Maricopa County
Air Quality Department

Philip A. McNeely, R.G.
Director
1001 North Central Avenue
Suite #125
Phoenix, Arizona 85004
602-506-6443 – phone
602-372-6440 – fax

December 05, 2014

Meredith Kurpius, Manager
Air Quality Analysis Office
U.S. Environmental Protection Agency, Region 9
75 Hawthorne Street
San Francisco, CA 94105

RE: MCAQD 2013 Final Air Monitoring Network Review

Dear Ms. Kurpius:

Enclosed please find the Maricopa County Air Quality Department's (MCAQD) 2013 Final Air Monitoring Network Review. This report satisfies our obligation to complete and submit an annual monitoring plan to EPA as per 40 CFR §58.10(a). This letter and the associated network review are being disseminated electronically.

Please note that MCAQD solicited the publics' review and comment using several avenues of communication including, but not limited to: posting at our website, emailing stakeholders, and publishing a public notice. In addition, we held a network review workshop and addressed comments received regarding the accuracy of this year's plan to the best of our ability.

If you have any questions or comments regarding this review, please contact Ben Davis at 602-771-258-5155, ext. 221 or by email at bdavis@mail.maricopa.gov.

Sincerely,

Phil McNeely, Director
Air Quality Department

cc: Jennifer Williams, U.S. EPA, Region 9
Ben Davis, MCAQD
Ron Pope, MCAQD
Ceresa Stewart, MCAQD

2013 AIR MONITORING
FINAL NETWORK PLAN

Maricopa County
Air Quality Department

Publication Date: December 08. 2014

ACKNOWLEDGEMENTS

In 2013, the Maricopa County Air Quality Department's (MCAQD) Air Monitoring Division (AMD) maintained 24 ambient air monitoring sites throughout Maricopa County. The AMD has seventeen team members including: one manager, two technician supervisors, two engineers, one data analyst, and eleven technicians.

The division would especially like to thank all of its air monitoring personnel and two on-loan personnel for the excellent job in helping to maintain Maricopa County's air monitoring networks. They are Ben Davis, Gary Ensminger, Robert Dyer, Ronald Pope, Ceresa Stewart, Casey Bryan, John Neff, Tom Shorb, Chris Hernandez, Hugh Tom, Steve Sample, Daniel Daniels, Michelle Mada, Robert Sawicki, Reynaldo Santillano, Larry Seals, Alex Herrera, Freddie Alejandro, Tom Dubishar, and David Dubiel.

In addition, the AMD gratefully acknowledges the assistance of other agencies, which provided data and helpful comments to this review. These include the Arizona Department of Environmental Quality (ADEQ), Pinal County Air Quality Control District (PCAQCD), and the Maricopa Association of Governments (MAG).

2014 Maricopa County Air Quality Department Air Monitoring Division Team

Table of Contents

ACKNOWLEDGEMENTS **2**

ABSTRACT **7**

DEFINITION OF TERMS **8**

CRITERIA POLLUTANT INFORMATION **12**

Abstract of Pollutants 12
Causes and Characteristics of Pollutants 12
The National Ambient Air Quality Standards (NAAQS) 15

NETWORK DESIGN **16**

Abstract of MCAQD's Pollution Monitoring Strategies 16
Monitoring Objectives 16
Monitoring Site Types 17
Spatial Scales of Monitoring 17
Locating Monitors 18
Overview of the MCAQD's Air Monitoring Network 18

2013 SUMMARY OF NETWORK RESULTS AND REQUIRED INFORMATION **23**

Determining Data Quality and Acceptability 23
Increasing Data Quantities 24
Criteria Pollutant Summary 25
2013 NAAQS Exceedance and Violation Summary 39
2013 O_3 Exceedance and Violation Details 39
2013 Exceedances of the 24-Hour PM_{10} Standard 43
2013 Violations of the 24-Hour PM_{10} Standard 45
Exceptional Events for PM_{10} 46
2013 Exceedances of the 24-Hour $PM_{2.5}$ Standard 47
Pollution Trends 48
Special Projects and Network Changes 52
Seasonal Monitors 52
The Consideration of Additional Sites/Monitors 52
Other Network Changes/Special Projects/Comments 53

ADDITIONAL COMMENTS **60**

Arizona Department of Environmental Quality Network 60
EPA Air Pollution Mapping 60

REFERENCES **62**

APPENDIX I - MONITORING SITE DETAILS (PHOTOS AND SPECIFIC INFORMATION) ..... ERROR! BOOKMARK NOT DEFINED.

BLUE POINT (BP) (04-013-9702) ..... **ERROR! BOOKMARK NOT DEFINED.**
BUCKEYE (BE) (04-013-4011) ..... **ERROR! BOOKMARK NOT DEFINED.**
CAVE CREEK (CC) (04-013-4008) ..... **ERROR! BOOKMARK NOT DEFINED.**
CENTRAL PHOENIX (CP) (04-013-3002) ..... **ERROR! BOOKMARK NOT DEFINED.**
DEER VALLEY (DV) (04-013-4018) ..... **ERROR! BOOKMARK NOT DEFINED.**
DURANGO COMPLEX (DC) (04-013-9812) ..... **ERROR! BOOKMARK NOT DEFINED.**
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FALCON FIELD (FF) (04-013-1010) ..... **ERROR! BOOKMARK NOT DEFINED.**
FOUNTAIN HILLS (FH) (04-013-9704) ..... **ERROR! BOOKMARK NOT DEFINED.**
GLENDALE (GL) (04-013-2001) ..... **ERROR! BOOKMARK NOT DEFINED.**
GREENWOOD (GR) (04-013-3010) ..... **ERROR! BOOKMARK NOT DEFINED.**
HIGLEY (HI) (04-013-4006) ..... **ERROR! BOOKMARK NOT DEFINED.**
HUMBOLDT MOUNTAIN (HM) (04-013-9508) ..... **ERROR! BOOKMARK NOT DEFINED.**
MESA (ME) (04-013-1003) ..... **ERROR! BOOKMARK NOT DEFINED.**
NORTH PHOENIX (NP) (04-013-1004) ..... **ERROR! BOOKMARK NOT DEFINED.**

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SOUTH PHOENIX (SP) (04-013-4003) ..... **ERROR! BOOKMARK NOT DEFINED.**
SOUTH SCOTTSDALE (SS) (04-013-3003) ..... **ERROR! BOOKMARK NOT DEFINED.**
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WEST CHANDLER (WC) (04-013-4004) ..... **ERROR! BOOKMARK NOT DEFINED.**
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WEST PHOENIX (WP) (04-013-0019) ..... **ERROR! BOOKMARK NOT DEFINED.**
ZUNI HILLS (ZH) (04-013-4016) ..... **ERROR! BOOKMARK NOT DEFINED.**

APPENDIX II – EPA-REQUIRED DATA .....ERROR! BOOKMARK NOT DEFINED.

Required General Statement Regarding Changes to the $PM_{2.5}$ Network ..... **Error! Bookmark not defined.**
Notes Regarding Appendix Data ..... **Error! Bookmark not defined.**

APPENDIX III - PUBLIC NOTICE AND COMMENT INFORMATION.....ERROR! BOOKMARK NOT DEFINED.

List of Tables

Table 1 National Ambient Air Quality Standards 15
Table 2 Site Monitoring Types 17
Table 3 Spatial Scales of Representativeness 17
Table 4 Maricopa County Ambient Air Monitoring Sites for 2013 20
Table 5 Criteria Pollutants Monitored by Site and Network 20
Table 6 Site Location 21
Table 7 Site Instrument Setup 22
Table 8 2013 Criteria Pollutant Data Completeness 23
Table 9 2013 Total Quantity of Data 24
Table 10 2013 8-hour Average Carbon Monoxide Summary 26
Table 11 CO Data Required by EPA 26
Table 12 2013 Pb Summary 27
Table 13 Pb Data Required by EPA 28
Table 14 2013 Nitrogen Dioxide Summary 29
Table 15 Nitrogen Dioxide Data Required by EPA 29
Table 16 2013 8-hour Average Ozone Summary 31
Table 17 Ozone Data Required by EPA 31
Table 18 2013 PM_{10} Summary 33
Table 19 PM_{10} Data Required by EPA 33
Table 20 2013 $PM_{2.5}$ Summary for the Filter-based FRM Monitor 35
Table 21 2013 $PM_{2.5}$ Data Summary for the Continuous FEM Monitors 35
Table 22 2013 $PM_{2.5}$ 3-Year Averages of 98th Percentile for FRM Monitors 36
Table 23 2013 $PM_{2.5}$ 3-Year Averages of 98th Percentile for FEM Monitors 36
Table 24 $PM_{2.5}$ SLAMS Data Required by EPA 36
Table 25 2013 Sulfur Dioxide Summary 38
Table 26 Sulfur Dioxide Data Required by EPA 38
Table 27 2013 NAAQS Exceedances and Violation Summary 39
Table 28 2013 Ozone 8-hour Average Exceedance Details 40
Table 29 2013 Ozone NAAQS Violations 42
Table 30 2013 PM_{10} 24-hour Average Exceedance Details 43
Table 31 2013 Violations of the 24-hourPM_{10} Standard with EEs Shown 45
Table 32 2013 Violations of the 24-hour PM_{10} Standard Excluding Approved EEs 46
Table 33 2013 $PM_{2.5}$ Exceedances 47
Table 34 Seasonal Monitors 52
Table 35 Air Quality Index 61

List of Figures

Figure 1 2013 Air Monitoring Sites 19
Figure 2 2013 Carbon Monoxide Monitoring Sites 25
Figure 3 2013 Lead Monitoring Sites 27
Figure 4 2013 Nitrogen Dioxide Monitoring Sites 28
Figure 5 2013 Ozone Monitoring Sites 30
Figure 6 2013 PM_{10} Monitoring Sites 32
Figure 7 2013 $PM_{2.5}$ Monitoring Sites 34
Figure 8 2013 Sulfur Dioxide Monitoring Sites 37
Figure 9 2013 Mulch Fire 54
Figure 10 Street view of site #1 (Diablo) 56
Figure 11 Aerial view of near-road site#2 58
Figure 12 Street view of near-road site #2 58
Figure 13 AQI Forecast Map 60
Figure 14 Network Review Public Notice News Release ..... **Error! Bookmark not defined.**
Figure 15 Network Review Workshop Attendance Sheet ..... **Error! Bookmark not defined.**

List of Charts

Chart 1 2011-2013 8-hr Avg. Carbon Monoxide Maximum Values 48
Chart 2 2011-2013 Nitrogen Dioxide Annual Average Readings 48
Chart 3 2011-2013 Ozone 4th Highest 8-hr Average 49
Chart 4 2011-2013 PM_{10} 24-hr Average Maximum Values 49
Chart 5 2011-2013 $PM_{2.5}$ Annual Average 50
Chart 6 2011-2013 $PM_{2.5}$ 98th Percentile 50
Chart 7 2011-2013 Sulfur Dioxide Annual Average 51

ABSTRACT

This 2013 Annual Air Monitoring Network Review is respectfully submitted by the MCAQD to the United States Environmental Protection Agency (U.S. EPA) Region 9 office. The Air Monitoring Network Review evaluates the adequacy of the ambient air monitoring network with respect to the monitoring objectives and spatial scales.

This annual assessment is required by *40 CFR Part 58, Subpart B §58.10*. Network changes, special projects, and 3-year data summaries are included in the review. This network review is also preliminary to our annual data certification with the EPA and helps us assess the quality of our data before submitting for data certification. This network review has the secondary purpose of informing the public of air pollutants that can affect their health, how MCAQD monitors these pollutants, and what the actual readings are, so that our citizens can make informed decisions regarding their lifestyles.

NOTE: This annual review was delayed and submitted to EPA Region 9 in November 2014.

DEFINITION OF TERMS

ADEQ: Arizona Department of Environmental Quality

ADT Average Daily Traffic count

AMD Air Monitoring Division

AQI: Air Quality Index. An index that applies to each criteria pollutant and shows the concentration of each pollutant relative to its respective standard. When the AQI reaches 101, the pollutant's concentration has exceeded the NAAQS.

AQS: Air Quality System. The Environmental Protection Agency's ambient air database.

Attainment: This refers to the NAAQS used to comply with the federal Clean Air Act. After several years of no violations of the NAAQS, the EPA can classify the area as in attainment for that pollutant.

AWT: Average Weekday Traffic count

BAM: Beta Attenuation Monitor. A continuous particulate measuring instrument used by MCAQD to measure PM_{10}.

CAA: Clean Air Act

CBSA: Core-Based Statistical Area

CFR: *Code of Federal Regulations* are publications that contain federal government regulations

Class I: Federally designated park or wilderness area with mandated visibility protection.

CP: criteria pollutant OR the Central Phoenix site, depending upon context

CO: Carbon monoxide

Collocated: The practice of establishing a second pollutant monitor within a specified distance and of a specified type at a monitoring site for quality assurance purposes.

Continuous monitoring: A method of monitoring air pollutants that is continually measuring the quantity of the pollutant, either gaseous or particulate. Continuous monitors can be used to obtain real-time or short-term averages of pollutants.

Criteria Pollutants: Six pollutants (CO, O_3, NO_2, Pb, PM, and SO_2) that have NAAQS established by the U.S. EPA.

Delta T: Difference between two levels of temperature measurements. Delta T is measured in the MCAQD network at heights of 2 and 10 meters. A higher temperature at the upper level indicates a temperature inversion.

Design Value: A design value is a statistic that describes the air quality status of a given area relative to the level of the NAAQS. For a concentration-based standard, the air quality design value is simply the standard-related test statistic. The design value

of a pollutant monitoring network is the highest sample value in the network used to compare to the NAAQS; i.e., the 24-hour $PM_{2.5}$ design value for the network is the monitor with the highest 3-year average of the 98th percentile.

EBAM: E-Beta Attenuation Monitor is a rugged, portable, battery or solar-operated analyzer that is suitable for obtaining and reporting continuous measurements of particulate matter in remote locations. EBAMs are often equipped with wind speed and direction instrumentation as well. EBAMs are particularly useful for temporary measurements of PM related to an event.

EPA: U. S. Environmental Protection Agency

EE: An Exceptional Event (EE) is an uncontrollable event caused by natural sources of pollution or an event that is not expected to recur at a given location. The ADEQ makes the determination of which events to classify as exceptional; they then petition the EPA for acceptance of the classification. If the EPA accepts the petition, the measured pollution event will not be used in determination of compliance with the NAAQS.

FDMS-TEOM: Filter Dynamics Measurement System-Tapered Element Oscillating Microbalance. A continuous particulate analyzer used by MCAQD to measure $PM_{2.5}$.

FEM: Federal Equivalency Method. An official method, i.e. equipment and procedure, of monitoring air pollution that has been determined to produce results similar to the Federal Reference Method (FRM).

Filter-based Monitor: A method of monitoring particulate pollution that involves exposing a pre-weighed filter to a specific flow volume of air to capture the particulates in the air. The filters are then post-weighed to determine the mass of particulates per volume, e.g. $\mu g/m^3$. All filter-based monitors used by MCAQD for collecting compliance data, i.e., data for NAAQS comparison, are FRM monitors.

FRM: Federal Reference Method. An official method, i.e. equipment and procedure, of monitoring air pollution that has been tested and determined to produce results that accurately measure air pollution with acceptable precision. These methods are the baseline that all other methods refer to, e.g. Federal Equivalency Methods (FEM).

HAPs: Hazardous air pollutants. An airborne chemical that has been listed in the federal Clean Air Act and has an associated standard or process requirement determined for it.

MAG: Maricopa Association of Governments

MCAQD: Maricopa County Air Quality Department

$\mu g/m^3$: micrograms per cubic meter

MSA: Metropolitan Statistical Area is a geographical area designated by the federal government based on the concept of a core area with a large population nucleus, plus adjacent communities having a high degree of economic and social integration with that core. The AMD operates air monitoring stations within the Phoenix-Mesa MSA, which includes portions of Maricopa and Pinal County.

NAAQS:	National Ambient Air Quality Standards. A health and welfare-based standard that is set by the U.S. EPA to qualify allowable levels of criteria pollutants.
NCORE:	National Core Multi-Pollutant Site. A national network of multi-pollutant monitoring sites used to represent the nation as a whole. There are currently ~75 NCORE sites (1-3 per state plus Washington D.C., Virgin Islands, and Puerto Rico) located in both urban and rural areas.
NO_2:	Nitrogen dioxide.
NO_X:	Nitrogen oxides. Sum of nitric oxide (NO), NO_2, and other nitrogen-containing compounds.
O_3:	Ozone
Pb:	Lead
PM:	Particulate matter, also known as "particulates" is material suspended in the air in the form of minute solid particles or liquid droplets.
$PM_{2.5}$:	Particulate matter of 2.5 micrometers in aerometric diameter or smaller
PM_{10}:	Particulate matter of 10 micrometers in aerometric diameter or smaller
ppb:	parts per billion
ppm:	parts per million
RRNS	Rapid Response Notification System is a communication tool used by MCAQD to manage high pollution events by alerting residents, intergovernmental personnel, and stakeholders of increasing PM concentrations.
Primary Standard:	One portion of the NAAQS. These standards are designed to protect public health.
Secondary Standard:	One portion of the NAAQS. These standards are designed to protect the environment.
SIP:	State Implementation Plan. SIPs are a collection of state and local regulations and plans to achieve healthy air quality under the Clean Air Act.
SLAMS:	State and Local Air Monitoring Station. The SLAMS consist of a network of approximately 5,000 monitoring stations nationwide whose size and distribution is largely determined by the needs of State and local air pollution control agencies to meet their respective State implementation plan (SIP) requirements. Other types of monitoring stations include: NCORE (national core) and SPM (special purpose). Currently, AMD does not operate an NCORE station, and we only operate one SPM site.
SO_2:	Sulfur dioxide
SPM:	Special Purpose Monitor. A special purpose monitor provides data for special studies needed by the State and local agencies to support SIPs and other air program activities. The SPMs are not permanently established as part of a particular pollutant's monitoring station(s); their location can be adjusted easily

to accommodate changing needs and priorities.

SSI: Size Selective Inlet. SSI High Volume Samplers are filter-based instruments used by MCAQD to measure PM_{10}.

TEOM: Tapered Element Oscillating Microbalance. A continuous particulate measuring instrument used by MCAQD to measure PM_{10}.

VOC: Volatile organic compound. VOCs are chemical compounds that can easily vaporize and enter the atmosphere. There are many natural and artificial sources of VOCs; solvents and gasoline make up some of the largest artificial sources. VOCs will react with NO_x in the presence of sunlight to create ground-level O_3 pollution.

CRITERIA POLLUTANT INFORMATION

Abstract of Pollutants

Certain air pollutants, called "criteria pollutants", are common throughout the United States. These pollutants can cause health problems, harm the environment, and cause property damage. These criteria pollutants are so named since the U.S. EPA has regulations, called the National Ambient Air Quality Standards (NAAQS), on allowable levels of these substances using health-based criteria. One set of limits, called "primary standards," protect health, while another set of "secondary standards", are designed to protect property and the environment. The U.S. EPA designated the following pollutants as criteria pollutants (CPs): carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), ozone (O_3), particulates (PM_{10} & $PM_{2.5}$), and sulfur dioxide (SO_2). The MCAQD operates monitors for all six criteria pollutants.

Causes and Characteristics of Pollutants

Carbon Monoxide

Carbon monoxide is the most widely distributed and most commonly occurring air pollutant. Total emissions of CO to the atmosphere exceed all other pollutants combined, on a weight basis. Fortunately, CO does not persist in the atmosphere, but is quickly converted to carbon dioxide (CO_2). The CO can reach dangerous levels in localized areas or hotspots such as heavily traveled intersections or city streets. In addition, CO has been implicated in ozone formation. Most people are familiar with CO and are aware that automobiles produce this deadly, odorless, and colorless gas. In Maricopa County, more than 70% of all anthropogenic CO comes from motor vehicle emissions. In fact, this gas is produced almost anytime something is burned. All substances that are living (plants and animals) or that were once living (wood, coal, oil, and gasoline) are composed of carbon compounds. If these substances are burned in the presence of sufficient oxygen, then the carbon is converted to CO_2 gas. If not enough oxygen is present, as is often the case, CO gas is produced.

Carbon monoxide's danger lies in the extremely strong affinity that hemoglobin has for it. Hemoglobin, the special oxygen-transporting material in the red blood cell, has approximately 200 times stronger affinity for CO than for oxygen. Therefore, if both CO and O_2 are present, the bonding between the CO and hemoglobin will prevent the O_2 from exchanging within a person's body. This puts a heavy burden on people with heart disease and can aggravate angina, but even healthy people can suffer from harmful side effects from CO.

In 2013 Maricopa County achieved its 17th consecutive year of compliance with the 8-hour CO standard.

Lead

Lead (Pb) is a heavy metal found naturally in the environment as well as in manufactured products. The major sources of Pb emissions have historically been motor vehicles such as cars and trucks, and industrial sources. Due to the phase-out of leaded gasoline, metals processing is the major source of lead emissions to the air today. The highest levels of Pb in air are generally found near lead smelters. General aviation airports are also a significant source of lead, as general aviation fuel still contains lead additives. Other stationary sources are: waste incinerators, utilities, and lead-acid battery

manufacturers. In the early 1970s, EPA set national regulations to gradually reduce the Pb content in gasoline. In 1975, unleaded gasoline was introduced for motor vehicles equipped with catalytic converters. EPA banned the use of leaded gasoline in highway vehicles in December 1995. Primarily as a result of EPA's regulatory efforts to remove Pb from gasoline, levels of Pb in the air have decreased by 94 percent between 1980 and 1999.

Following the removal of Pb from automotive fuel, levels of airborne Pb in Maricopa County were drastically reduced. Because concentrations were consistently below national levels, Maricopa County was allowed to discontinue ambient air monitoring for lead in 1997. However, recent changes in the lead monitoring regulations have brought the need to resume monitoring activities in Maricopa County. In July 2010, MCAQD opened a new Pb monitoring site at Deer Valley Airport. The Deer Valley Airport is one of the busiest general aviation airports in the county, and thus the largest expected source of Pb emissions. Results from the last twelve months of monitoring have shown that ambient levels of Pb are still well below the new air quality standard.

Nitrogen Dioxide

Nitrogen dioxide belongs to a family of highly reactive gases called nitrogen oxides. These gases are formed when fuel is burned at high temperatures, and are emitted primarily from automobile exhaust and power plants. Exposure to NO_2 can irritate the lungs and lower resistance to respiratory infections, particularly in people with existing respiratory illness such as asthma. Maricopa County is currently in attainment status for NO_2. Maricopa County will be engaging in near-road monitoring to ensure compliance with the new 1-hour NO_2 standard.

Ozone

Ozone is a naturally occurring molecule in which three oxygen atoms combine together. This is a chemically unstable combination, and as such, O_3 is continually going through a natural cycle of being formed, then converted back to the more stable “normal” double oxygen molecule (O_2). This natural cycle occurs fairly rapidly. In the stratosphere (six miles and more above the earth), naturally occurring O_3 has a beneficial effect of screening out harmful ultraviolet light from the sun. However, ground-level O_3 is a pollutant and is a component of the regional smog that affects the Valley. Ozone is not directly emitted into the air, but rather forms in a complex reaction that involves heat, sunlight, and a “soup” of toxic pollutants, especially volatile organic compounds (VOCs). Some of the most common sources of VOCs are gasoline vapors, chemical solvents, and combustion products of fuels and consumer products. Ozone is created by sunlight acting on nitrates (NO_X) and VOCs from motor vehicles and stationary sources, and can be carried hundreds of miles from their origins. Ozone affects the respiratory system in people and animals, and also affects the growth of plants.

Maricopa County is currently in non-attainment for O_3 pollution, although the number of violations of the standard had been decreasing in recent years. However, in February 2008, the EPA lowered the NAAQS for O_3 from 0.08 ppm to 0.075 ppm. Many of the O_3 monitoring sites were in borderline compliance with the older standard and now are exceeding the new standard. Strategies will have to be developed to lower ambient ozone levels into compliance with the new standard, improving air quality for all.

Particulate Matter

Particulate matter (PM) is the term for solid or liquid particles found in the air. Particle pollution is made up of a number of components, including acids such as nitrates and sulfates, organic chemicals, metals, and soil or dust particles. While some particles are large or dark enough to be seen with the naked eye in form of soot or smoke, others can only be seen under high magnification through an electron microscope. In 1987 the EPA replaced the Total Suspended Particulates (TSP) air quality standard with a standard for PM_{10}, i.e., particles measuring ten micrometers or less in aerometric diameter. In 1997, the first NAAQS for $PM_{2.5}$, particles measuring less than or equal to two and one-half micrometers or less in aerometric diameter, went into effect.

Health research studies have found that PM_{10} has the ability to reach the lower regions of the respiratory tract, and thus can affect the respiratory system in both humans and animals. The size of particles is directly linked to their potential for causing health problems. EPA is concerned about particles that are 10 micrometers in aerometric diameter or smaller, because those are the particles that generally pass through the throat and nose and enter the lungs. Once inhaled, these particles can affect the heart and lungs and cause serious health effects. EPA groups particle pollution into two categories:

- "Coarse particles," such as those found near roadways and dusty industries, range in size from 2.5 to 10 micrometers in aerometric diameter.

- "Fine particles," such as those found in smoke and haze, have diameters smaller than 2.5 micrometers in aerometric diameter. These particles can be directly emitted from sources such as forest fires, or they can form when gases emitted from power plants, industries and automobiles react in the air.

Sulfur Dioxide

Sulfur dioxide is emitted in gaseous form largely from burning high-sulfur coal, oil, and diesel fuel. This gas is usually associated with particulate matter pollution, because SO_2 is the precursor pollutant for fine sulfate particles. Therefore, separating the health effects of these two pollutants is difficult. Together, SO_2 and $PM_{2.5}$ make up a major portion of the pollutant load in many cities, acting separately and in concert to threaten public health. Sulfur dioxide contributes to respiratory illness, particularly in children and the elderly, and aggravates existing heart and lung diseases. Sulfur dioxide contributes to the formation of acid rain, and it contributes to the formation of atmospheric particles that cause visibility impairment, most noticeably in national parks. Sulfur dioxide and the pollutants formed from SO_2, such as sulfate particles, can be transported over long distances and deposited far from the point of origin. This means that problems with SO_2 are not confined to areas where it is emitted.

The National Ambient Air Quality Standards (NAAQS)

The U.S. EPA Office of Air Quality Planning and Standards (OAQPS) manages programs to improve air quality in areas where the current quality is unacceptable and to prevent deterioration in areas where the air is relatively free of contamination. To accomplish this task, OAQPS establishes the NAAQS for each of the criteria pollutants (Table 1).

There are two types of standards. Primary standards protect against adverse health effects; secondary standards protect against welfare effects, such as damage to farm crops and vegetation and/or damage to buildings. Since different pollutants have different effects, the NAAQS are also different. Some pollutants have standards for both long-term and short-term averaging times. The short-term standards are designed to protect against acute, or short-term, health effects, while the long-term standards are established to protect against chronic health effects. Table 1 lists the NAAQS for the six criteria pollutants.

Table 1 National Ambient Air Quality Standards

Pollutant		Primary/ Secondary	Averaging Time	Level	Form
Carbon Monoxide		primary	8-hour	9 ppm	Not to exceed one per year on avg. over 3 years
			1-hour	35 ppm	
Lead		primary / secondary	Rolling 3 month average	0.15 $\mu g/m^3$	Not to exceed one per year on avg. over 3 years
Nitrogen Dioxide		primary	1-hour	100 ppb	98th percentiles, avg. over 3 years
		primary / secondary	Annual	53 ppb	Annual Mean
Ozone		primary and secondary	8-hour	0.075 ppm	3 year avg. of the fourth highest 8-hr avg. daily max.
Particle Pollution	$PM_{2.5}$	primary	Annual	12 $\mu g/m^3$	3 year avg. of the annual means
		secondary	Annual	15 $\mu g/m^3$	3 year avg. of the annual means
		primary / secondary	24-hour	35 $\mu g/m^3$	3 year avg. of the 98th percentiles
	PM_{10}	primary / secondary	24-hour	150 $\mu g/m^3$	Not to be exceeded more than once per year on average over 3 years
Sulfur Dioxide		primary	1-hour	75 ppb	99th percentile of 1-hour daily max., averaged over 3 years
		secondary	3-hour	0.5 ppm	Not to exceed one per year

Source: EPA

NETWORK DESIGN

Abstract of MCAQD's Pollution Monitoring Strategies

The MCAQD monitors for all six criteria pollutants by maintaining twenty-four ambient air-monitoring sites throughout Maricopa County. The sites' startup dates range from 1961 (Central Phoenix) to July 2011 (Deer Valley). Land use patterns around the sites vary from heavy populated urban areas to sparsely populated rural settings. The sites' elevations range from 845 feet above sea level (Buckeye) to 5190 feet above sea level at the top of Humboldt Mountain. Each site's pollutant monitoring station(s) are chosen based on specific EPA requirements as described below, special request from EPA, and/or specific needs of the County. Some sites measure many pollutants; while others only measure one or two. The requirements for operating the air monitoring network are found in both *40 CFR Parts 50 & 58*. No agreements have been made to share network design responsibilities for any MSAs in our jurisdiction.

This section details how the department designs its air monitoring network to obtain representative samples of these air pollutants. Following this will be details of the results obtained from our 2013 sampling season.

Monitoring Objectives

The ambient air monitoring networks must be designed to meet the three basic monitoring objectives listed below. The order of appearance of these objectives is not based upon its priority. Each objective is important and must be considered individually.

1. Provide air pollution data to the general public in a timely manner. Data can be presented to the public in a number of attractive ways including through air quality maps, newspapers, Internet sites, and as part of weather forecasts and public advisories.

2. Support compliance with ambient air quality standards and emissions strategy development. Data from FRM, FEM, and ARM monitors for NAAQS pollutants will be used for comparing an area's air pollution levels against the NAAQS. Data from monitors of various types can be used in the development of attainment and maintenance plans. SLAMS and NCORE station data will be used to evaluate the regional air quality models used in developing emission strategies, and to track trends in air pollution abatement control measures' impact on improving air quality.

3. Support for air pollution research studies. Air pollution data from the NCORE network can be used to supplement data collected by researchers working on health effects assessments and atmospheric processes, or for monitoring methods development work.

Monitoring Site Types

To support the air quality management work indicated in the three basic air monitoring objectives, a network must be designed with a variety of monitoring site "types". Monitoring sites must be capable of informing managers and the general public about many things, including the peak air pollution levels, typical levels in populated areas, air pollution transported into and outside of a city or region, and air pollution levels near specific sources (Table 2).

Table 2 Site Monitoring Types

Measure highest concentrations expected to occur in the area covered by the network.
Measure typical concentrations in areas of high population density.
Determine the impact of significant sources or source categories on air quality.
Determine general background concentration levels.
Determine the extent of regional pollutant transport among populated areas and in support of secondary standards.
Sites located to measure air pollution impacts on visibility, vegetation damage, or other welfare-based impacts.

Source: Adapted from *40 CFR Part 58, Appendix D*

Spatial Scales of Monitoring

The concept of spatial scale of representativeness was created to help link monitoring objectives and site types with the physical location of a monitor. Spatial scale of representativeness is defined in terms of the physical dimensions of the air parcel around a monitoring site throughout which pollutant concentrations are reasonably similar. There are six scales of representativeness of most interest for the monitoring site types (Table 3).

Table 3 Spatial Scales of Representativeness

Name	Distance
Micro Scale	0 to 100 meters
Middle Scale	100 to 500 meters
Neighborhood Scale	0.5 to 4 kilometers
Urban Scale	4 to 50 kilometers
Regional scale	10 to 100's of kilometers
National and global Scales	Characterizing the nation and the globe as a whole.

Source: Adapted from *40 CFR Part 58, Appendix D*

Locating Monitors

Since it is physically and fiscally impossible to monitor air quality in every location, the goal in locating monitors is to correctly integrate the monitoring objective and monitoring site type with the spatial scale most appropriate for the air pollutant to be measured. For example, consider the case where the objective is to determine NAAQS compliance by understanding the maximum O_3 concentrations for an area. Such areas would most likely be located downwind of a metropolitan area, quite likely in a suburban residential area where children and other susceptible individuals are likely to be outdoors. Sites located in these areas are most likely to represent an urban scale of measurement. In this example, physical location was determined by considering O_3 precursor emission patterns, public activity, and meteorological characteristics affecting O_3 formation and dispersion. Thus, spatial scale of representativeness was not used in the selection process but was a result of site location.

Using these principles, the total number of monitoring sites that will serve the variety of data needs will be substantially higher than federal minimum requirements. The optimum size of a particular network involves trade-offs among data needs and available resources. This does not mean that the number of monitoring sites is fixed. To the contrary, each network must be dynamic enough to maintain a current representative sample of the air quality. The EPA, State, and local agencies will periodically collaborate on network design issues through the network assessment process outlined in *40 CFR § 58.10*.

Overview of the MCAQD's Air Monitoring Network

Maricopa County has a population of over 3.9 million people (2012 U.S. Census estimate). The EPA has mandated a minimum number of monitors required to properly represent this population. MCAQD has designed its network, using the concepts of scale and objective mentioned previously, to meet and in most cases exceed these EPA requirements (see "Required General Information on Monitoring Network" in Appendix II).

Altogether, the department operated a network of 24 monitoring sites in 2013. The following image shown in Figure 1 details the location of these sites and gives the abbreviation symbols used by Maricopa County. The AQS code assigned to each site, details of which criteria pollutant is monitored at each site, and the monitor designations are in Table 4 and Table 5.

