division
Air Assessment Section

Final Report

June 30, 2008

Table of Contents

1.0 INTRODUCTION 3
2.0 PROGRAM AND NETWORK DESCRIPTIONS 4
3.0 MONITORING NETWORK EVALUATION 7
3.1 NETWORK CHANGES 7
4.0 REQUIRED MONITORING 11
4.1 EPA MINIMUM NETWORK REQUIREMENTS 11
4.2 EPA MINIMUM SAMPLE FREQUENCY 12
4.3 ADEQ MINIMUM NETWORK STATUS 12
4.4 ADEQ NON-ATTAINMENT AND MAINTENANCE AREA MONITORING ACTIVITY 17
4.5 SOURCE COMPLIANCE NETWORK 18
4.6 COMPLIANCE WITH 40CFR 58.10 (c) 18
5.0 MONITORING PLAN QUALITY ASSURANCE 20
5.1 CFR PART 58 APPENDIX A QUALITY ASSURANCE REQUIREMENTS 20
5.2 QUALITY SYSTEM REQUIREMENTS 20
5.3 MEASUREMENT QUALITY CHECKS – PRECISION MEASUREMENTS 20
5.4 MEASUREMENT QUALITY CHECKS – ACCURACY MEASUREMENTS 21
5.5 CALCULATIONS AND REPORTING 23
5.6 AMBIENT AIR QUALITY METHODOLOGY 23
6.0 PROPOSED 2008-2009 COMPLIANCE MONITORING NETWORK 26
7.0 ADEQ SUPPLEMENTARY NETWORKS 27
7.1 CLASS I VISIBILITY NETWORK 28
7.2 URBAN HAZE NETWORKS 29
7.3 METEOROLOGY NETWORK 30
APPENDIX A DEFINITIONS AND ABBREVIATIONS 33
APPENDIX B NETWORK MAPS 34
APPENDIX C SITE REVIEW DATA TABLES 45
APPENDIX D SITE CROSS REFERENCE IN NAME ORDER 123
APPENDIX E EPA SAMPLING CALENDAR 125

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 an annual network monitoring plan for the year 2008.

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 multi-pollutant 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, 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 for 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), and particulate matter (PM_{10} and $PM_{2.5}$). The criteria pollutants are measured using instruments that meet EPA certification as Federal Reference or Federal Equivalent Methods. CFR Part 58 specifies the minimum requirements for determining NAAQS compliance including the following network and site criteria:

- Number and types of monitors per area 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.

PAMS monitoring sites collect specified ozone precursor concentrations as mandated by the Clean Air Act (CAA). In addition, Federal grant programs accepted by ADEQ, such as NATTS, NCore, CSN, etc., 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.

SIP and Maintenance Area Networks

ADEQ maintains several air monitoring networks for the purpose of tracking compliance in areas that are currently not attaining a NAAQS or areas where the NAAQS has been met but on-going demonstration of compliance is required. Monitoring requirements for these areas are described in their associated State Implementation Plans (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. Recently, however, SIP support has required the submittal of data to AQS, including review of quality assurance documents kept by the sources to support their ambient monitoring programs.

NCore

NCore sites are required under 40CFR, Part 58, Appendix C. The plan for establishing required NCore multipollutant stations shall be submitted to the Administrator not later than July 1, 2009, and shall provide for all required stations to be operational by January 1, 2011. The sites are planned for large metropolitan areas and are generally required at a rate of one site per state. NCore is basically an extension of the current air monitoring networks, but with an opportunity to address new directions in air monitoring, and to begin filling measurement and technological gaps that have accumulated over the years. Emphasis is placed on a backbone of multi-pollutant sites, continuous monitoring methods, and important pollutants over and above the criteria pollutants, for example, ammonia, and reactive nitrogen compounds (NOy). When completed, NCore will meet a number of important needs: improved data flow and timely reporting to the public, NAAQS compliance determinations, supporting development of emissions strategies,

assuring accountability for control programs, and supporting scientific and health-based studies. The ADEQ JLG Supersite is the designated NCore site for the Phoenix metropolitan area.Trace-level sulfur dioxide and carbon monoxide monitors are planned additions to the current complement of monitors at the JLG Supersite.

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 will be used to estimate national average concentrations for these air toxics compounds and allows EPA to evaluate the need for new National Ambient Air Quality Standards (NAAQS) and establish associated limits. Data from sites in this network will be used to estimate the probability that long-term changes or trends in ambient air concentrations are occurring. Using this information, EPA, states, and local agencies can estimate changes in the risks of human exposure. These changes can then be used to anticipate changes in environmental policy and to establish a regulatory stance. As part of the overall National Air Toxics Assessment (NATA) process, ambient air quality data are important to help 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 Clean Air Act Amendments required the Administrator to promulgate rules for enhanced monitoring of ozone and concurrent monitoring of oxides of nitrogen (NOx), speciated volatile organic compounds (VOCs), carbon monoxide, and meteorology to obtain more comprehensive and representative data on ozone air pollution. Immediately following the promulgation of those rules, the affected states were to begin actions necessary to adopt and implement a program to improve ambient monitoring activities and the monitoring of emissions of NOx and VOCs. Each state implementation plan (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 photochemical assessment monitoring stations (PAMS) as part of their SIP monitoring networks in ozone 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 ozone NAAQS and the need for a more comprehensive air quality database for ozone and its precursors. ADEQ operates two PAMS sites 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. ADEQ operates one STN speciation sampler at the JLG Supersite and two IMPROVE samplers as part of the CSN network. The colocated IMPROVE samplers provide precision information for the IMPROVE network and are used for comparison of the speciation results from both programs.

Semi-continuous $PM_{2.5}$ Speciation Network ($PM_{2.5}$ grant)

ADEQ has been a participant in an EPA pilot study of semi-continuous speciation monitors that were being evaluated at five Chemical Speciation Network sites in the United States. The pilot study began early in 2002 with newly established monitors in Seattle, Phoenix, Houston, Chicago, and Indianapolis. The goals of the pilot study were to assess the operational characteristics and performance of semi-continuous carbon, nitrate, and sulfate monitors for routine application at CSN sites; to work with the pilot participants and the vendors to improve the measurement technologies used; and to evaluate the use of

an automated data collection and processing system for real time display and reporting. A final report of the Five-City Study was prepared by the consultant and delivered to EPA in December 2005. ADEQ operated a Sunset Labs OC/EC carbon analyzer and a 8400 Nitrate analyzer in the final operations phase of the study terminated in June 2008. The operations phase will be followed by analysis of the data and reporting to AQS by January 2009.

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, aethalometers, 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 Clean Air Act 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 U.S. Forest Service areas and three sites are located in National Park Service 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 IMPROVE sites.

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 equipment. Table 7.3-1 lists the sites and parameters measured in this network.

E-BAM Network of PM_{10} 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 is very useful for making informed smoke management decisions related to prescribed burns. ADEQ replaced the every 6th day PM_{10} monitors at Show Low and Sedona with PM_{10} E-BAMs to provide continuous data on the web for the public in these areas.

E-BAM instruments are used for special-purpose monitoring, only. They are not classified as federal-reference-method or federal-equivalent-method and may not be used to demonstrate NAAQS compliance.

Table 2.0-1 Location of EBAM Monitors

Site Name	Address
Cottonwood	636 Aspen St E, Cottonwood-Verde Village, AZ 86326
Flagstaff Middle School	755 N. Bonito, Flagstaff, AZ 86001
Prescott College AQD	336 Grove Ave, Prescott, AZ 86301
Sedona Post Office	190 W. Highway 89A, Sedona, AZ 86336
Show Low	561 E. Deuce of Clubs, Show Low, AZ 85901

3.0 MONITORING NETWORK EVALUATION

This section provides a description of ADEQ's current air monitoring network and identifies monitors that are mandatory through the monitoring regulations, a SIP, a maintenance plan, or other grant requirement (such as NATTS). It also evaluates the status of the network in comparison to the EPA monitoring rules. Recommendations are made regarding possible additions of sites and monitors as well as those that can be closed. Section 3.1 also includes a description of changes to sites or monitors to be implemented in 2008 and 2009. Network changes are summarized in Section 3.2.

3.1 Network Changes

Closures

Ozone Monitors

Yuma Game and Fish (SLAMS) - Changes are to be made by the Arizona Game & Fish Department at the site currently housing ADEQ's Yuma area ozone monitor. The changes (move of shelter and relocation of electrical line) would require considerable cost to ADEQ to continue to operate the ozone monitor at this site. Therefore, ADEQ will operate an ozone monitor at the Yuma Supersite (approximately 10 miles to the west) during the 2008 ozone season concurrently with the Game & Fish monitor for comparison of the data from the two sites. The Game and Fish site will then be closed at the end of the 2008 season per 58.14 C reason (6), because of logistical problems beyond the State's control.

Semi-continuous Speciation $PM_{2.5}$ Monitors

JLG Supersite (SPM) - ADEQ operated a Sunset Labs OC/EC carbon analyzer and a 8400 Nitrate analyzer in the final operations phase of the study. A final report of the Five-City Study was prepared by the consultant and delivered to EPA in December 2005. The monitors will be closed at the end of June 2008 when the contract with the consultant for data validation ends. No data were reported by the consultant to the AQS during the study period (2002-2008). ADEQ will review and assemble the data provided by the consultant and will load the data into the AQS by January 2009.

New Sites

PM_{10} and $PM_{2.5}$ Monitors

Green Valley Fire Administration (SPM) - During the summer of 2006 several occurrences of high wind events resulted in transport of particulate matter into residential areas of Green Valley. In response to public request, ADEQ and Pima DEQ agreed to cooperatively operate an additional monitoring site in the Green Valley area. The purpose of the monitoring effort is to quantify microscale particulate matter concentrations during typical meteorological conditions and during windy conditions. ADEQ installed BAM PM_{10} and $PM_{2.5}$ monitors at the site and operations began July 2007.

Ozone Monitors

Prescott College AQD **-** According to the MSA assessment for ozone, conducted in Section 4.3 of the 2007 Network Plan, the addition of an ozone site is required in the Prescott MSA to meet the EPA minimum monitoring requirements. ADEQ's ozone monitor began collecting data April 1, 2008.

Yuma Supersite - Changes are to be made by the Arizona Game & Fish Department at the site currently housing ADEQ's Yuma area ozone monitor, requiring considerable cost to ADEQ to continue to operate that monitor. Therefore, ADEQ will operate an ozone monitor at the Yuma Supersite (approximately 10 miles to the west), as a site comparable to the Game & Fish site. Both monitors will operate during the 2008 ozone season for data comparison. The Yuma Supersite monitor began operating in May 2008.

Addition of Monitors to Existing Sites

Ozone Monitors

Flagstaff Middle School **–** According to the MSA assessment for ozone, conducted in Section 4.3 of the 2007 Network Plan, the addition of an ozone site is required in the Flagstaff MSA to meet the EPA minimum monitoring requirements. ADEQ's ozone monitor began collecting data April 1, 2008.

$PM_{2.5}$ Monitors

Prescott Valley – According to the MSA assessment for $PM_{2.5}$, conducted as described in Section 4.3 of the 2007 Network Plan, the addition of a $PM_{2.5}$ site is warranted in the Prescott MSA to evaluate pollutant concentrations in the MSA. Without historical $PM_{2.5}$ data available for the MSA, ADEQ is unable to effectively evaluate the need for monitoring in the Prescott area. ADEQ will operate a Special Purpose $PM_{2.5}$ sampler at the Prescott Valley site during 2008-09 for a period of 24 months to evaluate concentrations there. The sampler began operation in January 2008.

Yuma Courthouse – According to the MSA assessment for $PM_{2.5}$, conducted as described in Section 4.3 of the 2007 Network Plan, the addition of a $PM_{2.5}$ site is warranted in the Yuma MSA to evaluate pollutant concentrations in the MSA. Without historical $PM_{2.5}$ data available for the MSA, ADEQ is unable to effectively evaluate the need for monitoring in the Yuma area. ADEQ will operate a Special Purpose $PM_{2.5}$ sampler at the Yuma Courthouse site during 2008-09 for a period of 24 months to evaluate concentrations there. The sampler began operation in January 2008.

PM_{10} Monitors

Yuma Courthouse - ADEQ has determined the BAM PM_{10} monitor is biased high (about 19%) in comparison to the filter based sampler. Therefore, the continuous BAM monitor was replaced with a TEOM monitor in November 2007. Data from both the filter based monitor and the TEOM will be reported to the AQS database.

Ajo – ADEQ operates a filter based monitor following a 1-in-6 schedule for the Ajo nonattainment area. The maximum 24-hour values in the most recent 3-year compliance period indicate the 24-hour values are close to 85% of the NAAQS (see Section 4.2), requiring a change in schedule collection to every other day. ADEQ plans to add a continuous TEOM monitor to this site by January 2009. This configuration satisfies the requirements of 40 CFR 58.12 regarding sample frequency when the maximum 24-hour value is close to the NAAQS.

Hayden Old Jail – ADEQ operates a filter based monitor following a 1-in-6 schedule for the Hayden nonattainment area. The maximum 24-hour values in the most recent 3-year compliance period indicate the 24-hour values are close to 85% of the NAAQS (see Section 4.2), requiring a change in schedule collection to every other day. ADEQ plans to add a continuous TEOM monitor to this site by January 2009. This configuration satisfies the requirements of 40 CFR Part 58.12 regarding sample frequency when the maximum 24-hour value is close to the NAAQS.

3.2 Summary of Network Changes

Table 3.2-1 Monitors to be closed in 2008-09

Site Name	AQS ID	Classification	Scale	Objective	Parameter(s) Measured	Reported to AQS	Reason for Monitor
Yuma Game & Fish	04-027-0006	SLAMS	Neighborhood	Maximum concentration	Ozone	Yes	Population Exposure
JLG Supersite	04-013-9997	SPM	Neighborhood	General Population Exposure	Continuous Organic/Elemental Carbon, Nitrate in $PM_{2.5}$	Yes, by 2009	EPA Special Study for comparison with filter based $PM_{2.5}$ speciation method

Table 3.2-2 Monitors to be Added 2008-09

Site Name	AQS ID	Classification	Scale	Objective	Parameter(s) Measured	Report to AQS	Reason for Monitor
Prescott College AQD	To be established	SPM	Neighborhood	Population	Ozone	Yes	Rule Required – MSA
Yuma Supersite	04-027-8011	SLAMS	Neighborhood	Population	Ozone	Yes	Closure of Game & Fish site at end of 2008 season
Flagstaff Middle School	04-005-1008	SPM	Neighborhood	Population	Ozone	Yes	Rule Required – MSA
Prescott Valley	04-025-2002	SPM	Neighborhood	Population	$PM_{2.5}$	Yes	Rule Required – MSA
Yuma Courthouse	04-027-0004	SPM	Neighborhood	Population	$PM_{2.5}$	Yes	Rule Required – MSA
		SLAMS	Neighborhood	Population	Continuous PM_{10}	Yes	Replace BAMS method with TEOM – General Population Exposure
Ajo	04-019-0001	SLAMS	Neighborhood	Population	Continuous PM_{10}	Yes	Rule Required – change in monitoring frequency
Hayden Jail	04-007-1001	SLAMS	Neighborhood	Population	Continuous PM_{10}	Yes	Rule Required – change in monitoring frequency

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 carbon monoxide, sulfur dioxide, nitrogen oxide, and lead. The minimum monitoring requirements are based upon Metropolitan Statistical Areas (MSA) and Combined Statistical Areas (CSA) as defined in the most recent decennial census and the historical pollutant concentration in that area relative to NAAQS. Tables 4.1-1 through 4.1-3 list the minimum monitoring requirements for $PM_{2.5}$, PM_{10}, and Ozone.

The NAAQS for ozone was changed on March 12, 2008 and includes a secondary standard for 8-hour ozone (both standards are 0.075 ppm). EPA will provide updated monitoring guidance by September 2008 which will be reflected in the 2009 Network Plan. EPA proposed changes in the NAAQS for lead on May 1, 2008. Monitoring guidance will be provided by EPA later in 2008.

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

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

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% 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)

Population (MSA)	Most recent 3 yr design value ≥ 85% NAAQS	Most recent 3 yr design value <85% NAAQS
>10M	4	2
4-10M	3	1
350K-4M	2	1
50K-350K	1	0

Table 4.1-4 illustrates the Arizona MSAs and their respective populations as defined in the 2008 census estimates. Arizona does not have any defined CSAs.

