

2011 AMBIENT AIR MONITORING NETWORK PLAN



**Monitoring and Compliance Division
June 1, 2011**

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1. Introduction

The San Luis Obispo County Air Pollution Control District (SLOAPCD) 2011 Ambient Air Monitoring Network Plan is an annual examination and evaluation of the SLOAPCD's network of air pollution monitoring stations. The annual review of our State and Local Air Monitoring Stations (SLAMS) network is required by Title 40, Code of Federal Regulations, Part 58.10 (40 CFR 58.10). The review process helps ensure continued consistency with the network's specific monitoring objectives defined in the regulations and confirms that the information in the state and federal monitoring records accurately and properly classify each station. Information is provided for all ambient air pollution monitoring which occurred in the county including sites operated by the California Air Resources Board (ARB). Data for ARB sites was obtained from that agency and are accurate to the best of our knowledge.

This report is a directory of existing and proposed monitoring in the SLOAPCD's network of SLAMS monitoring stations and serves as a progress report on the recommendations and issues raised in earlier network reviews. The review period of this report looks back to June 2010 (the publication of the 2010 Ambient Air Monitoring Network Review) and looks forward eighteen months to December 2012 anticipating any changes to the network. New changes to the Code of Federal Regulations require specific detailed monitoring network information be included in this report along with a 30-day public review period prior to submittal of the report to the USEPA.

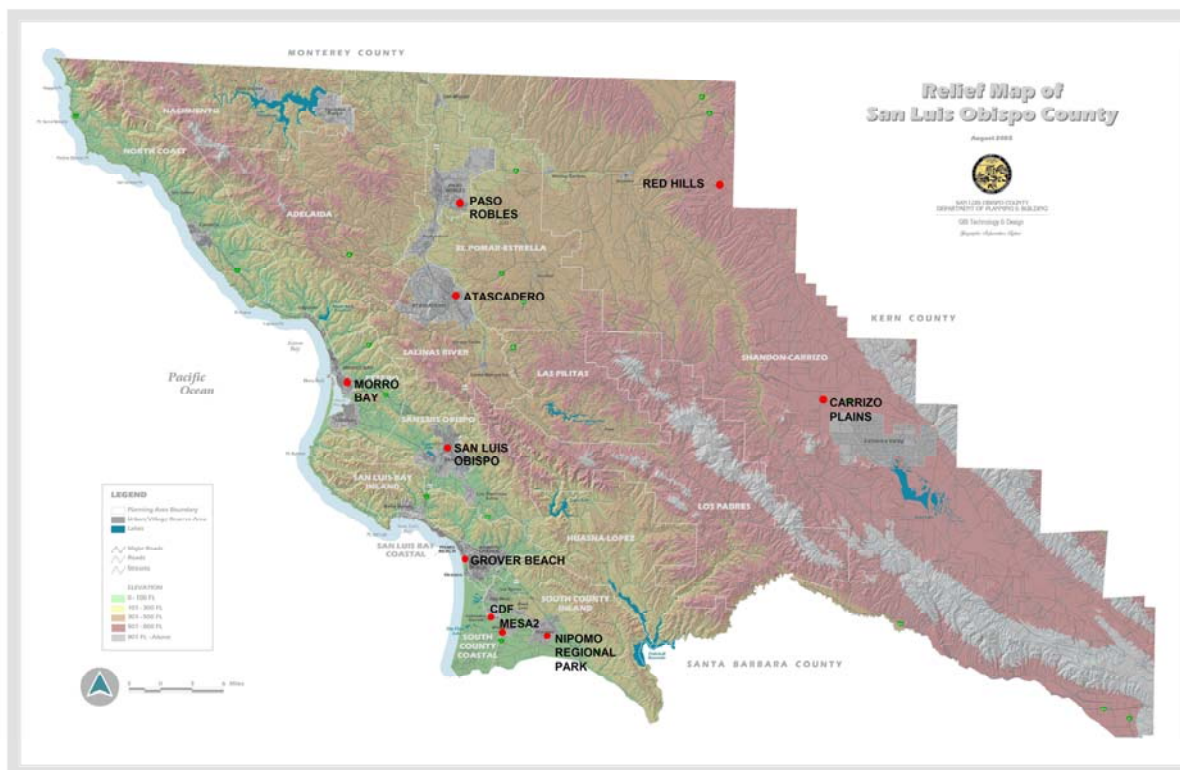


Figure 1: Map of Ambient Air Monitoring Stations in San Luis Obispo County in 2010/2011