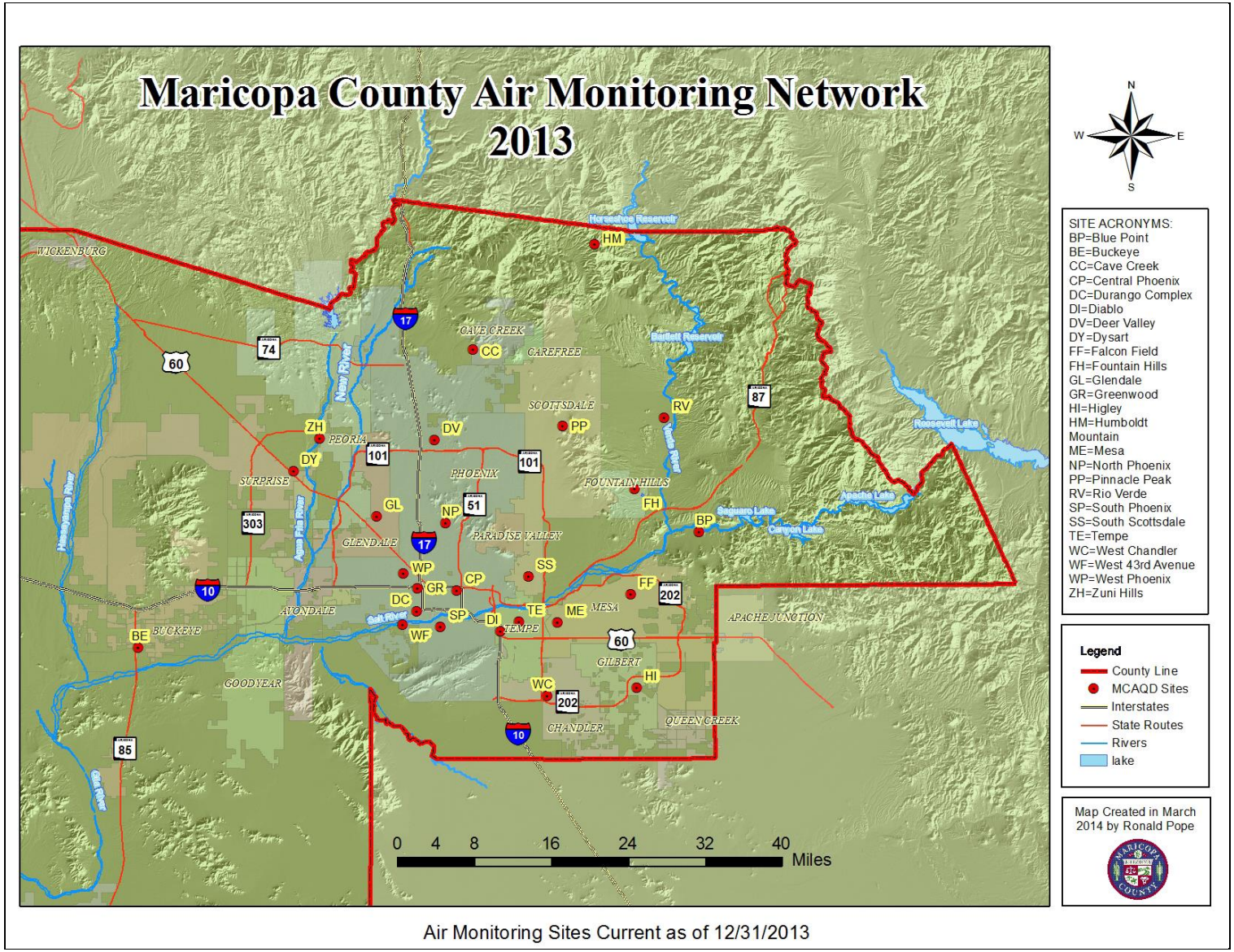


Figure 1 2013 Air Monitoring Sites

NOTE: In 2013, the total number of sites was 24. The Diablo (DI) site will become active in 2014.

Table 4 Maricopa County Ambient Air Monitoring Sites for 2013

Site Name	Site Abbr.	AQS Code	Site Name	Site Abbr.	AQS Code
Blue Point	BP	04-013-9702	Humboldt Mountain	HM	04-013-9508
Buckeye	BE	04-013-4011	Mesa	ME	04-013-1003
Cave Creek	CC	04-013-4008	North Phoenix	NP	04-013-1004
Central Phoenix	CP	04-013-3002	Pinnacle Peak	PP	04-013-2005
Deer Valley	DV	04-013-4018	Rio Verde	RV	04-013-9706
*Diablo	DI	04-013-4019	South Phoenix	SP	04-013-4003
Durango Complex	DC	04-013-9812	South Scottsdale	SS	04-013-3003
Dysart	DY	04-013-4010	Tempe	TE	04-013-4005
Falcon Field	FF	04-013-1010	West Chandler	WC	04-013-4004
Fountain Hills	FH	04-013-9704	West 43rd Ave.	WF	04-013-4009
Glendale	GL	04-013-2001	West Phoenix	WP	04-013-0019
Greenwood	GR	04-013-3010	Zuni Hills	ZH	04-013-4016
Higley	HI	04-013-4006			

* Diablo site became active in 2014.

Table 5 Criteria Pollutants Monitored by Site and Network

Site	CO	Pb	O_3	$PM_{2.5}$	PM_{10}	NO_2	SO_2
Blue Point			SLAMS				
Buckeye	SLAMS		SLAMS		SLAMS	SLAMS	
Cave Creek			SLAMS				
Central Phoenix	SLAMS		SLAMS		SLAMS	SLAMS	SLAMS
Deer Valley		SLAMS					
*Diablo	SLAMS			SLAMS		SLAMS	
Durango Complex				SLAMS	SLAMS		SLAMS
Dysart	SLAMS		SLAMS		SLAMS		
Falcon Field			SLAMS				
Fountain Hills			SLAMS				
Glendale	SLAMS		SLAMS	SLAMS	SLAMS		
Greenwood	SLAMS				SLAMS	SLAMS	
Higley					SLAMS		
Humboldt Mountain			SLAMS				
Mesa	SLAMS		SLAMS	SLAMS	SLAMS		
North Phoenix	SLAMS		SLAMS	SLAMS	SLAMS		
Pinnacle Peak			SLAMS				
Rio Verde			SLAMS				
South Phoenix	SLAMS		SLAMS	SLAMS	SLAMS		
South Scottsdale	SLAMS		SLAMS		SLAMS		
Tempe	SLAMS		SLAMS	SLAMS	SLAMS		
West Chandler	SLAMS		SLAMS		SLAMS		
West 43rd Avenue					SLAMS		
West Phoenix	SLAMS		SLAMS	SLAMS	SLAMS	SLAMS	
Zuni Hills					SPM		

* Diablo site becomes active in 2014.

Acronyms: SLAMS=State and Local Monitoring Station; SPM=Special Purpose Monitoring Station

Table 6 and Table 7 give more specific information about the location of the sites and the types and numbers of monitors at each site, respectively.

Table 6 Site Location

Site	Latitude	Longitude	Site Location	AQS Code
BP	33.54549	-111.60925	Usery Pass & Bush Highway	04-013-9702
BE	33.37005	-112.62070	MC 85 & AZ HWY 85	04-013-4011
CC	33.82169	-112.01739	32nd St. & Carefree Highway	04-013-4008
CP	33.45793	-112.04601	19th St & Roosevelt St.	04-013-3002
DV	33.684627	-112.08635	10th Ave. & Deer Valley Rd.	04-013-4018
DC	33.42650	-112.11814	27th Ave. & Durango St.	04-013-9812
DY	33.63713	-112.34184	Bell Rd. & Dysart Rd.	04-013-4010
*DI	33.3961	-111.9680	Fairmount Dr. & Diablo Way	04-013-4019
FF	33.45223	-111.73331	McKellips & Greenfield	04-013-1010
FH	33.61103	-111.72529	Palisades & Fountain Hills Blvd.	04-013-9704
GL	33.56936	-112.19153	59th Ave & W. Olive	04-013-2001
GR	33.46093	-112.11748	27th Ave. & Interstate 10	04-013-3010
HI	33.31074	-111.72255	Higley Rd. & Chandler Blvd	04-013-4006
HM	33.98280	-111.79870	Top of Humboldt Mountain	04-013-9508
ME	33.41045	-111.86507	Broadway Rd. & Alma School Rd.	04-013-1003
NP	33.56033	-112.06626	7th Street & Dunlap Avenue	04-013-1004
PP	33.70655	-111.85557	Alma School & Happy Valley Rd.	04-013-2005
RV	33.71881	-111.67183	Forest Rd. & Del Ray Ave.	04-013-9706
SP	33.40316	-112.07533	Central Ave. & Broadway Rd.	04-013-4003
SS	33.47968	-111.91721	Scottsdale Rd. & Miller Rd.	04-013-3003
TE	33.4124	-111.93473	College Ave. & Apache Blvd.	04-013-4005
WC	33.29898	-111.88431	Ellis St. & Frye Rd.	04-013-4004
WF	33.40642	-112.14434	43rd Ave. & Broadway Rd.	04-013-4009
WP	33.48385	-112.14257	39th Ave. & Earll Dr.	04-013-0019
ZH	33.686738	-112.294171	109th Ave & Deer Valley Rd.	04-013-4016

* Diablo site became active in 2014.

Table 7 Site Instrument Setup

2013 AIR MONITORING NETWORK OPERATIONS

Sites	WS/ WD	O3	CO		NOX	SO2	Press	ΔT	PM-10	PM-2.5	Pb	Temp	Rel Hum	Rm	Rain	Solar	PM 2.5 Filter	Multi-Gas	AQS Code	Active Instr
BE	1	1	1	*	1		1		1			1	1	1				1	04-013-4011	10
BP	1	1										1		1					04-013-9702	4
CC	1	1										1	1	1	1				04-013-4008	6
CP	1	1	1		1	1	1		1			1		1				1	04-013-3002	10
DC	1					1	1		1	1		1	1	1					04-013-9812	8
DI	1		1		1					1									04-013-4019	4
DY	1	1	1	*			1		1			1	1	1					04-013-4010	8
DV	1						1				2	1	1	1					04-013-4018	6
FF	1	1										1		1					04-013-1010	4
FH	1	1					1					1	1	1					04-013-9704	6
GL	1	1	1	*			1		1	1		1	1	1					04-013-2001	9
GR	1		1		1		1		1			1		1				1	04-013-3010	8
HI	1						1	1	1			1		1					04-013-4006	6
HM		1										1	1	1					04-013-9508	4
ME	1		1	*			1		1	1		1	1	1					04-013-1003	8
MM #	1	1	1	1	1		1		1	1		1	1	1		1		1	Mobile Truck	13
NP	1	1	1	*			1	1	1	1		1		1		1			04-013-1004	10
PP	1	1												1					04-013-2005	3
RV		1												1					04-013-9706	2
SP	1	1	1	*			1		1	1		1	1	1					04-013-4003	9
SS	1	1	1	*	1		1		1			1	1	1				1	04-013-3003	10
TE	1	1	1	*				1	1	1		1		1	1				04-013-4005	9
WC	1	1	1	*			1		1			1	1	1					04-013-4004	8
WF	1						1	1	1			1		1					04-013-4009	6
WP	1	1	1		1		1	1	1	1		1		1			2	1	04-013-0019	12
ZH	1								1			1		1					04-013-4016	4
# Instr	24	18	14		7	2	17	5	17	9	2	23	13	25	2	2	2	6		

* = seasonal monitor

\# = Mobile Monitoring Truck

NOTE: Diablo site activated in 2014

Total # of Pollutant Monitors	**71**
Total # of Active Instruments	**188**
Number of Active Sites	**25**
Mobile Truck	**1**

2013 SUMMARY OF NETWORK RESULTS AND REQUIRED INFORMATION

Determining Data Quality and Acceptability

The EPA has established data quality and measurement quality objectives for CP data. In total, there are seven data quality indicators established for use by the EPA to determine the quality of ambient air data. Data must meet each indicator's requirement to be acceptable for use by decision makers for NAAQS compliance determinations, researchers, and the public. These indicators are: precision, bias, completeness, comparability, detectability, representativeness, and sensitivity. The "timeliness" of data is important as well.

With CP data, accuracy is defined as a measure of the overall agreement of a measurement to a known value and includes a combination of random error (precision) and systematic error (bias) components of both sampling and analytical operations. The division's personnel evaluate data using these indicators, with precision, bias, and completeness being the most crucial to evaluate on a regular basis. If samples pass all validation tests, the data can be used to determine compliance with the NAAQS.

Data Completeness

Before any data set can be considered valid, it must first pass a data recovery, or completeness, test. The test requirements begin with checking completeness at hourly and 24-hour concentration values. These values are commonly referred to as "samples". In general, CP pollutant data measurements, or samples, from continuous analyzers are based on a valid hour; while 24-hour filter samples from manual samplers are based on a 24-hour sampling period from midnight to midnight. For NAAQS determinations, the completeness tests are extended to data sets at 3-hour, 8-hour, quarterly, annual, and multiple year levels of data aggregation, which are specific to each CP.

For CPs, data completeness must be greater than 75% for a data set to pass the first validity test. To determine data completeness, the total quantity of actual samples collected is divided by the total quantity of scheduled samples for a certain time period. The following is a summary of the annual data completeness for the criteria pollutants (Table 8).

Table 8 2013 Criteria Pollutant Data Completeness

	CO	Pb	O_3	NO_2	SO_2	$PM_{2.5}$	PM_{10}	TOTAL
Data Completeness	98.8%	80.5%	98.4%	97.8%	97.0%	93.8%	98.2%	97.1%

Source: EPA AQS database

Increasing Data Quantities

With the advent of increasing data requirements and the availability of approved, continuous analyzers, the quantity of data the division produces has increased considerably in the past few years. In the face of this increase, the division had to change its processes to keep producing high-quality data. Not only has the quantity of CP data collected and processed increased; the need to expand supporting programs and communications increased, inherently. Meeting decision makers' and researchers' data needs requires personnel to remain up-to-date with EPA's requirements while adjusting our processes accordingly as well. To date, the division has managed to make significant changes to keep up with the increasing demand for data with no increase in personnel. A brief summary of a few changes implemented follows.

A rapid response notification system (RRNS) was implemented to better manage quickly-developing pollution events. This included the development of new, automated alarms to monitor instrument performance and incoming pollutant concentrations. Operating and maintaining all the various components of each air monitoring network is an ongoing challenge. Managing the data increase has involved making advances to data validation, retrieval/storage/security, and dissemination processes. The recent addition of a new database, AirVision™, enhanced our ability to perform these tasks using some automation; however, the database must be maintained and updated regularly to track changes in data collection and validation. In addition, the division now uploads preliminary data to the MC website as close as possible to real-time. Regular checking of the data multiple times a day had to be implemented because of the increased speed at which bad data could get out to the public.

To further our accomplishments and to increase the quality of all data collected and managed, an increase in personnel is needed. Table 9 shows the quantity of hourly (1-hour) data the division has been producing per year, plus the near nine fold increase in data produced when the division started to collect 5-minute data.

Table 9 2013 Total Quantity of Data

	Hourly CP Data	Hourly CP and Met Data	Hourly, 5-minute and 24-hour CP and Met Data
Quantity	587,162	1,612,082	14,901,002

NOTE: These data do not include non-criteria pollutants and special projects.

Criteria Pollutant Summary

Carbon Monoxide (CO)

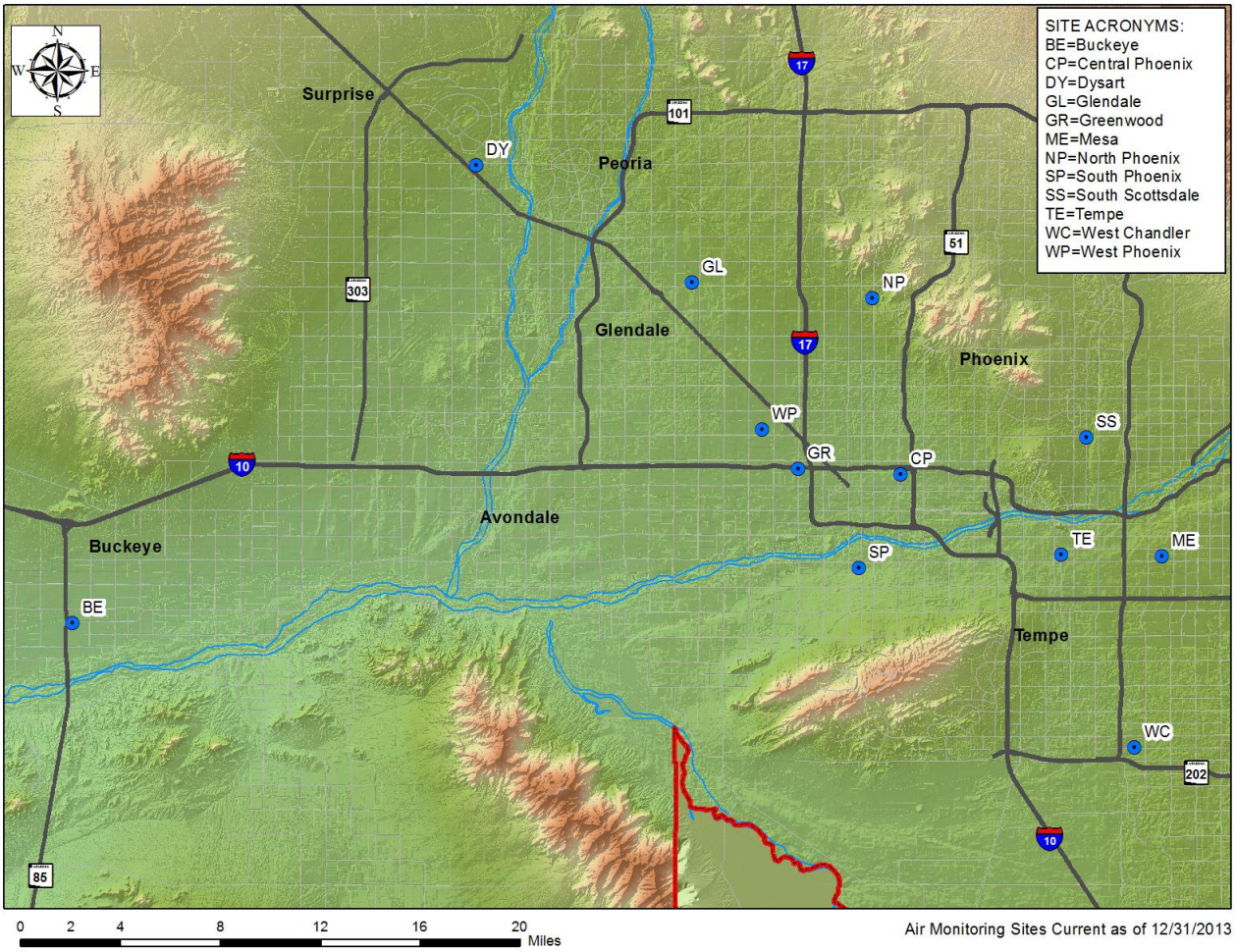


Figure 2 2013 Carbon Monoxide Monitoring Sites

During 2013, twelve CO monitors were reported as operational to the U.S. EPA Air Quality System (AQS) (Figure 2). All CO monitors are classified as SLAMS (Table 5).

There are two primary standards for CO, the 8-hour average and the 1-hour average. The 8-hour primary standard is 9 ppm and the 1-hour primary standard is 35 ppm. A violation of the standard is any two exceedances in a calendar year. For calendar year 2013, no exceedances of the CO 1-hour or 8-hour standards were recorded at any MCAQD monitoring sites (Table 10).

Table 10 2013 8-hour Average Carbon Monoxide Summary

Site	CO 8-hour Average Max. (ppm)	CO 8-hour Average 2nd Highest (ppm)	Number of Exceedances of 8-Hour NAAQS
Buckeye	0.4	0.3	0
Central Phoenix	2.1	2.1	0
Dysart	0.7	0.7	0
Glendale	1.6	1.2	0
Greenwood	2.5	2.4	0
Mesa	1.2	1.2	0
North Phoenix	1.3	1.2	0
South Phoenix	2.3	2.2	0
South Scottsdale	1.4	1.2	0
Tempe	1.3	1.3	0
West Chandler	1.3	1.2	0
West Phoenix	2.7	2.7	0

Additional information required by EPA is shown in Table 11.

Table 11 CO Data Required by EPA

CBSA	Population & Census Year (2012)	No. of Required Near-Road Monitors	No. of Active Near-Road Monitors	No. of Additional Monitors Needed
38060	4,329,534	1	1	2

Lead (Pb)

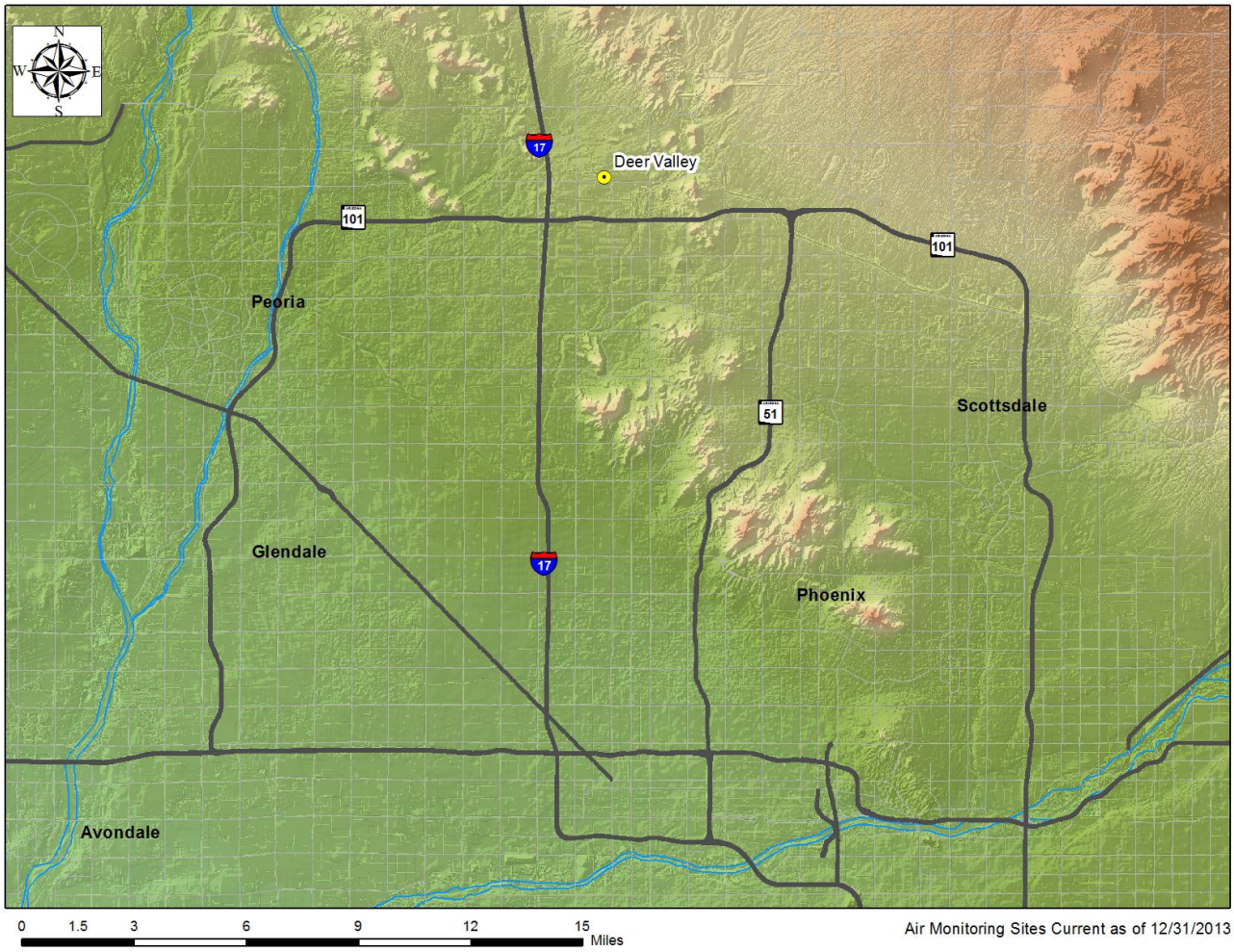


Figure 3 2013 Lead Monitoring Sites

Following the introduction of unleaded gasoline in the early 1990's, ambient air concentrations of Pb fell to such a low level that Maricopa County was given permission to discontinue monitoring for this pollutant. However, the Pb NAAQS was lowered in 2008 and monitoring began again to ensure that the new standard is being met. The new Pb NAAQS has identical primary and secondary standards, a rolling three-month average. The rolling 3-month average is violated by an exceedance of 0.15 $\mu g/m^3$.

In July of 2010 a new Pb monitoring site was opened near the Deer Valley Airport in north Phoenix, because it is one of the busiest general aviation airports in the region. Deer Valley Airport is assumed to be the largest point-source of Pb within Maricopa County (Figure 3).

Table 12 2013 Pb Summary

Site	24-hour Max. ($\mu g/m^3$); Date: Hour	24-hour 2nd Highest ($\mu g/m^3$); Date: Hour	Max. Quarterly Average ($\mu g/m^3$)	Number of Samples
Deer Valley	0.071 10/31/13	0.061 10/7/13	0.042	57

Additional Pb information required by EPA is shown in Table 13**.**

Table 13 Pb Data Required by EPA

Source Name	Location	Pb Emission (tons/yr)	Emissions Inventory Source & Data Year	Max 3-month Design Value ($\mu g/m^3$)	Design Value Date	No. of Required Monitors	No. of Active Monitors	No. of Additional Monitors Needed
Deer Valley Airport	Phoenix, AZ	1.1	General Aviation Airport 2008	0.0398	Dec 2012	1	1	0

Nitrogen Dioxide (NO_2)

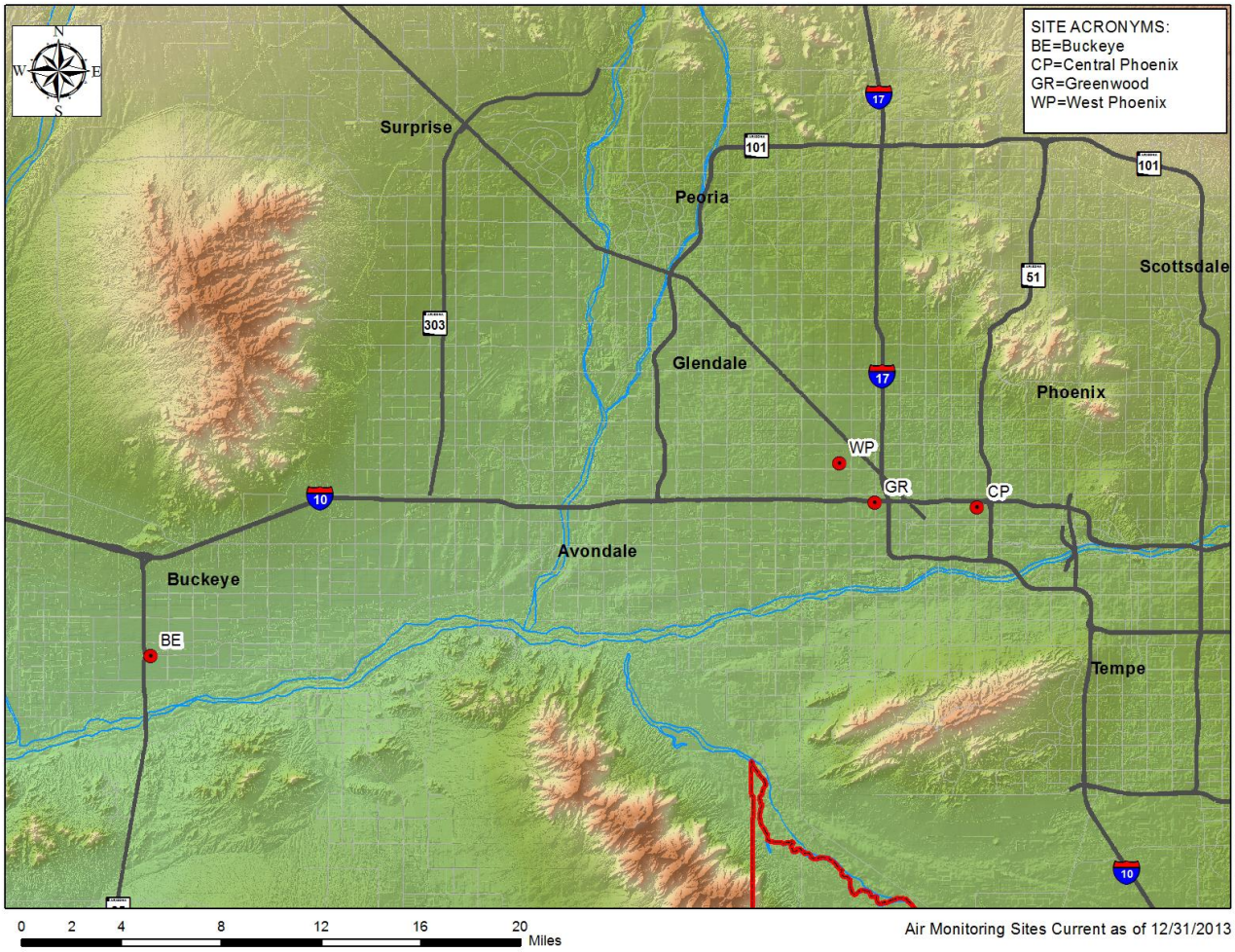


Figure 4 2013 Nitrogen Dioxide Monitoring Sites

All parts of Maricopa County are in attainment for NO_2. During 2013, four NO_2 monitors were operational and were reported in AQS (Figure 4). All NO_2 monitors are designated as SLAMS (see Table 14).

Compliance with the NO_2 standard is achieved when the annual arithmetic mean concentration in a calendar year is less than or equal to 53 ppb. A new hourly standard for NO_2 began in 2010; this regulation states that the 3-year average of the 98th percentile cannot exceed 100 ppb. For calendar year 2013, no exceedances of the NO_2 annual or 1-hour standard were recorded at Maricopa County monitoring sites.

Table 14 2013 Nitrogen Dioxide Summary

Site	NO_2 1-hour Max. (ppb)	NO_2. 1-hour 98th Percentile (ppb)	3-Year Avg. of 98th Percentile (ppb)	Annual Average (ppb)
Buckeye	40.0	33.0	33.6	8.42
Central Phoenix	63.0	60.0	61.0	19.71
Greenwood	81.0	63.0	64.3	24.58
West Phoenix	69.0	56.0	56.3	17.97

Additional information required by EPA is shown in Table 15.

Table 15 Nitrogen Dioxide Data Required by EPA

CBSA	Population & Census Year 2012	Max AADT Counts	No. Required Near Road Monitors	No. of Active Near-Road Monitors	No of Additional Near-Road Monitors Needed	No. of Required Area-Wide Monitors	No. of Active Area-Wide Monitors	No of Additional Area-Wide Monitors Needed
38060	4,329,534	320,137	2	1	1	1	4	0

Ozone (O_3)

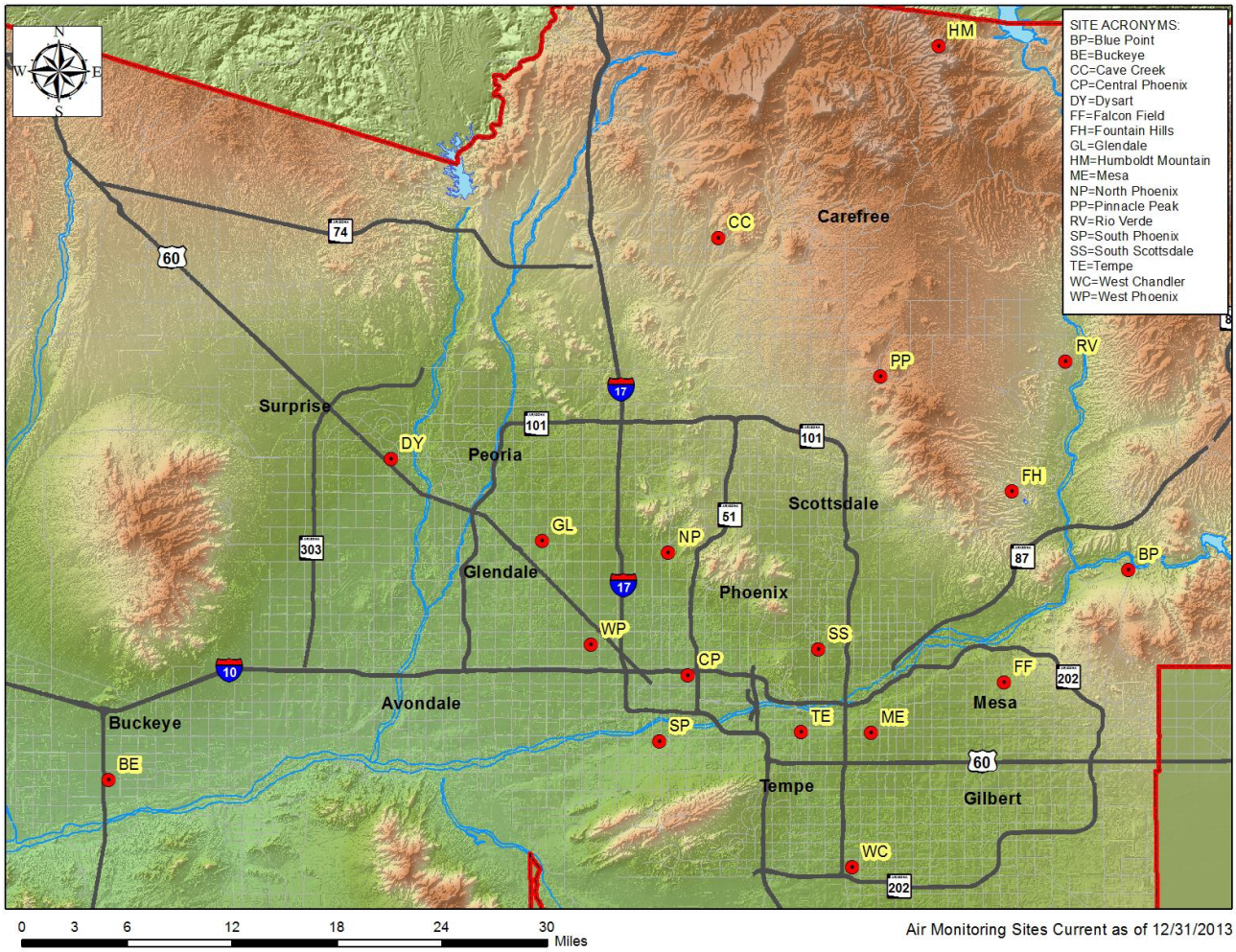


Figure 5 2013 Ozone Monitoring Sites

During 2013, eighteen O_3 monitors were reported as operational in AQS (Figure 5). All of the O_3 monitors are classified as SLAMS (Table 5).