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

MSA Name	Area included	Population
Phoenix – Mesa – Scottsdale	Maricopa & Pinal Counties	4,174,427
Tucson	Pima County	967,089
Prescott	Yavapai County	212,635
Yuma	Yuma County	190,557
Flagstaff	Coconino County	127,450

4.2 EPA Minimum Sample Frequencies

$PM_{2.5}$

40 CFR Part 58.12 (d)(1) states that manual $PM_{2.5}$ samplers at required SLAMS stations must operate on at least a 1-in-3 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 1-in-6 day $PM_{2.5}$ sampling at SLAMS stations or 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 31.5-38.5) and sites where the 24-hour values exceed the NAAQS for a period of 3 years are required to maintain at least a 1-in-3 day sampling frequency. Sites that have a design value within plus or minus 5 percent of the daily $PM_{2.5}$ NAAQS (±5% of 35µg/m^3 is 33.25-36.75) must have an FRM or FEM operating on a daily schedule.

ADEQ operates an $PM_{2.5}$ FRM sampler on the 1-in-3 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 is reported to AQS using parameter code 88500 and begins March 17, 2005.

The Nogales Post Office $PM_{2.5}$ FRM sampler has a design value above the NAAQS and is operated on a 1-in-6 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 is reported to AQS using parameter code 88502 and begins March 2, 2005.

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

Site Name	3-Year Average of 24-Hour 98th percentile 2005-2007 (ug/m^3)	Current Sample Frequency	Historical Sample Frequency	New Required Frequency
Douglas Red Cross	20.7	1 in 6	1 in 6	1 in 6
Flagstaff Middle School	18.9	1 in 6	1 in 6	1 in 6
JLG Supersite	25.4	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	39.1	1 in 6 FRM and Daily BAM	1 in 6 FRM and Daily BAM	Daily
Prescott Valley	N/A	1 in 6	N/A	1 in 6
Yuma Courthouse	N/A	1 in 6	N/A	1 in 6

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). If the ratio is within 80% of the standard, the rule requires every other day monitoring.

Table 4.2-2 lists the PM_{10} design values for single monitor areas. Five areas (Ajo, Hayden, Nogales, Rillito, and Yuma) require every-other-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. TEOM monitors will be installed at Ajo and Hayden by January 2009. A TEOM is planned for installation at the Rillito site in 2009.

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

Site Name	Max 24-Hr 2005-2007 (ug/m3)	Ratio Design Value/NAAQS	Current Sample Frequency	Historical Sample Frequency	New Required Frequency (Ratio > 0.80)
Ajo	124	0.83	1 in 6	1 in 6	Every other day
Bullhead City	72	0.48	1 in 6	1 in 6	1 in 6
Douglas Red Cross	94	0.63	1 in 6	1 in 6	1 in 6
Hayden Old Jail	124	0.83	1 in 6	1 in 6	Every other day
Nogales Post Office	280	1.87	1 in 6 and Daily	1 in 6 and Daily	Every other day
Paul Spur Chemical Lime	87	0.58	1 in 6	1 in 6	1 in 6
Payson Well Site	81 *	0.54	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	1.07	1 in 6 and Daily	1 in 6 and Daily	Every other day

* Q1 of 2005 had less than 50 % data completeness.

4.3 ADEQ Minimum Network Status

40 CFR Part 58.13(b) allows for new network minimum monitoring requirements to be met by January 1, 2008. The sections below address the minimum requirements for MSAs under the jurisdiction of ADEQ: Flagstaff MSA, Yuma MSA, and Prescott MSA. 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 24-hour average 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. 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 3-Year Design Value for 24-Hour Averages (85% NAAQS is 29.75)		
Site	**MSA Represented**	**Value**
Nogales Post Office (2005-2007) FRM	None – Santa Cruz County	39.1
Yuma Courthouse(1998-2000) Dichot Fine	Yuma MSA	25.6
Phoenix JLG Supersite (2005-2007) FRM	Phoenix MSA	25.4
Payson Well Site (2005-2007) FRM	None – Gila County	22.7
Douglas Red Cross (2005-2007) FRM	None – Cochise County	20.7
Flagstaff Middle School (2005-2007) FRM	Flagstaff MSA	18.9
Clarkdale-School (1998-2000) Dichot Fine	Prescott MSA	6.6
Prescott Valley FRM (began 1/1/2008)	Prescott	N/A
Yuma Courthouse FRM (began 1/1/2008)	Yuma	N/A

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

No additional changes to the network of $PM_{2.5}$ FRM monitors are anticipated in 2008 or 2009.

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, and Flagstaff MSAs. The Prescott, Yuma, and Flagstaff MSAs fall under the 100K-250K population category for PM_{10} monitoring. The following section reviews current monitoring locations and evaluates potential needs under the monitoring regulations. ADEQ currently operates one or more reference method 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 (2005-2007) of operation is 63 µg/m^3, approximately 42% 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 Juvenile Center (Courthouse), operating on a 1-in-6 day schedule. 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 and 2007 were 151 and 147 ug/m^3, near the level of the NAAQS. (These events are currently being investigated for exclusion as exceptional events). The area is considered to be in the low category and the single monitoring site in Yuma is adequate to meet the rule requirement. This site is also a collocated monitoring site for the PM_{10} network.

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 2005-2007, the maximum 24-hour concentration recorded at Flagstaff Middle School was 56 ug/m^3 (37% of the NAAQS); the maximum concentration at Sedona Post Office was 36 µg/m^3 (24% of the NAAQS). Both sites are less than 80% of the PM_{10} NAAQS. Therefore, the sites are considered low category as described in Table 4.1-2, 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 EBAM continuous sampler. ADEQ will continue operation of the Flagstaff Middle School PM_{10} monitor in 2008. A non-reference method EBAM continuous sampler was installed at the Flagstaff Middle School site to provide continuous measurements for public information.

Ozone

According to Tables 4.1-3 and 4.1-4, the minimum ozone monitoring network for Arizona, excluding Maricopa, Pinal and Pima Counties, must consider sites in the Prescott, Yuma, and Flagstaff MSAs. The Prescott, Yuma, and Flagstaff MSAs are in the 50K-350K population category. The section below describes ozone monitoring by ADEQ in these MSAs.

Yuma MSA (Yuma County) - ADEQ currently operates one ozone monitor at the Yuma Game and Fish site. The 2005-2007 design value for the Yuma Game and Fish site is 0.075 ppm, greater than 85% of the 8-hour ozone NAAQS. Based upon this value and the population of the Yuma MSA, a single site in Yuma is adequate to meet the minimum monitoring requirements described in Table 4.1-3. ADEQ will be closing the Yuma Game and Fish monitor at the end of the 2008 monitoring season due to logistical problems beyond ADEQ's control. ADEQ will reopen the Yuma Supersite (used during the Western Arizona Sonora Border Air Quality Study in 2006-2007) and will operate an ozone monitor there during the 2008 season beginning in May for data comparison. The Yuma Supersite monitor will be designated as SLAMS.

Prescott MSA (Yavapai County) – Historically, ADEQ operated an ozone 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% of the 8-hour NAAQS. However, the Hillside site represented upwind transport of ozone into the central Arizona and did not, by design, represent the Yavapai County or Prescott MSA population. Because an adequate data record does not exist to represent the MSA, ADEQ has established an ozone monitoring site at Prescott College. Measurements began April 1, 2008. The monitor will be considered a SPM.

Flagstaff MSA (Coconino County) – ADEQ operated ozone monitors at 3 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 National Park Service (NPS) has been operating an ozone site at the South Rim of the Grand Canyon since approximately 1990. The latest data available indicate a 3 year average of the 4th highest 8-hour concentration of 0.077 ppm in 2005-2007 at this monitor, which is above the 85% measure described in the Ozone Monitoring (SLAMS) table above and would indicate the necessity of an ozone site in the Flagstaff MSA. Because it has been over 20 years since ADEQ collected ozone data in the city of Flagstaff, ADEQ added an ozone instrument to the Flagstaff Middle School site to collect more recent ozone data and for comparison with the NPS data. Measurements began April 1, 2008 and the monitor will be considered a SPM.

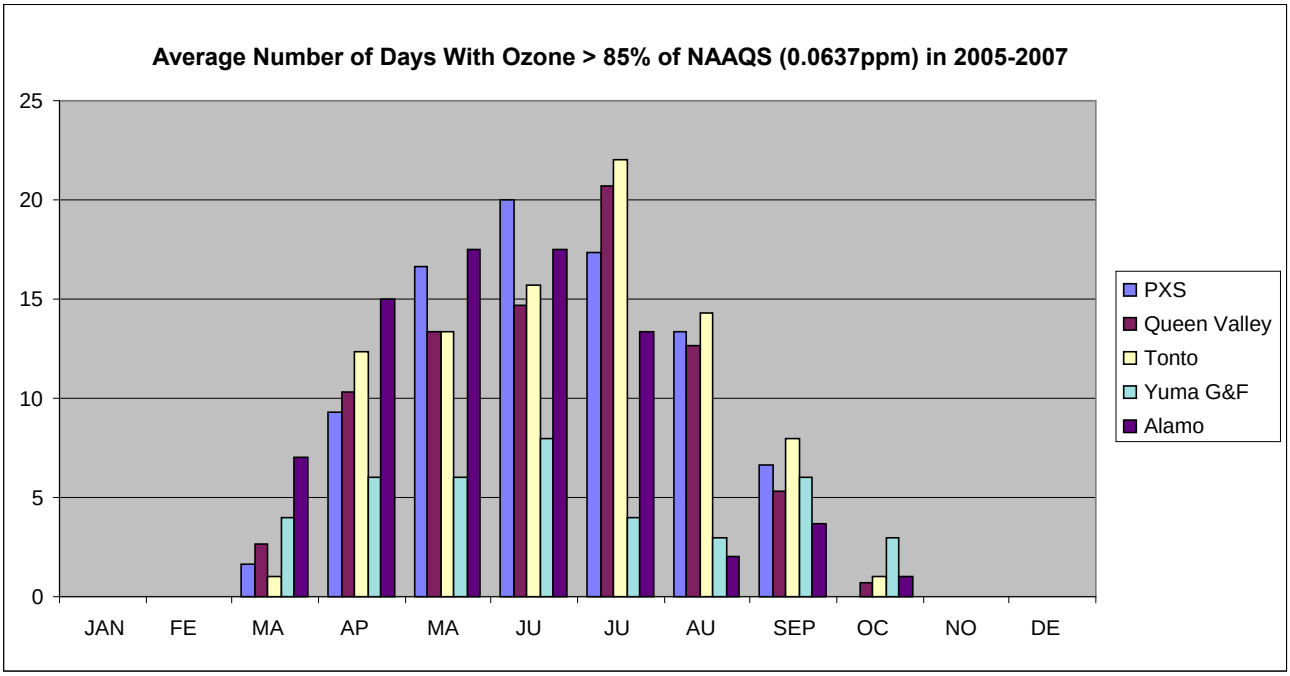
Ozone Season

In accordance with 40 CFR Part 58, Appendix D, Paragraph 4.1(i), the Arizona Department of Environmental Quality is requesting a modification to the ozone season defined in the regulation. The specified season defined in Table D-3 of Appendix D is January through December for the State of Arizona. However, a 1998 EPA guidance document entitled, “Guideline for Selecting and Modifying the Ozone Monitoring Season Based on an 8-Hour Ozone Standard” supports a shorter ozone season for Arizona based upon data collected from 1990 through 1995.

ADEQ believes the appropriate ozone season for sites under our operation may be March 1st through October 31st using the new NAAQS of 0.075 ppm. We base this upon Figure 4.3-1, a summary of data from the sites operated by ADEQ, which illustrates that ozone concentrations have not historically exceeded 85% of the NAAQS during the period from November through February.

For 2008, ADEQ will operate the seasonal monitors from April 1st through October 31st. These are: Alamo Lake, Queen Valley, Yuma Supersite, Tonto National Monument, Flagstaff Middle School, and Prescott College AQD. The JLG Supersite would continue to operate on a January to December schedule. EPA is scheduled to provide monitoring guidelines by September 2008. When these guidelines are available, ADEQ will make appropriate corrections to the seasonal definition in the AQS database and annual monitoring plan for the 2009 monitoring season.

Figure 4.3-1 – Historical Ozone Concentration



PAMS

The Arizona PAMS network consists of two ambient air monitoring sites in the Phoenix Metropolitan Statistical Area (MSA) and a wind profiler site for the collection of upper air meteorological data. Volatile organic compound (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. In 2007, EPA revised the requirements for PAMS program monitoring to daily monitoring during PAMS season and shortened the PAMS season to June through August. 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 the Phoenix 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% of the canister method results. Although full analysis of the 2007 results has not been completed, the successful operation of the Auto GC/MS and reliability of the results for analysis plus the additional information that continuous measurements can provide support the decision to purchase an Auto GC/MS to be operated at JLG Supersite during PAMS season in lieu of canister sampling.

Since the required manual method of 8 3-hour canisters running daily is impractical due to increased expenses for staff, shipping, and analysis, ADEQ plans to begin the process in 2008 to acquire and operate its own Auto monitoring system to be installed at JLG Supersite. However, since the instrument will not be available for most of the 2008 season, ADEQ plans to return to the 2006 monitoring schedule of a 24-hour canister sample every 6th day at the JLG Supersite during PAMS season for VOCs. ADEQ also operates carbonyl, ozone (O_3), oxides of

nitrogen (NOx), reactive oxides of nitrogen (NOy), an aethalometer, 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	6/1/08 – 8/31/08	Canister	Every 6th day, 24 Hr
Carbonyl	6/1/08 – 8/31/08	Multi-port sampler	Every 6th day, 24 Hr, and 3 - 3hr samples (0500-0800, 0800-1100, 1100-1400)
Ozone	1/1/08-12/31/08	Continuous Ozone	Hourly average
Oxides of Nitrogen	4/1/08 – 10/31/08	Continuous NOx	Hourly average
Reactive Oxides of Nitrogen	4/1/08 – 10/31/08	Continuous NOy	Hourly average
Meteorology	1/1/08 – 12/31/08	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, ozone, and total reactive oxides of nitrogen. Carbonyl samples are not required at Type 3 sites.

Table 4.3-3 Queen Valley PAMS Instrumentation

Parameter	Dates	Method	Duration
VOC	6/1/08 – 8/31/08	Multi-port sampler	Every 6th day, 24Hr, and 3 - 3hr samples (0500-0800, 1300-1600, 1600-1900)
Ozone	4/1/08 – 10/31/08	Continuous Ozone	Hourly average
Reactive Oxides of Nitrogen	4/1/08 – 10/31/08	Continuous NOy	Hourly average
Meteorology	1/1/08 – 12/31/08	Temperature, RH	Hourly average

Upper Air Meteorology Site: Vehicle Emissions Inspection (VEI) 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 Inspection)

Parameter	Dates	Method	Duration
Meteorology	1/1/08-12/31/08	• Radar Acoustic Sounding System (RASS) • pyranometer (total solar radiation) • ultra-violet (UV solar) • wind speed/direction • temperature • relative humidity	Hourly average

4.4 ADEQ Non-Attainment 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 Non-Attainment 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 NM
Phoenix-Apache Junction, Maricopa and Pinal	O_3 8-hr	"Basic" Nonattainment	Tonto NM, Alamo Lake, JLG Supersite, Queen Valley
Ajo, Pima	PM_{10}	Moderate Nonattainment	ADOT Maintenance Yard
Bullhead City, Mohave	PM_{10}	Maintenance/ Attainment	Post Office
Douglas, Cochise	PM_{10}	Moderate Nonattainment	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
Hayden, Gila and Pinal	PM_{10}	Moderate Nonattainment	Hayden Old Jail
Miami, Gila	PM_{10}	Moderate Nonattainment	Freeport McMoRan sites: Golf Course & 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
Phoenix, Maricopa and Pinal (Apache Junction portion) Phoenix (Salt River Area)	PM_{10}	Serious Nonattainment	Bethune, JLG Supersite
Rillito, Pima	PM_{10}	Moderate Nonattainment	ADEQ: 8840 W Robinson Street APCC: 8840 W Robinson Street
Yuma, Yuma	PM_{10}	Moderate Nonattainment	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, Montgomery Ranch, Hayden Old Jail, Hayden Junction.*
Miami, Gila	*SO_2*	*Nonattainment – Primary*	*ADEQ: Ridgeline* *Freeport McMoRan Miami (SO2, MET) Jones Ranch, 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 NM, Petrifed Forest NP, Pleasant Valley Ranger Station, Queen Valley, Saguaro NP West, Saguaro NP East, Sycamore

Area and County	Pollutant	Classification	ADEQ SIP Sites
			Canyon,Tonto NM

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}	
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
FMMI – Golf Course	Miami	PM_{10} collocated	Yes, begin w/ 2002 data
FMM - MIAMI – Jones Ranch	Miami	SO_2	Yes, begin w/ 2008 data *
FMM - 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

***** Exact number of sites to be reported to AQS to be determined in 2008.

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. To address the public comment process required prior to relocation of a violating monitor, 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 of two staff members is in the Data Management & Quality Assurance Unit which is 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 Program 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 Program 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 Monitorin 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 program plan document. An NCore monitoring plan must be completed by July 1, 2009.