On June 15, 2005, EPA revoked the 1997 1-hour average primary standard for O_3, and it was been replaced by the 8-hour average standard for compliance purposes.

On March 12, 2008, the EPA lowered the 8-hour O_3 NAAQS from 0.080 to 0.075 ppm. Compliance with the standard is determined by averaging the 4th highest 8-hour average over a 3-year period. This 3-year average must be less than or equal to 0.075 ppm.

In 2013, there were 12 exceedance days of the 8-hour primary standard for O_3. Table 16 presents the 2013 data summary for 8-hour O_3 at department monitoring sites. In addition, there were nine (9) violations of the 8-hour primary standard. The 8-hour standard is violated when a 3-year average using the 4th highest concentrations measured in each year exceeds 0.075 ppm (Table 16).

Table 16 2013 8-hour Average Ozone Summary

Site	8-hr Max. (ppm)	2nd Highest (ppm)	3rd Highest (ppm)	4th Highest (ppm)	Number of Days > 0.075
Blue Point	0.077	0.077	0.076	0.075	3
Buckeye	0.062	0.061	0.060	0.060	0
Cave Creek	0.076	0.074	0.072	0.072	1
Central Phoenix	0.079	0.079	0.077	0.075	3
Dysart	0.075	0.075	0.074	0.074	0
Falcon Field	0.082	0.08	0.079	0.077	5
Fountain Hills	0.072	0.072	0.070	0.070	0
Glendale	0.077	0.076	0.075	0.074	2
Humboldt Mt.	0.078	0.074	0.073	0.073	1
Mesa	0.086	0.079	0.079	0.079	6
North Phoenix	0.080	0.080	0.080	0.079	7
Pinnacle Peak	0.080	0.078	0.077	0.077	5
Rio Verde	0.074	0.073	0.073	0.073	0
South Phoenix	0.081	0.080	0.076	0.075	3
South Scottsdale	0.079	0.077	0.075	0.074	2
Tempe	0.077	0.073	0.072	0.071	1
West Chandler	0.081	0.074	0.072	0.070	1
West Phoenix	0.083	0.082	0.077	0.076	4

Additional information required by EPA is shown in Table 17.

Table 17 Ozone Data Required by EPA

CBSA	County	2012 Population & Census Year	8-Hr Design Value (ppm)	Design Value Site	No. Required Monitors	No. Active Monitors	No. of Additional Monitors Needed
38060	Maricopa	4,329,534	0.081	04-013-1004	2	18	0

Particulate Matter ≤10 Micrometers (PM_{10})

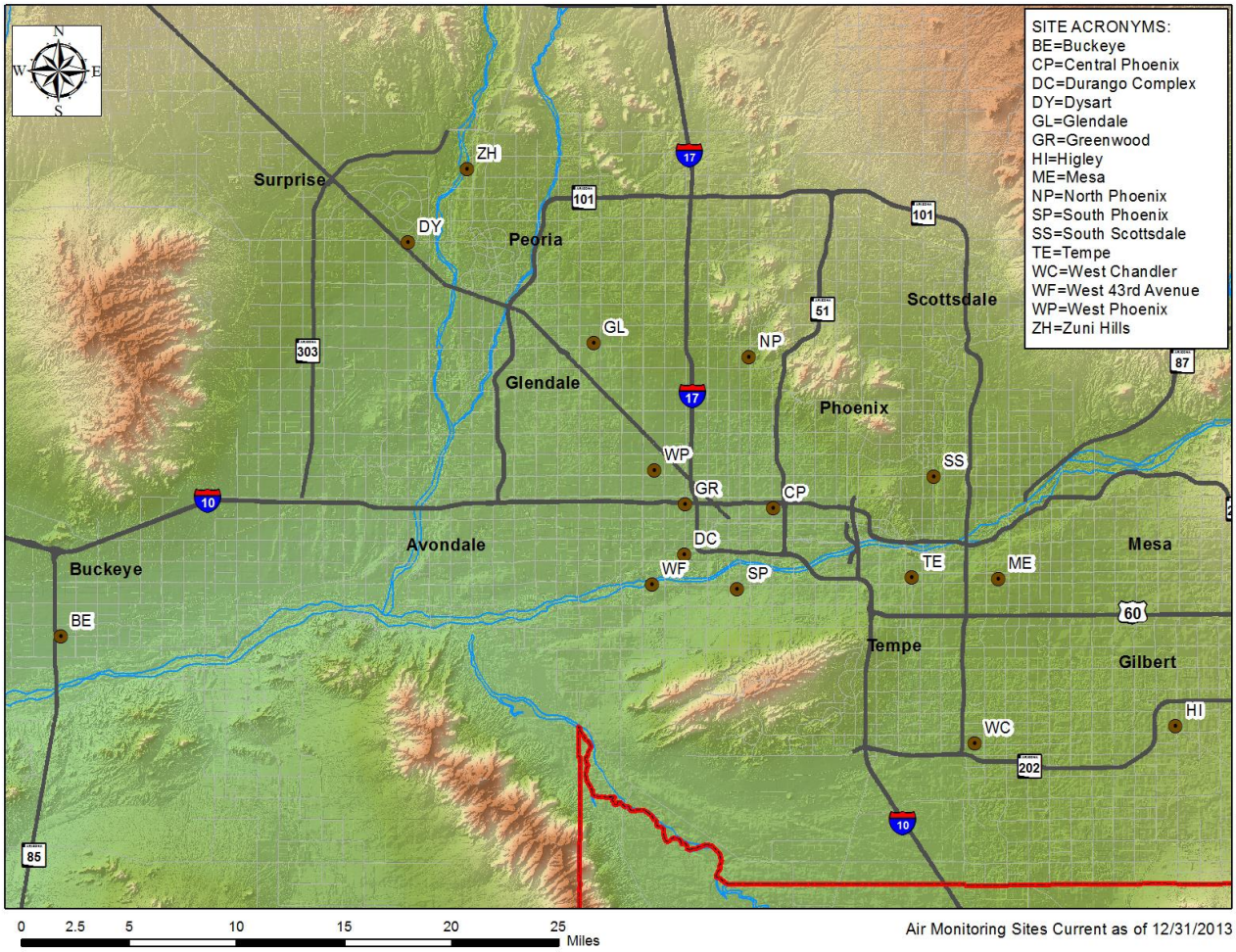


Figure 6 2013 PM_{10} Monitoring Sites

NOTE: The sixteen sites shown above now operate continuous PM_{10} monitors that collect hourly-averaged data.

During 2013, sixteen PM_{10} monitors were reported as operational in AQS (Figure 6). All PM_{10} monitors are classified as SLAMS, except for Zuni Hills, which is classified as a Special Purpose Monitor (SPM) as shown on Table 5.

The 24-hour primary NAAQS standard for PM_{10} is 150 micrograms per cubic meter ($\mu g/m^3$). However, due to rounding the 24-hour average concentration must exceed 155 $\mu g/m^3$ to be considered an "exceedance". This standard is violated when the expected number of exceedances at a monitor are more than one per year on average over three years. The expected number of exceedances is estimated using a formula provided in *40 CFR Part 50*. The formula takes into account the number of days sampling occurs and the number of valid samples that can be collected. A 3-year average of these estimated days is then used to determine compliance. Effective December 18, 2006 EPA revoked the PM_{10} annual primary standard, although the annual average is still displayed below for informational purposes (Table 18).

Table 18 2013 PM_{10} Summary

Site Name	24-hr Average Max ($\mu g/m^3$)	24-hr Average 2nd Highest ($\mu g/m^3$)	No. of 24-hour NAAQS Exceedances	Expected Exceedances	Annual Average ($\mu g/m^3$)	No. of Exceptional Events (EE)
Buckeye	298*	193*	2	2.21	40.8	2
Central Phoenix	328*	184*	2	2	31.8	2
Durango Complex	303*	209*	4	3.022	40.1	4
Dysart	147	143	0	0	24.9	0
Glendale	210*	172*	2	2	27.5	2
Greenwood	273*	207*	3	2	41.5	3
Higley	211*	143	1	1	34.6	1
Mesa	151	139	0	0	28.8	0
North Phoenix	153	148	0	0	25.9	0
South Phoenix	294*	186*	2	2.045	38.6	2
South Scottsdale	195*	142	1	1.05	26.0	1
Tempe	227*	146	1	1	28.3	1
West Chandler	234*	188*	3	3.04	28.5	3
West 43rd Avenue	301*	280*	4	4.19	42.5	4
West Phoenix	255*	188*	2	1.7	35.7	2
Zuni Hills	165*	148	1	1.011	23.5	1

*Indicates an exceedance of the standard.

NOTE: Some data are flagged as "Exceptional Events" – see explanation in Definition of Terms.

In accordance with the EPA's Exceptional Events Rule (EER), if EPA concurs with our findings that these data are due to an EE, these data will not be used in determining compliance with the NAAQS. Values in Table 18 are from official AQS reports as of the date of publishing this review. Additional information required by EPA is shown in Table 19.

Table 19 PM_{10} Data Required by EPA

CBSA	County	2012 Population & Census Year	Max Conc.	Max Conc. Site	No. Required Monitors	No. Active Monitors	No. of Additional Monitors Needed
38060	Maricopa	4,329,534	328 $\mu g/m^3$	04-013-3002	6-10	16	0

Particulate Matter ≤2.5 Micrometers ($PM_{2.5}$)

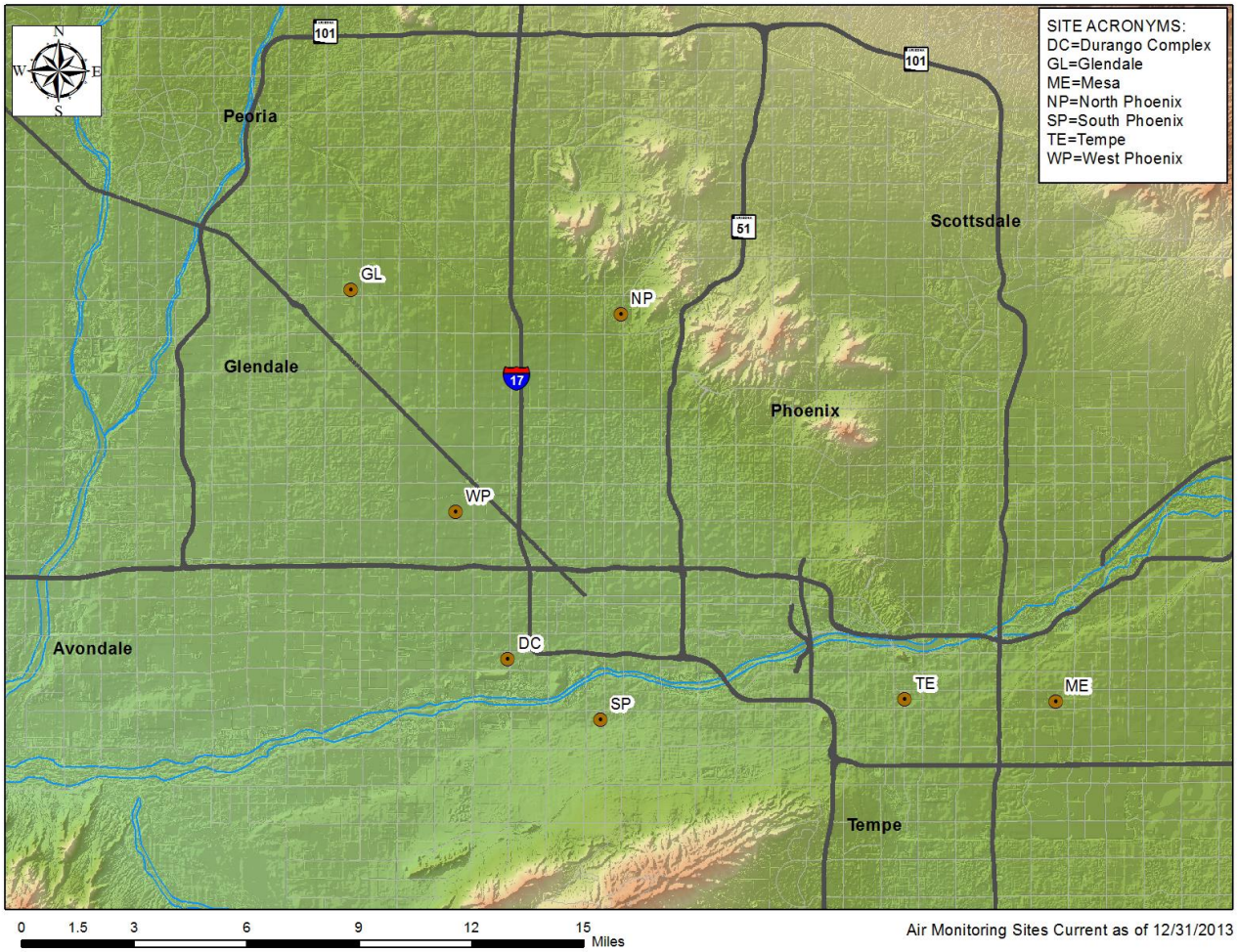


Figure 7 2013 $PM_{2.5}$ Monitoring Sites

NOTE: The seven sites shown above operate continuous $PM_{2.5}$ monitors that collect hourly-averaged data.

To meet EPA collocation requirements, MCAQD currently, operates one filter-based primary, compliance $PM_{2.5}$ monitor and one filter-based collocated , compliance $PM_{2.5}$ monitor at the West Phoenix site. The compliance $PM_{2.5}$ monitors collect twenty-four hour (midnight to midnight) samples onto filters on scheduled days and are non-continuous in nature.

On July 1, 2007, the department took over weighing the sample filters, a process that was previously done by the ADEQ. All filters are processed and weighed in our internal laboratory. In addition to the filter-based monitors, the department operates seven continuous $PM_{2.5}$ monitors at the Durango, Glendale, Mesa, North Phoenix, South Phoenix, Tempe, and West Phoenix sites. These continuous monitors have recently been reclassified as Federal Equivalency Methods (FEM), so their data are applicable to comparison with the national standards. All monitors are identified as SLAMS (Table 5).

Note that the $PM_{2.5}$ network is much smaller than the PM_{10} network. The reason for this is that historically more concern and resources have been given to PM_{10}, since portions of Maricopa County have been designated a nonattainment area for PM_{10} (Maricopa County is currently in attainment for

$PM_{2.5}$). According to federal regulations, Maricopa County does operate more than the required minimum number of $PM_{2.5}$ monitors for the MSA (see Table 24 and Appendix II). The Air Monitoring Division continually assesses if the existing network adequately represents the air quality ($PM_{2.5}$) in Maricopa County. One result from these ongoing assessments has been the addition of the continuous $PM_{2.5}$ monitors.

On December 14, 2012, EPA retained the primary 24-hour $PM_{2.5}$ standard of 35 $\mu g/m^3$ and revised the primary annual $PM_{2.5}$ standard to 12 $\mu g/m^3$. Compliance with the 24-hour standard is determined by taking the 3-year average of the 98th percentile at each monitoring site. Compliance with the annual standard is determined by taking the 3-year average of the annual means. There were no violations of the 24-hour standard or the annual standard. The data are based on a 24-hour average and summarized in Table 20 through 23.

Table 20 2013 $PM_{2.5}$ Summary for the Filter-based FRM Monitor

Site Name	24-hr Avg. Max ($\mu g/m^3$)	24-hr Avg. 2nd High ($\mu g/m^3$)	98th Percentile Value	Annual Avg. ($\mu g/m^3$)
West Phoenix	76.0*	31.8	28.0	10.16

Table 21 2013 $PM_{2.5}$ Data Summary for the Continuous FEM Monitors

Site Name	24-hr Avg. Max ($\mu g/m^3$)	24-hr Avg. 2nd High ($\mu g/m^3$)	98th Percentile Value	Annual Avg. ($\mu g/m^3$)
South Phoenix	97.3*	58.1*	25.8	9.59
Glendale	90.0*	27.9	16.6	7.52
Durango Complex	66.9*	55.8*	27.2	10.54
North Phoenix	57.3*	30.9	17.2	8.00
West Phoenix	53.0*	52.0*	29.0#	10.57#
Tempe	51.1*	26.2	17.9	8.69
Mesa	31.9	23.4	12.8	5.69

*Indicates an exceedance of the standard.
#The continuous FEM $PM_{2.5}$ monitor represents a part-year did not meet the 75% data completeness rate.

Table 22 2013 $PM_{2.5}$ 3-Year Averages of 98th Percentile for FRM Monitors

Site Name	2011 98th Percentile Value	2012 98th Percentile Value	2013 98th Percentile Value	98th Percentile 3-Year Average
Mesa	20.4	23.3#	Shutdown	#
South Phoenix	31.5	24.4#	Shutdown	#
West Phoenix	28.9	29.0	28.0	28.6

#Does not meet data completeness standards

Table 23 2013 $PM_{2.5}$ 3-Year Averages of 98th Percentile for FEM Monitors

Site Name	2011 98th Percentile (µg/m3)	2012 98th Percentile (µg/m3)	2013 98th Percentile (µg/m3)	98th Percentile 3-Year Average
North Phoenix	23.0	21.2	17.2	20.4
Glendale	27.8	18.6	16.6	21.0
Durango Complex	31.2	24.9	27.2	27.6
South Phoenix	27.2	20.9	25.8	24.6
West Phoenix	31.5	23.6	29.0#	#
Tempe	N.A.	19.5	17.9	#
Mesa	N.A.	10.4	12.8	#

#Does not meet data completeness standards

Additional information required by EPA is shown in Table 24.

Table 24 $PM_{2.5}$ SLAMS Data Required by EPA

CBSA	County	2012 Population & Census Year	Annual Design Value (µg/m3)	Annual Design Value Site	Daily Design Value (µg/m3)	Daily Design Value Site	No. of Required Monitors	No. of Active Monitors	No. of Additional Monitors Needed
38060	Maricopa	4,329,534	11.5	04-013-9812	28	04-013-9812	3	7	0

Sulfur Dioxide (SO_2)

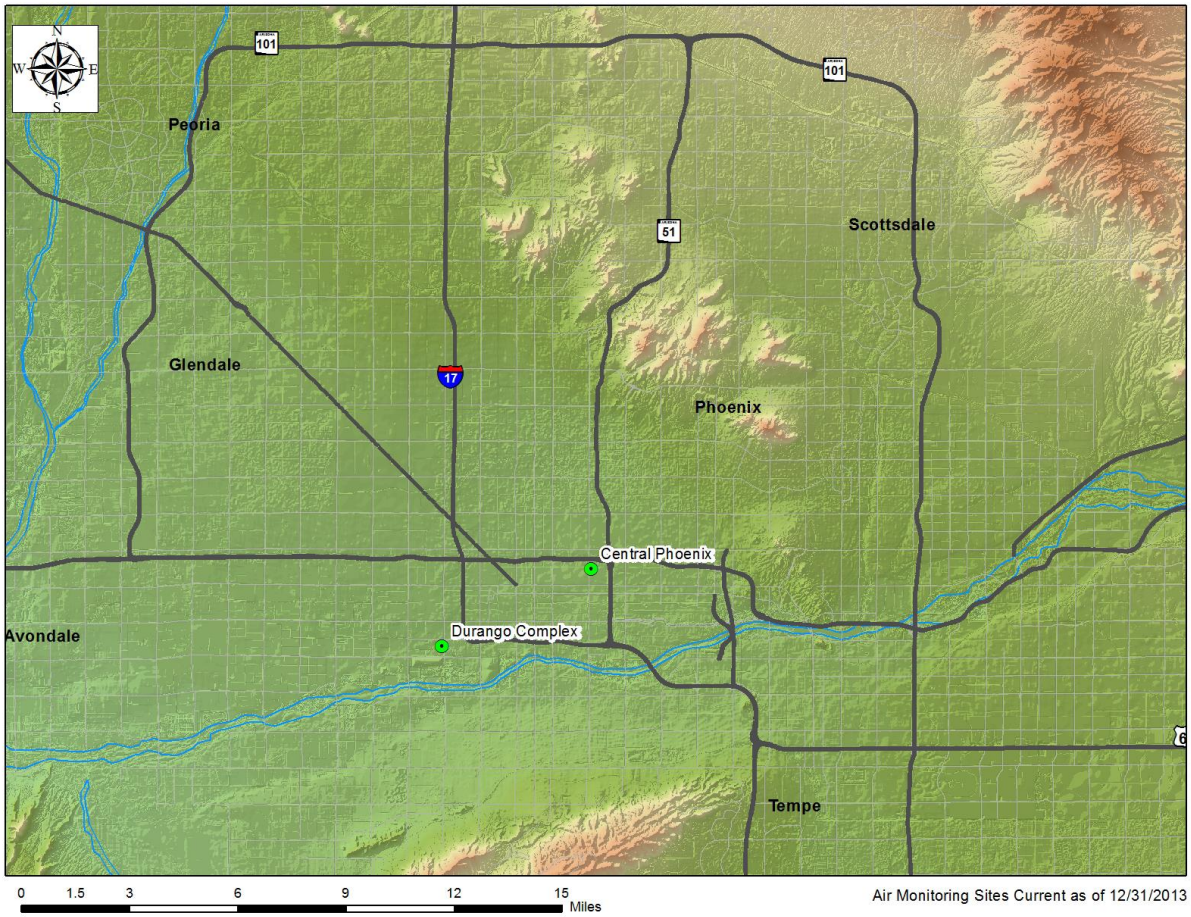


Figure 8 2013 Sulfur Dioxide Monitoring Sites

Maricopa County is in attainment for SO_2. During 2013, two SO_2 monitors were operational and were reported in AQS (Figure 8). Both of these monitors are designated SLAMS (Table 5).

Sulfur dioxide has a 1-hour primary standard and a 3-hour average secondary standard. The 24-hour and annual average standards were revoked in a June 2010 rulemaking. A violation of the primary standard occurs when the 3-year average of the 99th percentile of the daily maximum 1-hour average exceeds 75 ppb. A violation of the secondary standard occurs when a 3-hour average of 500 ppb is exceeded more than once per year. For calendar year 2013, no exceedances of the SO_2 1-hour or 3-hour standard were recorded at Maricopa County monitoring sites (Table 25).

Table 25 2013 Sulfur Dioxide Summary

Site	1-hour Max. (ppb)	1-hour 2nd High (ppb)	99th Percentile (ppb)
Central Phoenix	9.0	9.0	8.0
Durango Complex	14.0	12.	9.0

NOTE: EPA no longer requires the reporting of 3-hour values for the SO_2 secondary NAAQS. The EPA now requires that the highest 5-minute average per hour per day be reported to AQS; however, there is no 5-minute SO_2 NAAQS.

Additional information required by EPA is shown in Table 26.

Table 26 Sulfur Dioxide Data Required by EPA

CBSA	County	2012 Population & Census Year	Total SO_2 (tons/year)	Population Weighted Emission Index	No. of Required Monitors	No. of Active Monitors	No. of Additional Monitors Needed
38060	Maricopa	4,329,534	977	4229.9	0	2	0

2013 NAAQS Exceedance and Violation Summary

The following is a summary of the number, types, and dates of exceedances and violations of the NAAQS for 2013 (Table 27).

Table 27 2013 NAAQS Exceedances and Violation Summary

CO	No exceedances or violations of the 1-hr or 8-hr NAAQS standard were logged.
NO_2	No exceedances or violations of NAAQS were logged.
O_3	There were twelve unique days when at least one monitor exceeded the standard. There were nine violations of the 8-hour standard.
PM_{10}	There were six unique days when at least one monitor exceeded the 24-hour standard. There were no sites that violated the standard once EEs were removed.
$PM_{2.5}$	There were five unique days when at least one monitor exceeded the 24-hour standard. There were no violations of the 24-hour or annual standards.
SO_2	No exceedances or violations of NAAQS were logged.
Pb	No exceedances or violations of NAAQS were logged.

2013 O_3 Exceedance and Violation Details

The following information details the dates and values for exceedances of the 8-hour O_3 standard (Table 28). The standard is 0.075 ppm for a rolling 8-hour average. Violations of the O_3 standard are calculated with a 3-year average of the fourth-high annual 8-hour value (Table 29); if this 3-year average is greater than 0.075 ppm, the site violates the standard.

Table 28 2013 Ozone 8-hour Average Exceedance Details

Ozone 8-hr avg. (ppm)

Ozone NAAQS > 0.075 ppm

	BE	BP	CC	CP	DY	FF	FH	GL	HM	ME	NP	PP	RV	SP	SS	TE	WC	WP
5/13/13			0.076					0.077	0.078		0.080	0.076						0.076
5/14/13												0.077						
5/31/13		0.077				0.080				0.079								
6/1/13										0.078	0.077			0.076				
6/20/13												0.077						
6/28/13						0.079						0.080						
7/2/13						0.077				0.078								
7/8/13		0.077				0.076				0.079	0.080	0.078			0.077			
7/17/13		0.076		0.079		0.082		0.076		0.086	0.080			0.081	0.079	0.077	0.081	0.083
7/18/13				0.079						0.079	0.076			0.080				0.082
8/15/13											0.078							
9/3/13				0.077							0.079							0.077

Exceedance Days	0	3	1	3	0	5	0	2	1	6	7	5	0	3	2	1	1	4
Maximum Value		0.077	0.076	0.079	0	0.082	0	0.077	0.078	0.086	0.080	0.080	0	0.081	0.079	0.077	0.081	0.083
4th High Value > 0.075 ppm						0.077				0.079	0.079	0.077						0.076

Total Number of Days where at least one monitor exceeded the NAAQS Ozone Standard	12

Table 29 2013 Ozone NAAQS Violations

Site	Value (ppm)
Blue Point	0.077
Cave Creek	0.077
Glendale	0.076
Humboldt Mt.	0.076
North Phoenix	0.081
Pinnacle Peak	0.077
South Phoenix	0.076
South Scottsdale	0.076
West Phoenix	0.079

NOTE: The data shown above are the 2011 to 2013 3-year averages of the 4th highest 8-hour O_3 concentrations

2013 Exceedances of the 24-Hour PM_{10} Standard

The following table details the site and date of exceedances of the 24-hour PM_{10} standard (Table 30). Note that this table includes all exceedances, even those that are expected to be or are in the process of being classified as EEs. Exceptional events are not used in calculating compliance with the NAAQS.

Table 30 2013 PM_{10} 24-hour Average Exceedance Details

Site	Date	24-hr avg. PM_{10} Concentration ($\mu g/m^3$)	Exceptional Events
Buckeye	4/8/13	299.2	*
	8/17/13	193.5	*
Central Phoenix	4/8/13	184.7	*
	6/30/13	329.2	*
Durango Complex	4/8/13	209.9	*
	6/30/13	303.4	*
	7/2/13	193.2	*
	8/26/13	191.4	*
Glendale	4/8/13	172.7	*
	6/30/13	210.8	*
Greenwood	4/8/13	207.7	*
	6/30/13	274.2	*
	8/26/13	203.9	*
Higley	4/8/13	211.6	*
South Phoenix	6/30/13	294.6	*
	4/8/13	186.0#	*
South Scottsdale	6/30/13	195.0	*
Tempe	6/30/13	227.7	*
West 43rd Avenue	4/8/13	301.6	*
	6/30/13	281.3	*
	7/2/13	187.1	*
	8/26/13	209.3	*
West Chandler	4/8/13	234.9	*
	6/30/13	189.3	*
	10/9/13	189.2	*
West Phoenix	4/8/13	189.4	*
	8/26/13	255.6	*
Zuni Hills	4/8/13	165.7	*
Number of Days in 2013 where at least one monitor exceeded the 24-hr PM_{10} Standard		6	

*MCAQD has flagged these exceedances as EEs.

# Indicates < 75% of data available; however, data can be compared to the NAAQS because > 7 hours are available

2013 Violations of the 24-Hour PM_{10} Standard

As per *40 CFR Part 50.6 (a)*, the 24-hour NAAQS for PM_{10}, i.e., the 24-hour average block-average (midnight-to-midnight) concentration at a site is ≥ 155 µg/m^3, is violated when the calculated "rate of expected exceedances" occurrence is >1 when averaged over three consecutive years (Table 31).

Table 31 2013 Violations of the 24-hourPM_{10} Standard with EEs Shown

Site	2011		2012		2013		Rate of Expected Exceedances*
	24-hr Max. (µg/m^3)	Expected Exceedances*	24-hr Max. (µg/m^3)	Expected Exceedances*	24-hr Max. (µg/m^3)	Expected Exceedances	
Buckeye	385‡	1.00	205‡	1.00	298‡	2.21	**1.40**
Central Phoenix	308‡	0	340‡	0	328‡	2	0.67
Durango Complex	436‡	0	221‡	0	303‡	3.022	**1.03**
Dysart	273‡	0	167‡	0	147	0	0
Glendale	242‡	0	337‡	0	210‡	2	0.67
Greenwood	388‡	0	323‡	0	273‡	2	0.67
Higley	362‡	0	224‡	1.00	211‡	1	0.67
Mesa	127	0	64#	0	151	0	0
North Phoenix	186‡	0	178‡	0	153	0	0
South Phoenix	420‡	1.0	342‡	0	294‡	2.045	1.01
South Scottsdale	119	0	102	0	195‡	1.05	0.35
Tempe	NA	NA	169‡	0	227‡	1	#
West Chandler	669‡	0	402	2.00	234‡	3.04	**1.68**
West 43rd Avenue	369‡	0	254‡	2.00	301‡	4.19	**2.06**
West Phoenix	279‡	0	189‡	1.0	255‡	1.7	0.90
Zuni Hills	411‡	1.0	285‡	0	165‡	1.011	0.67

Bold font = Excepted number of exceedances that will be zeroed if EPA concurs on all 2013 data flagged as EE
* Calculated with all EE data included regardless of EPA's decision of concurrence
# Indicates < 75% data available, i.e., does not meet data completeness requirements
‡ Indicates value was flagged as an EE

Exceptional Events for PM_{10}

The ADEQ has sent EE packages to EPA Region 9 for the six exceedance days in 2013. If the EPA concurs with all of these packages, the number of sites that violated the PM_{10} standard will drop from four (Table 31) to zero (Table 32).

Table 32 2013 Violations of the 24-hour PM_{10} Standard Excluding Approved EEs

Site	2011		2012		2013		Rate of Expected Exceedances*
	24-hr Max. (µg/m³)	Expected Exceedances*	24-hr Max. (µg/m³)	Expected Exceedances*	24-hr Max. (µg/m³)	Expected Exceedances	
Buckeye	385‡	1.00	205‡	1.00	298‡	0	0.66
Central Phoenix	308‡	0	340‡	0	328‡	0	0
Durango Complex	436‡	0	221‡	0	303‡	0	0
Dysart	273‡	0	167‡	0	147	0	0
Glendale	242‡	0	337‡	0	210‡	0	0
Greenwood	388‡	0	323‡	0	273‡	0	0
Higley	362‡	0	224‡	1.00	211‡	0	0.33
Mesa	127	0	64#	0	151	0	0
North Phoenix	186‡	0	178‡	0	153	0	0
South Phoenix	420‡	1.0	342‡	0	294‡	0	0.33
South Scottsdale	119	0	102	0	195‡	0	0
Tempe	NA	NA	169‡	0	227‡	0	#
West Chandler	669‡	0	402	2.00	234‡	0	0.67
West 43rd Avenue	369‡	0	254‡	2.00	301‡	0	0.67
West Phoenix	279‡	0	189‡	1.0	255‡	0	0.33
Zuni Hills	411‡	1.0	285‡	0	165‡	0	0.33

* Calculated minus the EE data with EPA concurrence
# Indicates < 75% data available, i.e., does not meet data completeness requirements
‡ Indicates value was flagged as an EE

2013 Exceedances of the 24-Hour $PM_{2.5}$ Standard

The 24-hour primary and secondary NAAQS for $PM_{2.5}$ is 35 µg/m^3. If the 24-hour block-average (midnight-to-midnight) concentration at a site surpasses this value, then it is counted as an exceedance. The 24-hour standard is violated when the 3-year average of the 98th percentile exceeds 35 µg/m^3. There were no violations in 2013.

Table 33 2013 $PM_{2.5}$ Exceedances

Site	Date	24-hr avg. $PM_{2.5}$ Concentration in µg/m^3
South Phoenix	1/1/13	97.3
	12/24/13	44.2
	12/25/13	58.1
	12/31/13	56.4
West Phoenix	1/1/13	76.0
	12/25/13	52.0
	12/31/13	53.0
Durango	1/1/13	66.9
	6/30/13	41.5
	12/25/13	55.8
Glendale	1/1/13	90.0
North Phoenix	1/1/13	57.3
Tempe	1/1/13	51.1
JLG Supersite (ADEQ)	1/1/13	40.5
Number of Days where at least one monitor exceeded the 24-hour $PM_{2.5}$ Standard		5

Pollution Trends

The following charts depict the most recent 3-year trends (2011-2013) for each criteria pollutant. See Table 4 for explanations of site abbreviations.

Carbon Monoxide

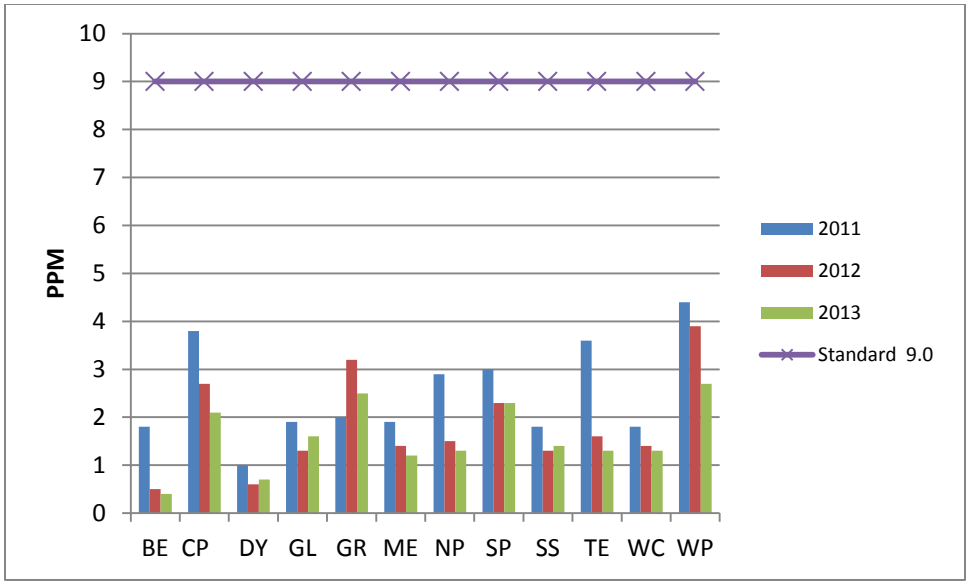


Chart 1 2011-2013 8-hr Avg. Carbon Monoxide Maximum Values

Nitrogen Dioxide

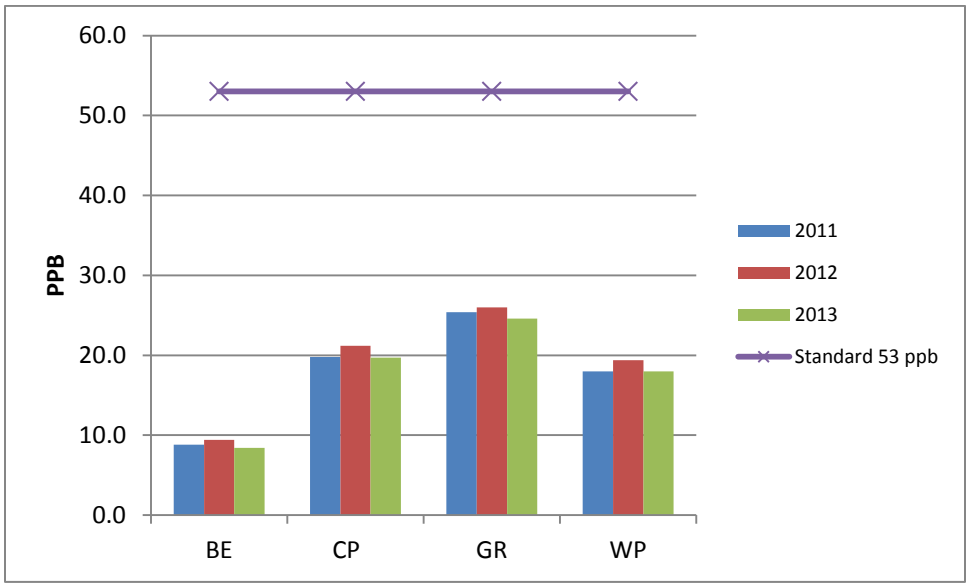


Chart 2 2011-2013 Nitrogen Dioxide Annual Average Readings

Ozone

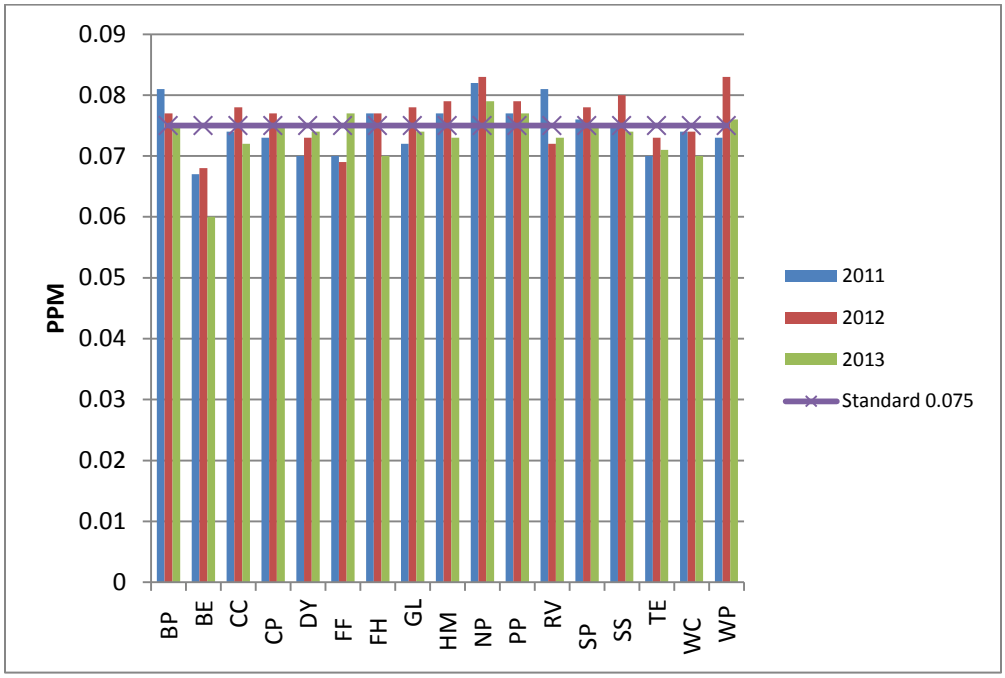


Chart 3 2011-2013 Ozone 4th Highest 8-hr Average

Particulates

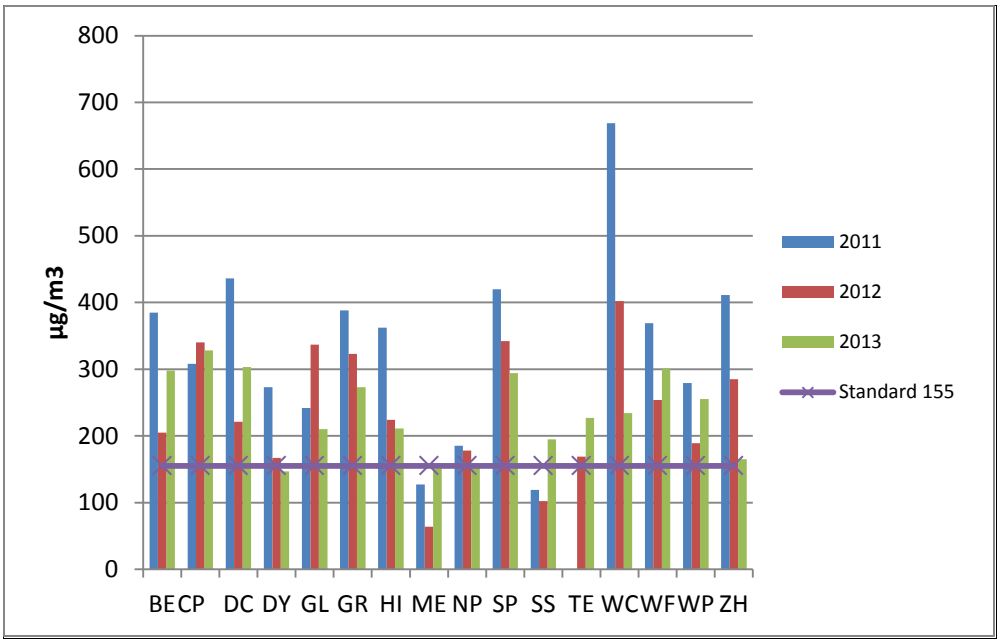


Chart 4 2011-2013 PM_{10} 24-hr Average Maximum Values

NOTE: The PM NAAQS states 150 µg/m_3 as limit, but an exceedance is based on a value of 155 µg/m_3.

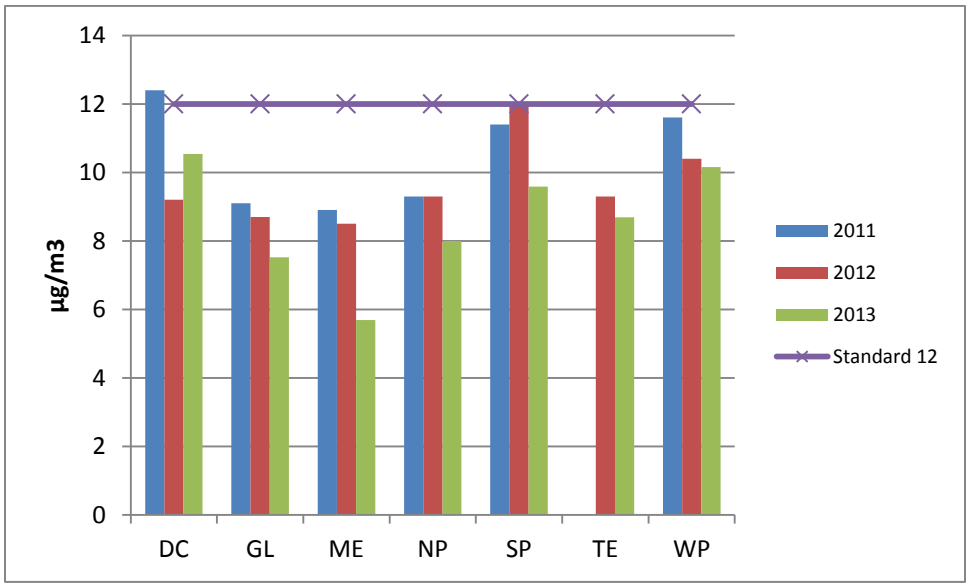


Chart 5 2011-2013 $PM_{2.5}$ Annual Average

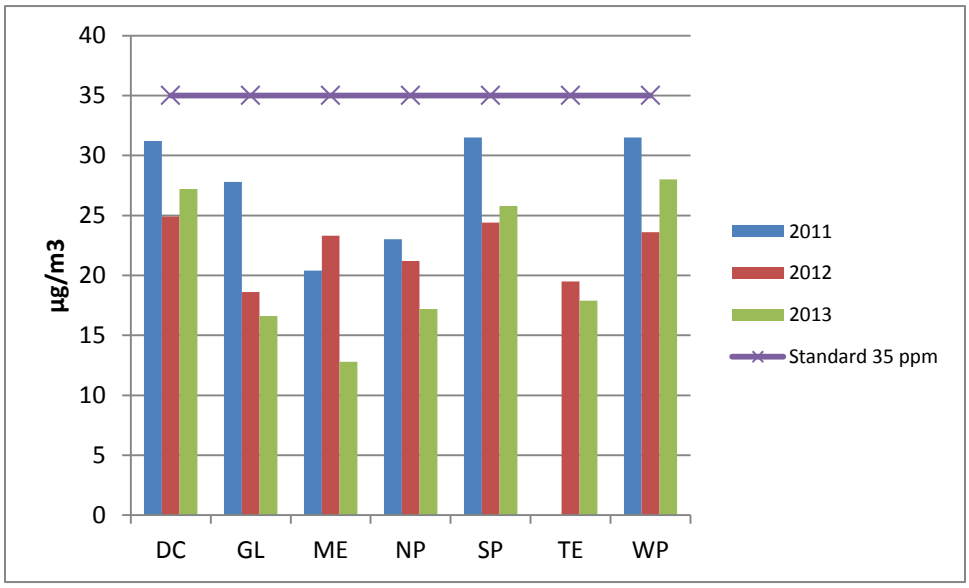


Chart 6 2011-2013 $PM_{2.5}$ 98th Percentile

Sulfur Dioxide

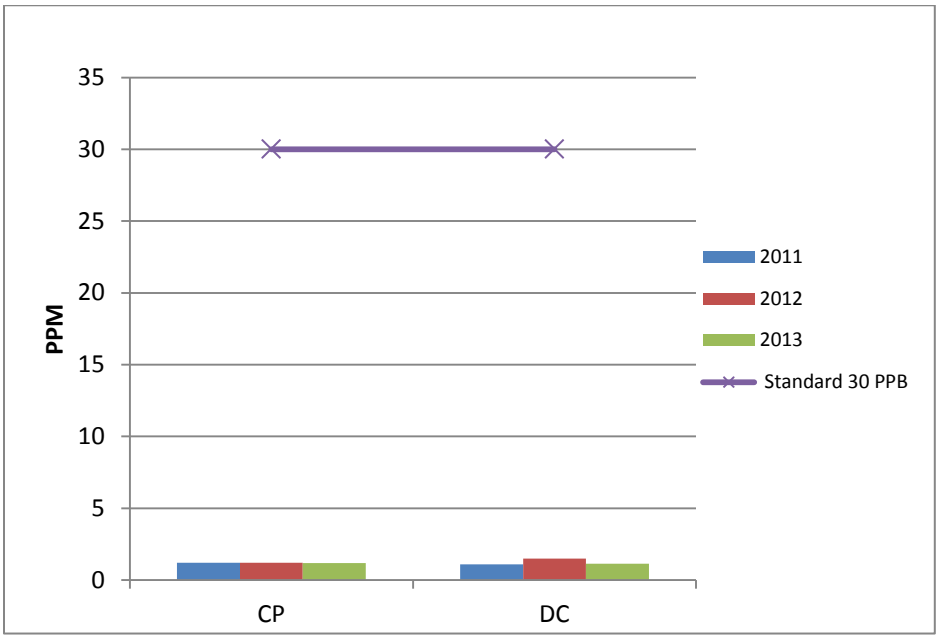


Chart 7 2011-2013 Sulfur Dioxide Annual Average

Special Projects and Network Changes

Air quality issues such as the SIP, EEs, and permits for new sources, are diverse and controversial subjects for the citizens of Maricopa County. Since effective policies rely upon high-quality monitoring data, MCAQD's Air Monitoring Division strives to provide the most reliable and relevant air monitoring data to the public. The following is a list of projects and changes that have occurred during the year 2013.

Seasonal Monitors

The department continues to run more than half of its carbon monoxide (CO) monitors on a seasonal basis (Table 34). Having part of the network operating seasonally allows the division to upgrade instruments, perform preventive maintenance, extend the life expectancy of the instruments, reduce replacement costs, and better utilize its QA and QC resources on the remaining instruments. During the off-season the number of CO monitors operating still exceeds the minimum EPA requirements.

Table 34 Seasonal Monitors

Seasonal Carbon Monoxide Monitoring Sites (Operational Sept. 1 – Apr. 1)
Buckeye
Dysart
Glendale
Mesa
North Phoenix
South Phoenix
South Scottsdale
Tempe
West Chandler

The Consideration of Additional Sites/Monitors

Site Shutdowns

The Zuni Hills site (04-013-4016) will be temporarily shutdown because of construction in the area from June 2014 to August 2014. The Fountain Hills (04-013-9704) site was shutdown on August 27, 2013 through May 14, 2014 because of the fire house complex remodeling. Also, we have been notified that we will need to move the Higley site (04-013-4006) because the owners will be selling the property. The division is working on a plan to move the site by the end of 2014. Additionally, the City of Chandler notified us that they have plans for the area occupied by our West Chandler site (04-013-4004). We are currently working with the city to find a suitable alternative location in 2014.

The department continues to evaluate all of the monitoring networks for representativeness. Additional factors, including limited financial resources and personnel, continue to remain significant obstacles in modifying any of the monitoring networks.

Other Network Changes/Special Projects/Comments

Air Quality Forecasting

The ADEQ, in conjunction with MCAQD, has developed a year-round air quality forecasting capability for the Phoenix metropolitan area. ADEQ takes the lead on air quality forecasting and issuing of High Pollution Advisories (HPA), while the MCAQD provides monitoring data and designates No-Burn Days.

Air Monitoring Website

The department is continuing its distribution of air monitoring data to the public by posting 1-hour and 5-minute continuous data on the Internet (see "Maricopa County Interactive Pollution Map" at http://alert.fcd.maricopa.gov/alert/Google/v3/air.html).

Mobile Monitoring Program

The department received approval in late 2006 from the Maricopa County Board of Supervisors to start a Mobile Monitoring program. This program enables us to do more localized air monitoring combined with the ability to track down sources of air pollutants; to collect and analyze hazardous air-pollutant (HAP) samples; and to respond to emergencies. In addition to the ambient monitoring that we perform, the program is useful for collecting and analyzing scientific data for various projects, including assisting our compliance division in the enforcement of air pollution control regulations.

In 2013, MCAQD's Air Monitoring Division has responded to air quality emergencies throughout Maricopa County such as heavy smoke from fires or toxic releases that threaten air quality (Figure 9). All MCAQD mobile monitoring personnel are required to meet medical monitoring and "hazwoper" training as per the U.S. Occupational Safety and Health Administration (OSHA) requirements found in *29 CFR 1910.120*. Members are recertification annually through refresher training**.**

Figure 9 2013 Mulch Fire

Near-Road NO_2 Monitoring

In February of 2010, EPA promulgated new minimum monitoring requirements for the nitrogen dioxide (NO_2) monitoring network in support of a newly revised 1-hour NO_2 NAAQS. In the new monitoring requirements, state and local air monitoring agencies are required to install near-road NO_2 monitoring stations in larger urban areas where hourly NO_2 concentrations in the near-road environment are believed to be the highest in that urban area.

The regulations require Core-Based Statistical Areas (CBSAs) with 2,500,000 or more persons, or those CBSAs with one or more roadway segments carrying traffic volumes of 250,000 or more vehicles (as measured by annual average daily traffic [AADT] counts), shall have two near-road NO_2 monitors within that CBSA. Based on the regulation, Maricopa County is required to have two near-road NO_2 monitors. MCAQD has applied for and received EPA grant money to install the first of two near-road monitors.

Important parameters for traffic activity that can be readily obtained for near-road monitoring assessments include the number of vehicles, the fleet mix, vehicle speeds (traffic congestion), local terrain and topography, and meteorology. Each of these parameters has an effect on the concentration and characteristics of the near-road pollutants. State and local ambient air monitoring agencies are required (per *40 CFR Part 58 Appendix D, § 4.3.2.a*) to use the latest available census figures, i.e., census counts and/or estimates, and available traffic data in assessing what monitoring may be required.

We have completed the process of determining specific locations for the two near-road NO_2 monitors following procedures found in the associated EPA Technical Assistance Document. The two selected sites have been submitted to EPA for approval.

Site #1 "Diablo Site"

On 2/13/14, the "Diablo" Site (04-013-4019) started reporting data. This site was our first choice for a new Near Road site. Not only was this site first in fleet equivalency rank, but it passed all of our tests. Specifically, the reasons for choosing this location are:

- #1 in fleet-equivalency rank (a comparative rating including both light and heavy-duty vehicles), #1 in average weekday traffic rank (AWT), and #3 in heavy duty vehicle traffic. Traffic congestion is extreme.

- This candidate had desirable supporting features such as freeway orientation and surrounding grade. Although most of the adjacent area is commercial property, there are considerable residential parcels nearby.

- There are locations alongside this road segment with access, safety, security, and power available. The Arizona Department of Transportation (ADOT), which owns these frontage spaces, is willing to work with us in establishing a monitoring site.

- Although major road construction is planned on this freeway in 2019 (freeway widening), we've discussed the issue with ADOT and believe that we'll be able to move the monitoring site back far enough to accommodate it (during and after construction). In the event that such a move is not possible, we would have to prepare another assessment to relocate the monitoring site; there are other possibilities on the I-10 freeway, though the entire freeway is undergoing major road construction from the U.S. 60/I-10 split to the I-17/I-10 split beginning in 2019.

The site is located on the west side of the I-10 freeway just south of the Fairmont/Diablo Way intersection (10). The coordinates are 33.396250, -111.967967. There is a concrete barrier between the freeway and the frontage, offering safety. We have erected a secure shelter for housing the monitoring instruments.

Figure 10 Street view of site #1 (Diablo)

Site #2

For the second near-road site, it was decided to find a location that did not represent the same traffic as the Diablo site. We also wanted to locate the site near a high-density population source. From our site list, the next most desirable location was in the area of Interstate-10 near 35th Avenue in central Phoenix. This location was chosen for the following reasons:

- #13 in fleet-equivalency rank, #17 in AWT traffic, and #12 in heavy-duty vehicle traffic;
- extreme traffic congestion;
- many residential parcels nearby;
- favorable surrounding features such as access and background NO_2 sources; and,
- the frontage space is owned by ADOT, who will work with us to establish a site.

We propose that the location's positive aspects outweigh the negative, and features alongside this road segment will allow us access while avoiding the sound walls. However, the location does have drawbacks including:

- an east-west orientation, which is parallel to the average wind direction;
- the freeway is approximately 20' below grade;
- an overpass is located at 35th Avenue; and,
- sound walls exist on some parts of the interstate.

This location is just east of 33rd Avenue on the south side of the I-10 freeway, in an area just past the sound wall. Our plan is to place a secure monitoring shelter within 10-20 meters of the road in the middle of the grade (Figures 11 and 12). Safety and security features consist of the setback from the road, the grade of the slope, and a block wall around the shelter.

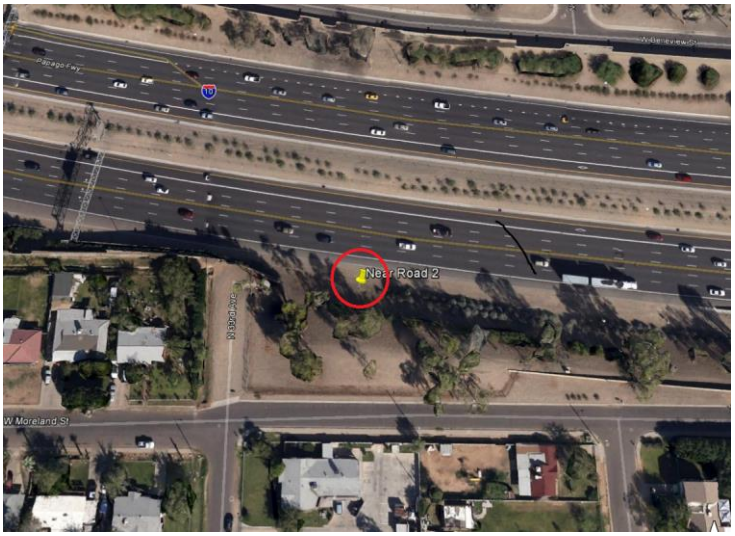


Figure 11 Aerial view of near-road site#2

Figure 12 Street view of near-road site #2

Rapid Response Notification System

Maricopa County enjoys many days with clean air. However, there are several days during the year when air pollution levels approach or exceed federal health standards. On these days, action needs to be taken to avoid adding pollution to the air.

In spite of the robust ambient air monitoring network maintained by MCAQD, a significant amount of particulate air pollution can build up more quickly than the one-hour standard measurement. If a quickly-developing event were to go unaddressed, the air quality levels could exceed a federal health standard, causing immediate health impacts to county residents and threatening our attainment status with the U.S. EPA.

The Rapid Response Notification System (RRNS) serves as a tool for residents, intergovernmental stakeholders and personnel of MCAQD. The RRNS uses a three-part system to manage high pollution events:

1. dissemination of as near real-time as possible air quality data;
2. a notification system to alert residents and stakeholders of a pollution problem; and
3. onsite response from department inspectors and stakeholders to identify and discourage pollution activity to reduce the risk of pollution impacts.

When a Rapid Response notification is broadcast, the department will require dust control permit holders to inspect their sites as soon as possible and employ Best Available Control Measures to stabilize all disturbed soils to reduce blowing dust. Permit holders with multiple sites should contact each site supervisor to ensure compliance with ambient air quality standards.

Emergency Response Notification System

The Air Monitoring Division is equipped to respond to air quality emergencies throughout Maricopa County such as heavy smoke from fires or air toxic releases that threaten air quality. All division personnel are trained and use U.S. EPA and/or OSHA approved health and safety guidelines during hazardous materials and emergency response situations. Response team members are required to meet OSHA *29 CFR 1910.120* medical monitoring and training requirements. Members remain current through annual recertification.

In responding to emergencies, MCAQD has a wide variety of specialized equipment to assess air quality and meteorological conditions. These include a several trailers and a large self-powered van equipped with a criteria pollutant monitors and a gas chromatograph/mass spectrometer (GS/MS). In addition, the division has purchased several portable monitors, including a FTIR to monitor air toxics and an Area-Rae system to monitor chlorine and ammonia.

ADDITIONAL COMMENTS

Arizona Department of Environmental Quality Network

The ADEQ operates its own monitoring network within the State of Arizona, including some sites within Maricopa County. In addition to these state-run sites, ADEQ also utilizes several MCAQD sites to operate their own monitoring equipment. The ADEQ does a variety of ambient air pollution, air toxics, visibility, and meteorological monitoring. One of the main sites in Maricopa County that is operated by ADEQ is the JLG Supersite in central Phoenix. The Supersite is a National Core multi-pollutant monitoring station (NCORE) and is part of the national monitoring network (MCAQD's monitors, on the other hand, are part of the State and Local Air Monitoring network (SLAMS)).

For more information about the state's network or the NCORE JLG Supersite consult the ADEQ's Annual Network Plan on their website at: http://www.azdeq.gov/function/forms/reports.html.

EPA Air Pollution Mapping

The AIRNow website (http://wwww.airnow.gov) provides air pollution forecast maps for O_3 and $PM_{2.5}$, and real-time air pollution maps with CO, O3, PM_{10}, and $PM_{2.5}$ data for major metropolitan areas around the United States, including the Phoenix metropolitan area. The MCAQD has participated in the program since 2001.

The MCAQD, in cooperation with ADEQ and the Pinal County Air Quality Control District, has expanded the area that the maps cover. This area now includes sites as far east as Queen Creek, as far south as Casa Grande, and as far west as Palo Verde (Figure 12).

This website can be used as a tool by which the public can plan their daily activities and limit their exposure to air pollution. Eight-hour average peak O_3 concentration maps and real-time 8-hour O_3 animation maps are provided. Colors on the map indicate different concentrations of O_3 pollution. The one-hour average values are given in parts per billion. The 8-hour averages are converted into Air Quality Index (AQI) numbers. The AQI is based on the NAAQS. The index was developed to convert pollution measurements into a common index that the general public can

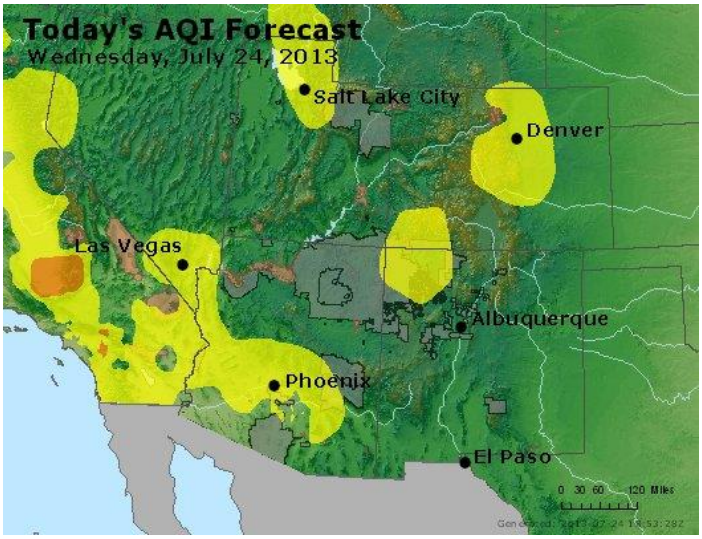


Figure 13 AQI Forecast Map

Source: EPA AIRNow Website

more easily understand.

Different colors on the map correspond to different categories of air quality and health impacts (Table 35).

Table 35 Air Quality Index

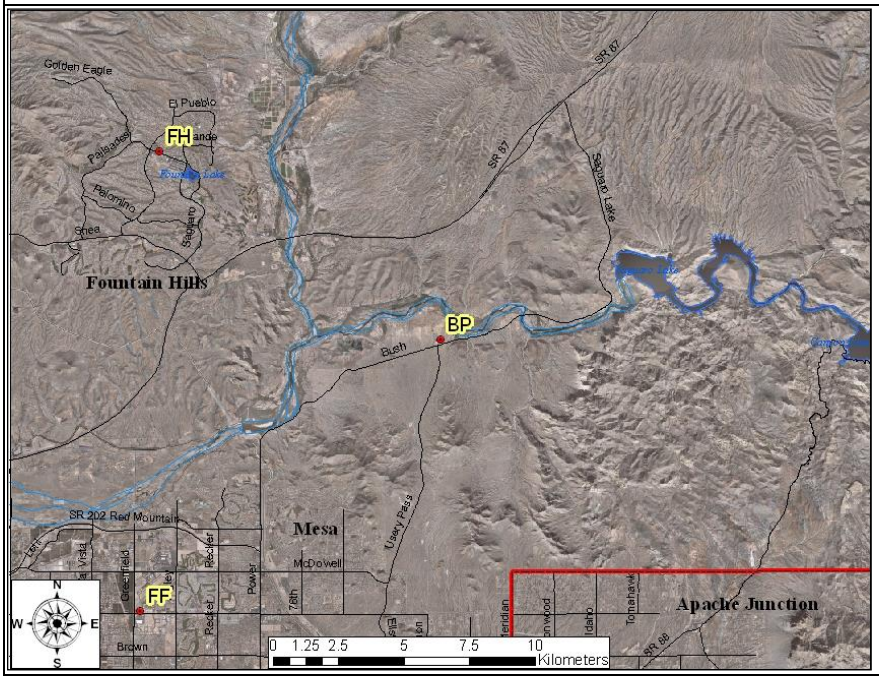
Index	**Color Designation**	**Air Quality**	**Health Impact**
0 – 50	Green	Good	No harmful effects expected.
51 – 100	Yellow	Moderate	Unusually sensitive people should consider limiting prolonged outdoor exertion.
101 – 150	Orange	Unhealthy for Sensitive Groups	Active children & adults, people with respiratory disease (i.e., asthma) should limit prolonged outdoor exertion.
151 – 200	Red	Unhealthy	Everyone should observe caution. Avoid prolonged outdoor exertion.
201 – 300	Purple	Very Unhealthy	Avoid all outdoor exertion. Use extreme caution outdoors.
301 – 500	Maroon	Hazardous	Everyone should avoid all outdoor exertion.

REFERENCES

1. Code of Federal Regulations, Chapter 40, Part 50 and 58
2. EPA's Air-Data (AQS) information: http://www.epa.gov/airdata
3. EPA's NAAQS Info: http://www.epa.gov/air/criteria.html
4. SIP Information: http://www.azdeq.gov/environ/air/plan/index.html
5. EPA's Air Program Information: http://www.epa.gov/rgytgrnj/programs/artd/air/quality/quality.htm
6. Maricopa County Air Quality Department Air Monitoring Map: http://www.maricopa.gov/aq/divisions/monitoring/Default.aspx
7. AIR-Now: http://airnow.gov/
8. Criteria Pollutant Information: http://www.epa.gov/air/urbanair/6poll.html
9. Maricopa County Air Quality Department Prior Network Reviews: http://www.maricopa.gov/aq/divisions/monitoring/network.aspx.

APPENDIX I - MONITORING SITE DETAILS (PHOTOS AND SPECIFIC INFORMATION)

Blue Point (BP) (04-013-9702)



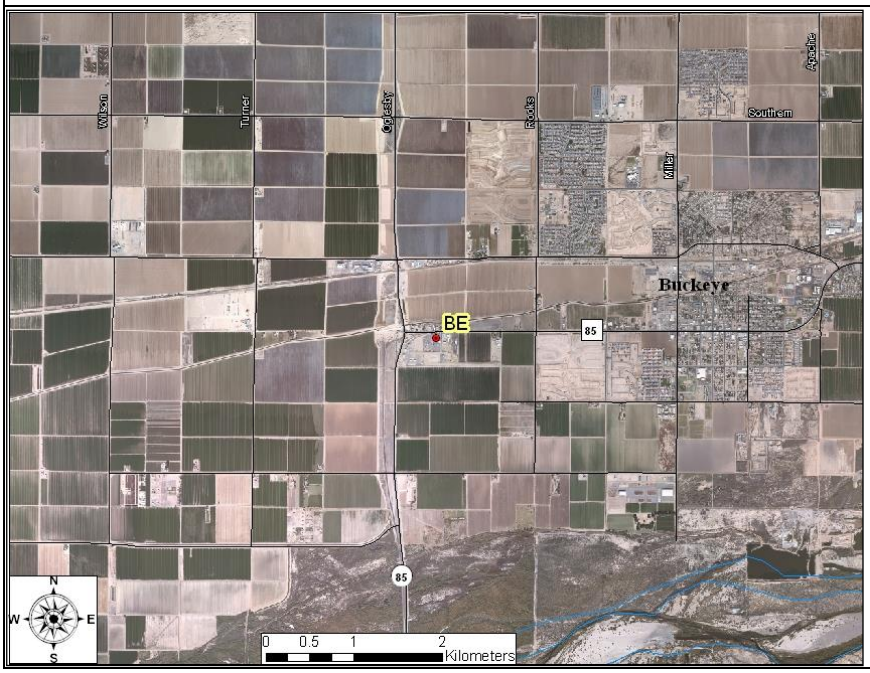
Location: Bush Highway and Usery Pass Rd., Maricopa County
Spatial Scale: Urban
Monitoring Objective: Maximum Ozone Concentration

Site Description*:* The Blue Point site became operational in July 1995 and is located in a Maricopa County Sheriff's Sub-Station in Tonto National Forest. This site represents the maximum O_3 concentration, and urban-scale downwind transport conditions. This site is located approximately 40 miles east of the Phoenix metropolitan area. Ozone is the only criteria pollutant monitored at this SLAMS station. Wind speed and direction are also monitored at the site.