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 ozone standard used by the Team are checked twice per year.

The QA Team conducts technical system audits of the ADEQ Filter Laboratory. In 2008, the Team will be updating the SOP used for TSAs of ADEQ's Filter Laboratory.

The Team is preparing procedures in 2008 for conducting Technical Systems Audits (TSAs) of the Southern Regional Office (SRO) and Northern Regional Office (NRO) staff who act as operators for the Monitoring Unit.

The ADEQ QA 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.

EPA Region 9 conducted a TSA of the Air Assessment Monitoring Program in December 2004. A TSA of the NATTS station will be conducted in 2009.

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 considered part of the state compliance network, precision data are not collected for this method. PM_{10} concentrations from the dichot samplers are reported to AQS designated as monitor type 'Other'. Data are reported to AQS in standard (81102) and local conditions (85101).

The partisol samplers are located at 13 sites. Concentration data from all 13 sites are reported to AQS in standard and local conditions. Eleven sites are designated as SLAMS; 2 sites are designated as SPMs.

Section 3.3.1 of CFR Part 58 Appendix A indicates that 15% of the sites must be collocated. The collocated monitors must be within 4 meters of each other and at least 1 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 POC 2.

Collocated samples are collected every 6th day.

Flow rate verification is checked monthly 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	13	2 (Paul Spur & Yuma Courthouse)

ADEQ will continue to report PM_{10} concentrations to AQS for 3 monitors at 2 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 audit reports 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 % of the monitoring sites operated by the reporting agency. If the area has less than 4 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)	5	1 (Nogales Post Office)

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

All five ADEQ sites are designated as SLAMS. Concentrations from all samplers are reported to AQS. All concentrations from the collocated monitor at Nogales Post Office are reported as POC 2.

Collocated samples will to be collected every 6th day to ensure an adequate number of precision measurements. Flow rate verification is checked monthly by Monitoring Unit staff.

5.3.3 Gas Monitors – SO_2, O_3, CO, NO_2

Biweekly 1-point checks are performed by the monitoring staff for all gas monitors. These measurements are reported to the AQS.

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.

5.4 Measurement Quality Checks – Accuracy Measurements

5.4.1 Particulate Monitors – Manual Methods

The QA Team conducts biannual flow rate audits on ADEQ PM_{10} and $PM_{2.5}$ monitors. All accuracy measurements are reported to the AQS.

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 audits. The audit measurements are reported to the AQS.

5.4.3 Meteorological Equipment

Meteorological equipment are 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 gas biweekly checks are submitted quarterly as precision records. Audit information for both PM monitors and gas monitors are 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 ozone 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 – It is anticipated that the 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 the sites 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 economies 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 the three Metropolitan Statistical Areas 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 ozone-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 ozone precursors. Section 3.2 provides background information on the current and historical ozone monitoring sites. EPA is preparing revised ozone monitoring guidance requirements for the new NAAQS. These requirements are expected to be available in September 2008 and will be addressed in the 2009 Monitoring Plan.
- 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 Phoenix 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 Phoenix 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 – No lead monitoring sites are required. Lead monitoring is being performed as part of the PM_{10} metals (NATTS) data collection. However, a new NAAQS for lead was proposed May 1, 2008. Guidelines for lead monitoring should be available from EPA later in 2008 and will be addressed in the 2009 Network Plan.
- 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 2008-2009 COMPLIANCE MONITORING NETWORK

Table 6.0-1 lists the air quality monitoring sites to be operated by ADEQ in 2008 and 2009. The list includes sites operated for public information and AQI forecasting (AIRNow).

Table 6.0-1 PROPOSED 2008-2009 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	$PM_{10/fine}$ – Dichot	Yes
Ajo	04-019-0001	SLAMS	Neighborhood	Population	PM_{10}	Yes
		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
Cottonwood	None	SPM	Neighborhood	Population	PM_{10} EBAMS	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
		SPM	Neighborhood	Population	PM_{10} EBAMS	No
Green Valley Fire Administration	To be assigned	SPM	Neighborhood	Population	Continuous PM_{10}	Yes
		SPM	Neighborhood	Population	Continuous $PM_{2.5}$	Yes
Hayden Old Jail	04-007-1001	SLAMS	Neighborhood	Source Impact	SO_2	Yes
		SLAMS	Neighborhood	Source Impact	PM_{10}	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
Organ Pipe NM	04-019-0005	Class I support	Regional	Background/ Transport	IMPROVE & Bscat	No
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	Neighborhood	Population	CO	Yes
		SLAMS (PAMS - Type 2)	Neighborhood	Population	NO_x	Yes
		SLAMS (PAMS - Type 2) NCore	Neighborhood	Population	NO_y	No
		SLAMS (PAMS - Type 2) NCore	Neighborhood	Population	O_3	Yes
		SLAMS (NATTS/PAMS Type 2)	Neighborhood	Population	VOC	Yes

Site Name	AQS - ID	Classification	Scale [1]	Objective [2]	Parameter(s) Measured	Reported to AQS
		SLAMS (NATTS/PAMS Type 2)	Neighborhood	Population	Carbonyls	Yes
		SLAMS (NATTS)	Neighborhood	Population	Hexavalent Chromium	Yes
		SLAMS (NATTS)	Neighborhood	Population	SVOCs	Yes
		SLAMS	Neighborhood	Population	SO_2	Yes
		SLAMS (NCore)	Neighborhood	Population	$PM_{2.5}$	Yes
		SLAMS (NATTs)	Neighborhood	Population	PM_{10}	Yes
		AIRNow	Neighborhood	Population	Bscat as $PM_{2.5}$	No
		SLAMS (NATTS)	Neighborhood	Population	Aethalometer (Babs)	No
		IMPROVE & CSN	Neighborhood	Population	IMPROVE Collocated	No
		SLAMS (CSN/NCore)	Neighborhood	Population	Speciated $PM_{2.5}$	Yes
		SLAMS ($PM_{2.5}$ project) –closed 6/30	Neighborhood	Population	Continuous Nitrate	Yes by 2009
		SLAMS ($PM_{2.5}$ project) –closed 6/30	Neighborhood	Population	Continuous Carbon	Yes by 2009
		SPM	Neighborhood	Population	Continuous PM_{10}	No
		SPM	Neighborhood	Population	Continuous $PM_{2.5}$	No
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	To be assigned	SPM	Neighborhood	Population	0_3	Yes
		SPM	Neighborhood	Population	PM_{10} EBAMS	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	0_3	Yes
		SLAMS (PAMS – Type 3)	Urban	Transport	VOC	Yes
		SLAMS (PAMS – type 3)	Urban	Transport	NO_Y	No
Rillito	04-019-0020	SLAMS	Neighborhood	Source Impact	PM_{10}	Yes
Sedona Post Office	None	SPM	Neighborhood	Population	PM_{10} EBAMS	No
Show Low	None	SPM	Neighborhood	Population	PM_{10} EBAMS	No
Sonora Nogales Fire Station	80-026-0005	SPM	Neighborhood	Population	$PM_{10/fine}$ – Dichot	Yes
Tonto National Monument	04-007-0010	SLAMS	Regional	Downwind Concentration	O_3	Yes
Yuma Area Monitors:						
Courthouse	04-027-0004	SLAMS	Neighborhood	Population	PM_{10} Collocated	Yes
		SLAMS	Neighborhood	Population	$PM_{2.5}$	Yes
		SLAMS	Neighborhood	Population	Continuous PM_{10}	No
Game and Fish	04-027-0006	SLAMS	Neighborhood	Population	O_3	Yes
Supersite	04-027-8011	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 Clean Air Act 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 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. 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 2008-09 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 Networks

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.

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)
Tucson – U of A Central	Light Scattering (Bscat), Aethalometer (Babs)

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 Ntional Park	X		X						
Phoenix Transmissometer Receiver (Holiday Inn Hotel)	X		X					No	
Pleasant Valley	X		X	X				No	
Queen Valley	X		X					No	
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

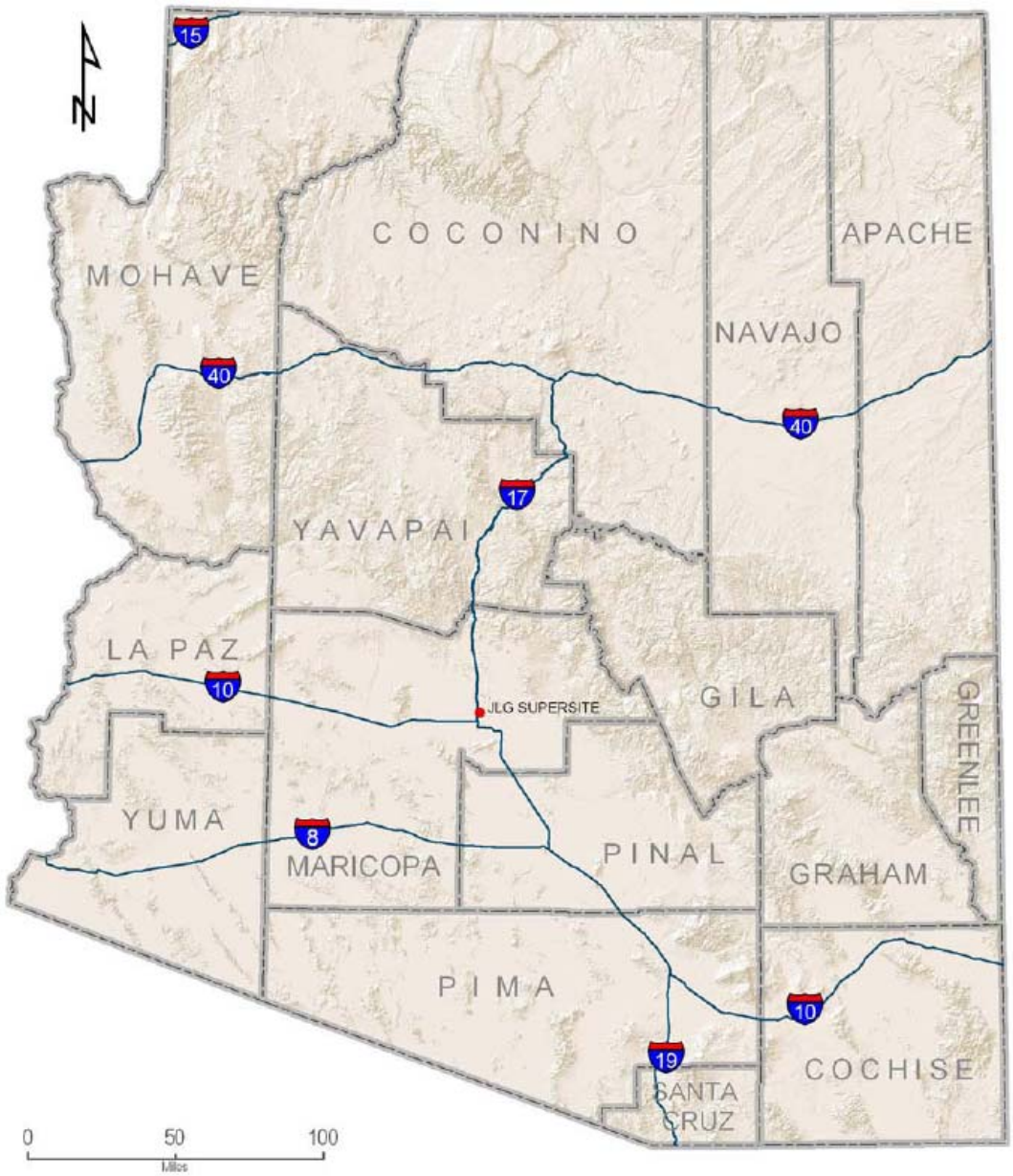
AAAD	Air Assessment Ambient Database
ADEQ	Arizona Department of Environmental Quality
AQS	Air Quality System (EPA database)
Bext	Total light extinction
Bscat	Light scattering
Babs	Light Absorption
BAM	Beta Attenuation Monitor
CAA	Clean Air Act
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CSA	Community Statistical Area
CSN	Chemical Speciation Network
EPA	Environmental Protection Agency
FEM	Federal Equivalent Method
FRM	Federal Reference Method
HAP	Hazardous Air Pollutants
IMPROVE	Interagency Monitoring of PROtected Visual Environments
MCAQD	Maricopa County Air Quality Department
MET	Meteorological measurements (wind, temperature, relative humidity)
MSA	Metropolitan Statistical Area
NAAQS	National Ambient Air Quality Standard
NATTS	National Air Toxics Trends Station
NM	National Monument
NO_X	Nitrogen oxides measured in two ranges; 0-1 ppm and trace level 0-0.2 ppm
NO_y	Trace Level Nitrogen oxides
NPAP	National Performance Audit Program
NPS	National Park Service
NWS	National Weather Service
O_3	Ozone
PAMS	Photochemical Assessment Monitoring Station
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 Significate Deterioration
SIP	State Implementation Plan
SLAMS	State and Local Air Monitoring Stations
SO_2	Sulphur Dioxide
SPM	Special Purpose Monitor
TEOM	Tapered Element Oscillating Microbalance
TSA	Technical System Audit
USFS	United States Forest Service
VOC	Volatile Organic Compound
WASBAQS	Western Arizona Sonora Border Air Quality Study

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}, $PM_{2.5}$, PM_{10}-EBAM)
- Meteorological Network
- Visibility Network
- Class I Wilderness areas