		2011	2012	2013
Ozone	Max. 8-hr O_3 Avg. (ppm)	0.092*	0.079*	0.077*
	O_3 #Daily Exceedances >0.075 (ppm)	9	10	3
	O_3 3-year average of 4th High (ppm)	0.073	0.075	0.077#

*Indicates an exceedance of the standard
#Indicates a violation of the standard

Buckeye (BE) (04-013-4011)



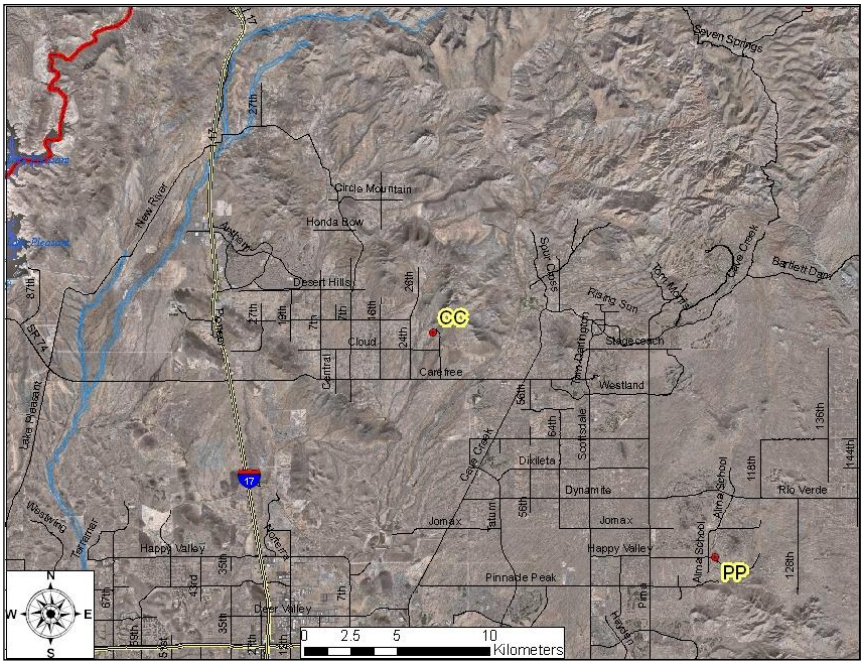
Location: US 85 & MC 85, Buckeye
Spatial Scale: Neighborhood and Urban (NO_2)
Monitoring Type: Population Exposure

Site Description: The Buckeye site was established on August 1, 2004. This site is a SLAMS location for CO, O3, PM_{10}, and NO_2 criteria pollutants. The site is located in the Maricopa County Department of Transportation - Southwest Facility. The immediate area is agriculture and encroaching residential development.

		2011	2012	2013
Carbon Monoxide	Max. 8-hr CO Avg. (ppm)	0.9	0.5	0.4
	Number exceedances 8-hr CO	0	0	0
Ozone	Max. 8-hr O_3 Avg. (ppm)	0.072	0.078	0.062
	O_3 #Daily Exceedances >0.075	0	1	0
	O_3 3-year Avg. of 4th High (ppm)	0.064	0.066	0.065
PM_{10}	Max. 24-hr PM_{10} Avg. (µg/m^3)	385*‡	205*‡	298*‡
	Number exceedances 24-hr PM_{10}	9	2	2
	Annual PM_{10} Avg. (µg/m^3)	43.7	47.4	40.8
Nitrogen Dioxide	Annual NO_2 Avg. (ppb)	8.8	9.4	8.42
	NO_2 1-hour Ave. 98th Percentile (ppb)	36.0	39.0	40.0

*Indicates an exceedance of the standard.
‡Indicates EE at this site. Listed value is the highest official current AQS reading.

Cave Creek (CC) (04-013-4008)



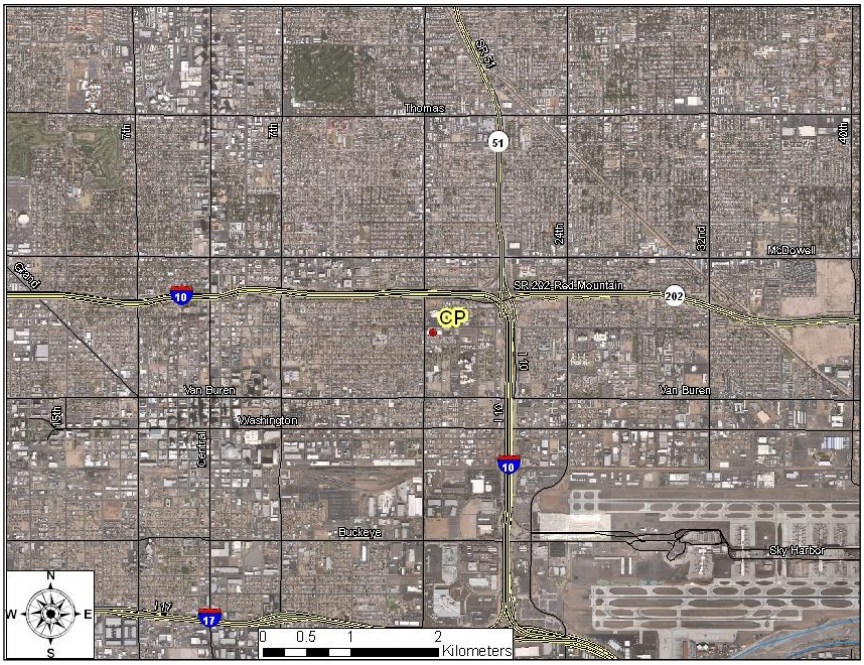
Location: 32nd St. & Carefree Highway, Cave Creek
Spatial Scale: Urban
Monitoring Type: Maximum Ozone Concentration

Site Description*:* The Cave Creek site became operational in August 2001 and is located in the Maricopa County Cave Creek Recreation Area (Park Office). This site was chosen through discussions on modifying the O_3 network for the 2005 8-hr O_3 standard. Ozone is the only criteria pollutant monitored at this SLAMS station. Wind speed and direction are also monitored at the site.

		2011	2012	2013
Ozone	Max. 8-hr O_3 Avg. (ppm)	0.088*	0.081*	0.076*
	O_3 #Daily Exceedances >0.075 (ppm)	6	10	1
	O_3 3-year average of 4th High (ppm)	0.075	0.077#	0.077#

*Indicates an exceedance of the standard.
#Indicates a violation of the standard.

Central Phoenix (CP) (04-013-3002)



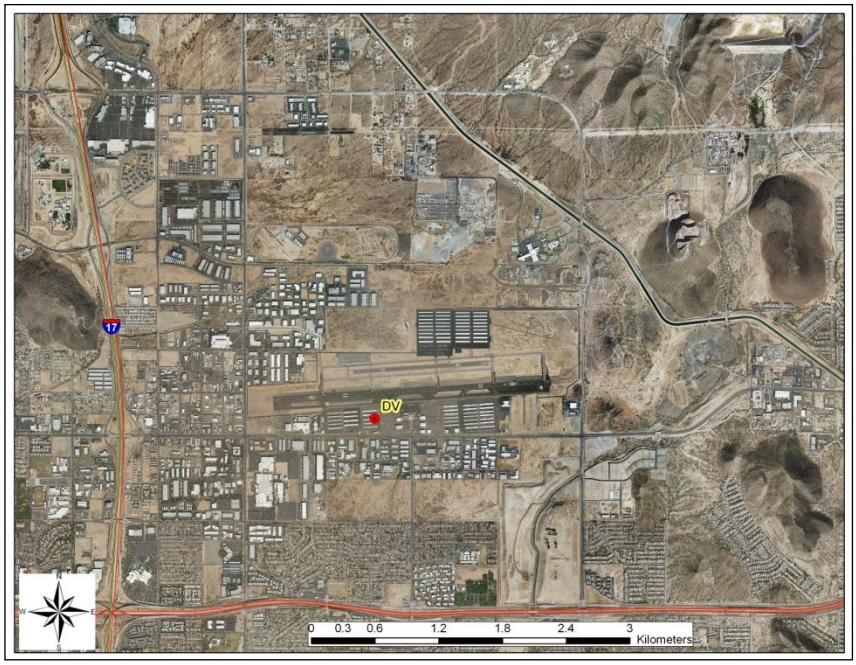
Location: 19th St. and Roosevelt
Spatial Scale: Neighborhood
Monitoring Type: High Population Exposure and Highest Concentration (NO_2 and SO_2)

Site Description: The Central Phoenix site has been in existence for over four decades and has provided a long-term historical database with a high rate of data recovery. The site is representative of high population exposure (greater than 5000 people per square mile) in the central Phoenix area. This site is a SLAMS location for carbon monoxide, O_3, PM_{10}, SO_2 and NO_2 criteria pollutants.

		2011	2012	2013
Carbon Monoxide	Max. 8-hr CO Avg. (ppm)	2.1	2.7	2.1
	Number exceedances 8-hr CO	0	0	0
Ozone	Max. 8-hr O_3 Avg. (ppm)	0.081*	0.084*	0.079*
	O_3 #Daily Exceedances >0.075 ppm	2	6	3
	O_3 3-year avg. of 4th High (ppm)	0.071	0.074	0.075
PM_{10}	Max. 24-hr PM_{10} Avg. Continuous (µg/m^3)	308*‡	340*‡	328*‡
	Number exceedances Continuous 24-hr PM_{10}	8	1	2
	Annual PM_{10} Avg. Continuous (µg/m^3)	39.5	37.9	31.8
Nitrogen Dioxide	Annual NO_2 Avg. (ppb)	19.8	21.2	19.71
	NO_2 1-hour Average 98th Percentile (ppb)	60.0	63.0	60
Sulfur Dioxide	SO_2 1-hour 99th Percentile (ppb)			8.0
	Number of Exceedances SO_2			0
	Annual SO_2 Avg. (ppb)	1.2	1.2	1.19

*Indicates an exceedance of the standard.
‡Indicates EEs at this site. Listed value is the highest official current AQS reading.

Deer Valley (DV) (04-013-4018)

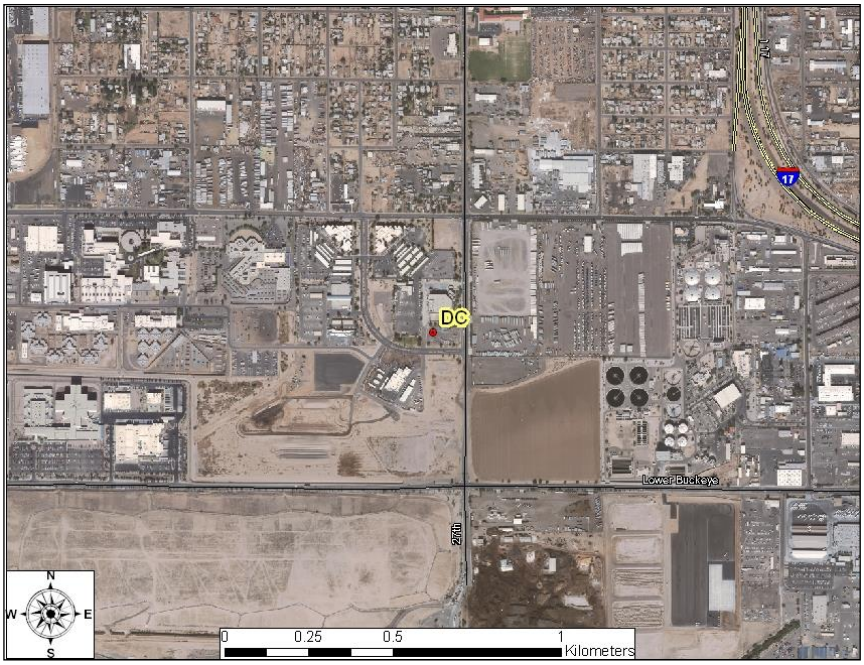


Location: 7th Avenue & Deer Valley Rd.
Spatial Scale: Middle
Monitoring Type: Source Oriented

Site Description*:* The Deer Valley site is located on the grounds of the Deer Valley Airport in north Phoenix. This site was started in July 2010 because changes in the Pb NAAQS necessitates that MCAQD begin Pb monitoring again. All ambient Pb monitoring had been discontinued in 1997 because concentrations were consistently much lower than the standard at that time. The source of Pb emissions is the general aviation fuels used in the propeller-driven aircraft. Deer Valley Airport is one of the busiest general aviation airports in Maricopa County.

		2011	2012	2013
Lead	Max. 24-hr Pb Avg. (µg/m^3)	0.07	0.057	0.071
	Pb #Daily Exceedances >0.15 µg/m^3	0	0	0
	Pb Maximum Quarterly Average (µg/m^3)	0.0329	0.0398	0.04

Durango Complex (DC) (04-013-9812)



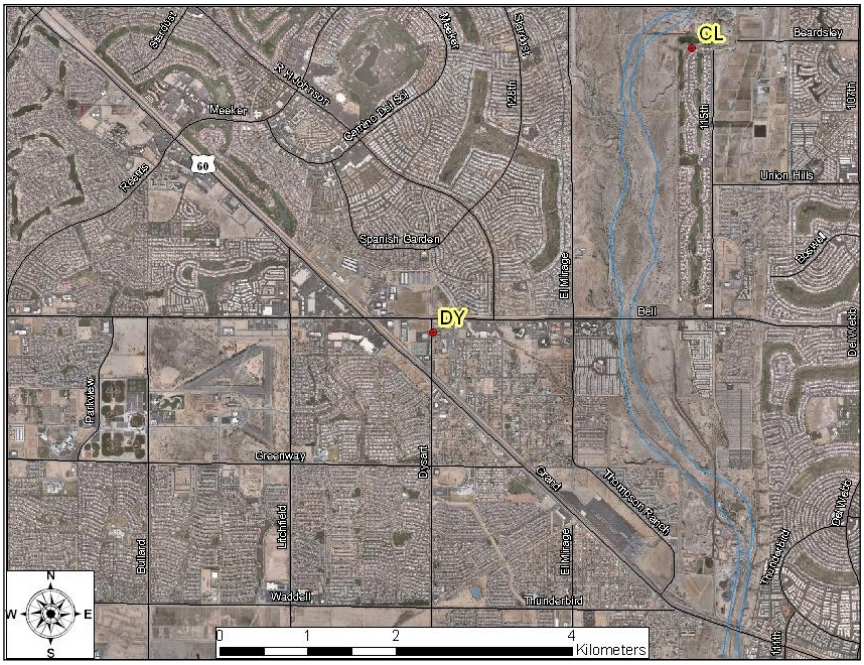
Location: 27th Ave and Durango St.
Spatial Scale: Middle
Monitoring Type: Highest Concentration

Site Description: This site is located in the Maricopa County Flood Control District storage yard. Sampling began on January 6, 1999 with the intent to replace the old maximum highest concentration site. However, in 2000 the EPA determined that the site is not equivalent to that old site, which prompted the establishment of a new highest concentration site (West 43rd). Continuous particulate monitors (SLAMS PM_{10} and $PM_{2.5}$) are located at this site, and an SO_2 monitor was started here in 2011. There are also meteorological monitors (wind speed/direction and atmospheric pressure)

		2011	2012	2013
Sulfur Dioxide	SO_2 1-hour 99th Percentile (ppb)	NA	NA	9.0
	Number of Exceedances SO_2	0	0	0
	Annual SO_2 Avg. (ppb)	1.1	1.5	1.15
PM_{10}	Max. 24-hr PM_{10} Avg. Continuous (µg/m^3)	436*‡	221*‡	303*‡
	Number exceedances Continuous 24-hr PM_{10}	8	4	4
	Annual PM_{10} Avg. Continuous (µg/m^3)	48.0	49.1	40.1
$PM_{2.5}$	Max. 24-hr $PM_{2.5}$ Avg. (µg/m^3)	52.6*	74.4*	66.9*
	No. of daily $PM_{2.5}$ exceedances	4	2	3
	Annual $PM_{2.5}$ Avg. (µg/m^3)	12.4	11.6	10.54
	98th Percentile $PM_{2.5}$ Value (µg/m^3)	31.2	24.9	27.2

*Indicates an exceedance of the standard.
‡Indicates EEs at this site.

Dysart (DY) (04-013-4010)



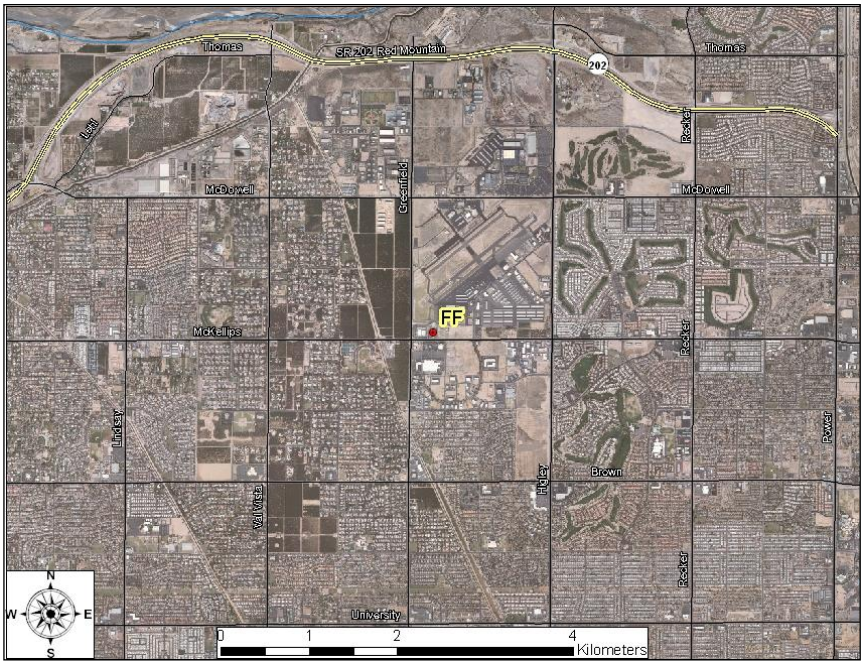
Location: Bell Rd. & Dysart Rd., Surprise
Spatial Scale: Neighborhood
Monitoring Type: Population Exposure

Site Description: The Dysart site was established in July 2003. It is located at the Maricopa County Facility Maintenance Yard at the corner of Bell Rd. and Dysart Rd. The site is in a growing population area in the northwest valley. The land use around the site consists of subdivisions of single family homes, commercial, and industrial. The site is approx. one mile west of the Agua Fria riverbed. Seasonal CO, O3, and PM_{10} (all SLAMS) are the criteria pollutants monitored at this station.

		2011	2012	2013
Carbon Monoxide	Max. 8-hr CO Avg. (ppm)	0.5	0.6	0.7
	Number exceedances 8-hr CO	0	0	0
Ozone	Max. 8-hr O_3 Avg. (ppm)	0.075	0.079*	0.075
	O_3 #Daily Exceedances >0.075 ppm	0	2	0
	O_3 3-year Avg. of 4th High (ppm)	0.070	0.071	0.072
PM_{10}	Max. 24-hr PM_{10} Avg. (µg/m^3)	273*‡	167*‡	147
	Number exceedances 24-hr PM_{10}	5	1	0
	Annual PM_{10} Avg. (µg/m^3)	29.2	30.0	24.9

*Indicates an exceedance of the standard.
‡Indicates EEs at this site. Listed value is the highest official current AQS reading.

Falcon Field (FF) (04-013-1010)



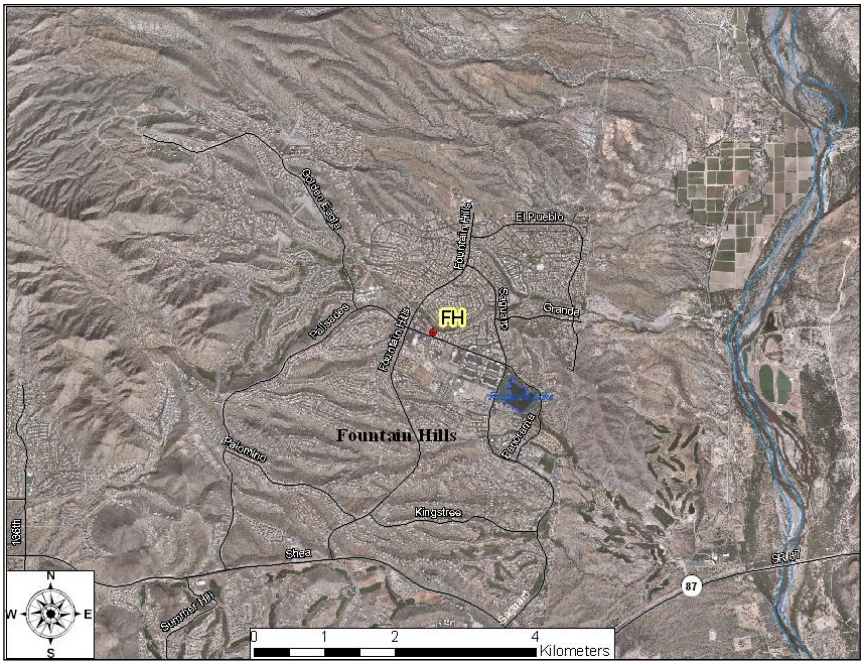
Location: Greenfield and McKellips
Spatial Scale: Neighborhood
Monitoring Type: Population Exposure

Site Description: Ozone is the only SLAMS criteria pollutant monitored at this station. Monitoring began in June of 1989. The site is located at a fire station near an airfield within a growing residential area.

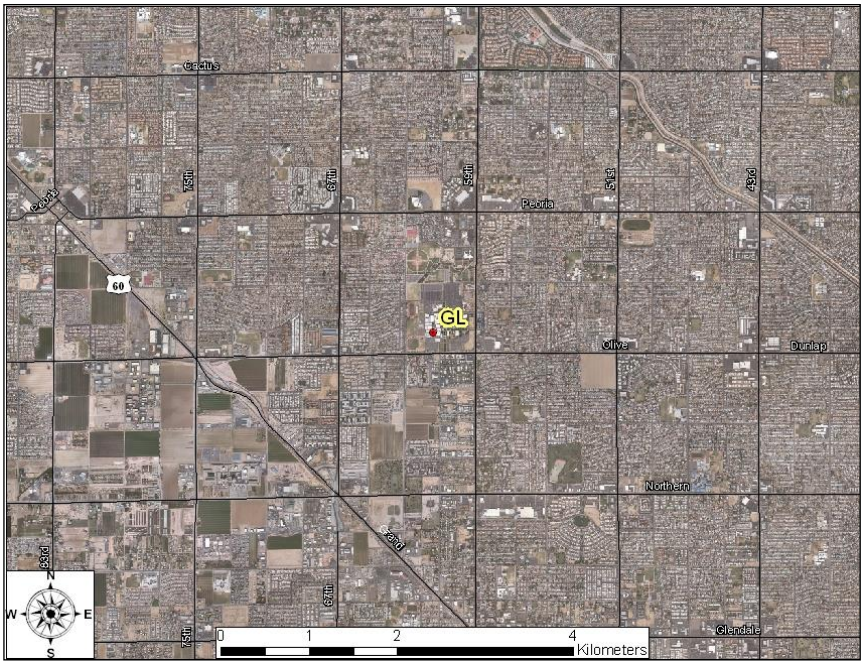
		2011	2012	2013
Ozone	Max. 8-hr O_3 Avg. (ppm)	0.074	0.075	0.082*
	O_3 #Daily Exceedances >0.075 ppm	0	0	5
	O_3 3-year avg. of 4th High (ppm)	0.068	0.069	0.072

*Indicates an exceedance of the standard.

Fountain Hills (FH) (04-013-9704)


FH
Fountain Hills
El Pueblo
Palisades
Palomino
Kingstree
Shea
Saguaro
Sunridge Dr
Fountain Hills
Palisades
Palomino
Saguaro
Chandler
Orange
Golden Eagle
Fountain Hills
Palisades
Palomino
Kingstree
Shea
Sunridge Dr

Glendale (GL) (04-013-2001)



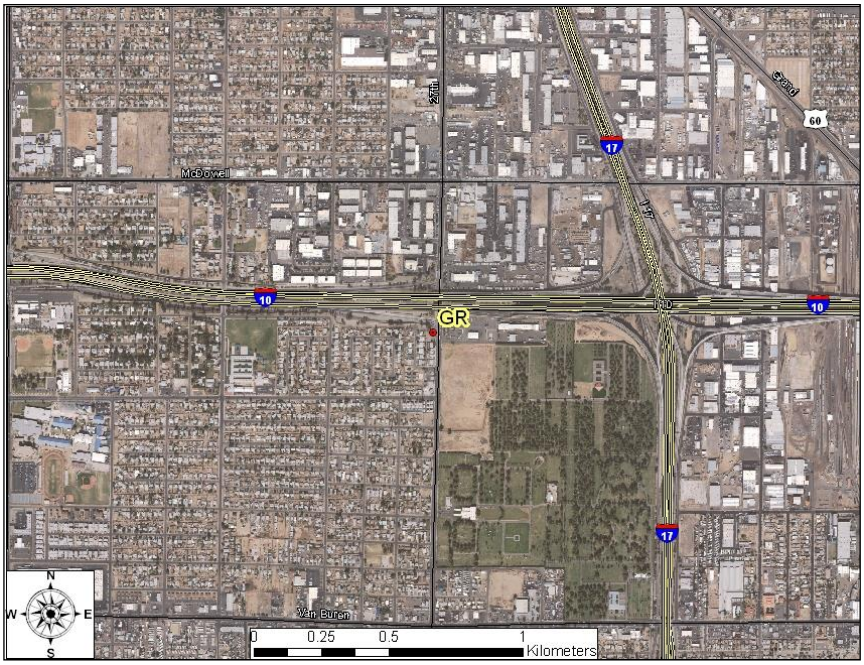
Location: 59th Ave. and Olive Ave.
Spatial Scale: Neighborhood
Monitoring Type: Population Exposure

Site Description: The site and is located on the grounds of Glendale Community College in a populous residential area. Homes, various strip malls, food establishments, and parks surround the site. Ozone, $PM_{2.5}$, PM_{10}, and seasonal CO are monitored at this station. The continuous $PM_{2.5}$ monitor was added in 2011.

		2011	2012	2013
CO	Max. 8-hr CO Avg. (ppm)	1.3	1.3	1.6
	Number exceedances 8-hr CO	0	0	0
O_3	Max. 8-hr O_3 Avg. (ppm)	0.083*	0.088*	0.077*
	O_3 #Daily Exceedances >0.075 ppm	4	4	2
	O_3 3-year avg. of 4th High (ppm)	0.073	0.076#	0.076#
PM_{10}	Max. 24-hr PM_{10} Avg. (µg/m^3)	242*‡	337*‡	210*‡
	Number exceedances 24-hr PM_{10}	5	1	2
	Annual PM_{10} Avg. (µg/m^3)	32.3	34.1	27.5
$PM_{2.5}$	Max. 24-hr $PM_{2.5}$ Avg. (µg/m^3)	42.7*+	66.1*	90.0*
	No. of daily $PM_{2.5}$ exceedances	2+	2	1
	Annual $PM_{2.5}$ Avg. (µg/m^3)	9.1+	8.7	7.52
	98th Percentile Value (µg/m^3)	27.8+	18.6	16.6

*Indicates an exceedance of the standard.
#Indicates a violation of the standard.
+ Represents less than a calendar year of observations (4926 observations)
‡Indicates EEs at this site. Listed value is the highest official current AQS reading.

Greenwood (GR) (04-013-3010)



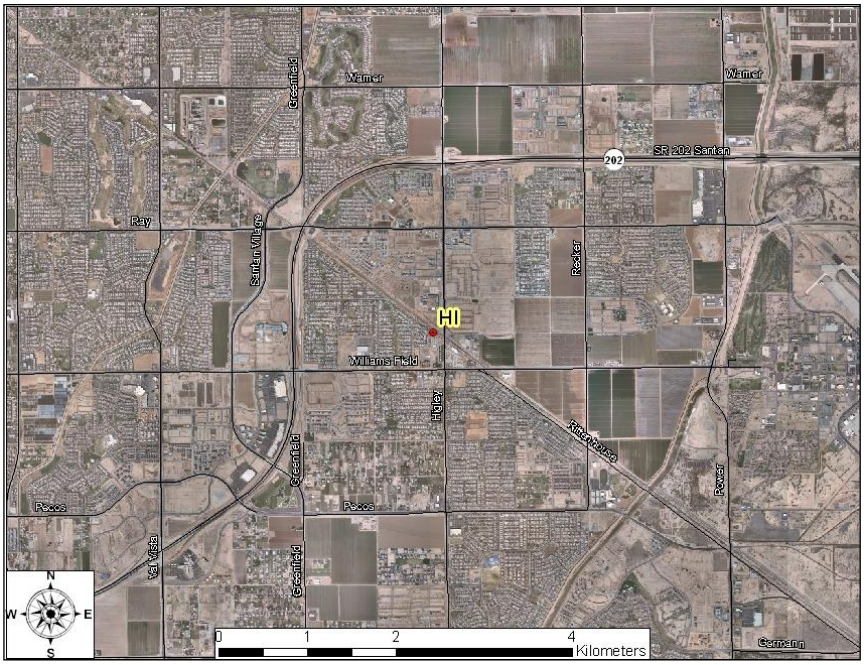
Location: 27th Ave. and I-10, Phoenix
Spatial Scale: Middle
Monitoring Type: Population Exposure

Site Description: Monitoring began at this site in December 1993. The station is bordered by I-10, homes, and the Greenwood Cemetery. Interstate 17 is approximately one mile to the east of the site. Carbon monoxide, NO_2, and PM_{10} are the criteria pollutants monitored at this SLAMS facility. This site was converted to continuous PM_{10} monitoring in the beginning of 2006.

		2011	2012	2013
Carbon Monoxide	Max. 8-hr CO Avg. (ppm)	2.5	3.2	2.5
	Number exceedances 8-hr CO	0	0	0
PM_{10}	Max. 24-hr PM_{10} Avg. ($\mu g/m^3$)	388*‡	323*‡	273*‡
	Number exceedances 24-hr PM_{10}	7	2	3
	Annual PM_{10} Avg. ($\mu g/m^3$)	42.2	45.3	41.5
Nitrogen Dioxide	Annual NO_2 Avg. (ppb)	25.4	26.0	24.58
	NO_2 1-hour Average 98th Percentile (ppb)	65.0	65.0	64.3

*Indicates an exceedance of the standard.
‡Indicates EEs at this site. Listed value is the highest official current AQS reading.

Higley (HI) (04-013-4006)



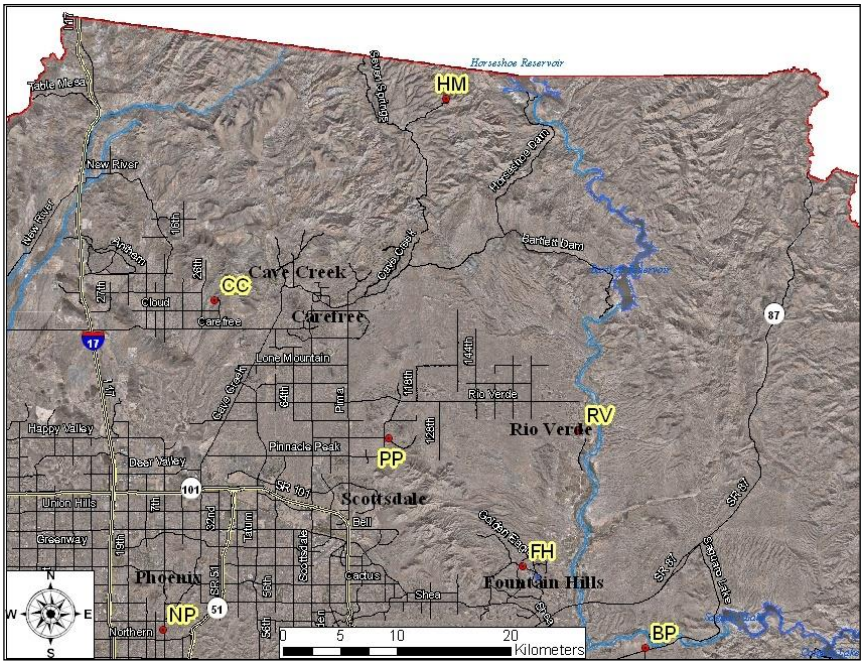
Location: Higley Rd. and Williams Field Rd., Gilbert
Spatial Scale: Neighborhood
Monitoring Type: Population Exposure

Site Description: Originally, in 1994, ADEQ set up this site to monitor for background particulate concentrations near the urban limits of Maricopa County. Since then, urban expansion has enveloped the site, so it no longer serves its original intended purpose. The Department installed a (1-in-6 day) PM_{10} (SLAMS) in the second quarter of 2000. As of October 2004, the 1-in-6 day PM_{10} monitor was replaced with an hourly continuous PM_{10} monitor in accordance with *40 CFR 50, Appendix K*. This continuous monitor samples on the neighborhood scale with a monitoring type of high population exposure. We have been asked to remove the site by the Roosevelt Water District by end 2014.

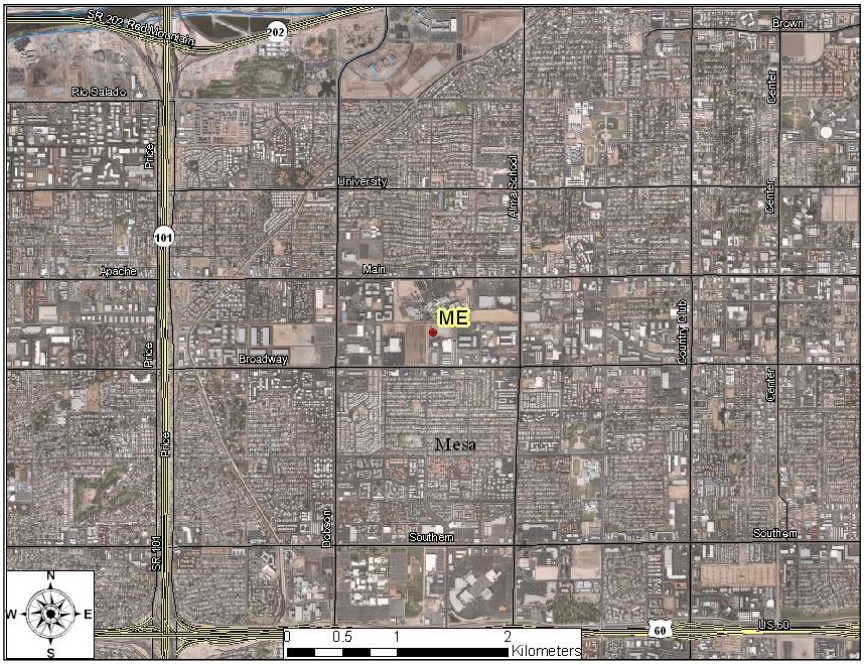
		2011	2012	2013
PM_{10}	Max. 24-hr PM_{10} Avg. ($\mu g/m^3$)	362*‡	224*‡	211*‡
	Number exceedances 24-hr PM_{10}	8	4	1
	Annual PM_{10} Avg. ($\mu g/m^3$)	39.0	38.3	34.6

*Indicates an exceedance of the standard.
‡Indicates EEs at this site. Listed value is the highest official current AQS reading.

Humboldt Mountain (HM) (04-013-9508)


HM
CC
PP
RV
FH
NP
BP
Cave Creek
Carefree
Rio Verde
Scottsdale
Phoenix
Fountain Hills
Horseshoe Reservoir
Bartlett Dam
New River
Table Mesa
Cloud
Lone Mountain
Pinnacle Peak
Happy Valley
Deer Valley
Union Hills
Greenway
Northern
Shea
Bell
Cactus
Cottonwood
Cave Creek
Carefree
Rio Verde
Pima
Tatum
Scottsdale
Saguaro Lake
Apache Lake
Tonto National Forest
Salt River
Verde River
Salt River
Verde River
Salt River
Salt River
Salt

Mesa (ME) (04-013-1003)



Location: Broadway Rd. and Brooks Ave.
Spatial Scale: Neighborhood
Monitoring Type: Population Exposure

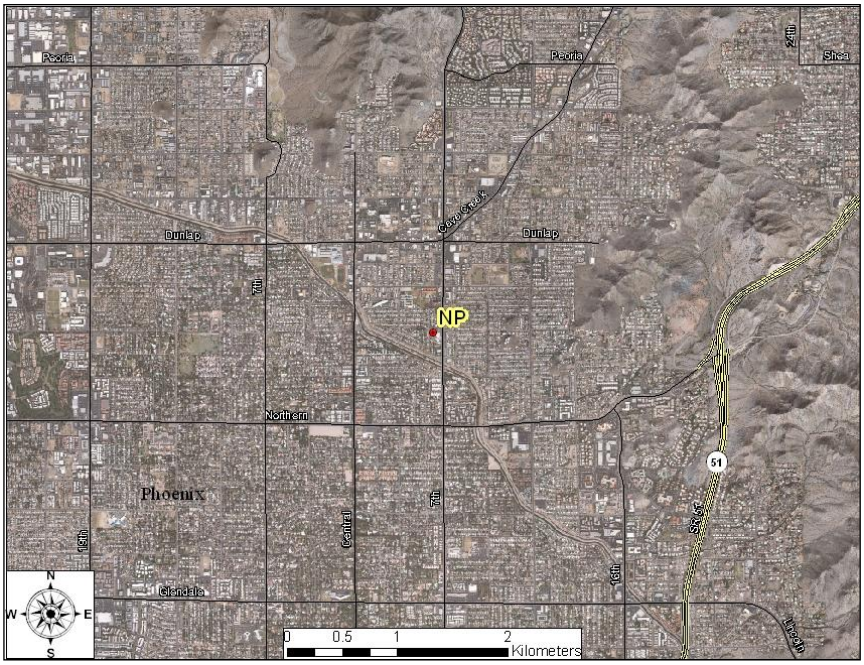
Site Description: This site is located at the City of Mesa Brooks Reservoir. It is centered in an area that contains residential, commercial, and industrial properties. Carbon monoxide, O_3, $PM_{2.5}$, and PM_{10} are the criteria pollutants monitored at this site. In December 2012, following a ten-month site construction by the City of Mesa, the site began operation again with new continuous PM_{10}, $PM_{2.5}$, and O_3 monitors.

		2011	2012	2013
CO	Max. 8-hr CO Avg. (ppm)	1.5	1.4	1.2
	Number exceedances 8-hr CO	0	0	0
PM_{10}	Max. 24-hr PM_{10} Avg. (µg/m^3)	127	64	151
	Number exceedances 24-hr PM_{10}	0	0#	0
	Annual PM_{10} Avg. (µg/m^3)	26.7	22.8	28.8
$PM_{2.5}$	Max. 24-hr $PM_{2.5}$ Avg. (µg/m^3)	102.3*	23.3 (16.0)	(31.9)
	Number of Daily $PM_{2.5}$ Exceedances	1	0@	0
	Annual $PM_{2.5}$ Avg. (µg/m^3)	8.9	8.5@ (5.8)@	(5.69)
	98th Percentile $PM_{2.5}$ Value (µg/m^3)	20.4	23.3@ (10.4)@	(12.8)
O_3	Max. 8-hr O_3 Avg. (ppm)	Did not operate	Did not operate	0.086
	O_3 #Daily Exceedances >0.075 ppm	Did not operate	Did not operate	6
	O_3 3-year avg. of 4th High (ppm)	Did not operate	Did not operate	NA

* Indicates an exceedance of the standard
\# Indicates a violation of the standard
@ = <75% data completeness

NOTE: First value is from the filter-based monitor; second value shown in parenthesis is from continuous monitor.

North Phoenix (NP) (04-013-1004)



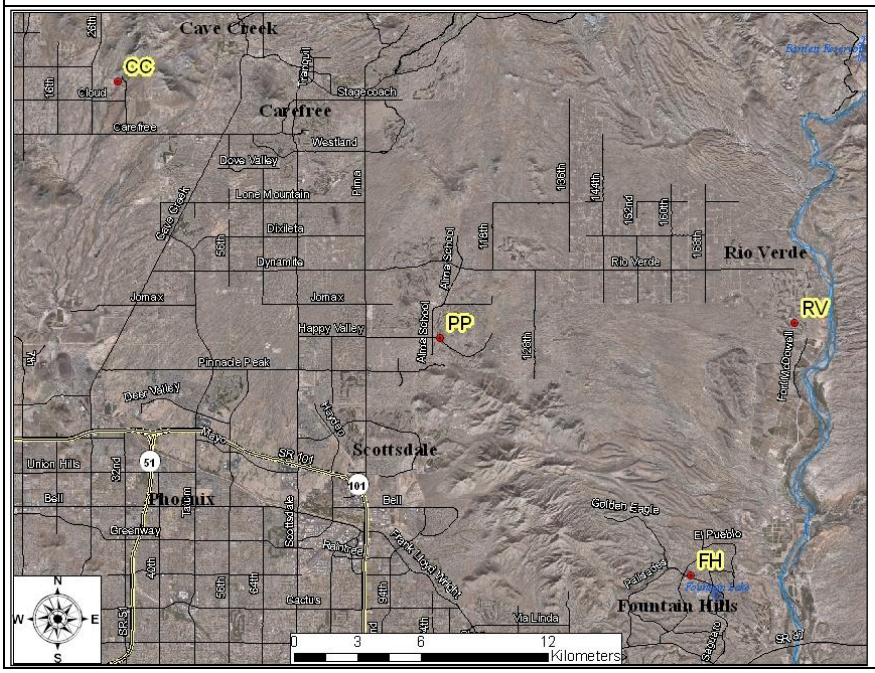
Location: 7th St. and Butler Ave.
Spatial Scale: Neighborhood
Monitoring Type: Population Exposure

Site Description: This site is located in the Sunnyslope area of North Phoenix. The site is surrounded by residential and commercial properties. CO, O_3, $PM_{2.5}$ and PM_{10} (all SLAMS) are monitored at this site, along with Delta T (temperature inversion).

		2011	2012	2013
CO	Max. 8-hr CO Avg. (ppm)	1.6	1.5	1.3
	Number exceedances 8-hr CO	0	0	0
O_3	Max. 8-hr O_3 Avg. (ppm)	0.090*	0.091*	0.080*
	O_3 #Daily Exceedances >0.075 ppm	8	10	7
	3-year Avg. of 4th High (ppm)	0.078#	0.081#	0.081#
PM_{10}	Max. 24-hr PM_{10} Avg. (µg/m^3)	186*‡	178*‡	151
	Number exceedances 24-hr PM_{10}	2	1	0
	Annual PM_{10} Avg. (µg/m^3)	26.5	32.4	28.8
$PM_{2.5}$	Max. 24-hr $PM_{2.5}$ Avg. (µg/m^3)	46.9*+	30.1	57.3*
	Number of Daily Exceedances	1+	0	1
	Annual $PM_{2.5}$ Avg. (µg/m^3)	9.3+	9.3	8.00
	98th Percentile Value (µg/m^3)	23.0+	21.2	17.2

*Indicates an exceedance of the standard.
#Indicates a violation of the standard
+Represents less than a year of observations (2895 observations)
‡Indicates EEs at this site. Listed value is the highest official current AQS reading.

Pinnacle Peak (PP) (04-013-2005)



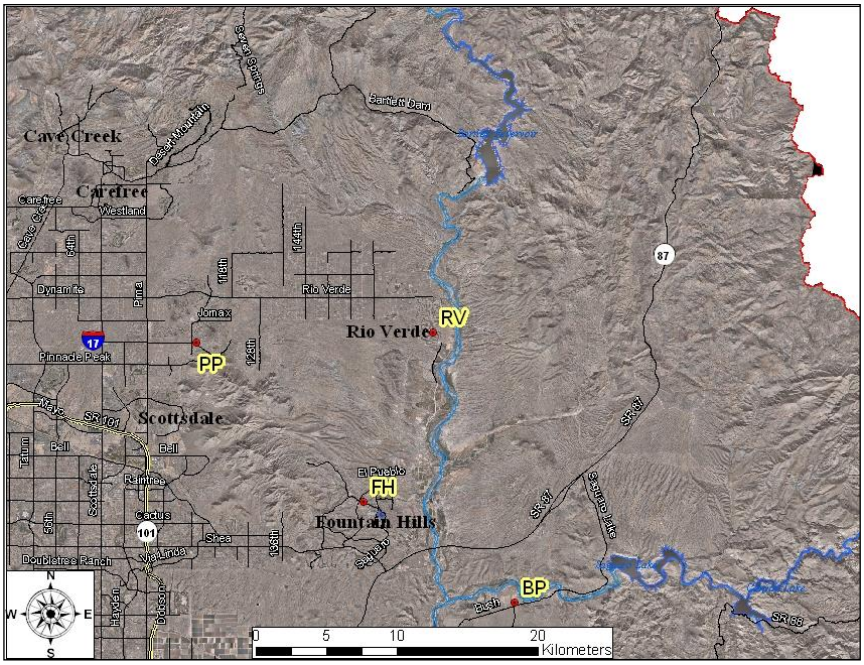
Location: Alma School & Happy Valley Rd.
Spatial Scale: Urban
Monitoring Type: Maximum Ozone Concentrations

Site Description: The site was moved a half of a mile south from the roof of the Troon Golf Course Country Club in North Scottsdale to their maintenance yard. This was at the request by the property owner. It is located in a geographic area of low-density population (less than 2500 people per square mile). In the current and previous years, O_3 exceedances have been recorded due to transport of O_3 and precursors from more urbanized areas of metropolitan Phoenix.

		2011	2012	2013
Ozone	Max. 8-hr O_3 Avg. (ppm)	0.088*	0.082*	0.080*
	O_3 #Daily Exceedances >0.075 ppm	4	6	5
	O_3 3-year Avg. of 4th High (ppm)	0.075	0.077#	0.077#

*****Indicates an exceedance of the standard
#Indicates a violation of the standard

Rio Verde (RV) (04-013-9706)



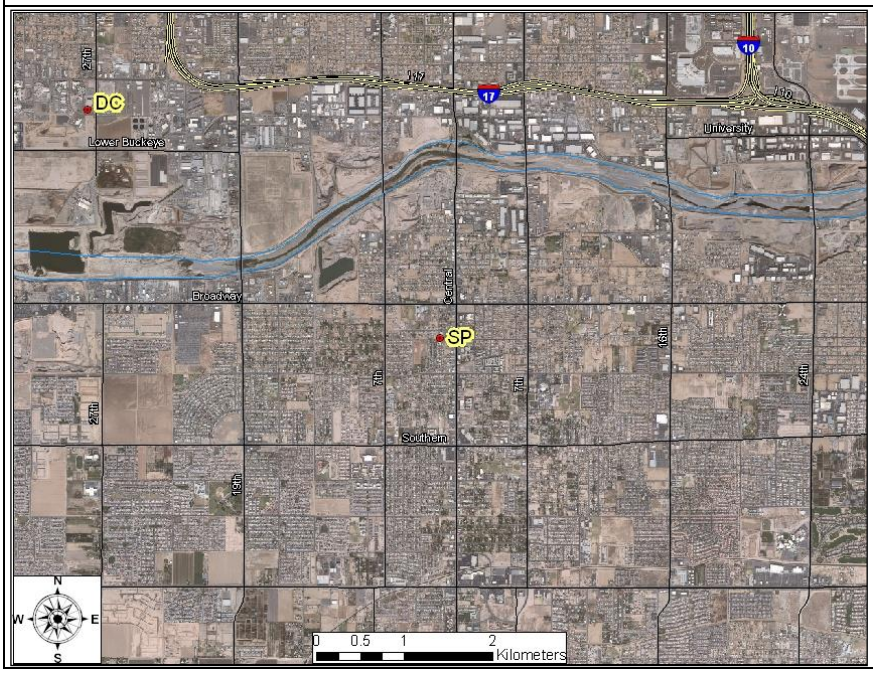
Location: Forest Rd. and Del Ray Ave.
Spatial Scale: Urban
Monitoring Type: Maximum Ozone Concentrations

Site description: This O_3 site became operational in spring of 1997. The monitor is located at the fire station / County Sheriff's Office sub-station located in a residential area surrounded by the desert of Tonto National Forest. The site is on the edge of a Class I Wilderness Area.

		2011	2012	2013
O_3	Max. 8-hr O_3 Avg. (ppm)	0.088*	0.076*	0.074
	O_3 #Daily Exceedances >0.075 ppm	6	2	0
	O_3 3-year Avg. of 4th High (ppm)	0.073	0.074	0.075

*****Indicates an exceedance of the standard

South Phoenix (SP) (04-013-4003)



Location: Central Ave. and Broadway Rd.
Spatial Scale: Neighborhood
Monitoring Type: Population Exposure

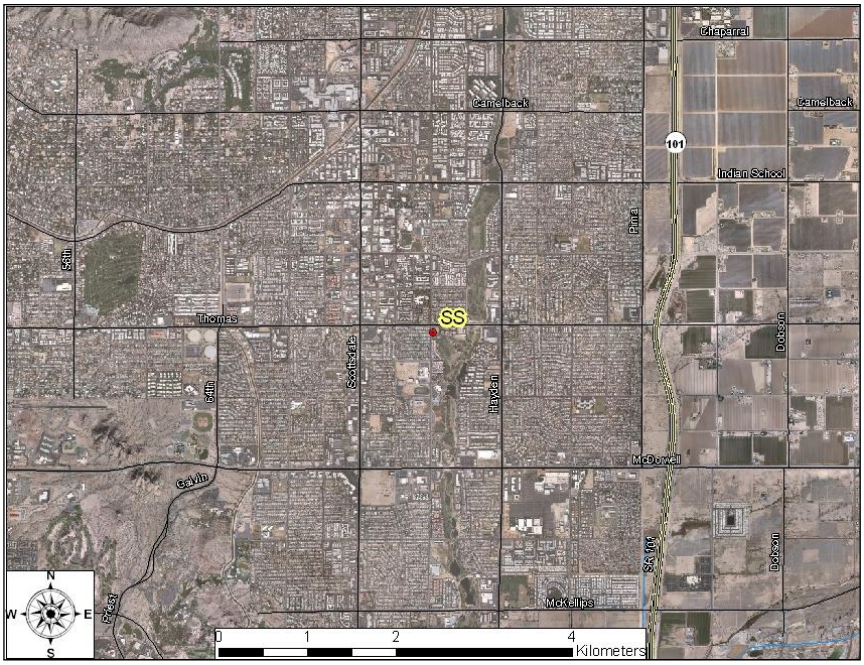
Site Description: The site was opened at its current location in October 1999. The site borders a mixture of high population density residential and commercial properties. Carbon monoxide, O_3, $PM_{2.5}$, and PM_{10} are monitored at this site. A continuous Thermo Scientific 1405 $PM_{2.5}$ monitor started operation at this site in December 2008. The filter-based $PM_{2.5}$ FRM (started in 2005) was shut down in July 2012.

		2011	2012	2013
Carbon Monoxide	Max. 8-hr CO Avg. (ppm)	2.6	2.3	2.3
	Number exceedances 8-hr CO	0	0	0
Ozone	Max. 8-hr O_3 Avg. (ppm)	0.081*	0.087*	0.081*
	O_3 #Daily Exceedances >0.075 ppm	4	5	3
	O_3 3-year Avg. of 4th High (ppm)	0.072	0.076#	0.076#
PM_{10}	Max. 24-hr PM_{10} Avg. (µg/m^3)	420*‡	342*‡	294*‡
	Number exceedances 24-hr PM_{10}	9	3	2
	Annual PM_{10} Avg. (µg/m^3)	47.7	47.9	38.6
$PM_{2.5}$	Max. 24-hr $PM_{2.5}$ Avg. (µg/m^3)	62.0* (60.8*)	70.0* (70.8)	(97.3*)
	Number of Daily $PM_{2.5}$ Exceedances	2 (4)	2	4
	Annual $PM_{2.5}$ Avg. (µg/m^3)	11.4 (9.31)	11.5 (9.2)	(9.59)
	98th Percentile $PM_{2.5}$ value (µg/m^3)	31.5 (27.2)	24.4 (20.9)	(25.8)

*Indicates an exceedance of the standard.
#Indicates a violation of the standard.
‡Indicates EEs at this site

NOTE: First value is from the filter-based monitor; second value shown in parenthesis is from continuous monitor.

South Scottsdale (SS) (04-013-3003)



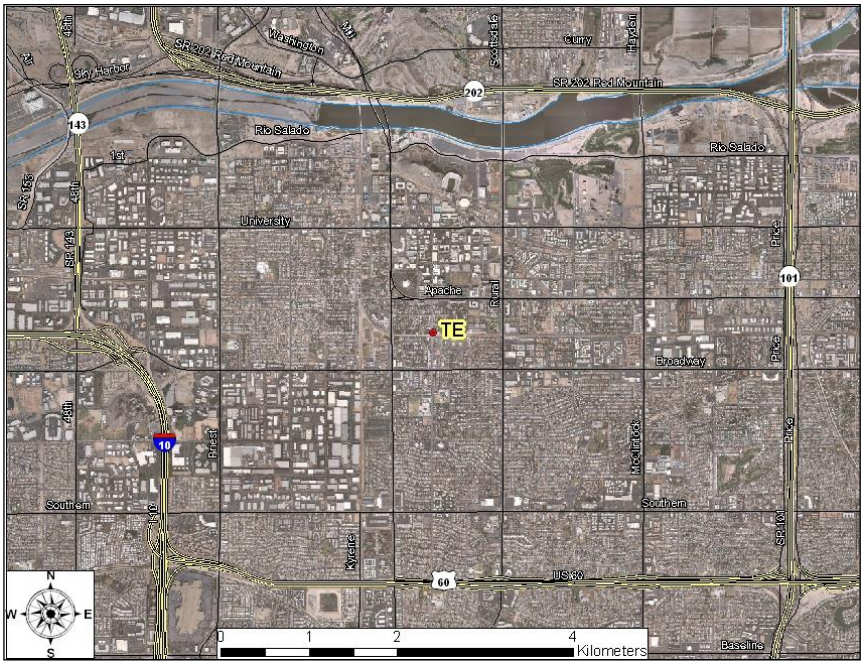
Location: Thomas Rd. and Miller Rd.
Spatial Scale: Neighborhood, Urban (NO_2)
Monitoring Type: Population Exposure

Site Description*:* The South Scottsdale site is located at a City of Scottsdale fire station. The area surrounding the site is residential with a density of 2500 to 5000 persons per square mile. Carbon monoxide, O_3**,** and PM_{10} are the criteria pollutants monitored at this station. The SO_2 monitoring was discontinued in 2010 due to extremely low values being recorded. The SO_2 monitor was moved the Durango Complex site, which is closer to SO_2 point-sources. The NO_2 monitoring was discontinued in 2011. Continuous PM monitors replaced filter-based monitors on September 1, 2012.

		2011	2012	2013
Carbon Monoxide	Max. 8-hr CO Avg. (ppm)	1.4	1.3	1.4
	Number exceedances 8-hr CO	0	0	0
Ozone	Max. 8-hr O_3 Avg. (ppm)	0.083*	0.086*	0.079*
	O_3 #Daily Exceedances >0.075 ppm	3	7	2
	O_3 3-year Avg. of 4th High (ppm)	0.074	0.077#	0.076#
PM_{10}	Max. 24-hr PM_{10} Avg. ($\mu g/m^3$)	119	102	195*‡
	Number exceedances 24-hr PM_{10}	0	0	1
	Annual PM_{10} Avg. ($\mu g/m^3$)	25.8	31.6	26.0
Nitrogen Dioxide	Annual NO_2 Avg. (ppb)	15.5	Shutdown	Shutdown
	NO_2 1-hour Average 98th Percentile (ppb)	54.0	Shutdown	Shutdown

*Indicates an exceedance of the standard.
#Indicates a violation of the standard.
‡Indicates EEs at this site.

Tempe (TE) (04-013-4005)



Location: Apache Blvd. & College Ave.
Spatial Scale: Neighborhood
Monitoring Type: Population Exposure

Site Description: The site was established in 2000. Ozone and CO are monitored at the site along with continuous PM_{10} and $PM_{2.5}$ monitors, which were added in 2012. Wind speed and direction and Delta T meteorological parameters are also monitored at this site.

		2011	2012	2013
Carbon Monoxide	Max. 8-hr CO Avg. (ppm)	3.2	1.6	1.3
	Number exceedances 8-hr CO	0	0	0
Ozone	Max. 8-hr O_3 Avg. (ppm)	0.076*	0.078*	0.077*
	O_3 #Daily Exceedances >0.075 ppm	1	1	1
	O_3 3-year Avg. of 4th High (ppm)	0.068	0.070	0.071
PM_{10}	Max. 24-hr PM_{10} Avg. (µg/m^3)	N/A	169*‡	227*‡
	Number exceedances 24-hr PM_{10}	N/A	1	1
	Annual PM_{10} Avg. (µg/m^3)	N/A	31.6	28.3
$PM_{2.5}$	Max. 24-hr $PM_{2.5}$ Avg. (µg/m^3)	N/A	23.1	51.1*
	Number of Daily $PM_{2.5}$ Exceedances	N/A	0	1
	Annual $PM_{2.5}$ Avg. (µg/m^3)	N/A	9.27	8.69
	98th Percentile $PM_{2.5}$ Value (µg/m^3)	N/A	19.5	17.9

*****Indicates an exceedance of standard.
#Indicates a violation of the standard.
‡Indicates EEs at this site.

West Chandler (WC) (04-013-4004)

Location: Frye Rd. and Ellis St.
Spatial Scale: Neighborhood, Middle (PM_{10})
Monitoring Type: Population Exposure

Site Description: This site was first established in January 1995. A wide range of land uses surround the site including residential, agriculture, and heavy industry (semiconductor manufacturing plants and liquid air storage). Carbon monoxide, O3, and PM_{10} are the criteria pollutants monitored at this site. We have been asked to remove the site by the City of Chandler by end 2014.

		2011	2012	2013
Carbon Monoxide	Max. 8-hr CO Avg. (ppm)	1.4	1.4	1.3
	Number exceedances 8-hr CO	0	0	0
Ozone	Max. 8-hr O_3 Avg. (ppm)	0.079*	0.082*	0.081*
	O_3 #Daily Exceedances >0.075 ppm	3	2	1
	O_3 3-year Avg. of 4th High (ppm)	0.073	0.074	0.072
PM_{10}	Max. 24-hr PM_{10} Avg. (µg/m^3)	669*‡	402*	234*‡
	Number exceedances 24-hr PM_{10}	11	5	3
	Annual PM_{10} Avg. (µg/m^3)	47.9	36.1	28.5

*Indicates an exceedance of the standard.
‡Indicates EEs at this site.

West 43rd Avenue (WF) (04-013-4009)

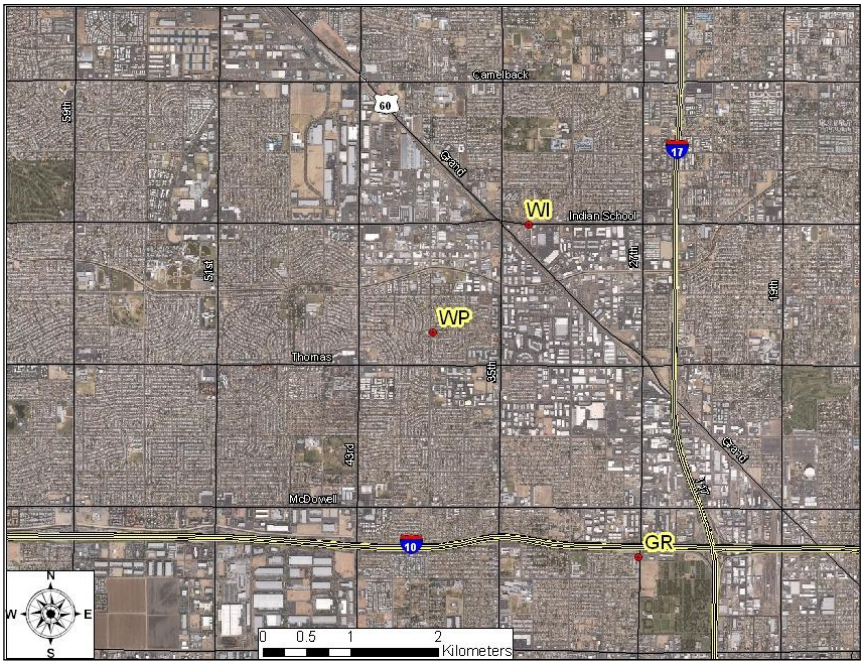
Location: 43rd Ave. & Broadway Rd.
Spatial Scale: Middle
Monitoring Type: Highest Concentrations

Site Description: Monitoring began at the site in the 2nd quarter of 2002. This site is located at a Maricopa County Department of Transportation storage lot and is surrounded by a combination of heavy industry and residential homes. The site has one continuous TEOM PM_{10} monitor, a Delta T monitor, as well as other meteorological instruments such as wind speed and direction. The main purpose of the site is to measure maximum PM_{10} concentration. The sources around the site include sand and gravel operations, auto and metal recycling facilities, landfills, paved and unpaved haul roads, and cement casting.

		2011	2012	2013
PM_{10}	Max. 24-hr PM_{10} Avg. ($\mu g/m^3$)	369*‡	254*‡	301*‡
	Number exceedances 24-hr PM_{10}	7	7	4
	Annual PM_{10} Avg. ($\mu g/m^3$)	47.9	50.5	42.5

*Indicates an exceedance of the standard.
‡Indicates EEs at this site.

West Phoenix (WP) (04-013-0019)



Location: 39th Ave. and Earll Dr.
Spatial Scale: Neighborhood
Monitoring Type: Population Exposure,
Highest Concentration ($PM_{2.5}$)

Site Description: This site became operational in 1984. The spatial scale for the West Phoenix site is neighborhood. It is located in an area of stable, high-density residential properties. Carbon monoxide, PM_{10}, $PM_{2.5}$, O_3, and NO_2 are the criteria pollutants monitored at this site. The department operates collocated $PM_{2.5}$ FRM filter-based monitors and a continuous $PM_{2.5}$ FEM monitor (SLAMS) at this site.

		2011	2012	2013
Carbon Monoxide	Max. 8-hr CO Avg. (ppm)	3.0	3.9	2.7
	Number exceedances 8-hr CO	0	0	0
Ozone	Max. 8-hr O_3 Avg. (ppm)	0.086*	0.087*	0.083*
	O_3 #of Daily Exceedances >0.075 ppm	5	9	4
	O_3 3-year Avg. of 4th High (ppm)	0.074	0.078#	0.079#
PM_{10}	Max. 24-hr PM_{10} Avg. (µg/m^3)	279*‡	189*‡	255*‡
	Number exceedances 24-hr PM_{10}	8	1	2
	Annual PM_{10} Avg. (µg/m^3)	48.0	46.9	35.7
$PM_{2.5}$	Max. 24-hr $PM_{2.5}$ Avg. (µg/m^3)	30.6 (99.1*)	112.6* (89.1*)	76.0* (53.0*)
	Number of Daily $PM_{2.5}$ Exceedances	0 (4)	2 (2)	1 (3)
	Annual $PM_{2.5}$ Avg. (µg/m^3)	10.2 (11.6)	12.0 (10.4)	10.16 (10.57)
	98th Percentile $PM_{2.5}$ Value	28.9 (31.5)	29.0 (23.6)	28.0
Nitrogen Dioxide	Annual NO_2 Avg. (ppb)	18.0	19.4	17.97
	NO_2 1-hr Avg. 98th Percentile (ppb)	55.0	58.0	69.0

*Indicates an exceedance of the standard.
#Indicates a violation of the standard.
‡Indicates EEs at this site. Listed value is the highest official current AQS reading.

NOTE: First value is from the filter-based monitor; second value shown in parenthesis is from continuous monitor.

Zuni Hills (ZH) (04-013-4016)

Location: 109th Ave. and Deer Valley Road.
Spatial Scale: Neighborhood
Monitoring Type: Population Exposure

Site Description: This site was opened in December 2009 and is located on the campus of the Zuni Hills elementary school, which is approximately 1.7 miles to the northeast from the now closed Coyote Lakes monitor. Coyote Lakes was a source-oriented, middle scale PM_{10} site that was situated in the Agua Fria River bottom adjacent to sand and gravel mines. Zuni Hills replaces this with a population-oriented, neighborhood scale site that is situated on the higher-elevation river bank. This site will theoretically be able to represent the air quality for a larger area and a greater number of people. The site will be shutdown for construction in the area June 2014-August 2014

		2011	2012	2013
PM_{10}	Max. 24-hr PM_{10} Avg. ($\mu g/m^3$)	411*‡	285*‡	165*‡
	Number exceedances 24-hr PM_{10}	4	1	1
	Annual PM_{10} Avg. ($\mu g/m^3$)	28.4	49.1	23.5

*Indicates an exceedance of the standard.
‡Indicates EEs at this site. Listed value is the highest official current AQS reading.

APPENDIX II – EPA-REQUIRED DATA

Details compliance with requirements of *40 CFR §58.10 and Appendices A, C, D, and E*

Required General Statement Regarding Changes to the $PM_{2.5}$ Network

In the event the department needed to move or change a violating $PM_{2.5}$ monitor, this procedure would be followed. The department would hold a public hearing regarding the requested change. Details and documentation of the requested change, as well as all public comments, would then be forwarded to the EPA for approval. Any action on the department's part will be dependent on EPA approval.

Please note that the previous statement is general in nature and is required to be placed in the annual network review by *40 CFR Part 58*. The department does not currently have any violating $PM_{2.5}$ monitors, nor does it have any proposals to move any $PM_{2.5}$ monitors.

Notes Regarding Appendix Data

Analysis Method (filters only) refers to the method used to process filter-based particulate samples.

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

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

Last Annual Performance Evaluation Date refers to the performance evaluations detailed in *40 CFR Part 58, Appendix A, §3.2.2*. These performance evaluations are performed by an agency outside of MCAQD. At least 25% of the network should be evaluated once per calendar quarter.

Last Two Semi-Annual Flow Rate Audit Dates refers to the performance evaluations detailed in *40 CFR Part 58, Appendix A, §3.2.4*. These performance evaluations are performed by an agency outside of MCAQD at least once every six months.

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

Pollutant Sample Residence Time refers to the amount of time that it takes a sample of air to travel between the probe inlet and the bulkhead of the analyzer. This residence time is calculated by a formula that is based on the sample line diameter and length and the flow rate of the air intake. It is important to keep this residence time low so as to prevent gases in the air sample from reacting with the sample line material or with other gases in the sample; i.e., O_3 could react with NO in the air sample if the residence time exceeds 20 seconds. This measurement only applies to NO_2, SO_2, and O_3 sampling/sample lines.