CO Network

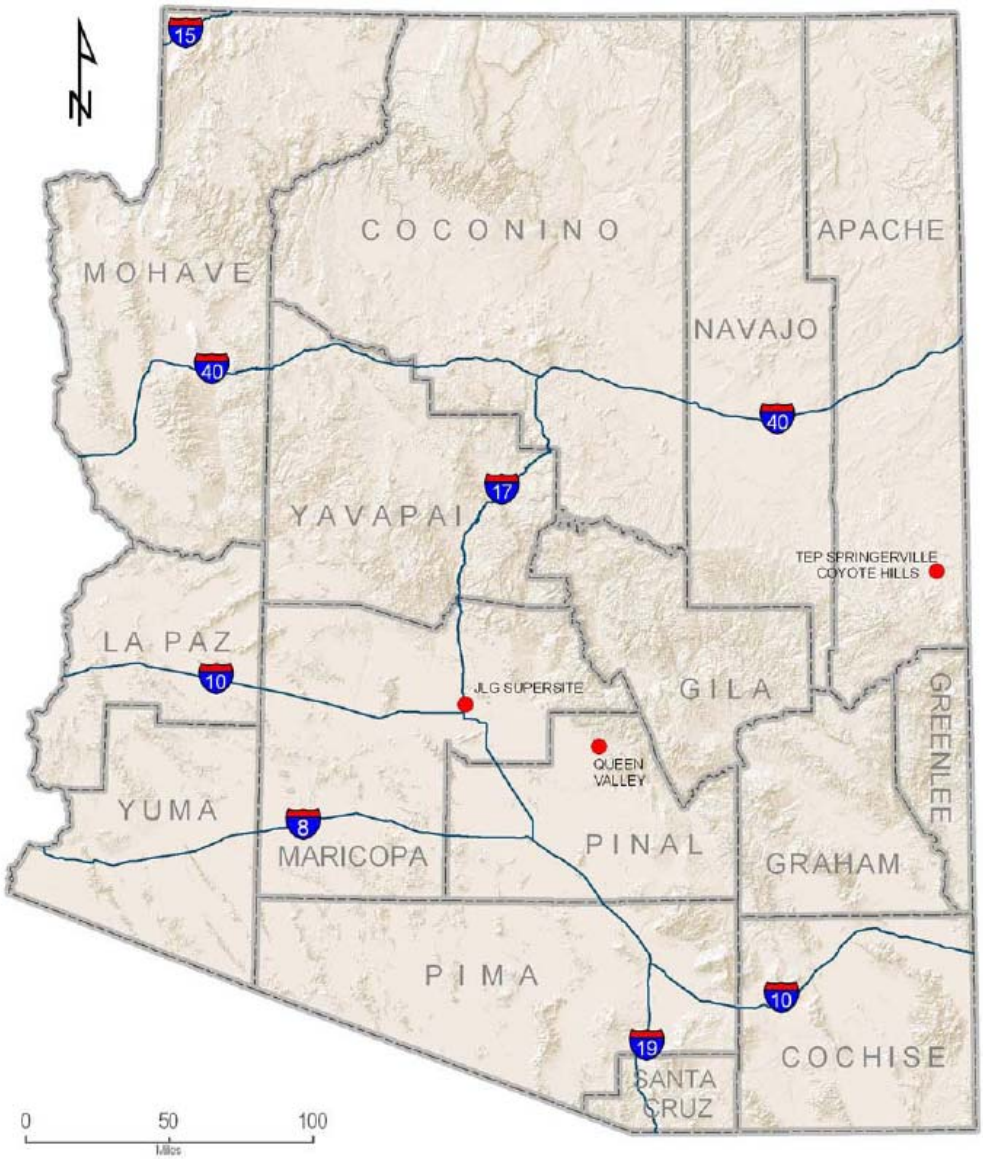


Source: AAAD

ADEQ Arizona Department of Environmental Quality

JUNE 06, 2008 Author - N Caroli

NO2 Network



OPERATOR

- ADEQ

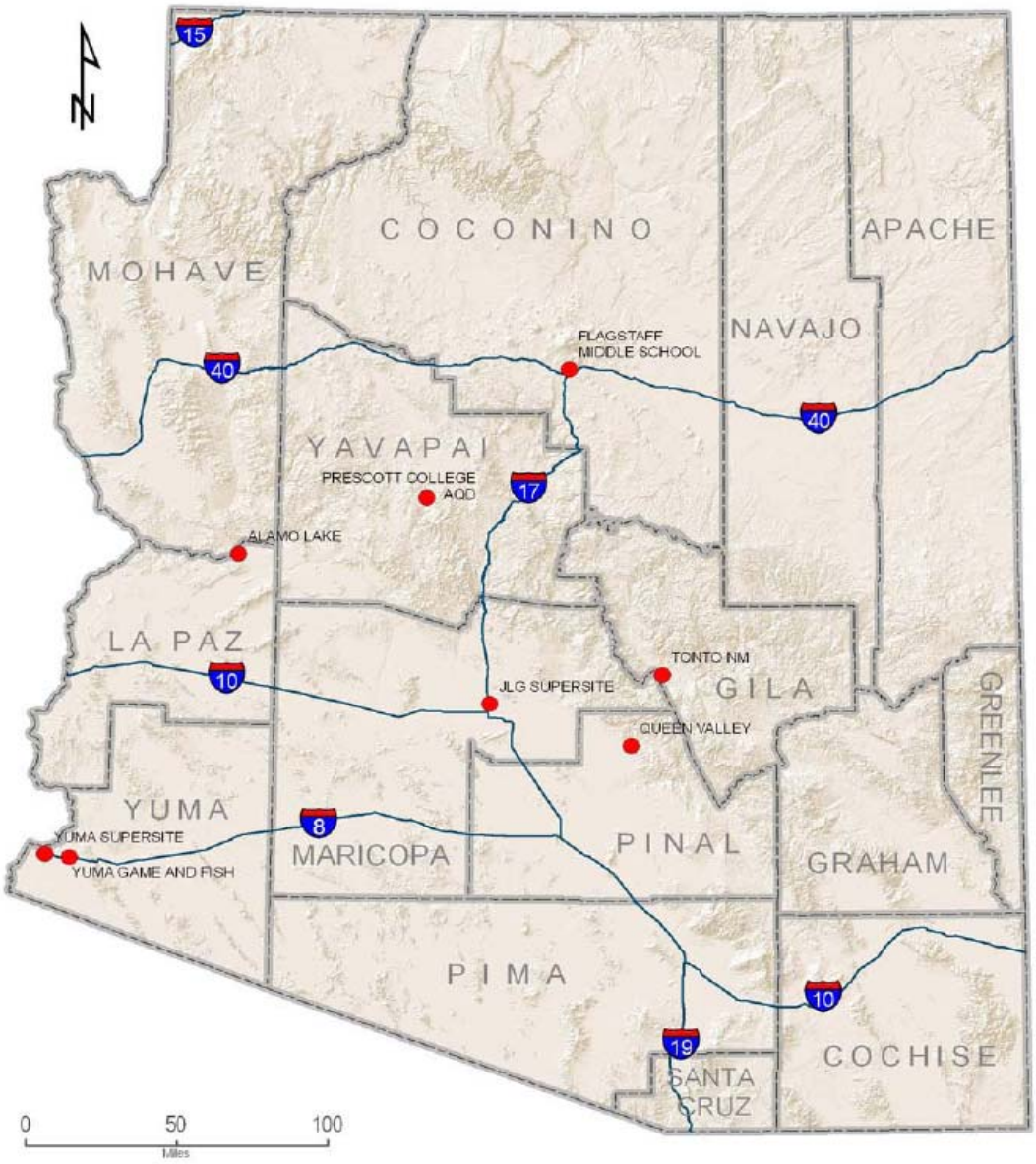
SITE	PARAMETERS
JLG SUPERSITE	NOX, REACTIVE NOX - SEASONAL
QUEEN VALLEY	REACTIVE NOX - SEASONAL
TEP - SPRINGERVILLE - COYOTE HILLS	NOX

Source: AAAD

ADEQ Arizona Department of Environmental Quality

JUNE 06, 2008 Author - N Caroli

Ozone Network



OPERATOR

- ADEQ

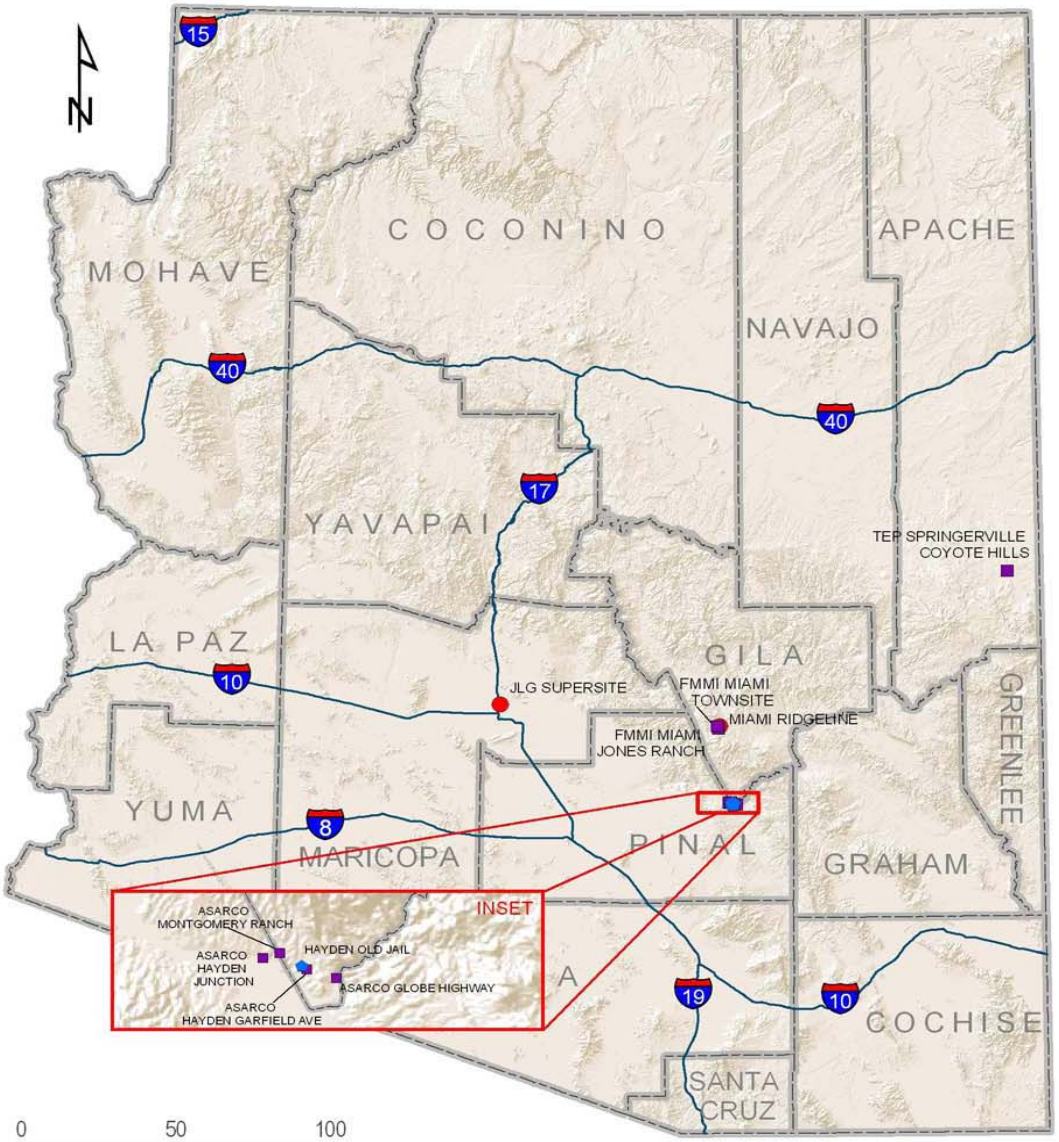
SITE
ALAMO LAKE
FLAGSTAFF MIDDLE SCHOOL
JLG SUPERSITE
PRESCOTT COLLEGE AQD
QUEEN VALLEY
TONTO NM
YUMA GAME AND FISH
YUMA SUPERSITE

Source: AAAD

ADEQ Arizona Department of Environmental Quality

June 06, 2008 Author - N Caroli

SO2 Network



OPERATOR

- ADEQ
- ADEQ AND SOURCE
- SOURCE

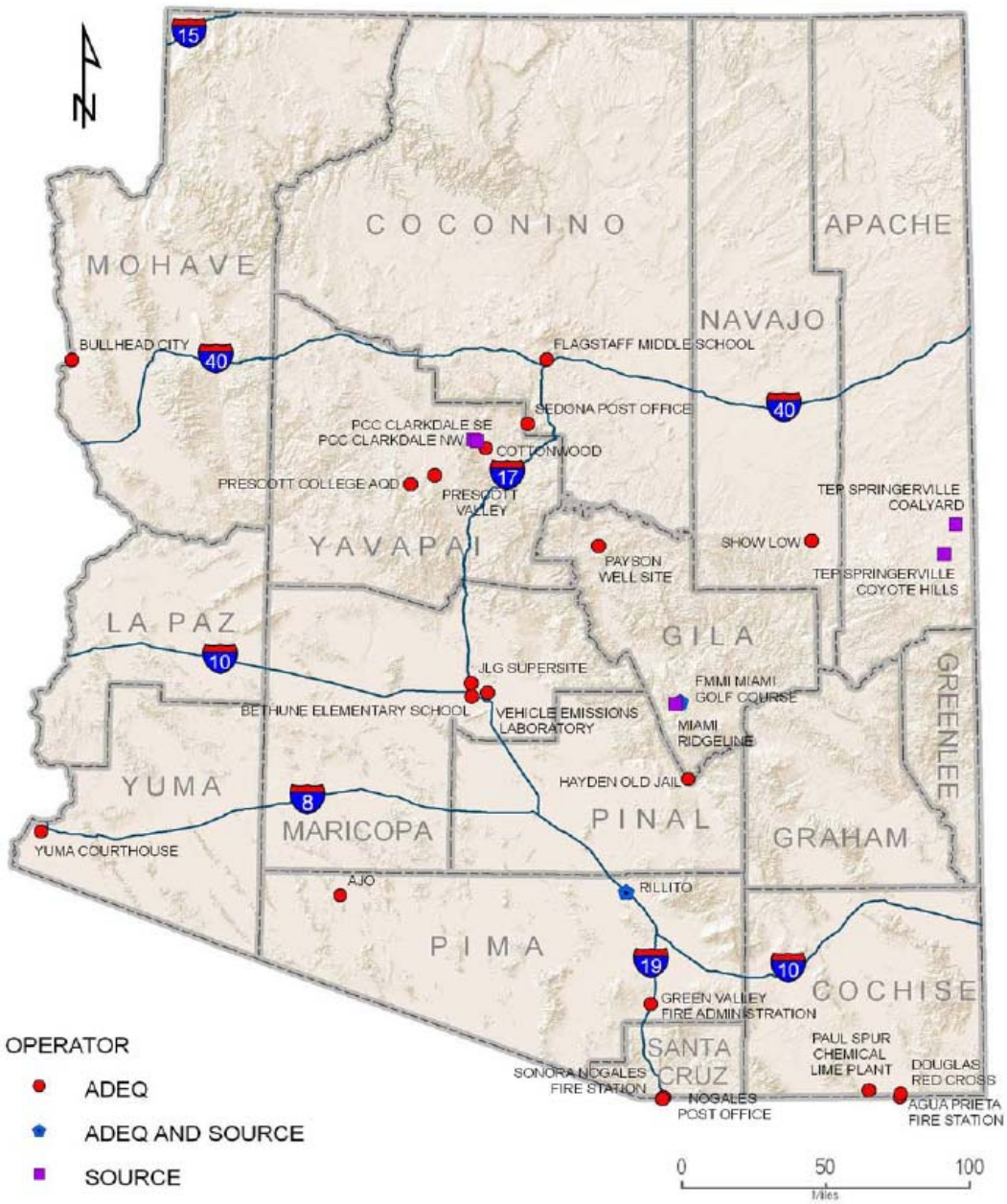
SITE
ASARCO GLOBE HIGHWAY
ASARCO HAYDEN GARFIELD AVE
ASARCO HAYDEN JUNCTION
ASARCO MONTGOMERY RANCH
FMMI MIAMI JONES RANCH
FMMI MIAMI TOWNSITE
HAYDEN OLD JAIL
JLG SUPERSITE
MIAMI RIDGELINE
TEP SPRINGERVILLE COYOTE HILLS