BLUE POINT
County ID: BP
AQS ID: 04-013-9702
Address: Bush Highway & Usery Pass Road, Maricopa County
Coordinates: 33.54549N, -111.60925W
Metropolitan Sampling Area (MSA): 6200 Phoenix-Mesa

-General Information	
Pollutant	**Ozone**
Sampling Schedule	Continuous
Analysis Method (filters only)	N/A
Any Proposal to Remove or Move Monitor?	No
Is site suitable for comparison to $PM_{2.5}$ NAAQS per Part 58.30?	N/A
-Appendix A Requirements	
# Precision Checks Performed Annually	26
# Accuracy Checks Performed Annually	5
All Precision/Accuracy Reports Submitted to AQS?	Yes
Annual Data Certification Submitted?	Submitted July 2014
Frequency of One-Point QC Check	Bi-Weekly
Frequency of Flow Rate Verification	N/A
-Appendix C Requirements	
Sampler Make & Model	API M400 (087)
Date Established	01/01/1993
Classification	SLAMS
Method (FRM, FEM, ARM)	FEM
-Appendix D Requirements	
Monitoring Type	Max Ozone Concentration
Monitoring Scale	Urban
Sampling Season	Jan-Dec
Network Meets Minimum Number of Monitors Required?	Yes
-Appendix E Requirements	
Distance between collocated samplers	N/A
Probe Inlet Height	5.3 meters
Airflow Arc	360º
Probe Sample Line Material	Teflon
Pollutant Sample Residence Time	7.6 seconds
Distance from Supporting Structure	3 meters
Distance from Obstructions	3.5 meters
Distance to Furnace Flue	None
Spacing from Trees	6 meters
Nearest Major Roadway	Bush Highway
Distance and Direction to Road	160 meters, S
Traffic Count (ADT)	1,000
Groundcover	Paved

BUCKEYE
County ID: BE
AQS ID: 04-013-4011
Address 26453 W MC85
Coordinates: 33.37005N, -111.62070W
Metropolitan Sampling Area (MSA): 6200 Phoenix-Mesa

-General Information				
Pollutant	**Ozone**	**CO**	**NO_2**	**PM_{10}**
Sampling Schedule	Continuous	Continuous	Continuous	Continuous
Analysis Method (filters only)	N/A	N/A	N/A	N/A
Any Proposal to Remove or Move Monitor?	No	No	No	No
Is site suitable for comparison to $PM_{2.5}$ NAAQS per Part 58.30?	N/A	N/A	N/A	N/A
-Appendix A Requirements				
# Precision Checks Performed Annually	25	15	26	23
# Accuracy Checks Performed Annually	3	2	3	3
All Precision/Accuracy Reports Submitted to AQS?	Yes	Yes	Yes	Yes
Annual Data Certification Submitted?	Submitted July 2014	Submitted July 2014	Submitted July 2014	Submitted July 2014
Frequency of One-Point QC Check	Bi-Weekly	Bi-Weekly	Bi-Weekly	N/A
Frequency of Flow Rate Verification	N/A	N/A	N/A	Bi-Monthly
-Appendix C Requirements				
Sampler Make & Model	API M400 (087)	API M300 (093)	API M200 (099)	Thermo TEOM 1400AB (079)
Date Established	08/01/2004	08/01/2004	08/01/2004	08/01/2004
Classification	SLAMS	SLAMS	SLAMS	SLAMS
Method (FRM, FEM, ARM)	FEM	FRM	FRM	FEM
-Appendix D Requirements				
Monitoring Type	Population Exposure	Population Exposure		Population Exposure
Monitoring Scale	Neighborhood	Neighborhood		Neighborhood
Sampling Season	Jan-Dec	Sep-Mar	Jan-Dec	Jan-Dec
Network Meets Minimum Number of Monitors Required?	Yes	Yes	Yes	Yes
-Appendix E Requirements				
Distance between collocated samplers	N/A	N/A	N/A	N/A
Probe Inlet Height	4 meters	4 meters	4 meters	4.5 meters
Airflow Arc	360º	360º	360º	360º
Distance from Supporting Structure	2 meters	2 meters	2 meters	2.1 meters
Probe Sample Line Material	Teflon	Teflon	Teflon	N/A
Pollutant Sample Residence Time	4.0 seconds	4.0 seconds	4.0 seconds	N/A
Distance from Obstructions	None	None	None	None
Distance to Furnace Flue	None	None	None	None
Spacing from Trees	14 meters, N	14 meters, N	14 meters, N	14 meters, N
Nearest Major Roadway	US Hwy 85	US Hwy 85	US Hwy 85	US Hwy 85
Distance and Direction to Road	31 meters, N	31 meters, N	31 meters, N	31 meters, N
Traffic Count (ADT)	3,000	3,000	3,000	3,000
Groundcover	Paved	Paved	Paved	Paved

CAVE CREEK
County ID: CC
AQS ID: 04-013-4008
Address: 37019 N Lava Lane, Phoenix
Coordinates: 33.82169N, -112.01739W
Metropolitan Sampling Area (MSA): 6200 Phoenix-Mesa

-General Information	
Pollutant	**Ozone**
Sampling Schedule	Continuous
Analysis Method (filters only)	N/A
Any Proposal to Remove or Move Monitor?	No
Is site suitable for comparison to $PM_{2.5}$ NAAQS per Part 58.30?	N/A
-Appendix A Requirements	
# Precision Checks Performed Annually	26
# Accuracy Checks Performed Annually	4
All Precision/Accuracy Reports Submitted to AQS?	Yes
Annual Data Certification Submitted?	Submitted July 2014
Frequency of One-Point QC Check	Bi-Weekly
Frequency of Flow Rate Verification	N/A
-Appendix C Requirements	
Sampler Make & Model	API M400 (087)
Date Established	07/20/2001
Classification	SLAMS
Method (FRM, FEM, ARM)	FEM
-Appendix D Requirements	
Monitoring Type	Max Ozone Concentration
Monitoring Scale	Urban
Sampling Season	Jan-Dec
Network Meets Minimum Number of Monitors Required?	Yes
-Appendix E Requirements	
Distance between collocated samplers	N/A
Probe Inlet Height	4.8 meters
Airflow Arc	360º
Probe Sample Line Material	Teflon
Pollutant Sample Residence Time	10.2 seconds
Distance from Supporting Structure	2.5 meters
Distance from Obstructions	None
Distance to Furnace Flue	None
Spacing from Trees	14.9 meters
Nearest Major Roadway	32nd Street
Distance and Direction to Road	240 meters, NE
Traffic Count (ADT)	1,000
Groundcover	Paved

CENTRAL PHOENIX

County ID: CP
AQS ID: 04-013-3002
Address: 1645 E Roosevelt, Phoenix
Coordinates: 33.45793N, -112.04601W
Metropolitan Sampling Area (MSA): 6200 Phoenix-Mesa

-General Information					
Pollutant	**Ozone**	**CO**	**NO_2**	**SO_2**	**PM_{10}**
Sampling Schedule	Continuous	Continuous	Continuous	Continuous	Continuous
Analysis Method (filters only)	N/A	N/A	N/A	N/A	N/A
Any Proposal to Remove or Move Monitor?	No	No	No	No	No
Is site suitable for comparison to $PM_{2.5}$ NAAQS per Part 58.30?	N/A	N/A	N/A	N/A	N/A
-Appendix A Requirements					
# Precision Checks Performed Annually	27	27	25	25	24
# Accuracy Checks Performed Annually	5	4	4	4	3
All Precision/Accuracy Reports Submitted to AQS?	Yes	Yes	Yes	Yes	Yes
Annual Data Certification Submitted?	Submitted July 2014	Submitted July 2014	Submitted July 2014	Submitted July 2014	Submitted July 2014
Frequency of One-Point QC Check	Bi-Weekly	Bi-Weekly	Bi-Weekly	Bi-Weekly	N/A
Frequency of Flow Rate Verification	N/A	N/A	N/A	N/A	Bi-Monthly
-Appendix C Requirements					
Sampler Make & Model	API M400 (087)	API M300 (093)	API M200 (099)	API M100 (100)	Thermo TEOM 1400AB (079)
Date Established	06/01/1967	10/01/1966	01/01/1967	01/01/1965	04/01/1985
Classification	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS
Method (FRM, FEM, ARM)	FEM	FRM	FRM	FEM	FEM
-Appendix D Requirements					
Monitoring Type	Population Exposure	Population Exposure	Highest Concentration	Highest Concentration	Population Exposure
Monitoring Scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Sampling Season	Jan-Dec	Jan-Dec	Jan-Dec	Jan-Dec	Jan-Dec
Network Meets Minimum Number of Monitors Required?	Yes	Yes	Yes	Yes	Yes
-Appendix E Requirements					
Distance between collocated samplers	N/A	N/A	N/A	N/A	N/A
Probe Inlet Height	10.3 meters	10.3 meters	10.3 meters	10.3 meters	10.3 meters
Airflow Arc	360º	360º	360º	360º	360º
Probe Sample Line Material	Teflon	Teflon	Teflon	Teflon	N/A
Pollutant Sample Residence Time	9.0 seconds	N/A	9.0 seconds	10.0 seconds	N/A
Distance from Supporting Structure	2.5 meters	2.5 meters	2.5 meters	2.5 meters	2.1 meters
Distance from Obstructions	None	None	None	None	None
Distance to Furnace Flue	None	None	None	None	None
Spacing from Trees	None	None	None	None	None
Nearest Major Roadway A	16th Street	16th Street	16th Street	16th Street	16th Street
Distance and Direction to Road	88 meters, W	88 meters, W	88 meters, W	88 meters, W	91 meters, W
Traffic Count (ADT)	24,000	24,000	24,000	24,000	24,000
Nearest Major Roadway B	Roosevelt St.	Roosevelt St.	Roosevelt St.	Roosevelt St.	Roosevelt St.
Distance and Direction to Road	75 meters, N	75 meters, N	75 meters, N	75 meters, N	75 meters, N
Traffic Count (ADT)	Unknown	Unknown	Unknown	Unknown	Unknown
Groundcover	Paved	Paved	Paved	Paved	Paved

DEER VALLEY
County ID: DV
AQS ID: 04-013-4018
Address: 1030 West Deer Valley Road, Phoenix
Coordinates: 33.684627N, -112.08635W
Metropolitan Sampling Area (MSA): 6200 Phoenix-Mesa

-General Information	
Pollutant	**Pb**
Sampling Schedule	1 in 6 day
Analysis Method (filters only)	Filters sent out to independent laboratory for weighing
Any Proposal to Remove or Move Monitor?	No
Is site suitable for comparison to $PM_{2.5}$ NAAQS per Part 58.30?	N/A
-Appendix A Requirements	
# Precision Checks Performed Annually	21 (collocated)
# Accuracy Checks Performed Annually	1
All Precision/Accuracy Reports Submitted to AQS?	Yes
Annual Data Certification Submitted?	Submitted July 2014
Frequency of One-Point QC Check	Weekly
Frequency of Flow Rate Verification	Semi-Annual
-Appendix C Requirements	
Sampler Make & Model	Hi-Q TSP Sampler (109)
Date Established	07/01/2010
Classification	SLAMS
Method (FRM, FEM, ARM)	FRM
-Appendix D Requirements	
Monitoring Type	Source Oriented
Monitoring Scale	Middle Scale
Sampling Season	Jan-Dec
Network Meets Minimum Number of Monitors Required?	Yes
-Appendix E Requirements	
Distance between collocated samplers	2.7 meters
Probe Inlet Height	4.1 meters
Airflow Arc	360º
Probe Sample Line Material	N/A
Pollutant Sample Residence Time	N/A
Distance from Supporting Structure	1.1 meters
Distance from Obstructions	None
Distance to Furnace Flue	None
Spacing from Trees	None
Nearest Major Roadway	Deer Valley
Distance and Direction to Road	300 meters, S
Traffic Count (ADT)	6,452
Groundcover	Paved

DURANGO COMPLEX
County ID: DC
AQS ID: 04-013-9812
Address: 2702 RC Esterbrooks Blvd, Phoenix
Coordinates: 33.42650N, -112.11814W
Metropolitan Sampling Area (MSA): 6200 Phoenix-Mesa

-General Information			
Pollutant	**PM_{10}**	**$PM_{2.5}$**	**SO_2**
Sampling Schedule	Continuous	Continuous	Continuous
Analysis Method (filters only)	N/A	N/A	N/A
Any Proposal to Remove or Move Monitor?	No	No	No
Is site suitable for comparison to $PM_{2.5}$ NAAQS per Part 58.30?	N/A	Yes	N/A
-Appendix A Requirements			
# Precision Checks Performed Annually	24	21	27
# Accuracy Checks Performed Annually	2	4	4
All Precision/Accuracy Reports Submitted to AQS?	Yes	Yes	Yes
Annual Data Certification Submitted?	Submitted July 2014	Submitted July 2014	Submitted July 2014
Frequency of One-Point QC Check	N/A	N/A	Bi-Weekly
Frequency of Flow Rate Verification	Bi-Monthly	Bi-Monthly	N/A
-Appendix C Requirements			
Sampler Make & Model	TEOM 1400AB (079)	FDMS-TEOM 1400AB (181)	API M100 (100)
Date Established	07/01/1999	07/01/2005	01/01/2011
Classification	SLAMS	SLAMS	SLAMS
Method (FRM, FEM, ARM)	FEM	FEM	FRM
-Appendix D Requirements			
Monitoring Type	Highest Concentration	Highest Concentration	Highest Concentration
Monitoring Scale	Middle	Middle	Middle
Sampling Season	Jan-Dec	Jan-Dec	Jan-Dec
Network Meets Minimum Number of Monitors Required?	Yes	Yes	Yes
-Appendix E Requirements			
Distance between collocated samplers	N/A	N/A	N/A
Probe Inlet Height	3.9 meters	4.8 meters	3.9 meters
Airflow Arc	360º	360º	360º
Probe Sample Line Material	N/A	N/A	Teflon
Pollutant Sample Residence Time	N/A	N/A	10.0 sec
Distance from Supporting Structure	3.7 meters	2 meters	2 meters
Distance from Obstructions	8 meters	2 meters	2 meters
Distance to Furnace Flue	None	None	None
Spacing from Trees	8 meters, S	8 meters, S	8 meters, S
Nearest Major Roadway	27th Ave	27th Ave	27th Ave
Distance and Direction to Road	78 meters, E	76 meters, E	76 meters, E
Traffic Count (ADT)	16,000	16,000	16,000
Groundcover	Paved	Paved	Paved

Diablo
County ID: DI
AQS ID: 04-013-4019
Address: Fairmount Dr. & Diablo Way, Tempe
Coordinates: 33.3961N, -111.9680
Metropolitan Sampling Area (MSA): 6200 Phoenix-Mesa

-General Information			
Pollutant	**CO**	**NO_2**	**$PM_{2.5}$**
Sampling Schedule	Continuous	Continuous	Continuous
Analysis Method (filters only)	N/A	N/A	N/A
Any Proposal to Remove or Move Monitor?	No	No	No
Is site suitable for comparison to $PM_{2.5}$ NAAQS per Part 58.30?	N/A	N/A	N/A
-Appendix A Requirements			
# Precision Checks Performed Annually			
# Accuracy Checks Performed Annually			
All Precision/Accuracy Reports Submitted to AQS?	Yes	Yes	Yes
Annual Data Certification Submitted?	Start up 2014	Start up 2014	Start up 2014
Frequency of One-Point QC Check	Bi-Weekly	Bi-Weekly	N/A
Frequency of Flow Rate Verification	N/A	N/A	Bi-Monthly
-Appendix C Requirements			
Sampler Make & Model	API M300 (093)	API M200 (099)	TEOM 1405 DF (182)
Date Established	2/13/2014	02/13/2014	05/01/2014
Classification	SLAMS	SLAMS	SLAMS
Method (FRM, FEM, ARM)	FRM	FRM	FEM
-Appendix D Requirements			
Monitoring Type	Max. Conc. Source	Max. Conc. Source	Max Conc.Source
Monitoring Scale	Micro	Micro	Micro
Sampling Season	Jan-Dec	Jan-Dec	Jan-Dec
Network Meets Minimum Number of Monitors Required?	Yes	Yes	Yes
-Appendix E Requirements			
Distance between collocated samplers	N/A	N/A	N/A
Probe Inlet Height	5 meters	5 meters	5 meters
Airflow Arc	360º	360º	360º
Probe Sample Line Material	Teflon	Teflon	N/A
Pollutant Sample Residence Time	4.5 seconds	4.5 seconds	N/A
Distance from Supporting Structure	2.6 meters	2.6 meters	2.4 meters
Distance from Obstructions	None	None	None
Distance to Furnace Flue	None	None	None
Spacing from Trees	None	None	None
Nearest Major Roadway A	Interstate-10	Interstate-10	Interstate-10
Distance and Direction to Road	30 meters, E	30 meters, E	30 meters, E
Traffic Count (ADT)	275,000	275,000	275,000
Nearest Major Roadway B	Fairmount Dr.	Fairmount Dr.	Fairmount Dr.
Distance and Direction to Road	18 meters, N	18 meters, N	18 meters, N
Traffic Count (ADT)	3,000	3,000	3,000
Groundcover	Paved/Gravel	Paved/Gravel	Paved/Gravel

DYSART
County ID: DY
AQS ID: 04-013-4010
Address: 16825 N Dysart Rd, Surprise
Coordinates: 33.63713N, -112.34184W
Metropolitan Sampling Area (MSA): 6200 Phoenix-Mesa

-General Information			
Pollutant	**Ozone**	**CO**	**PM_{10}**
Sampling Schedule	Continuous	Continuous	Continuous
Analysis Method (filters only)	N/A	N/A	N/A
Any Proposal to Remove or Move Monitor?	No	No	No
Is site suitable for comparison to $PM_{2.5}$ NAAQS per Part 58.30?	N/A	N/A	N/A
-Appendix A Requirements			
# Precision Checks Performed Annually	25	14	23
# Accuracy Checks Performed Annually	4	2	2
All Precision/Accuracy Reports Submitted to AQS?	Yes	Yes	Yes
Annual Data Certification Submitted?	Submitted July 2014	Submitted July 2014	Submitted July 2014
Frequency of One-Point QC Check	Bi-Weekly	Bi-Weekly	N/A
Frequency of Flow Rate Verification	N/A	N/A	Bi-Monthly
-Appendix C Requirements			
Sampler Make & Model	API M400 (087)	API M300 (093)	TEOM 1400AB (079)
Date Established	7/21/2003	09/01/2003	07/14/2003
Classification	SLAMS	SLAMS	SLAMS
Method (FRM, FEM, ARM)	FEM	FRM	FRM
-Appendix D Requirements			
Monitoring Type	Population Exposure	Population Exposure	Population Exposure
Monitoring Scale	Neighborhood	Neighborhood	Neighborhood
Sampling Season	Jan-Dec	Sep-Mar	Jan-Dec
Network Meets Minimum Number of Monitors Required?	Yes	Yes	Yes
-Appendix E Requirements			
Distance between collocated samplers	N/A	N/A	N/A
Probe Inlet Height	3.3 meters	3.3 meters	2.6 meters
Airflow Arc	360º	360º	360º
Probe Sample Line Material	Teflon	Teflon	N/A
Pollutant Sample Residence Time	4.8 seconds	4.8 seconds	N/A
Distance from Supporting Structure	1.6 meters	1.6 meters	2 meters
Distance from Obstructions	None	None	None
Distance to Furnace Flue	None	None	None
Spacing from Trees	None	None	None
Nearest Major Roadway A	Dysart	Dysart	Dysart
Distance and Direction to Road	17 meters, W	17 meters, W	12 meters, W
Traffic Count (ADT)	12,000	12,000	12,000
Nearest Major Roadway B	Bell Rd	Bell Rd	Bell Rd
Distance and Direction to Road	495 meters, N	495 meters, N	460 meters, N
Traffic Count (ADT)	43,000	43,000	43,000
Groundcover	Paved/Gravel	Paved/Gravel	Paved/Gravel

FALCON FIELD
County ID: FF
AQS ID: 04-013-1010
Address: 4530 E McKellips Rd, Mesa
Coordinates: 33.45223N. -111.73331W
Metropolitan Sampling Area (MSA): 6200 Phoenix-Mesa

-General Information	
Pollutant	**Ozone**
Sampling Schedule	Continuous
Analysis Method (filters only)	N/A
Any Proposal to Remove or Move Monitor?	No
Is site suitable for comparison to $PM_{2.5}$ NAAQS per Part 58.30?	N/A
-Appendix A Requirements	
# Precision Checks Performed Annually	26
# Accuracy Checks Performed Annually	4
All Precision/Accuracy Reports Submitted to AQS?	Yes
Annual Data Certification Submitted?	Submitted July 2014
Frequency of One-Point QC Check	Bi-Weekly
Frequency of Flow Rate Verification	N/A
-Appendix C Requirements	
Sampler Make & Model	API M400 (087)
Date Established	06/01/1989
Classification	SLAMS
Method (FRM, FEM, ARM)	FEM
-Appendix D Requirements	
Monitoring Type	Population Exposure
Monitoring Scale	Neighborhood
Sampling Season	Jan-Dec
Network Meets Minimum Number of Monitors Required?	Yes
-Appendix E Requirements	
Distance between collocated samplers	N/A
Probe Inlet Height	9.3 meters
Airflow Arc	360º
Probe Sample Line Material	Teflon
Pollutant Sample Residence Time	16.4 seconds
Distance from Supporting Structure	2.5 meters
Distance from Obstructions	None
Distance to Furnace Flue	None
Spacing from Trees	25+ meters
Nearest Major Roadway	McKellips
Distance and Direction to Road	58 meters, S
Traffic Count (ADT)	29,000
Groundcover	Paved

FOUNTAIN HILLS
County ID: FH
AQS ID: 04-013-9704
Address: 16426 E Palisades Blvd, Fountain Hills
Coordinates: 33.61103N. -111.72529W
Metropolitan Sampling Area (MSA): 6200 Phoenix-Mesa

-General Information	
Pollutant	**Ozone**
Sampling Schedule	Continuous
Analysis Method (filters only)	N/A
Any Proposal to Remove or Move Monitor?	Shutdown 8/27/13 for Construction. Reopened 5/14/14
Is site suitable for comparison to $PM_{2.5}$ NAAQS per Part 58.30?	N/A
-Appendix A Requirements	
# Precision Checks Performed Annually	18
# Accuracy Checks Performed Annually	2
All Precision/Accuracy Reports Submitted to AQS?	Yes
Annual Data Certification Submitted?	Submitted July 2013
Frequency of One-Point QC Check	Bi-Weekly
Frequency of Flow Rate Verification	N/A
-Appendix C Requirements	
Sampler Make & Model	API M400 (087)
Date Established	04/01/1996
Classification	SLAMS
Method (FRM, FEM, ARM)	FEM
-Appendix D Requirements	
Monitoring Type	Max Ozone Concentration
Monitoring Scale	Neighborhood
Sampling Season	Jan-Dec
Network Meets Minimum Number of Monitors Required?	Yes
-Appendix E Requirements	
Distance between collocated samplers	N/A
Probe Inlet Height	4.3 meters
Airflow Arc	360º
Probe Sample Line Material	Teflon
Pollutant Sample Residence Time	4.8 seconds
Distance from Supporting Structure	2 meters
Distance from Obstructions	Canopy 1 meter higher than probe, located 9 meters to the south
Distance to Furnace Flue	None
Spacing from Trees	15 meters, W
Nearest Major Roadway	Palisades Blvd
Distance and Direction to Road	70 meters, SW
Traffic Count (ADT)	8,000
Groundcover	Paved

GLENDALE

County ID: GL
AQS ID: 04-013-2001
Address: 6001 W Olive, Glendale
Coordinates: 33.56936N. -112.19153W
Metropolitan Sampling Area (MSA): 6200 Phoenix-Mesa

-General Information				
Pollutant	**Ozone**	**CO**	**PM_{10}**	**$PM_{2.5}$**
Sampling Schedule	Continuous	Continuous	Continuous	Continuous
Analysis Method (filters only)	N/A	N/A	N/A	N/A
Any Proposal to Remove or Move Monitor?	No	No	No	No
Is site suitable for comparison to $PM_{2.5}$ NAAQS per Part 58.30?	N/A	N/A	N/A	Yes
-Appendix A Requirements				
# Precision Checks Performed Annually	24	15	23	21
# Accuracy Checks Performed Annually	4	1	2	4
All Precision/Accuracy Reports Submitted to AQS?	Yes	Yes	Yes	Yes
Annual Data Certification Submitted?	Submitted July 2014	Submitted July 2014	Submitted July 2014	Submitted July 2014
Frequency of One-Point QC Check	Bi-Weekly	Bi-Weekly	N/A	N/A
Frequency of Flow Rate Verification	N/A	N/A	Bi-Monthly	Bi-Monthly
-Appendix C Requirements				
Sampler Make & Model	API M400 (087)	API M300 (093)	TEOM 1400AB (079)	FDMS-TEOM 1400AB (181)
Date Established	01/01/1974	01/01/1974	07/01/1987	6/1/2011
Classification	SLAMS	SLAMS	SLAMS	SLAMS
Method (FRM, FEM, ARM)	FEM	FRM	FEM	FEM
-Appendix D Requirements				
Monitoring Type	Population Exposure	Population Exposure	Population Exposure	Population Exposure
Monitoring Scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Sampling Season	Jan-Dec	Sep-Mar	Jan-Dec	Jan-Dec
Network Meets Minimum Number of Monitors Required?	Yes	Yes	Yes	Yes
-Appendix E Requirements				
Distance between collocated samplers	N/A	N/A	N/A	N/A
Probe Inlet Height	3.7 meters	3.7 meters	3.4 meters	4.0 meters
Airflow Arc	360º	360º	360º	360º
Probe Sample Line Material	Teflon	Teflon	N/A	N/A
Pollutant Sample Residence Time	4.5 seconds	4.5 seconds	N/A	N/A
Distance from Supporting Structure	2 meters	2 meters	2.1 meters	3.1 meters
Distance from Obstructions	2.5m	2.5m	None	None
Distance to Furnace Flue	None	None	None	None
Spacing from Trees	None	None	None	None
Nearest Major Roadway A	Olive Ave	Olive Ave	Olive Ave	Olive Ave
Distance and Direction to Road	225 meters, S	225 meters, S	227 meters, S	227 meters, S
Traffic Count (ADT)	25,000	25,000	25,000	25,000
Nearest Major Roadway B	59th Ave	59th Ave	59th Ave	59th Ave
Distance and Direction to Road	475 meters, E	475 meters, E	430 meters, E	430 meters, E
Traffic Count (ADT)	30,500	30,500	30,500	30,500
Groundcover	Paved	Paved	Paved	Paved

GREENWOOD
County ID: GR
AQS ID: 04-013-3010
Address: 1128 N 27th Ave., Phoenix
Coordinates: 33.46093N. -112.11748W
Metropolitan Sampling Area (MSA): 6200 Phoenix-Mesa

-General Information			
Pollutant	**CO**	**NO_2**	**PM_{10}**
Sampling Schedule	Continuous	Continuous	Continuous
Analysis Method (filters only)	N/A	N/A	N/A
Any Proposal to Remove or Move Monitor?	No	No	No
Is site suitable for comparison to $PM_{2.5}$ NAAQS per Part 58.30?	N/A	N/A	N/A
-Appendix A Requirements			
# Precision Checks Performed Annually	27	26	24
# Accuracy Checks Performed Annually	4	3	1
All Precision/Accuracy Reports Submitted to AQS?	Yes	Yes	Yes
Annual Data Certification Submitted?	Submitted July 2014	Submitted July 2014	Submitted July 2014
Frequency of One-Point QC Check	Bi-Weekly	Bi-Weekly	N/A
Frequency of Flow Rate Verification	N/A	N/A	Bi-Monthly
-Appendix C Requirements			
Sampler Make & Model	API M300 (093)	API M200 (099)	TEOM 1400AB (079)
Date Established	11/01/1993	11/01/1993	11/01/1993
Classification	SLAMS	SLAMS	SLAMS
Method (FRM, FEM, ARM)	FRM	FRM	FEM
-Appendix D Requirements			
Monitoring Type	Population Exposure	Population Exposure	Population Exposure
Monitoring Scale	Middle	Middle	Middle
Sampling Season	Jan-Dec	Jan-Dec	Jan-Dec
Network Meets Minimum Number of Monitors Required?	Yes	Yes	Yes
-Appendix E Requirements			
Distance between collocated samplers	N/A	N/A	N/A
Probe Inlet Height	4.2 meters	4.2 meters	4.4 meters
Airflow Arc	360º	360º	360º
Probe Sample Line Material	Teflon	Teflon	N/A
Pollutant Sample Residence Time	4.3 seconds	4.3 seconds	N/A
Distance from Supporting Structure	2 meters	2 meters	2 meters
Distance from Obstructions	25+ meters	25+ meters	25+ meters
Distance to Furnace Flue	None	None	None
Spacing from Trees	20 meters, NW	20 meters, NW	20 meters, NW
Nearest Major Roadway A	27th Ave	27th Ave	27th Ave
Distance and Direction to Road	10 meters, E	10 meters, E	10 meters, E
Traffic Count (ADT)	18,500	18,500	18,500
Nearest Major Roadway B	I-10	I-10	I-10
Distance and Direction to Road	85 meters, N	85 meters, N	85 meters, N
Traffic Count (ADT)	229,000	229,000	229,000
Groundcover	Paved	Paved	Paved

HIGLEY
County ID: HI
AQS ID: 04-013-4006
Address: 15400 South Higley Road, Gilbert
Coordinates: 33.31074N. -111.72255W
Metropolitan Sampling Area (MSA): 6200 Phoenix-Mesa

-General Information	
Pollutant	**PM_{10}**
Sampling Schedule	Continuous
Analysis Method (filters only)	N/A
Any Proposal to Remove or Move Monitor?	Yes in 2014
Is site suitable for comparison to $PM_{2.5}$ NAAQS per Part 58.30?	N/A
-Appendix A Requirements	
# Precision Checks Performed Annually	23
# Accuracy Checks Performed Annually	2
All Precision/Accuracy Reports Submitted to AQS?	Yes
Annual Data Certification Submitted?	Submitted July 2013
Frequency of One-Point QC Check	N/A
Frequency of Flow Rate Verification	Bi-Weekly
-Appendix C Requirements	
Sampler Make & Model	TEOM 1400AB (079)
Date Established	07/01/2000
Classification	SLAMS
Method (FRM, FEM, ARM)	FEM
-Appendix D Requirements	
Monitoring Type	Population Exposure
Monitoring Scale	Neighborhood
Sampling Season	Jan-Dec
Network Meets Minimum Number of Monitors Required?	Yes
-Appendix E Requirements	
Distance between collocated samplers	N/A
Probe Inlet Height	2.9 meters
Airflow Arc	360º
Probe Sample Line Material	N/A
Pollutant Sample Residence Time	N/A
Distance from Supporting Structure	2.2 meters
Distance from Obstructions	10 meters
Distance to Furnace Flue	None
Spacing from Trees	10 meters
Nearest Major Roadway A	Higley Rd
Distance and Direction to Road	117 meters, E
Traffic Count (ADT)	11,500
Nearest Major Roadway B	Williams Field Rd
Distance and Direction to Road	410 meters, S
Traffic Count (ADT)	11,500
Groundcover	Paved

HUMBOLDT MOUNTAIN
County ID: HM
AQS ID: 04-013-9508
Address: Seven Springs Rd-FAA Radar Station, Tonto National Forest
Coordinates: 33.98280N, -111.79870W
Metropolitan Sampling Area (MSA): 6200 Phoenix-Mesa

-General Information	
Pollutant	**Ozone**
Sampling Schedule	Continuous
Analysis Method (filters only)	N/A
Any Proposal to Remove or Move Monitor?	No
Is site suitable for comparison to $PM_{2.5}$ NAAQS per Part 58.30?	N/A
-Appendix A Requirements	
# Precision Checks Performed Annually	26
# Accuracy Checks Performed Annually	3
All Precision/Accuracy Reports Submitted to AQS?	Yes
Annual Data Certification Submitted?	Submitted July 2013
Frequency of One-Point QC Check	Bi-Weekly
Frequency of Flow Rate Verification	N/A
-Appendix C Requirements	
Sampler Make & Model	API M400 (087)
Date Established	01/01/1993
Classification	SLAMS
Method (FRM, FEM, ARM)	FEM
-Appendix D Requirements	
Monitoring Type	Max Ozone Concentration
Monitoring Scale	Regional
Sampling Season	Jan-Dec
Network Meets Minimum Number of Monitors Required?	Yes
-Appendix E Requirements	
Distance between collocated samplers	N/A
Probe Inlet Height	4.5 meters
Airflow Arc	360º
Probe Sample Line Material	Teflon
Pollutant Sample Residence Time	6.2 seconds
Distance from Supporting Structure	2.8 meters
Distance from Obstructions	9 meters
Distance to Furnace Flue	None
Spacing from Trees	None
Nearest Major Roadway	N/A (Remote mountaintop site, only reachable by small access road)
Distance and Direction to Road	N/A
Traffic Count (ADT)	N/A
Groundcover	Dirt/Vegetated

MESA
County ID: ME
AQS ID: 04-013-1003
Address: 310 S Brooks, Mesa
Coordinates: 33.41045N. -111.86507W
Metropolitan Sampling Area (MSA): 6200 Phoenix-Mesa