Source: AAAD

ADEQ Arizona Department of Environmental Quality

June 09, 2008 Author - N Caroli

PM Network



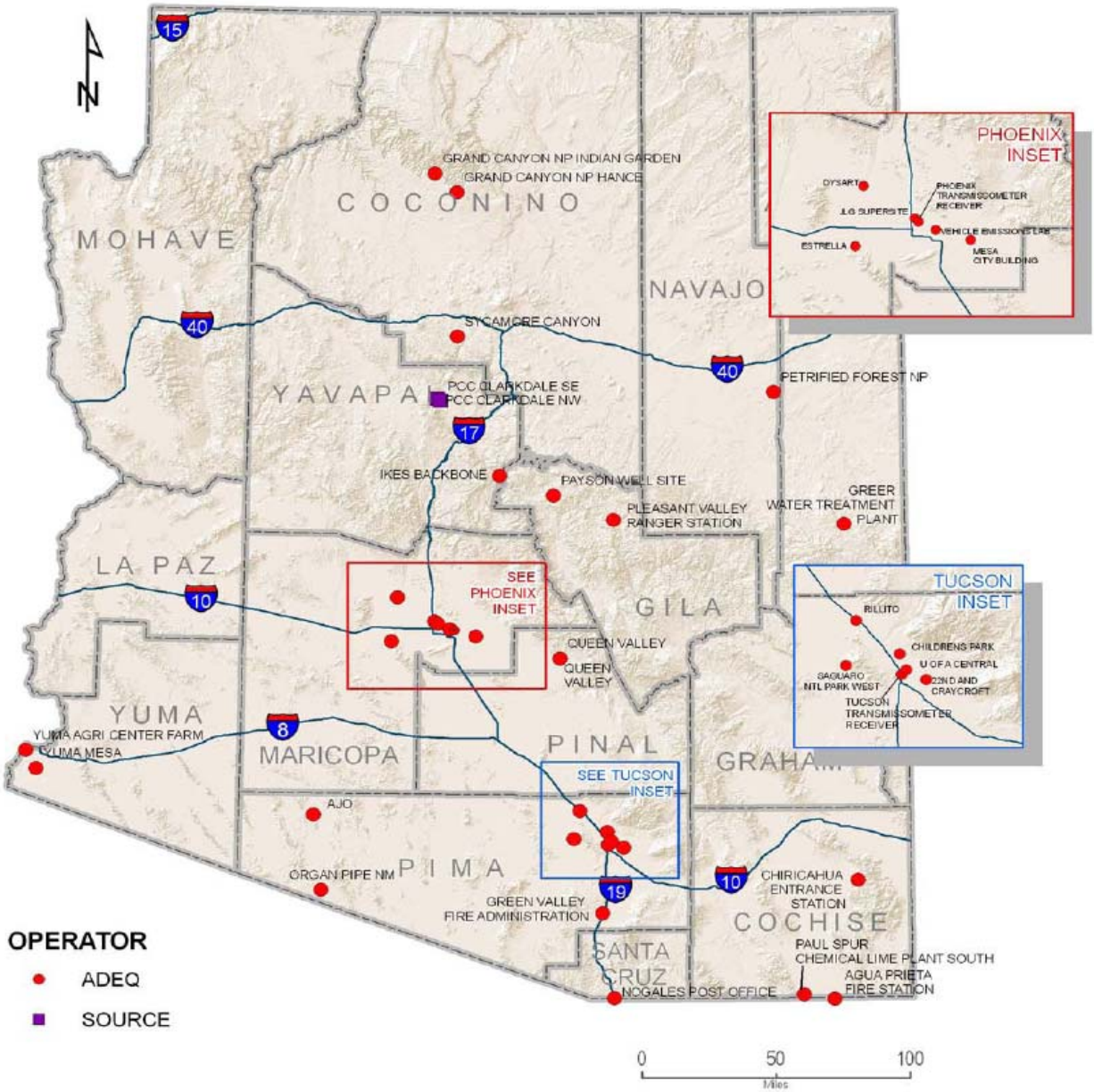
SITE	INSTRUMENT		SITE	INSTRUMENT
AGUA PRIETA FIRE STATION	PM10		PAUL SPUR CHEMICAL LIME PLANT	PM10, COLLOCATED
AJO	PM10		PAYSON WELL SITE	PM10
BETHUNE ELEMENTARY SCHOOL	PM10		PCC CLARKDALE NW	PM10
BULLHEAD CITY	PM10		PCC CLARKDALE SE	PM10
COTTONWOOD	PM10, EBAM-PM10		PRESCOTT COLLEGE AQD	PM10, EBAM-PM10
DOUGLAS RED CROSS	PM10, PM2.5		PRESCOTT VALLEY	PM10, PM2.5
FLAGSTAFF MIDDLE SCHOOL	PM10, PM2.5, EBAM-PM10		RILLITO	PM10, COLLOCATED
FMMI MIAMI GOLF COURSE	PM10, COLLOCATED		SEDONA POST OFFICE	PM10, EBAM-PM10
GREEN VALLEY FIRE ADMINISTRATION	PM10, PM2.5		SHOW LOW	PM10, EBAM-PM10
HAYDEN OLD JAIL	PM10		SONORA NOGALES FIRE STATION	PM10
JLG SUPERSITE	PM10, PM2.5		TEP SPRINGERVILLE COALYARD	PM10
MIAMI RIDGELINE	PM10		TEP SPRINGERVILLE COYOTE HILLS	PM10
NOGALES POST OFFICE	PM10, PM2.5, COLLOCATED		YUMA COURTHOUSE	PM10

Source: AAAD

ADEQ Arizona Department of Environmental Quality

June 09, 2008 Author - N Caroli

Meteorological Network



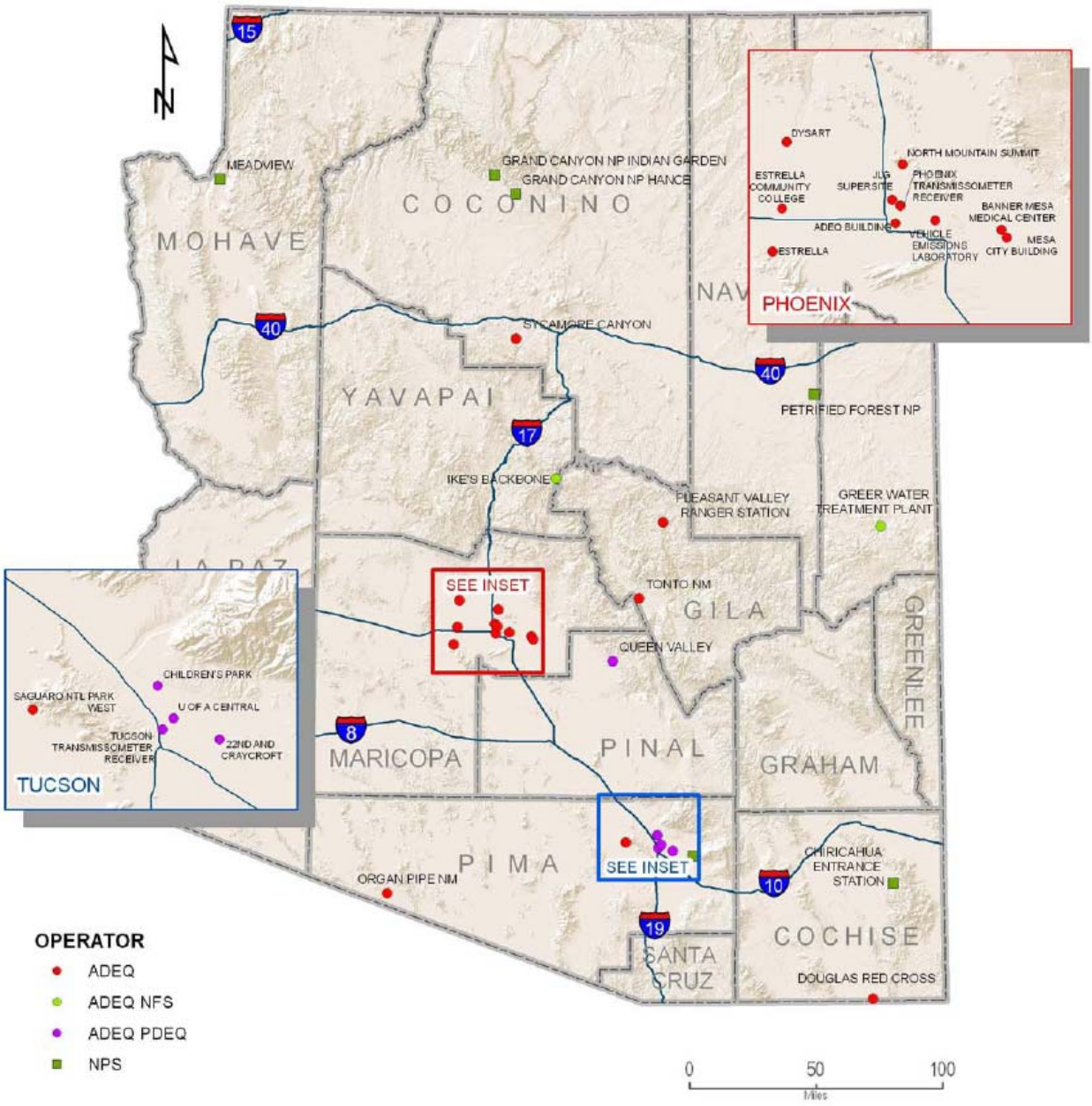
SITE	PARAMETERS	SITE	PARAMETERS
22ND AND CRAYCROFT	TEMP/RH	PAUL SPUR CHEMICAL LIME PLANT SOUTH	WIND
AGUA PRIETA FIRE STATION	WIND, TEMP/RH	PAYSON WELL SITE	WIND, TEMP/RH
AJO	WIND	PETRIFIED FOREST NP	TEMP/RH
CHILDRENS PARK	TEMP/RH	PHOENIX TRANSMISSOMETER RECEIVER	TEMP/RH
CHIRICAHUA ENTRANCE STATION	TEMP/RH	PLEASANT VALLEY RANGER STATION	WIND, TEMP/RH
DYSART	TEMP/RH	QUEEN VALLEY	TEMP/RH
ESTRELLA	TEMP/RH	RILLITO	WIND
GRAND CANYON NP HANCE	TEMP/RH	SAGUARO NTL PARK WEST	WIND, TEMP/RH
GRAND CANYON NP INDIAN GARDEN	TEMP/RH	SYCAMORE CANYON	WIND, TEMP/RH
GREEN VALLEY FIRE ADMINISTRATION	WIND	TUCSON TRANSMISSOMETER RECEIVER	TEMP/RH
GREER WATER TREATMENT PLANT	WIND, TEMP/RH	U OF A CENTRAL	WIND, TEMP/RH
IKES BACKBONE	WIND, TEMP/RH	VEHICLE EMISSIONS LABORATORY	WIND, DELTA TEMP, HORIZ & UV SOLAR
JLG SUPERSITE	WIND, TEMP/RH	YUMA AGRI CENTER FARM	WIND, TEMP/RH
MESA CITY BUILDING	TEMP/RH	YUMA MESA	WIND, TEMP/RH
NOGALES POST OFFICE	WIND	PCC CLARKDALE NW	WIND, RH
ORGAN PIPE NM	TEMP/RH	PCC CLARKDALE SE	WIND, RH

Source: AAD

ADEQ Arizona Department of Environmental Quality

June 09, 2008 Author - N Caroli

Visibility Network



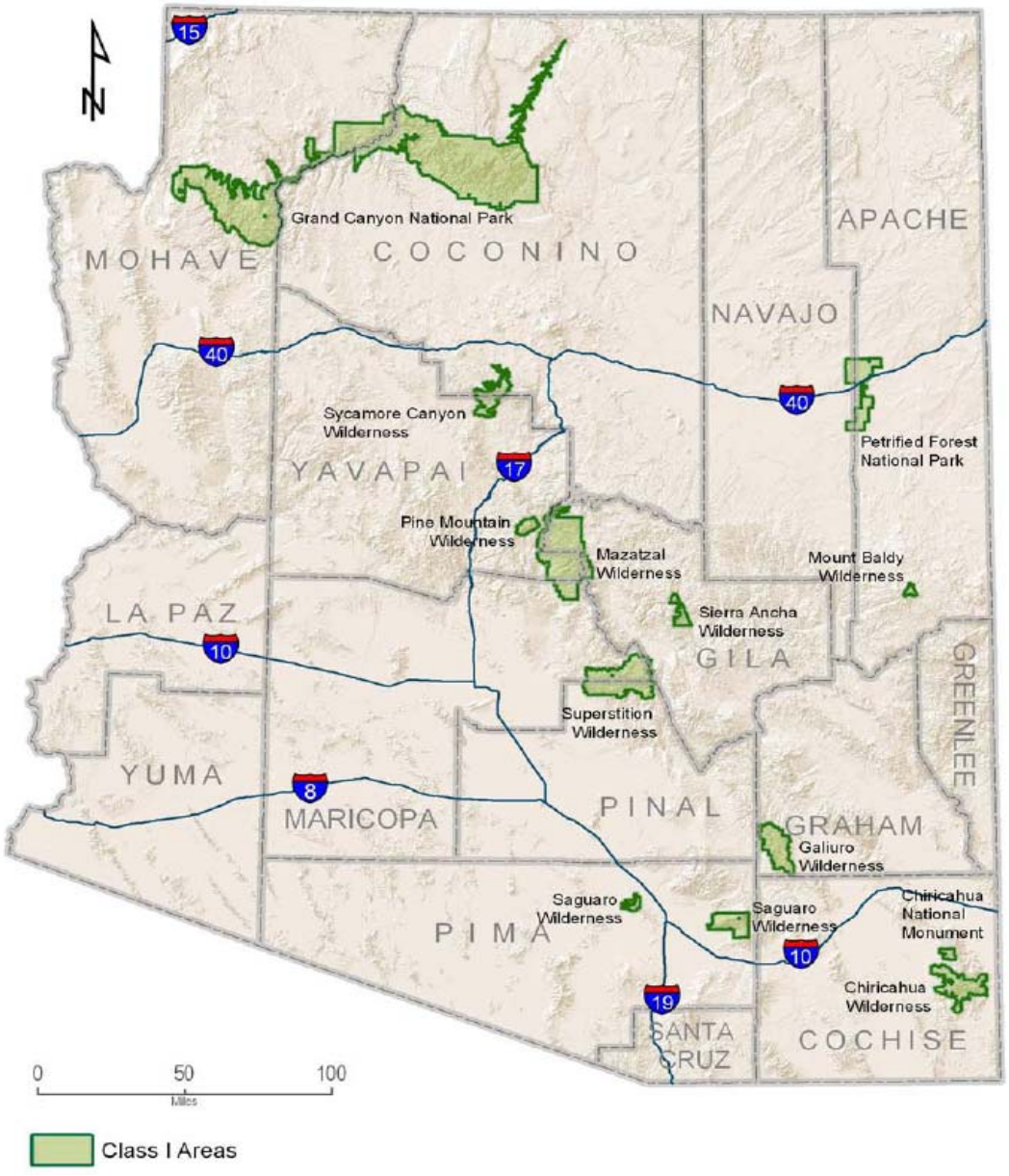
URBAN VISIBILITY NETWORK		WILDERNESS VISIBILITY NETWORK	
SITE	PARAMETERS	SITE	PARAMETERS
22ND AND CRAYCROFT	BSCAT	CHIRICACHUCA ENTRANCE STATION	AEROSOL, BSCAT
ADEQ BUILDING	VISIMAGE	GRAND CANYON NP HANCE CAMP	AEROSOL
BANNER MESA MEDICAL CENTER	VISIMAGE	GRAND CANYON NP INDIAN GARDENS	AEROSOL, BSCAT
CHILDRENS PARK	BSCAT	GREER WATER TREATMENT PLANT	AEROSOL, BSCAT
DOUGLAS RED CROSS	AEROSOL	IKES BACKBONE	AEROSOL, BSCAT
DYSART	BSCAT	MEADVIEW	AEROSOL
ESTRELLA	BSCAT	ORGAN PIPE NM	AEROSOL, BSCAT
ESTRELLA COMMUNITY COLLEGE	VISIMAGE 2	PETRIFIED FOREST NP	AEROSOL, BSCAT
JLG SUPERSITE	AEROSOL, BSCAT	PLEASANT VALLEY RANGER STATION	AEROSOL, BSCAT
MESA CITY BUILDING	BEXT	QUEEN VALLEY	AEROSOL, BSCAT
NORTH MOUNTAIN SUMMIT	VISIMAGE	SAGUARO NP EAST	AEROSOL
PHOENIX TRANSMISSOMETER RECEIVER	BEXT	SAGUARO NTL PARK WEST	AEROSOL, BSCAT
TUCSON TRANSMISSOMETER RECEIVER	BEXT	SYCAMORE CANYON	AEROSOL, BSCAT
U OF A CENTRAL	BSCAT	TONTO NP MONUMENT	AEROSOL
VEHICLE EMISSIONS LABORATORY	BSCAT		

Source: AAAD

ADEQ Arizona Department of Environmental Quality

June 09, 2008 Author - N Caroli

Class I Areas



ADEQ Arizona Department of Environmental Quality

June 6, 2008 Author - N Caroli

Appendix C - Site Review Data Tables

Notes:

1. All distances are expressed in meters unless otherwise noted.
2. Teflon is the probe material for all continuous monitors.
3. All connective tubing is ¼" O.D. Teflon tubing is replaced annually.
4. Residence times are less than 20 seconds for all instruments.
5. Template defining information in the tables is included as the first page of this appendix.

Site Review Data Tables

Details about each ADEQ monitoring site and the monitoring equipment at that site are included in the tables on the following page. The template below defines the information in each part of the Site Review Data Table.

Site Name	
Site Name	*Common name for the monitoring site*
Site Purpose	*Monitoring purpose of the site (urban haze, special purpose, NAAQS compliance, AQI forecasting, regional haze, smoke/public information, IMPROVE network, AIRNow AQI forecasting, CSN, meteorological support, regional haze NATTS, NCore, PAMS, toxics network, or source permit). A site may have more than one monitoring purpose.*
Site Narrative	*Description of the site location, history, air quality representation.*
Site Information	
AQS ID	*AQS ID for the site*
ADEQ ID	*ADEQ ID for the site*
Address	*The street address or closest intersection*
County	*County the site is located in*
MSA	*Metropolitan Statistical Area (only in Maricopa, Pima, Flagstaff, Prescott Valley, and Yuma; all others leave blank)*
Surrounding Area	*What is around the site (residential, commercial, industrial, agricultural, desert, forest, mobile, blighted area, and military reservation)*
Distance to road	*Distance and direction to the nearest major road*
Traffic count	*ADOT supplied traffic count for the nearest major road*
Groundcover	*What the site is located on (gravel, rooftop, dirt, rocks, grass, building, plants, desert, asphalt, concrete, etc.)*
Latitude	*Latitude for the site, **in decimal degrees***
Longitude	*Longitude for the site, **in decimal degrees***
Elevation	*Elevation for the site location **in meters***
Site Established Date	*Date the site was started, **MM/DD/YYYY***

Monitoring Information	
Pollutant/Atmospheric parameter	*The pollutant(s) or the atmospheric parameter(s) being monitored at the site (each one gets its own column)*
Network or Program	*SLAMS, NCORE, CSN, PAMS, SPM, NATTS, IMPROV, Class 1, or Urban Haze*
Monitor location	*Location of the monitor, not the intake, (roof top, shelter, desert, etc.)*
Monitoring objective	*Reason for the monitor at this site (highest, population, significant sources, background, transport, visibility or welfare based)*
Spatial scale	*Microscale, middle scale, neighborhood, urban, regional, or national/global*
Sampling method	*The monitor used to measure the pollutant or atmospheric parameter in the same column*
Analysis method	*How the monitor collects the data on the pollutant or atmospheric parameter*
Make of monitor	*The make of the monitor listed for sampling method*
Model of monitor	*The model of the monitor listed for sampling method*
Monitor start date	*Date the monitor was installed at the site, **MM/DD/YYYY***
Operation schedule	*Time frame in which data is acquired (**continuous or day range**)*
Sampling season	*Months the monitor is run and data are recorded*
In climate controlled shelter	*Yes or no- if the site has a climate controlled area for the particular monitor*
Probe height from ground	*Height of probe **in meters***
Probe distance from	*Horizontal or vertical distance probe is from the supporting structure, **in***

Monitoring Information	
structure	***meters***
Dist. from closest obstruction	***Meters*** *the monitor is from closest obstructions (other than trees)*
Distance from trees	***Meters*** *the monitor is from the nearest tree*
Unrestricted airflow degrees	*Area around the air flow that is unrestricted (**in degrees**)*
Dist. between collocated monitors	***Meters*** *between collocated monitors*
Last monitor audit	*Date of last audit,* ***MM/DD/YYYY***
Monitor audit frequency	*How often the monitor is audited (monthly, biannually, annual, etc.)*
Flow rate verification frequency	*How often the flow rate is checked (daily, weekly, bi-weekly, monthly)* **for PM monitors only**
One-point QC check frequency	*Zero span precision check (daily, weekly, bi-weekly, monthly)* **for gas monitors only**
PEP audit date	*Month, Date, and Year of last audit-* ***for PM $_{2.5}$ only***
NPAP audit date	*Month, Date, and Year of last audit*
Changes in next 18 months	*Yes or no, if Yes describe*

22nd St./Craycroft
Site Purpose: monitor urban haze. The site is located at a city storage yard for waste containers, in the southeast portion of Tucson. The surrounding area is predominantly residential on the eastside, with some commercial activity that lines nearby arterial routes. A large covered water reservoir lies to the north. The major pollutant source is vehicular traffic at the intersection of 22nd Street and Craycroft Road, which lies 260 meters northeast of the site.

Site Information			
AQS ID	04-019-1011	ADEQ ID	16410
Address	1237 S. Beverly Lane Tucson, AZ 85711		
County	Pima	Groundcover	Gravel
MSA	Tucson	Latitude	32.2042
Surrounding Area	Residential	Longitude	-110.8775
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	
Sampling method	Nephelometer	Probe	
Analysis method	Light Scatter	None	
Make of monitor	Optec	Vaisala	
Model of monitor	NGN 2	HMP 45C	
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	01/17/2008	03/12/2008	
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	

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 surrounding area and area to 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		
Sampling method	High Res Digital Camera		
Analysis method	None		
Make of monitor	Olympus		
Model of monitor	SP500UZ		
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 452 meters from 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
Sampling method	Dichot	Anemometer	Probe
Analysis method	Gravimetric	None	None
Make of monitor	Anderson	RM Young	Vaisala
Model of monitor	SA-241	5103	HMP 45C
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	5 m	10 m	10 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 no longer be audited	Will no longer be audited	Will no longer be audited

Ajo
Site Purpose: NAAQS compliance network. The site is located at the Ajo - ADOT yard, with the wind system mounted on a fixed tower north of the instrument trailer. The closest structure to the site includes an east-west oriented ADOT office/trailer south of the site. The site is aligned with the western quarter of the building. Beyond the yard, 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	N. Ajo Well Rd. 1 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	
Sampling method	Partisol 2000	Anemometer	
Analysis method	Gravimetric	None	
Make of monitor	R & P	RM Young	
Model of monitor	2000 H	5103	
Monitor start date	01/05/1998	06/11/2003	
Operation schedule	1:6	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	04/01/2008	04/01/2008	
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	TEOM to be added by January 1, 2009	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 643 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	391 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		
Sampling method	O_3 Analyzer		
Analysis method	UV Photometric		
Make of monitor	Thermo		
Model of monitor	49C		
Monitor start date	05/20/2005		
Operation schedule	Continuous		
Sampling season	April – Oct.		
In climate controlled shelter	Y		
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	07/26/2007		
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		

* These measurements have not been taken and will be added to the 2009 Network Plan

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 transmitter for the receiver 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	01/01/1994

Monitoring Information			
Pollutant/Atmospheric parameter	None	Bext	
Network or Program	Urban Haze	Urban Haze	
Monitor location	Rooftop	Rooftop	
Monitoring objective	Visibility	Visibility	
Spatial scale	Urban	Urban	
Sampling method	High Res Digital Camera	Transmissometer Receiver	
Analysis method	None	Light Attenuation	
Make of monitor	Olympus	Optec	
Model of monitor	SP500UZ	LVP-2	
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 and is now located on the northwest side of the school. The surrounding area is primarily residential, and is 1,400 meters south from downtown Phoenix. The primary source of pollutants comes from downtown traffic, businesses, and freeways.

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	SPM		
Monitor location	Metal Structure		
Monitoring objective	Population		
Spatial scale	Neighborhood		
Sampling method	Partisol 2000		
Analysis method	Gravimetric		
Monitor start date	07/03/2005		
Make of monitor	R & P		
Model of monitor	2000 F		
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	02/26/2008		
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 800 meters. To the north and east, about 275 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	171 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		
Sampling method	Partisol 2000		
Analysis method	Gravimetric		
Make of monitor	R & P		
Model of monitor	2000 F		
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	--		
Distance from closest obstruction	7 m		
Distance from trees	--		
Unrestricted airflow degrees	360°		
Dist. between collocated monitors	--		
Last monitor audit	02/14/2008		
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 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	32.295
Surrounding Area	Residential	Longitude	-110.9817
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	
Sampling method	Nephelometer	Probe	
Analysis method	Light Scatter	None	
Make of monitor	Optec	Vaisala	
Model of monitor	NGN 2	HMP 45C	
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 National Park Service, 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. The major source of pollution comes from visitors to the National Monument and traffic on SR 181.

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	32.0092
Surrounding Area	Desert	Longitude	-109.3883
Distance to road	99 m – E	Elevation	1,564 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
Sampling method	Nephelometer	Probe	IMPROVE
Analysis method	Light Scatter	None	Various
Make of monitor	Optec	Vaisala	Various
Model of monitor	NGN 2	HMP 45C	Various
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	*	*	*
Probe distance from structure	*	*	*
Distance from closest obstruction	*	*	*
Distance from trees	*	*	*
Unrestricted airflow degrees	*	*	*
Dist. between collocated monitors	--	--	--
Last monitor audit	--	--	--
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

* These measurements have not been taken and will be added to the 2009 Network Plan

Cottonwood
Site Purpose: monitor smoke/public information. The monitor was moved in March of 2008 from Camp Verde Forest Service, due to renovations, to the current site on the rooftop of the Police Station in Cottonwood, AZ.

Site Information			
AQS ID	None	ADEQ ID	To be assigned
Address	636 Aspen St E, Cottonwood-Verde Village, AZ 86326		
County	Apache	Groundcover	Rooftop
MSA	None	Latitude	34.73717
Surrounding Area	Industrial	Longitude	-112.021
Distance to road	200 yards - 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		
Sampling method	EBAM		
Analysis method	Beta Ray Attenuation		
Make of monitor	Met One		
Model of monitor	E-BAM		
Monitor start date	04/03/2008		
Operation schedule	Continuous		
Sampling season	All Year		
In climate controlled shelter	*		
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		

* These measurements have not been taken and will be added to the 2009 Network Plan

Douglas Red Cross
Site Purpose: NAAQS compliance network. On January 12, 1999 the site was moved from Douglas High School across the street to the Red Cross building, located on the south side of 15th Street. The surrounding area is a mix of residential and commercial use. The major sources of pollution are emissions originating in Mexico, unpaved road dust and paved roads, agricultural burning, cleared areas, windblown agricultural land, off road vehicles, and unpaved parking lots.

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	31.3489
Surrounding Area	Commercial/Residential	Longitude	-109.5386
Distance to road	30 m – N	Elevation	1,250 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
Sampling method	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
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	*
Probe distance from structure	--	--	*
Distance from closest obstruction	10 m	8 m	*
Distance from trees	>10 m	>10 m	*
Unrestricted airflow degrees	300°	300°	*
Dist. between collocated monitors	--	--	--
Last monitor audit	01/30/2008	01/30/2008	--
Monitor audit frequency	Biannual	Biannual	--
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

* These measurements have not been taken and will be added to the 2009 Network Plan

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. The surrounding area is commercial, residential, and some industrial. This area has been experiencing tremendous growth in the past five years. Bell Road, which is a major artery into Phoenix, lies 137 meters north and US 60, a major roadway leading from Phoenix to the far northwest valley, lies 420 meters northeast of the site.

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	33.6371
Surrounding Area	Commercial/Residential	Longitude	-112.3394
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	
Sampling method	Nephelometer	Probe	
Analysis method	Light Scatter with correlation to $PM_{2.5}$	None	
Make of monitor	Optec	Rotronics	
Model of monitor	NGN 2	MP101A	
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	02/26/2008	02/26/2008	
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
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	
Sampling method	Nephelometer	Probe	
Analysis method	Light Scatter with correlation to $PM_{2.5}$	None	
Make of monitor	Optec	Rotronics	
Model of monitor	NGN 2	MP101A	
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	02/26/2008	02/26/2008	
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 10,850 meters to the southwest and the other camera points to the White Tanks mountain range, which is 19,740 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	
Sampling method	High Res Digital Camera	High Res Digital Camera	
Analysis method	None	None	
Make of monitor	Olympus	Olympus	
Model of monitor	SP500UZ	SP500UZ	
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 and Thorpe Park is located about 800 meters to the west.

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 – E	Elevation	2,120 m
Traffic count	2,300 – N. Bonito St.	Site Established Date	10/29/1996

Monitoring Information			
Pollutant/Atmospheric parameter	PM_{10}	$PM_{2.5}$	O_3
Network or Program	SLAMS	SLAMS	SPM
Monitor location	Rooftop	Rooftop	Rooftop
Monitoring objective	Population	Population	Population
Spatial scale	Neighborhood	Neighborhood	Neighborhood
Sampling method	Partisol 2000	Partisol 2000	O_3 Analyzer
Analysis method	Gravimetric	Gravimetric	UV Photometric
Make of monitor	R & P	R & P	Thermo
Model of monitor	2000 F	2000 F	49C
Monitor start date	04/01/2004	09/16/2003	03/13/2008
Operation schedule	1:6	1:6	Continuous
Sampling season	All year	All year	April – Oct.
In climate controlled shelter	N	N	Y
Probe height from ground	6 m	6 m	10 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	300°	300°	360°
Dist. between collocated monitors	--	--	--
Last monitor audit	09/13/2007	09/13/2007	--
Monitor audit frequency	Biannual	Biannual	Annual
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		
Sampling method	EBAM		
Analysis method	Beta Ray Attenuation		
Make of monitor	Met One		
Model of monitor	E-BAM		
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. This site is operated by the National Park Service. The data are used for measuring visibility in a Class I area.

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	2,267 m
Traffic count	3,075 – SR 64	Site Established Date	09/24/1997

Monitoring Information			
Pollutant/Atmospheric parameter	Aerosol	Bscat	
Network or Program	IMPROVE	Class I	
Monitor location	Shelter	Tower	
Monitoring objective	Visibility	Visibility	
Spatial scale	Regional	Regional	
Sampling method	IMPROVE	Nephelometer	
Analysis method	Various	Light Scatter	
Make of monitor	Various	Optec	
Model of monitor	Various	NGN 2	
Monitor start date	04/26/2000	06/09/2004	
Operation schedule	1:3	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	

* These measurements have not been taken and will be added to the 2009 Network Plan

Grand Canyon National Park - Indian Garden
Site Purpose: monitor regional haze and IMPROVE program. The site is owned by the National Park Service, who operates the ADEQ nephelometer at the site. The IMPROVE monitors are 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 of the Grand Canyon near the ranger station on the south side of the canyon.

Site Information			
AQS ID	None	ADEQ ID	16683
Address	Highway 64 N. 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	1,149 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
Sampling method	Nephelometer	Probe	IMPROVE
Analysis method	Light Scatter	None	Various
Make of monitor	Optec	Vaisala	Various
Model of monitor	NGN 2	HMP 45C	Various
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	04/25/2008	--
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

* These measurements have not been taken and will be added to the 2009 Network Plan

Green Valley Fire Administration
Site Purpose: NAAQS compliance network. The site is operated jointly by ADEQ and Pima DEQ. The monitors at the site quantify the particulate matter concentrations during times when wind blows across the nearby tailing.

Site Information			
AQS ID	None	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}	$PM_{2.5}$	Wind
Network or Program	SPM	SPM	SPM
Monitor location	Rooftop	Rooftop	Rooftop
Monitoring objective	Source	Source	Source
Spatial scale	Middle	Middle	Middle
Sampling method	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
Monitor start date	07/11/2007	7/11/2007	07/11/2007
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	8 m
Probe distance from structure	--	--	--
Distance from closest obstruction	--	--	--
Distance from trees	--	--	--
Unrestricted airflow degrees	360°	360°	360°
Dist. between collocated monitors	--	--	--
Last monitor audit	08/08/2007	08/08/2007	--
Monitor audit frequency	Biannual	Biannual	Annual
Flow rate verification frequency	Monthly	Monthly	--
One-point QC check frequency	--	--	--
PEP audit date	--	--	--
NPAP audit date	--	--	--
Changes in next 18 months	N	N	N

Greer Water Treatment Plant
Site Purpose: monitor regional haze and IMPROVE program. The site is operated by ADEQ and the U.S. Forest Service. The surrounding area is mostly forest.