	-General Information			
Pollutant	**Ozone**	**CO**	**$PM_{2.5}$**	**PM_{10}**
Sampling Schedule	Continuous	Continuous	Continuous	Continuous
Analysis Method (filters only)	N/A	N/A	N/A	N/A
Any Proposal to Remove or Move Monitor?	No	No	No	No
Is site suitable for comparison to $PM_{2.5}$ NAAQS per Part 58.30?	N/A	N/A	Yes	N/A
	-Appendix A Requirements			
# Precision Checks Performed Annually	26	15	21	24
# Accuracy Checks Performed Annually	5	2	5	2
All Precision/Accuracy Reports Submitted to AQS?	Yes	Yes	Yes	Yes
Annual Data Certification Submitted?	Submitted July 2014	Submitted July 2014	Submitted July 2014	Submitted July 2014
Frequency of One-Point QC Check	Bi-Weekly	Bi-Weekly	N/A	N/A
Frequency of Flow Rate Verification	N/A	N/A	Bi-Weekly	Bi-Weekly
	-Appendix C Requirements			
Sampler Make & Model	API M400 (087)	API M300 (093)	TEOM 1405-DF (182)	TEOM 1400AB (079)
Date Established	11/1/2012	01/01/1978	11/1/2012	11/1/2012
Classification	SLAMS	SLAMS	SLAMS	SLAMS
Method (FRM, FEM, ARM)	FEM	FEM	FEM	FEM
	-Appendix D Requirements			
Monitoring Type	Population Exposure	Population Exposure	Population Exposure	Population Exposure
Monitoring Scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Sampling Season	Jan-Dec	Sep-Mar	Jan-Dec	Jan-Dec
Network Meets Minimum Number of Monitors Required?	Yes	Yes	Yes	Yes
	-Appendix E Requirements			
Distance between collocated samplers	N/A	N/A	N/A	N/A
Probe Inlet Height	7 meters	7 meters	6.9 meters	6.2 meters
Airflow Arc	360º	360º	360º	360º
Probe Sample Line Material	Teflon	Teflon	N/A	N/A
Pollutant Sample Residence Time	4.6 seconds	4.6 seconds	N/A	N/A
Distance from Supporting Structure	2 meters	2 meters	3 meters	2.5 meters
Distance from Obstructions	25+ meters	25+ meters	25+ meters	25+ meters
Distance to Furnace Flue	None	None	None	None
Spacing from Trees	25+ meters	25+ meters	25+ meters	25+ meters
Nearest Major Roadway	Broadway Rd.	Broadway Rd.	Broadway Rd.	Broadway Rd.
Distance and Direction to Road	305 meters, S	305 meters, S	305 meters, S	305 meters, S
Traffic Count (ADT)	33,000	33,000	33,000	33,000
Groundcover	Paved/Gravel	Paved/Gravel	Paved/Gravel	Paved/Gravel

NORTH PHOENIX
County ID: NP
AQS ID: 04-013-1004
Address: 601 E Butler Dr., Phoenix
Coordinates: 33.56033N, -112.06626W
Metropolitan Sampling Area (MSA): 6200 Phoenix-Mesa

-General Information				
Pollutant	**Ozone**	**CO**	**PM_{10}**	**$PM_{2.5}$**
Sampling Schedule	Continuous	Continuous	Continuous	Continuous
Analysis Method (filters only)	N/A	N/A	N/A	N/A
Any Proposal to Remove or Move Monitor?	No	No	No	No
Is site suitable for comparison to $PM_{2.5}$ NAAQS per Part 58.30?	N/A	N/A	N/A	Yes
-Appendix A Requirements				
# Precision Checks Performed Annually	26	15	32	21
# Accuracy Checks Performed Annually	4	1	2	5
All Precision/Accuracy Reports Submitted to AQS?	Yes	Yes	Yes	Yes
Annual Data Certification Submitted?	Submitted July 201	Submitted July 2014	Submitted July 2014	Submitted July 2014
Frequency of One-Point QC Check	Bi-Weekly	Bi-Weekly	N/A	N/A
Frequency of Flow Rate Verification	N/A	N/A	Bi-Weekly	Bi-Weekly
-Appendix C Requirements				
Sampler Make & Model	API M400 (087)	API M300 (093)	BAM 1020 (122)	BAM 1020 (122) / TEOM 1400AB (079
Date Established	01/01/1975	01/01/1974	9/1/2011	9/1/2011
Classification	SLAMS	SLAMS	SLAMS	SLAMS
Method (FRM, FEM, ARM)	FEM	FRM	FEM	FEM
-Appendix D Requirements				
Monitoring Type	Population Exposure	Population Exposure	Population Exposure	Population Exposure
Monitoring Scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Sampling Season	Jan-Dec	Sep-Mar	Jan-Dec	Jan-Dec
Network Meets Minimum Number of Monitors Required?	Yes	Yes	Yes	Yes
-Appendix E Requirements				
Distance between collocated samplers	N/A	N/A	N/A	N/A
Probe Inlet Height	4.6 meters	4.6 meters	4.5 meters	4.5 meters
Airflow Arc	360º	360º	360º	360º
Probe Sample Line Material	Teflon	Teflon	N/A	N/A
Pollutant Sample Residence Time	5.0 seconds	5.0 seconds	N/A	N/A
Distance from Supporting Structure	2.1 meters	2.1 meters	2.1 meters	3.3 meters
Distance from Obstructions	4 meters	4 meters	4 meters	5 meters
Distance to Furnace Flue	None	None	None	None
Spacing from Trees	None	None	None	None
Nearest Major Roadway	7th Street	7th Street	7th Street	7th Street
Distance and Direction to Road	75 meters, E	75 meters, E	75 meters, E	75 meters, E
Traffic Count (ADT)	32,000	32,000	32,000	32,000
Groundcover	Gravel	Gravel	Gravel	Gravel

PINNACLE PEAK

County ID: PP
AQS ID: 04-013-2005
Address: 24295 N Alma School Rd, Scottsdale
Coordinates: 33.70655N, -111.85557W
Metropolitan Sampling Area (MSA): 6200 Phoenix-Mesa

-General Information	
Pollutant	**Ozone**
Sampling Schedule	Continuous
Analysis Method (filters only)	N/A
Any Proposal to Remove or Move Monitor?	No
Is site suitable for comparison to $PM_{2.5}$ NAAQS per Part 58.30?	N/A
-Appendix A Requirements	
# Precision Checks Performed Annually	25
# Accuracy Checks Performed Annually	4
All Precision/Accuracy Reports Submitted to AQS?	Yes
Annual Data Certification Submitted?	Submitted July 2014
Frequency of One-Point QC Check	Bi-Weekly
Frequency of Flow Rate Verification	N/A
-Appendix C Requirements	
Sampler Make & Model	API M400 (087)
Date Established	02/01/1988
Classification	SLAMS
Method (FRM, FEM, ARM)	FEM
-Appendix D Requirements	
Monitoring Type	Max Ozone Concentration
Monitoring Scale	Urban
Sampling Season	Jan-Dec
Network Meets Minimum Number of Monitors Required?	Yes
-Appendix E Requirements	
Distance between collocated samplers	N/A
Probe Inlet Height	5.9 meters
Airflow Arc	360º
Probe Sample Line Material	Teflon
Pollutant Sample Residence Time	6.2 seconds
Distance from Supporting Structure	3 meters
Distance from Obstructions	4.2 meters
Distance to Furnace Flue	None
Spacing from Trees	None
Nearest Major Roadway	Happy Valley Rd.
Distance and Direction to Road	61 meters, S
Traffic Count (ADT)	16,000
Groundcover	Paved/Grass

RIO VERDE
County ID: RV
AQS ID: 04-013-9706
Address: 25608 N Forest Rd., Rio Verde
Coordinates: 33.71881N, -111.67183W
Metropolitan Sampling Area (MSA): 6200 Phoenix-Mesa

-General Information	
Pollutant	**Ozone**
Sampling Schedule	Continuous
Analysis Method (filters only)	N/A
Any Proposal to Remove or Move Monitor?	No
Is site suitable for comparison to $PM_{2.5}$ NAAQS per Part 58.30?	N/A
-Appendix A Requirements	
# Precision Checks Performed Annually	24
# Accuracy Checks Performed Annually	4
All Precision/Accuracy Reports Submitted to AQS?	Yes
Annual Data Certification Submitted?	Submitted July 2014
Frequency of One-Point QC Check	Bi-Weekly
Frequency of Flow Rate Verification	N/A
-Appendix C Requirements	
Sampler Make & Model	API M400 (087)
Date Established	01/01/1997
Classification	SLAMS
Method (FRM, FEM, ARM)	FEM
-Appendix D Requirements	
Monitoring Type	Max Ozone Concentration
Monitoring Scale	Urban
Sampling Season	Jan-Dec
Network Meets Minimum Number of Monitors Required?	Yes
-Appendix E Requirements	
Distance between collocated samplers	N/A
Probe Inlet Height	6.2 meters
Airflow Arc	360º
Probe Sample Line Material	Teflon
Pollutant Sample Residence Time	9.7 seconds
Distance from Supporting Structure	3 meters
Distance from Obstructions	3 meters
Distance to Furnace Flue	None
Spacing from Trees	None
Nearest Major Roadway	Forest Rd
Distance and Direction to Road	43 meters, E
Traffic Count (ADT)	Unknown
Groundcover	Paved

SOUTH PHOENIX

County ID: SP
AQS ID: 04-013-4003
Address: 33 W Tamarisks, Phoenix
Coordinates: 33.40316N, -112.07533W
Metropolitan Sampling Area (MSA): 6200 Phoenix-Mesa

-General Information				
Pollutant	**Ozone**	**CO**	**$PM_{2.5}$**	**PM_{10}**
Sampling Schedule	Continuous	Continuous	Continuous	Continuous
Analysis Method (filters only)	N/A	N/A	N/A	N/A
Any Proposal to Remove or Move Monitor?	No	No	No	No
Is site suitable for comparison to $PM_{2.5}$ NAAQS per Part 58.30?	N/A	N/A	Yes	N/A
-Appendix A Requirements				
# Precision Checks Performed Annually	25	14	19	20
# Accuracy Checks Performed Annually	2	2	4	2
All Precision/Accuracy Reports Submitted to AQS?	Yes	Yes	Yes	Yes
Annual Data Certification Submitted?	Submitted July 2014	Submitted July 2014	Submitted July 2014	Submitted July 2014
Frequency of One-Point QC Check	Bi-Weekly	Bi-Weekly	N/A	N/A
Frequency of Flow Rate Verification	N/A	N/A		Bi-Monthly
-Appendix C Requirements				
Sampler Make & Model	API M400 (087)	API M300 (093)	TEOM 1405-DF (182)	TEOM 1400AB (079)
Date Established	10/01/1999	10/01/1999	05/01/2010	7/1/2007
Classification	SLAMS	SLAMS	SLAMS	SLAMS
Method (FRM, FEM, ARM)	FEM	FRM	FEM	FEM
-Appendix D Requirements				
Monitoring Type	Population Exposure	Population Exposure	Population Exposure	Population Exposure
Monitoring Scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Sampling Season	Jan-Dec	Sep-Mar	Jan-Dec	Jan-Dec
Network Meets Minimum Number of Monitors Required?	Yes	Yes	Yes	Yes
-Appendix E Requirements				
Distance between collocated samplers	N/A	N/A	N/A	N/A
Probe Inlet Height	4.9 meters	4.9 meters	5.5 meters	5.4 meters
Airflow Arc	360º	360º	360º	360º
Probe Sample Line Material	Teflon	Teflon	N/A	N/A
Pollutant Sample Residence Time	6.9 seconds	6.9 seconds	N/A	N/A
Distance from Supporting Structure	5 meters	5 meters	5 meters	2 meters
Distance from Obstructions	25+m	25+m	25+m	25+m
Distance to Furnace Flue	None	None	None	None
Spacing from Trees	9 meters	9 meters	4 meters	2 meters
Nearest Major Roadway A	Central Ave	Central Ave	Central Ave	Central Ave
Distance and Direction to Road	168 meters, E	168 meters, E	168 meters, E	165 meters, E
Traffic Count (ADT)	24,000	24,000	24,000	24,000
Nearest Major Roadway B	Broadway Rd	Broadway Rd	Broadway Rd	Broadway Rd
Distance and Direction to Road	385 meters, N	385 meters, N	385 meters, N	385 meters, N
Traffic Count (ADT)	18,000	18,000	18,000	18,000
Groundcover	Paved	Paved	Paved	Paved

SOUTH SCOTTSDALE

County ID: SS
AQS ID: 04-013-3003
Address: 2857 N Miller Rd., Scottsdale
Coordinates: 33.47968N, -111.91721W
Metropolitan Sampling Area (MSA): 6200 Phoenix-Mesa

-General Information			
Pollutant	**Ozone**	**CO**	**PM_{10}**
Sampling Schedule	Continuous	Continuous	Continuous
Analysis Method (filters only)	N/A	N/A	N/A
Any Proposal to Remove or Move Monitor?	No	No	No
Is site suitable for comparison to $PM_{2.5}$ NAAQS per Part 58.30?	N/A	N/A	N/A
-Appendix A Requirements			
# Precision Checks Performed Annually	26	15	26
# Accuracy Checks Performed Annually	4	2	2
All Precision/Accuracy Reports Submitted to AQS?	Yes	Yes	Yes
Annual Data Certification Submitted?	Submitted July 2014	Submitted July 2014	Submitted July 2014
Frequency of One-Point QC Check	Bi-Weekly	Bi-Weekly	N/A
Frequency of Flow Rate Verification	N/A	N/A	Bi-Weekly
-Appendix C Requirements			
Sampler Make & Model	API M400 (087)	API M300 (093)	TEOM 1405 (079)
Date Established	01/01/1974	01/01/1974	09/01/2012
Classification	SLAMS	SLAMS	SLAMS
Method (FRM, FEM, ARM)	FEM	FRM	FEM
-Appendix D Requirements			
Monitoring Type	Population Exposure	Population Exposure	Population Exposure
Monitoring Scale	Neighborhood	Neighborhood	Neighborhood
Sampling Season	Jan-Dec	Sep-Mar	Jan-Dec
Network Meets Minimum Number of Monitors Required?	Yes	Yes	Yes
-Appendix E Requirements			
Distance between collocated samplers	N/A	N/A	N/A
Probe Inlet Height	5.8 meters	5.8 meters	6.1 meters
Airflow Arc	360º	360º	360º
Probe Sample Line Material	Teflon	Teflon	N/A
Pollutant Sample Residence Time	7.3 seconds	7.3 seconds	N/A
Distance from Supporting Structure	2.5 meters	2.5 meters	2.5 meters
Distance from Obstructions	2.5 meters	2.5 meters	3 meters
Distance to Furnace Flue	None	None	None
Spacing from Trees	10 meters	10 meters	10 meters
Nearest Major Roadway A	Thomas	Thomas	Thomas
Distance and Direction to Road	66 meters, N	66 meters, N	62 meters, N
Traffic Count (ADT)	33,000	33,000	33,000
Nearest Major Roadway B	Miller	Miller	Miller
Distance and Direction to Road	32 meters, W	32 meters, W	35 meters, W
Traffic Count (ADT)	13,000	13,000	13,000
Groundcover	Paved	Paved	Paved

TEMPE

County ID: TE
AQS ID: 04-013-4005
Address: 1525 S College, Tempe
Coordinates: 33.4124N, -111.93473W
Metropolitan Sampling Area (MSA): 6200 Phoenix-Mesa

-General Information				
Pollutant	**Ozone**	**CO**	**PM_{10}**	**$PM_{2.5}$**
Sampling Schedule	Continuous	Continuous	Continuous	Continuous
Analysis Method (filters only)	N/A	N/A	N/A	N/A
Any Proposal to Remove or Move Monitor?	No	No	No	No
Is site suitable for comparison to $PM_{2.5}$ NAAQS per Part 58.30?	N/A	N/A	N/A	Yes
-Appendix A Requirements				
# Precision Checks Performed Annually	26	16	26	23
# Accuracy Checks Performed Annually	3	2	1	2
All Precision/Accuracy Reports Submitted to AQS?	Yes	Yes	Yes	Yes
Annual Data Certification Submitted?	Submitted July 2014	Submitted July 2014	Submitted July 2014	Submitted July 2014
Frequency of One-Point QC Check	Bi-Weekly	Bi-Weekly	N/A	N/A
Frequency of Flow Rate Verification	N/A	N/A	Bi-Weekly	Bi-Weekly
-Appendix C Requirements				
Sampler Make & Model	API M400 (087)	API M300 (093)	TEOM 1400 AB (079)	TEOM1405 DF (182)
Date Established	07/01/2000	07/01/2000	3/1/2012	3/1/2012
Classification	SLAMS	SLAMS	SLAMS	SLAMS
Method (FRM, FEM, ARM)	FEM	FRM	FEM	FEM
-Appendix D Requirements				
Monitoring Type	Population Exposure	Population Exposure	Population Exposure	Population Exposure
Monitoring Scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Sampling Season	Jan-Dec	Sep-Mar	Jan-Dec	Jan-Dec
Network Meets Minimum Number of Monitors Required?	Yes	Yes	Yes	Yes
-Appendix E Requirements				
Distance between collocated samplers	N/A	N/A	N/A	N/A
Probe Inlet Height	4.4 meters	4.4 meters	2.7 meters	3.7 meters
Airflow Arc	360º	360º	360º	360º
Probe Sample Line Material	Teflon	Teflon	N/A	N/A
Pollutant Sample Residence Time	4.5 seconds	4.5 seconds	N/A	N/A
Distance from Supporting Structure	2.5 meters	2.5 meters	2 meters	3 meters
Distance from Obstructions	2.5 meters	2.5 meters	8 meters	7 meters
Distance to Furnace Flue	None	None	None	None
Spacing from Trees	None	None	None	None
Nearest Major Roadway A	College Ave	College Ave	College Ave	College Ave
Distance and Direction to Road	11 meters, W	11 meters, W	11 meters, W	11 meters, W
Traffic Count (ADT)	Unknown	Unknown	Unknown	Unknown
Nearest Major Roadway B	Apache	Apache	Apache	Apache
Distance and Direction to Road	370 meters, N	370 meters, N	370 meters, N	370 meters, N
Traffic Count (ADT)	25,000	25,000	25,000	25,000
Groundcover	Gravel	Gravel	Gravel	Gravel

WEST CHANDLER
County ID: WC
AQS ID: 04-013-4004
Address: 275 S Ellis, Chandler
Coordinates: 33.29898N, -111.88431W
Metropolitan Sampling Area (MSA): 6200 Phoenix-Mesa

-General Information			
Pollutant	**Ozone**	**CO**	**PM_{10}**
Sampling Schedule	Continuous	Continuous	Continuous
Analysis Method (filters only)	N/A	N/A	N/A
Any Proposal to Remove or Move Monitor?	Yes in 2014	Yes in 2014	Yes in 2014
Is site suitable for comparison to $PM_{2.5}$ NAAQS per Part 58.30?	N/A	N/A	N/A
-Appendix A Requirements			
# Precision Checks Performed Annually	26	15	24
# Accuracy Checks Performed Annually	3	3	2
All Precision/Accuracy Reports Submitted to AQS?	Yes	Yes	Yes
Annual Data Certification Submitted?	Submitted July 2014	Submitted July 2014	Submitted July 2014
Frequency of One-Point QC Check	Bi-Weekly	Bi-Weekly	N/A
Frequency of Flow Rate Verification	N/A	N/A	Bi-Weekly
-Appendix C Requirements			
Sampler Make & Model	API M400 (087)	API M300 (093)	TEOM 1400 AB (079)
Date Established	07/01/2000	07/01/2000	07/01/2000
Classification	SLAMS	SLAMS	SLAMS
Method (FRM, FEM, ARM)	FEM	FRM	FRM
-Appendix D Requirements			
Monitoring Type	Population Exposure	Population Exposure	Population Exposure
Monitoring Scale	Neighborhood	Neighborhood	Middle
Sampling Season	Jan-Dec	Sep-Mar	Jan-Dec
Network Meets Minimum Number of Monitors Required?	Yes	Yes	Yes
-Appendix E Requirements			
Distance between collocated samplers	N/A	N/A	N/A
Probe Inlet Height	4.4 meters	4.4 meters	4.4 meters
Airflow Arc	360º	360º	360º
Probe Sample Line Material	Teflon	Teflon	N/A
Pollutant Sample Residence Time	4.6 seconds	4.6 seconds	N/A
Distance from Supporting Structure	1.5 meters	1.5 meters	2.5 meters
Distance from Obstructions	3.5 meters	3.5 meters	3.5 meters
Distance to Furnace Flue	None	None	None
Spacing from Trees	14 meters, E	14 meters, E	14 meters, E
Nearest Major Roadway A	Frye Rd	Frye Rd	Frye Rd
Distance and Direction to Road	3.5 meters, S	3.5 meters, S	3.5 meters, S
Traffic Count (ADT)	Unknown (secondary street)	Unknown (secondary street)	Unknown (secondary street)
Nearest Major Roadway B	Ellis St	Ellis St	Ellis St
Distance and Direction to Road	73 meters, W	73 meters, W	71 meters, W
Traffic Count (ADT)	Unknown (secondary street)	Unknown (secondary street)	Unknown (secondary street)
Groundcover	Paved/Gravel	Paved/Gravel	Paved/Gravel

WEST 43RD AVENUE
County ID: WF
AQS ID: 04-013-4009
Address: 3940 W Broadway, Phoenix
Coordinates: 33.40642N, -112.14434W
Metropolitan Sampling Area (MSA): 6200 Phoenix-Mesa

-General Information	
Pollutant	**PM_{10}**
Sampling Schedule	Continuous
Analysis Method (filters only)	N/A
Any Proposal to Remove or Move Monitor?	No
Is site suitable for comparison to $PM_{2.5}$ NAAQS per Part 58.30?	N/A
-Appendix A Requirements	
# Precision Checks Performed Annually	25
# Accuracy Checks Performed Annually	2
All Precision/Accuracy Reports Submitted to AQS?	Yes
Annual Data Certification Submitted?	Submitted July 2014
Frequency of One-Point QC Check	N/A
Frequency of Flow Rate Verification	Bi-Weekly
-Appendix C Requirements	
Sampler Make & Model	TEOM 1400AB (079)
Date Established	04/01/2002
Classification	SLAMS
Method (FRM, FEM, ARM)	FEM
-Appendix D Requirements	
Monitoring Type	Highest Concentrations
Monitoring Scale	Middle
Sampling Season	Jan-Dec
Network Meets Minimum Number of Monitors Required?	Yes
-Appendix E Requirements	
Distance between collocated samplers	N/A
Probe Inlet Height	5 meters
Airflow Arc	360º
Probe Sample Line Material	N/A
Pollutant Sample Residence Time	N/A
Distance from Supporting Structure	2.6 meters
Distance from Obstructions	None
Distance to Furnace Flue	None
Spacing from Trees	None
Nearest Major Roadway	Broadway Road
Distance and Direction to Road	37 meters, SE
Traffic Count (ADT)	Unknown
Groundcover	Gravel

WEST PHOENIX

County ID: WP
AQS ID: 04-013-0019
Address: 3847 W Earll, Phoenix
Coordinates: 33.48385N, -112.14257W
Metropolitan Sampling Area (MSA): 6200 Phoenix-Mesa

-General Information						
Pollutant	**Ozone**	**CO**	**NO_2**	**$PM_{2.5}$**	**$PM_{2.5}$**	**PM_{10}**
Sampling Schedule	Continuous	Continuous	Continuous	1 in 3 days	Continuous	Continuous
Analysis Method (filters only)	N/A	N/A	N/A	Weighed In-House	N/A	N/A
Any Proposal to Remove or Move Monitor?	No	No	No	No	No	No
Is site suitable for comparison to $PM_{2.5}$ NAAQS per Part 58.30?	N/A	N/A	N/A	Yes	Yes	N/A
-Appendix A Requirements						
# Precision Checks Performed Annually	26	26	26	21 (Collocated)	31	28
# Accuracy Checks Performed Annually	4	3	4	2	4	1
All Precision/Accuracy Reports Submitted to AQS?	Yes	Yes	Yes	Yes	Yes	Yes
Annual Data Certification Submitted?	Submitted July 2014	Submitted July 2014	Submitted July 2014	Submitted July 2014	Submitted July 2014	Submitted July 2014
Frequency of One-Point QC Check	Bi-Weekly	Bi-Weekly	Bi-Weekly	N/A	N/A	N/A
Frequency of Flow Rate Verification	N/A	N/A	N/A	Every 6 weeks	Bi-Weekly	Bi-Weekly
-Appendix C Requirements						
Sampler Make & Model	API M400 (087)	API M300 (093)	API M200 (099)	Thermo 2025	BAM 1020 (170)	BAM 1020 (122) / TEOM 1400AB (079)
Date Established	01/01/84	01/01/84	05/24/90	06/13/00	09/01/05	02/01/88
Classification	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS
Method (FRM, FEM, ARM)	FEM	FRM	FRM	FRM	FEM	FEM
-Appendix D Requirements						
Monitoring Type	Population Exposure	Population Exposure	Population Exposure	Highest Concentration	Highest Concentration	Population Exposure
Monitoring Scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Sampling Season	Jan-Dec	Jan-Dec	Jan-Dec	Jan-Dec	Jan-Dec	Jan-Dec
Network Meets Minimum Number of Monitors Required?	Yes	Yes	Yes	Yes	Yes	Yes
-Appendix E Requirements						
Distance between collocated samplers	N/A	N/A	N/A	2.3 meters	N/A	N/A
Probe Inlet Height	4.3 meters	4.3 meters	4.3 meters	2.8 meters	3.6 meters	2.7 meters
Airflow Arc	360º	360º	360º	360º	360º	360º
Probe Sample Line Material	Teflon	Teflon	Teflon	N/A	N/A	N/A
Pollutant Sample Residence Time	4.4 seconds	4.4 seconds	4.4 seconds	N/A	N/A	N/A
Distance from Supporting Structure	1.3 meters	1.3 meters	1.3 meters	2.6 meters	2.5 meters	3 meters
Distance from Obstructions	None	None	None	11 meters	None	None
Distance to Furnace Flue	None	None	None	None	None	None
Spacing from Trees	None	None	None	None	None	None
Nearest Major Roadway	Thomas	Thomas	Thomas	Thomas	Thomas	Thomas
Distance and Direction to Road	360 meters, S	360 meters, S	360 meters, S	360 meters, S	360 meters, S	360 meters, S
Traffic Count (ADT)	29,000	29,000	29,000	29,000	29,000	29,000
Groundcover	Gravel	Gravel	Gravel	Gravel	Gravel	Gravel

ZUNI HILLS
County ID: ZH
AQS ID: 04-013-4016
Address: 10851 West Williams Rd., Sun City
Coordinates: 33.68674N, -112.29417W
Metropolitan Sampling Area (MSA): 6200 Phoenix-Mesa

-General Information	
Pollutant	**PM_{10}**
Sampling Schedule	Continuous
Analysis Method (filters only)	N/A
Any Proposal to Remove or Move Monitor?	Shutdown June-August 2014
Is site suitable for comparison to $PM_{2.5}$ NAAQS per Part 58.30?	N/A
-Appendix A Requirements	
# Precision Checks Performed Annually	23
# Accuracy Checks Performed Annually	2
All Precision/Accuracy Reports Submitted to AQS?	Yes
Annual Data Certification Submitted?	Submitted July 2014
Frequency of One-Point QC Check	N/A
Frequency of Flow Rate Verification	Bi-Weekly
-Appendix C Requirements	
Sampler Make & Model	TEOM 1400AB (079)
Date Established	12/01/09
Classification	SPM
Method (FRM, FEM, ARM)	FEM
-Appendix D Requirements	
Monitoring Type	Population Exposure
Monitoring Scale	Neighborhood Scale
Sampling Season	Jan-Dec
Network Meets Minimum Number of Monitors Required?	Yes
-Appendix E Requirements	
Distance between collocated samplers	N/A
Probe Inlet Height	2.3 meters
Airflow Arc	360º
Probe Sample Line Material	N/A
Pollutant Sample Residence Time	N/A
Distance from Supporting Structure	2.6 meters
Distance from Obstructions	None
Distance to Furnace Flue	None
Spacing from Trees	None
Nearest Major Roadway	Williams Rd
Distance and Direction to Road	200 meters, N
Traffic Count (ADT)	Unknown (residential street)
Groundcover	Lawn/Dirt

APPENDIX III - PUBLIC NOTICE AND COMMENT INFORMATION

Public Notice Period

To fulfill the requirements of *40 CFR Part 58, §58.10*, the MCAQD posted a draft copy of this Network Review on our website on September 22, 2014 and held a Network Review Public Information Workshop on October 21, 2014 at 1:00 p.m. The outlets used to notify the public of this network review and associated workshop were:

- the MCAQD's website,
- by electronic feed to MCAQD subscribers, and
- the Arizona Republic, a newspaper of general circulation in Maricopa County.

Public Notice Announcement Language

The public notice read as follows:

> The Maricopa County Air Quality Department will hold a public meeting to discuss its 2013 Air Monitoring Network Plan on October 21, 2014 at 1:00 p.m. The meeting will be held at the Air Monitoring Division's offices at 2145 S. 11th Ave. suite 170, Phoenix, AZ 85007.
>
> A copy of the draft network review is currently available on the department's website at the following website address: http://www.maricopa.gov/aq/divisions/monitoring/network.aspx
>
> Hard copies of the document may be requested from the department's Records Management Coordinator at (602) 506-6201 or at the department's address: 1001 North Central Avenue, Phoenix, Arizona 85004. Arrangements may be made to view the information every Monday through Friday (excluding major holidays) between 8:00 a.m. and 4:30 p.m. There is a small fee for copying available documents.
>
> The 2013 Air Monitoring Network Plan covers ambient air monitoring activity captured by the department's 24 air monitoring sites throughout 2012. The Air Monitoring Network Review also provides a summary of the pollutants measured by Maricopa County, a look at the air monitoring network design and monitoring site details and statistics from the past year among other information. Additional information on the draft Air Monitoring Network Plan may be obtained by contacting Ben Davis at 2145 S 11th Avenue #170, Phoenix, AZ 85007 or (602) 258-5155 x221.
>
> The purpose of the October 21, 2013 public meeting is to receive comments from the public on the draft Network Review. Members of the public may comment in person or through written statements to the department.
>
> Written comments shall state the name and mailing address of the person making comment and be signed by that person or authorized agent or attorney. Written comments on the draft document are due to the department by October 23, 2013 at 5:00 p.m.
>
> A sign language and/or Spanish interpreter will be made available upon request with 72 hour notice. Additional reasonable accommodations will be made available to the extent possible within the time frame of the request.

News Release

The following is a copy of the news release that was advertised in the Arizona Republic and at the MC website.

NEWS

for immediate release

MARICOPA COUNTY
Air Quality Department, Bob Huhn, PIO
1001 North Central Avenue
Phoenix, AZ 85004
Ph 602-506-6713
www.maricopa.gov

2013 Air Monitoring Network Review

The Maricopa County Air Quality Department will hold a public meeting to discuss its 2013 Air Monitoring Network Plan Oct. 21, 2014, at 1 p.m. The meeting will be held at the Air Monitoring Division's offices at 2145 S. 11th Ave., Suite 170, Phoenix, AZ 85007.

A copy of the draft network review is currently available on the department's website at the following website address: http://www.maricopa.gov/aq/divisions/monitoring/network.aspx

Hard copies of the document may be requested from the department's Records Management Coordinator at (602) 506-6201 or at the department's address: 1001 N. Central Avenue, Suite 125, Phoenix, AZ 85004. Arrangements may be made to view the information every Monday through Friday (excluding major holidays) between 8 a.m. and 4:30 p.m. There is a small fee for copying available documents.

The 2013 Air Monitoring Network Plan covers ambient air monitoring activity captured by the department's 24 air monitoring sites throughout 2013. The Air Monitoring Network Review also provides a summary of the pollutants measured by Maricopa County. It also provides a look at the air monitoring network design, monitoring site details and statistics from the past year.

The purpose of the Oct. 21, 2014, public meeting is to receive comments from the public on the draft Network Review. Members of the public may comment in person or through written statements to the department.

Written comments shall state the name and mailing address of the person making comment and be signed by that person or authorized agent or attorney. Written comments on the draft document are due to the department by Oct. 21, 2014, at 5 p.m.

A Spanish interpreter will be made available during the public meeting upon request. The department asks for 72 hours notice in order to make necessary arrangements. Additional reasonable accommodations will be made available to the extent possible within the time frame of the request.

Additional information on the Air Monitoring Network Review may be obtained by contacting Ben Davis at 2145 S. 11th Ave., Suite 170, Phoenix, AZ 85007 or (602) 258-5155 x221

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About Maricopa County Air Quality Department
The Maricopa County Air Quality Department is a regulatory agency whose goal is to ensure federal clean air standards are achieved and maintained for the residents and visitors of Maricopa County. The department is governed by the Maricopa County Board of Supervisors and follows air quality standards set forth by the federal Clean Air Act.

The department offers air quality information and resources on its Clean Air Make More website. Visit www.CleanAirMakeMore.com to learn more.

Follow us on Twitter: http://twitter.com/cleanairmakemor
Like us on Facebook: www.facebook.com/CleanAirMakeMore

Download our Clean Air Make More app! It is free to download and use and is available on iTunes for iPhone and iPad and on Google Play for Android.

Figure 1 Network Review Public Notice News Release

Source: MCAQD website

Workshop Attendee List

2013 Air Monitoring Network Plan Presentation
October 21, 2014

Sign-in Sheet

1.	Darcy Anderson	ADOT
2.	Teresa Stewart	MCAQD
3.	Leroy Williams	GRIC AQ
4.	JEANNETTE FISH	MCFB
5.	Jay Bell	City of Phoenix
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		
15.		

Figure 2 Network Review Workshop Attendance Sheet

<u>Public Comments and Changes Made to the 2013 Review Draft</u>

During the public comment period, the MCAQD received written and verbal comments from agencies' representatives. Personnel at MCAQD reviewed the document as well and addressed the public comments received. Nearly all changes requested were successfully made prior to submitting this document to EPA Region 9 in November 2014. Changes regarding data were verified using data from the AQS and the county's internal records. Changes to correct information or data were made while a few changes relating more toward document formatting were held for next year's document due to time constraints.

The MCAQD personnel appreciate the time and effort that individuals took to review the 2013 Network Review draft for accuracy and clarity. Given the detailed nature of this document, feedback from others helps ensure our network review is correct, timely, and useful to the public.