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	-109.44
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	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
Sampling method	Nephelometer	Anemometer	Probe
Analysis method	Light Scatter	None	None
Make of monitor	Optec	RM Young	Vaisala
Model of monitor	NGN 2	5103	HMP 45C
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	10 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	09/12/2007	09/12/2007	09/12/2007
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	-109.44
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		
Sampling method	IMPROVE		
Analysis method	Various		
Make of monitor	Various		
Model of monitor	Various		
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	10/17/2007		
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	33.0061
Surrounding Area	Residential	Longitude	-110.7858
Distance to road	15-20 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	
Sampling method	SO_2 Analyzer	Partisol 2000	
Analysis method	Pulsed Fluorescence	Gravimetric	
Make of monitor	Thermo	R & P	
Model of monitor	43C	2000 F	
Monitor start date	01/01/1975	07/01/2004	
Operation schedule	Continuous	1:6	
Sampling season	All year	All year	
In climate controlled shelter	Y	N	
Probe height from ground	7 m	6 m	
Probe distance from structure	--	--	
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	08/01/2007	02/07/2008	
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	TEOM to be added by January 1, 2009	

Ike's Backbone
Site Purpose: monitor regional haze and IMPROVE program. The site is operated by ADEQ and the U.S. Forest Service. 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	1,625 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
Sampling method	Nephelometer	Anemometer	Probe
Analysis method	Light Scatter	None	None
Make of monitor	Optec	RM Young	Visalia
Model of monitor	NGN 2	5103	HMP 45C
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	03/12/2008	12/05/2007	03/12/2008
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		
Sampling method	IMPROVE		
Analysis method	Various		
Make of monitor	Various		
Model of monitor	Various		
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	12/18/2007		
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, toxics network, AIR Now, AQI forecasting, urban haze, and meteorological support. The site was established by ADEQ to represent air quality in the central core of the Phoenix metropolitan area. The surrounding area is primarily residential neighborhoods. I-10 in located approximately 1,609 meters west and commercial and industrial areas are within 8,046 meters of the site.

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	346 m
Traffic count	20,214 – Campbell Ave.	Site Established Date	07/01/1993

Monitoring Information			
Pollutant/Atmospheric parameter	CO	NOx	NOy
Network or Program	SLAMS	SLAMS/PAMS	SLAMS/PAMS/ NCore
Monitor location	Shelter	Shelter	Shelter
Monitoring objective	Population	Population	Population
Spatial scale	Neighborhood	Neighborhood	Neighborhood
Sampling method	CO Analyzer	NOx Analyzer	Trace Reactive NOx Analyzer
Analysis method	Gas Filter Correlation	Chemilumin-escence	Chemilumin-escence
Make of monitor	Thermo	Thermo	Thermo
Model of monitor	48C	42C	42C TL
Monitor start date	12/11/2002	07/01/1993	07/01/1993
Operation schedule	Continuous	Continuous	Continuous
Sampling season	All Year	Apr – Oct.	Apr – Oct.
In climate controlled shelter	Y	Y	Y
Probe height from ground	5 m	5 m	7 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	10/10/2007	04/25/2007	03/15/2007
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	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	346 m
Traffic count	20,214 – Campbell Ave.	Site Established Date	07/01/1993

Monitoring Information			
Pollutant/Atmospheric parameter	O_3	SO_2	VOC
Network or Program	SLAMS/PAMS/ NCore	SLAMS	SLAMS/NATTS/ PAMS
Monitor location	Shelter	Shelter	Shelter
Monitoring objective	Population	Population	Population
Spatial scale	Neighborhood	Neighborhood	Neighborhood
Sampling method	O_3 Analyzer	SO_2 Analyzer	VOC Canister Sampler
Analysis method	UV Photometric	Pulsed Fluorescence	TO15/TO14
Make of monitor	Thermo	Thermo	ATEC
Model of monitor	49C	43C	2200
Monitor start date	07/01/1993	03/03/2005	06/06/2001
Operation schedule	Continuous	Continuous	1:6
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	04/25/2007	03/27/2007	02/20/2008
Monitor audit frequency	Annual	Annual	Annual
Flow rate verification frequency	--	--	--
One-point QC check frequency	Every 2 weeks	Every 2 weeks	Annual
PEP audit date	--	--	--
NPAP audit date	05/06/2008	05/06/2008	--
Changes in next 18 months	N	N	Addition of Auto GCMS if funds available

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	346 m
Traffic count	20,214 – Campbell Ave.	Site Established Date	07/01/1993

Monitoring Information			
Pollutant/Atmospheric parameter	Carbonyls	Hexavalent Chromium	SVOC
Network or Program	SLAMS/NATTS/ PAMS	SLAMS/NATTS	NATTS
Monitor location	Shelter	Metal Roof	Shelter
Monitoring objective	Population	Population	Population
Spatial scale	Neighborhood	Neighborhood	Neighborhood
Sampling method	Carbonyl Cartridge Sampler	Toxic Air Sampler	PUF
Analysis method	TO-11A	CARB Method	Lab Analysis
Make of monitor	ATEC	Xontech	Tisch Environmental
Model of monitor	8000	924	TE-1000BL
Monitor start date	05/15/1999	01/01/2006	07/08/2007
Operation schedule	1:6	1:6	1:6
Sampling season	All year	All year	All year
In climate controlled shelter	Y	N	N
Probe height from ground	5 m	5 m	4.5 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	02/20/2008	02/20/2008	02/20/2008
Monitor audit frequency	Annual	Biannual	Biannual
Flow rate verification frequency	--	--	--
One-point QC check frequency	Annual	--	Monthly
PEP audit date	--	--	--
NPAP audit date	--	--	--
Changes in next 18 months	Addition of Auto GCMS if funds available	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	346 m
Traffic count	20,214 – Campbell Ave.	Site Established Date	07/01/1993

Monitoring Information			
Pollutant/Atmospheric parameter	$PM_{2.5}$	PM_{10}	$PM_{2.5}$
Network or Program	SPM	SPM	SLAMS/NCore
Monitor location	Shelter	Shelter	Metal Roof
Monitoring objective	Population	Population	Population
Spatial scale	Neighborhood	Neighborhood	Neighborhood
Sampling method	FDMS TEOM	TEOM	Partisol 2025
Analysis method	Tapered Element Oscillating Microbalance Technology	Tapered Element Oscillating Microbalance Technology	Gravimetric
Make of monitor	R & P	R & P	R & P
Model of monitor	1400 AB	1400 AB	2025
Monitor start date	03/17/2005	07/01/1993	11/21/2003
Operation schedule	Continuous	Continuous	1:3
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	10/10/2007	10/10/2007	07/25/2007
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	346 m
Traffic count	20,214 – Campbell Ave.	Site Established Date	07/01/1993

Monitoring Information			
Pollutant/Atmospheric parameter	PM_{10}/Metal Speciation	Speciated $PM_{2.5}$	Bscat / $PM_{2.5}$
Network or Program	SLAMS/NATTS	SLAMS/CSN/ NCore	Urban Haze/ AIRNow
Monitor location	Metal Roof	Metal Roof	Tower
Monitoring objective	Population	Population	Population
Spatial scale	Neighborhood	Neighborhood	Neighborhood
Sampling method	Partisol 2000	Speciation FRM/ SASS	Nephelometer
Analysis method	Gravimetric	Various	Light Scatter with correlation to $PM_{2.5}$
Make of monitor	R & P	Met One	Optec
Model of monitor	2000 F	Super SASS	NGN 2
Monitor start date	01/01/2005	02/21/2000	02/12/2003
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	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	07/25/2007	10/10/2007	03/27/2007
Monitor audit frequency	Biannual	Biannual	Annual
Flow rate verification frequency	monthly	Every 2 weeks	--
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	346 m
Traffic count	20,214 – Campbell Ave.	Site Established Date	07/01/1993

Monitoring Information			
Pollutant/Atmospheric parameter	Babs	Wind	Temp/RH
Network or Program	SLAMS/NATTS	SLAMS/NCore	Urban Haze
Monitor location	Shelter	Tower	Tower
Monitoring objective	Population	Population	Population
Spatial scale	Neighborhood	Neighborhood	Neighborhood
Sampling method	Aethalometer	Anemometer	Probe
Analysis method	Light Absorption	None	None
Make of monitor	Magee Scientific	RM Young	Rotronics
Model of monitor	AE21ER	5103	MP101A
Monitor start date	01/01/1993	02/12/2003	06/24/2003
Operation schedule	Continuous	Continuous	Continuous
Sampling season	All year	All year	All year
In climate controlled shelter	Y	N	N
Probe height from ground	5 m	10 m	5.75 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	02/20/2008	07/18/2007	07/18/2007
Monitor audit frequency	Annual	Biannual	Biannual
Flow rate verification frequency	--	--	--
One-point QC check frequency	Weekly	--	--
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	346 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	
Sampling method	IMPROVE	IMPROVE collocated	
Analysis method	Various	Various	
Make of monitor	Various	Various	
Model of monitor	Various	Various	
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	--	--	
Last monitor audit	n/a	n/a	
Monitor audit frequency	n/a	n/a	
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 surrounding area is primarily desert. To the southwest 31,300 meters is US 93, which is the closest highway to the site.

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		
Sampling method	IMPROVE		
Analysis method	Various		
Make of monitor	Various		
Model of monitor	Various		
Monitor start date	02/01/2003		
Operation schedule	1:3		
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		

* These measurements have not been taken and will be added to the 2009 Network Plan

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 area between the two sites is mostly residential with some commercial activity. The transmissometer's beam extends approximately 4,000 meters across the City of Mesa.

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	373 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	Visibility	Visibility	
Spatial scale	Urban	Urban	
Sampling method	Transmissometer Receiver	Probe	
Analysis method	Light Attenuation	None	
Make of monitor	Optec	Rotronics	
Model of monitor	LVP-2	MP101A	
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	--	09/11/2007	
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 at the end of the paved portion of Linden Road, inside the fence line of a private residence and sits atop a north-south oriented ridge which slopes downward in a northerly direction toward the town of Miami. The site represents the highest SO_2 concentration in the area surrounding a nearby copper smelter located in the town of Miami. The surrounding area is mostly undeveloped high desert terrain. Freeport McMoRan mine also maintains a PM_{10} monitor at 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		
Sampling method	SO_2 Analyzer		
Analysis method	Pulsed Fluorescence		
Make of monitor	Thermo		
Model of monitor	43C		
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	--		
Distance from trees	--		
Unrestricted airflow degrees	180°		
Dist. between collocated monitors	--		
Last monitor audit	04/11/2007		
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 Post Office, which lies approximately 670 meters from the Arizona/Mexico Border. The surrounding area is a mixture of commercial and residential.

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
Sampling method	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
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	01/29/2008	01/29/2008	01/29/2008
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
Sampling method	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
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	01/29/2008	01/29/2008	01/29/2008
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. One high-resolution digital camera points toward South Mountain, which lies 27,000 meters south and the other camera points to the west. 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 residential with some commercial activity.

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	None	
Network or Program	Urban Haze	Urban Haze	
Monitor location	Tower	Tower	
Monitoring objective	Visibility	Visibility	
Spatial scale	Urban	Urban	
Sampling method	High Res Digital Camera	High Res Digital Camera	
Analysis method	None	None	
Make of monitor	Olympus	Olympus	
Model of monitor	SP500UZ	SP500UZ	
Monitor start date	07/01/2003	07/01/2003	
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	0.3 m	0.3 m	
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	

Organ Pipe National Monument
Site Purpose: IMPROVE program. The site is about 7 meters from a water pump house, which is a metal 3 meter by 3 meter structure. The site lies about 540 meters east of a small mountain range. The surrounding area is predominately undisturbed Sonoran 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	31.9492
Surrounding Area	Desert	Longitude	-112.8011
Distance to road	400 m – E	Elevation	506 m
Traffic count	1,465 – SR 85	Site Established Date	10/01/1969

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
Sampling method	Nephelometer	Probe	IMPROVE
Analysis method	Light Scatter	None	Various
Make of monitor	Optec	Vaisala	Various
Model of monitor	NGN 2	HMP 45C	Various
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	04/01/2008	04/01/2008	01/31/2007
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

Paul Spur Chemical Lime Plant
Site Purpose: NAAQS compliance network. 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	31.3656
Surrounding Area	Desert	Longitude	-109.73
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	
Sampling method	Partisol 2000	Partisol 2000	
Analysis method	Gravimetric	Gravimetric	
Make of monitor	R & P	R & P	
Model of monitor	2000 H	2000 H	
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	01/30/2008	01/30/2008	
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 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	31.3539
Surrounding Area	Desert	Longitude	-109.7369
Distance to road	20 m – N	Elevation	1,278 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		
Sampling method	Anemometer		
Analysis method	None		
Make of monitor	RM Young		
Model of monitor	5103		
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	01/30/2008		
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		

Payson Well Site
Site Purpose: NAAQS compliance network. The site has, to the southeast, a tank and a second taller tank lies beyond the first tank. To the west, on the other side of a metal fence, is an auto repair shop. The surrounding area is commercial with some residential.

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	1,500 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
Sampling method	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
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	11/06/2007	05/01/2007	05/01/2007
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: IMPROVE program. The site is operated by the National Park Service. The Park sits along I-40 and the surrounding area is primarily desert.

Site Information			
AQS ID	04-017-0119	ADEQ ID	16473
Address	I-40 & Petrified Forest Rd. Petrified Forest National Park, AZ		
County	Apache	Groundcover	Dirt
MSA	None	Latitude	34.8208
Surrounding Area	Desert	Longitude	-109.8919
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	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
Sampling method	Nephelometer	Probe	IMPROVE
Analysis method	Light Scatter	None	Various
Make of monitor	Optec	Vaisala	Various
Model of monitor	NGN 2	HMP 45C	Various
Monitor start date	10/01/2003	10/1/2003	04/03/2000
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	*	*	*
Probe distance from structure	*	*	*
Distance from closest obstruction	*	*	*
Distance from trees	*	*	*
Unrestricted airflow degrees	*	*	*
Dist. between collocated monitors	--	--	--
Last monitor audit	--	--	--
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

* These measurements have not been taken and will be added to the 2009 Network Plan

Phoenix Transmissometer Receiver
Site Purpose: monitor urban haze. The transmissometer received is currently located on the rooftop of a Holiday Inn Hotel near 2nd Avenue and Osborn Road. The receiver will be moved in 2008 to the Hilton Gardens Hotel rooftop 1 mile to the North for security and maintenance reasons. The surrounding area is primarily commercial with sparse residential areas. The transmitter is located on top of the Phoenix Baptist Hospital at 19th Avenue and Bethany Home Road 4,900 meters to the northwest. The area between the two locations is mostly residential.

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	01/01/1992

Monitoring Information			
Pollutant/Atmospheric parameter	Bext	Temp/RH	
Network or Program	Urban Haze	SPM	
Monitor location	Rooftop	Rooftop	
Monitoring objective	Visibility	Visibility	
Spatial scale	Urban	Urban	
Sampling method	Transmissometer Receiver	Probe	
Analysis method	Light Attenuation	None	
Make of monitor	Optec	Rotronics	
Model of monitor	LVP-2	MP101A	
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	--	12/03/2007	
Monitor audit frequency	--	Annual	
Flow rate verification frequency	--	--	
One-point QC check frequency	--	--	
PEP audit date	--	--	
NPAP audit date	--	--	
Changes in next 18 months	Moving to Hilton Garden Hotel 1 Mile N	Moving to Hilton Garden Hotel 1 Mile 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 surrounding area is a mixture of commercial and residential. The receiver is located on Holiday Inn Hotel roof near 2nd Avenue and Osborn, which is 4,900 meters to the southeast. The area between the two sites is mostly residential.

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	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	Visibility		
Spatial scale	Urban		
Sampling method	Transmissometer Transmitter		
Analysis method	Light Attenuation		
Make of monitor	Optec		
Model of monitor	LVP-2		
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 U.S. Forest Service and is located on a hilltop, south of the town of Young, AZ. The surrounding area is wilderness and desert. The site lies 1,820 meters to the northwest 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	1,600 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
Sampling method	Nephelometer	Anemometer	Probe
Analysis method	Light Scatter	None	None
Make of monitor	Optec	RM Young	Vaisala
Model of monitor	NGN 2	5103	HMP 45C
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	02/27/2008	02/27/2008	02/27/2008
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

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	1,600 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		
Sampling method	IMPROVE		
Analysis method	Various		
Make of monitor	Various		
Model of monitor	Various		
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	02/28/2008		
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 to the east and large trees to the west.

Site Information			
AQS ID	To be assigned	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	
Sampling method	O_3 Analyzer	EBAM	
Analysis method	UV Photometric	Beta Ray Attenuation	
Make of monitor	Thermo	Met One	
Model of monitor	49C	E-BAM	
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	04/08/2008	--	
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 surrounding area is mostly residential. 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	-112.3319
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	
Sampling method	Partisol 2000	Partisol 2000	
Analysis method	Gravimetric	Gravimetric	
Make of monitor	R & P	R & P	
Model of monitor	2000	2000 F	
Monitor start date	12/28/2008	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	04/08/2008	04/08/2008	
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: PAMS network and IMPROVE program. The site is operated by ADEQ and Pinal County Air Quality Control District. The surrounding area is primarily desert. The monitor is located 635 meters southeast of Queen Valley, Arizona, which is a small community on the far eastern outskirts of the Metropolitan Phoenix Area. As of 2000 the population of Queen Valley was 820 people. The site is a PAMS type 3 to measure concentrations downwind of Phoenix metropolitan area.

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	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
Sampling method	O_3 Analyzer	Trace Reactive NOx - Seasonal	VOC Canister Sampler
Analysis method	UV Photometric	Chemilumin-escence	TO15/TO14
Make of monitor	Thermo	Thermo	Tisch Environmental
Model of monitor	49C	42C TL	3 canister
Monitor start date	01/01/1998	01/01/1998	05/20/2001
Operation schedule	Continuous	Continuous	1:12
Sampling season	April – Oct.	April – Oct.	May – Oct.
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	04/11/2007	05/17/2007	--
Monitor audit frequency	Annual	Annual	Annual
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
Sampling method	Nephelometer	Probe	IMPROVE
Analysis method	Light Scatter	None	Various
Make of monitor	Optec	Vaisala	Various
Model of monitor	NGN 2	HMP 45C	Various
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	5 m	5 m	5 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	02/05/2008	02/05/2008	02/05/2008
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

Rillito
Site Purpose: NAAQS compliance network. In February of 2007 the site was relocated 91 meters north, from the Water St. location, to its current location. The surrounding area is primarily residential and industrial, with I-10 east 300 meters.

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	
Sampling method	Partisol 2000	Anemometer	
Analysis method	Gravimetric	None	
Make of monitor	R & P	RM Young	
Model of monitor	2000 F	5103	
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	04/30/2008	04/24/2007	
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: regional haze and IMPROVE program. The site is located within the Saguaro National Park-East. The area surrounding the site is desert.

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	32.1746
Surrounding Area	Desert	Longitude	-110.7371
Distance to road	82 m – W	Elevation	941 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		
Sampling method	IMPROVE		
Analysis method	Various		
Make of monitor	Various		
Model of monitor	Various		
Monitor start date	04/19/2001		
Operation schedule	1:3		
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		

* These measurements have not been taken and will be added to the 2009 Network Plan

Saguaro National Park West
Site Purpose: monitor regional haze and IMPROVE program. The site is located within the Saguaro National Park-West, which attracted 757,417 visitors in 2000. The area surrounding the site is desert. This site lies 18,400 meters west 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	32.2486
Surrounding Area	Desert	Longitude	-111.2178
Distance to road	27 m – W	Elevation	714 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
Sampling method	Nephelometer	Anemometer	Probe
Analysis method	Light Scatter	None	None
Make of monitor	Optec	RM Young	Vaisala
Model of monitor	NGN 2	5103	HMP 45C
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	5 m	10 m	5 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	07/31/2007	07/24/2007	07/24/2007
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	714 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		
Sampling method	IMPROVE		
Analysis method	Various		
Make of monitor	Various		
Model of monitor	Various		
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	07/24/2007		
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		

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	04-013-9994	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	Various		
Network or Program	SPM		
Monitor location	Rooftop		
Monitoring objective	Transport		
Spatial scale	Middle		
Sampling method	DOAS		
Analysis method	None		
Make of monitor	Opsis		
Model of monitor	ER 150		
Monitor start date	12/01/2006		
Operation schedule	Continuous		
Sampling season	All year		
In climate controlled shelter	*		
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		

* These measurements have not been taken and will be added to the 2009 Network Plan

Sedona Post Office
Site Purpose: monitor smoke/public information. ADEQ established the Sedona Post Office PM_{10} site in approximately 1990 in order 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		
Sampling method	EBAM		
Analysis method	Beta Ray Attenuation		
Make of monitor	Met One		
Model of monitor	E-BAM		
Monitor start date	12/05/2006		
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		

* These measurements have not been taken and will be added to the 2009 Network Plan

Show Low
Site Purpose: monitor smoke/public information. ADEQ established the Show Low site in January 1974 to demonstrate NAAQS compliance network. Currently the site is used for neighborhood monitoring of smoke. The surrounding area is forest, residential, and commercial. Show Low is a small town with an annual population estimate of approximately 9,885 people, but it seasonally climbs to around 15,000. The city is the commercial and tourism hub of the western White Mountains.

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		
Sampling method	EBAM		
Analysis method	Beta Ray Attenuation		
Make of monitor	Met One		
Model of monitor	E-BAM		
Monitor start date	07/06/2007		
Operation schedule	Continuous		
Sampling season	All year		
In climate controlled shelter	*		
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		

* These measurements have not been taken and will be added to the 2009 Network Plan

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 100 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		
Sampling method	Dichot		
Analysis method	Gravimetric		
Make of monitor	Anderson		
Model of monitor	SA-241		
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 no longer be audited		

South Phoenix
Site Purpose: Toxics network. This site is owned by Maricopa County Air Quality Department. ADEQ operates the toxics sampler at this site. This 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	33.4033
Surrounding Area	Residential/Commercial	Longitude	-112.0744
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		
Sampling method	Multiport Canister Sampler		
Analysis method	TO15		
Make of monitor	ATEC		
Model of monitor	2200		
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		

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	-111.9686
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	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
Sampling method	Nephelometer	Anemometer	Probe
Analysis method	Light Scatter	None	None
Make of monitor	Optec	RM Young	Vaisala
Model of monitor	NGN 2	5103	HMP 45C
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	5 m	10 m	5 m
Probe distance from structure	--	--	1 m
Distance from closest obstruction	25 m	25 m	25 m
Distance from trees	10 m	10 m	10 m
Unrestricted airflow degrees	360°	360°	360°
Dist. between collocated monitors	--	--	--
Last monitor audit	09/13/2007	09/13/2007	09/13/2007
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	-111.9686
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		
Sampling method	IMPROVE		
Analysis method	Various		
Make of monitor	Various		
Model of monitor	Various		
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	10 m		
Unrestricted airflow degrees	360°		
Dist. between collocated monitors	--		
Last monitor audit	09/13/2007		
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: monitor regional haze and downwind transport from Phoenix area. This site is located at the base of Tonto National Monument, about 40 meters south of SR 188. The area surrounding the site is generally undeveloped mountainous Sonoran Desert with Roosevelt Lake about 400 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	33.6547
Surrounding Area	Desert	Longitude	-111.1067
Distance to road	17 m – NE	Elevation	737 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	
Sampling method	O_3 Analyzer	IMPROVE	
Analysis method	UV Photometric	Various	
Make of monitor	Thermo	Various	
Model of monitor	49C	Various	
Monitor start date	05/22/2002	04/03/200	
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	17 m	
Unrestricted airflow degrees	360°	360°	
Dist. between collocated monitors	--	--	
Last monitor audit	04/03/2008	05/07/2008	
Monitor audit frequency	Annual	Yearly	
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. This site is operated by ADEQ and Pima County Department of Environmental Quality. The transmissometer receiver is on the rooftop of the Pima County Health and Welfare building, while the transmissometer transmitter is located on the rooftop of 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	Visibility	Visibility	
Spatial scale	Urban	Urban	
Sampling method	Transmissometer receiver	Probe	
Analysis method	Light Attenuation	None	
Make of monitor	Optec	Vaisala	
Model of monitor	LVP-2	HMP 45C	
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	--	*	
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	

* These measurements have not been taken and will be added to the 2009 Network Plan

Tucson Transmissometer Transmitter
Site Purpose: monitor urban haze. This site is operated by ADEQ and Pima County Department of Environmental Quality. The transmissometer 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 transmissometer 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	Visibility		
Spatial scale	Urban		
Sampling method	Transmissometer		
Analysis method	Light Attenuation		
Make of monitor	Optec		
Model of monitor	LVP-2		
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 Pima County Department of Environmental Quality. 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
Sampling method	Nephelometer	Anemometer	Probe
Analysis method	Light Scatter	None	None
Make of monitor	Optec	RM Young	Vaisala
Model of monitor	NGN 2	5103	HMP 45C
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	4 m	--	4 m
Unrestricted airflow degrees	320°	360°	360°
Dist. between collocated monitors	--	--	--
Last monitor audit	10/23/2007	10/23/2007	10/27/2007
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

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		
Sampling method	Aethalometer		
Analysis method	Light Absorption		
Make of monitor	Magee Scientific		
Model of monitor	AE21ER		
Monitor start date	05/11/2002		
Operation schedule	Continuous		
Sampling season	All year		
In climate controlled shelter	Y		
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		

* These measurements have not been taken and will be added to the 2009 Network Plan

Vehicle Emissions Laboratory
Site Purpose: NAAQS compliance network, AIR Now, AQI forecasting, PAMS, and meteorological support. The surrounding area is a combination of residential and commercial. The site is 413 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	350 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
Sampling method	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
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	12/11/2007	12/11/2007	04/15/2008
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
Sampling method	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
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	04/15/2008	--	--
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	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		
Sampling method	Wind Profiler		
Analysis method	None		
Make of monitor	Vaisala		
Model of monitor	LAP-3000		
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 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 County 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	
Sampling method	Anemometer	Probe	
Analysis method	None	None	
Make of monitor	RM Young	Vaisala	
Model of monitor	5103	HMP 45C	
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	04/02/2008	04/02/2008	
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	

Yuma Courthouse
Site Purpose: NAAQS compliance network. 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
Sampling method	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 H	2000 H	1400 AB
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	04/02/2008	04/02/2008	04/02/2008
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		
Sampling method	Partisol 2000		
Analysis method	Gravimetric		
Make of monitor	R & P		
Model of monitor	2000 F		
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	04/02/2008		
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 Game & Fish
Site Purpose: NAAQS compliance network and AQI forecasting. The site is used to indicate ozone transport into the Phoenix metropolitan area from the AZ/Mexico boarder. The surrounding area is commercial, residential, desert, and heavily used train tracks 200 meters to the south.

Site Information			
AQS ID	04-027-0006	ADEQ ID	18690
Address	9140 E. 28th St. Yuma, AZ 85365		
County	Yuma	Groundcover	Asphalt
MSA	Yuma	Latitude	32.6779
Surrounding Area	Commercial/Desert	Longitude	-114.4759
Distance to road	37 m – E	Elevation	60 m
Traffic count	6,541 – Ave. 9 E.	Site Established Date	04/14/2003

Monitoring Information			
Pollutant/Atmospheric parameter	O_3		
Network or Program	SLAMS		
Monitor location	Shelter		
Monitoring objective	Population		
Spatial scale	Neighborhood		
Sampling method	O3 Analyzer		
Analysis method	UV Photometric		
Make of monitor	Thermo		
Model of monitor	49C		
Monitor start date	04/14/2003		
Operation schedule	Continuous		
Sampling season	April – Oct		
In climate controlled shelter	Y		
Probe height from ground	4 m		
Probe distance from structure	0.33 m		
Distance from closest obstruction	20 m		
Distance from trees	35 m		
Unrestricted airflow degrees	360°		
Dist. between collocated monitors	--		
Last monitor audit	04/02/2008		
Monitor audit frequency	Annual		
Flow rate verification frequency	--		
One-point QC check frequency	Every 2 weeks		
PEP audit date	--		
NPAP audit date	10/25/2006		
Changes in next 18 months	Site to be closed at end of 2008 season		

Yuma Mesa
Site Purpose: metrological support. The area surrounding the site is citrus groves and open, grassy fields. Temperature and relative humidity sensors are 2.2 meters above a soil covered surface. Several tall trees (approx 10 meters) are located approximately 35 meters west of the site. EPA Meteorological guidance (EPA-454/R-99-005, EPA, 2000), suggests that wind sensors be at least 10 times the height of nearby obstructions. This would require the wind system to be 100 meters from the trees. Considering the number of trees and other structures on the Mesa, sitting an instrument to these specifications would be nearly 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	60 m
Traffic count	6,818 – E. County 15th St. S.	Site Established Date	05/14/2003

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	
Sampling method	Anemometer	Probe	
Analysis method	None	None	
Make of monitor	RM Young	Vaisala	
Model of monitor	5103	HMP 45C	
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	04/02/2008	04/02/2008	
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	

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 and Fish site and is used to indicate ozone transport into the Phoenix metropolitan area from the AZ/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 site.

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		
Sampling method	O^3 Analyzer		
Analysis method	UV Photometric		
Make of monitor	Thermo		
Model of monitor	49C		
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	--		
Distance from closest obstruction	35 m		
Distance from trees	--		
Unrestricted airflow degrees	360°		
Dist. between collocated monitors	--		
Last monitor audit	05/14/2008		
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		

Appendix D – Site Cross Reference in Name Order

AQS ID	ADEQ ID	SITE NAME	PAGE
04-019-1011	16410	22nd St./Craycroft	44
	21737	ADEQ Building	45
80-026-1000	16361	Agua Prieta Fire Station	46
04-019-0001	16316	Ajo	47
04-012-8000	34961	Alamo Lake	48
	19489	Banner Mesa Medical Center	49
04-013-8006	17786	Bethune Elementary School	50
04-015-1003	16365	Bullhead City	51
04-019-1028	16551	Children's Park	52
04-003-8001	16679	Chiricahua Entrance Station	53
		Cottonwood	54
04-003-1005	16503	Douglas Red Cross	55
04-013-4010	19550	Dysart	56
04-013-8005	16506	Estrella	57
	21736	Estrella Mountain Community College	58
04-005-1008	16707	Flagstaff Middle School	59
	16682	Grand Canyon National Park – Hance Camp	61
	16683	Grand Canyon National Park - Indian Garden	62
	128562	Green Valley Fire Administration	63
	16323	Greer Water Treatment Plant	64
04-007-1001	16326	Hayden Old Jail	66
	16421	Ike's Backbone	67
04-013-9997	16328	JLG Supersite	69
	21298	Meadview	76
	19686	Mesa City Building	77
04-007-0009	16382	Miami Ridgeline	78
04-023-0004	16511	Nogales Post Office	79
	16480	North Mountain Summit	81
04-019-0005	16681	Organ Pipe National Monument	82
04-003-0011	16391	Paul Spur Chemical Lime Plant	83
	16392	Paul Spur Chemical Lime Plant South	84
04-007-0008	16317	Payson Well Site	85
04-017-0119	16473	Petrified Forest National Park	86
	16829	Phoenix Transmissometer Receiver	87
	16330	Phoenix Transmissometer Transmitter	88
	16446	Pleasant Valley Ranger Station	89
	133011	Prescott College AQD	91
04-025-2002	18392	Prescott Valley	92
04-021-8001	16394	Queen Valley	93
04-019-0020	16499	Rillito	95
04-019-0021	16474	Saguaro National Park East	96
	16475	Saguaro National Park West	97
04-013-9994	128640	Salt River Pima DOAS	99
04-005-1010	16512	Sedona Post Office	100
04-017-0007	16603	Show Low	101
80-026-0005	16399	Sonora Nogales Fire Station	102
04-013-4003	16377	South Phoenix	103
	16476	Sycamore Canyon	104
04-007-0010	16447	Tonto National Monument	106
	16826	Tucson Transmissometer Receiver	107
	16655	Tucson Transmissometer Transmitter	108
04-019-1027	16662	U of A Central	109
	16363	Vehicle Emissions Laboratory	111

AQS ID	ADEQ ID	SITE NAME	PAGE
	128530	Yuma Agriculture Center Farm	114
04-027-0004	17027	Yuma Courthouse	115
04-027-0006	18690	Yuma Game & Fish	117
	19040	Yuma Mesa	118
	113219	Yuma Supersite	119

[1] Only sites with data reported to the EPA AQS database are assigned AQS ID numbers.

Appendix E – 2008 EPA Monitoring Schedules

2008 Monitoring Schedule

3-day & 6-day Monitoring Schedule for TSP, Pb, PM-10, PM-2.5, and VOC. 12-day Monitoring Schedule for PM-2.5 Collocation.