2. Overview of Network Operation

2.1 Air Monitoring Network Design - Monitoring Objectives and Spatial Scales

Federal regulations require that a SLAMS network be designed to meet a minimum of six basic ambient air monitoring objectives:

1. To determine the highest concentration expected to occur in the area covered by the network;
2. To determine representative concentrations in areas of high population density;
3. To determine the impact on ambient pollution levels of significant sources or source categories;
4. To determine general background concentration levels;
5. To determine the extent of regional pollutant transport among populated areas, and in support of secondary standards.
6. To determine the welfare-related impacts in more rural and remote areas (such as visibility impairment and effects on vegetation).

The goal in designing a SLAMS network is to establish monitoring stations that will provide data to meet these monitoring objectives. The physical siting of the air monitoring station must achieve a spatial scale of representativeness that is consistent with the monitoring objective. The spatial scale results from the physical location of the site with respect to the pollutant sources and categories. It estimates the size of the area surrounding the monitoring site that experiences uniform pollutant concentrations. The categories of spatial scale are:

- Microscale - An area of uniform pollutant concentrations ranging from several meters up to 100 meters.
- Middle Scale – uniform pollutant concentrations in an area of about 110 meters to 0.5 kilometer.
- Neighborhood Scale – an area with dimensions in the 0.5 to 4 kilometer range.
- Urban Scale – Citywide pollutant conditions with dimensions of from 4 to 50 kilometers.
- Regional Scale – An entire rural area of the same general geography (this area ranges from tens to hundreds of kilometers).

Table 1: Relationship Among Monitoring Objectives and Scale of Representativeness

| Monitoring Objective | Appropriate Spatial Scale |
|-----------------------------|---|
| Highest concentration | Micro, middle, neighborhood (sometimes urban) |
| Population | Neighborhood, urban |
| Source impact | Micro, middle, neighborhood |
| General/Background | Neighborhood, urban, regional |
| Regional transport | Urban, regional |
| Welfare-related impacts | Urban, regional |

2.2 Ambient Air Monitoring Network in San Luis Obispo County

Figure 1 shows a map of all currently operating ambient air monitoring stations in San Luis Obispo County. Table 2 lists these stations, the agency or company which operates them, and the pollutant or meteorological parameters which are monitored at each location, and the monitoring objective.

There are currently ten permanent ambient air monitoring stations in San Luis Obispo County. Eight of these stations are operated by the APCD as part of our SLAMS network. The ARB operates two stations in the county as part of their SLAMS network: one at Paso Robles and one in San Luis Obispo.

Changes to the Monitoring Network

This section lists changes made to the District's network as a result of the recommendations from the 2010 Ambient Air Monitoring Network Plan.

Ozone Monitoring Network:

1. Carrizo Plains: An API model 703e ozone photometric calibrator was installed in August 2010 replacing the internal zero/span calibrator in the API model 400a sampler.
2. Red Hills: An API model 703e ozone photometric calibrator was installed in May 2011 replacing the internal zero/span calibrator in the API model 400a sampler.

Particulate Monitoring Network:

1. Atascadero: A BAM 1020a particulate sampler was installed at Atascadero for monitoring of PM₁₀ and was producing valid data beginning in September 2010. This monitor replaces the hi-volume PM₁₀ 1-in-6 day sampler previously used at the site.
2. Nipomo Regional Park: A BAM 1020a particulate sampler was installed at NRP for monitoring of PM₁₀ and was producing valid data beginning in May 2010. This monitor replaces the hi-volume PM₁₀ 1-in-6 day sampler previously used at the site.
3. Morro Bay: Sampling for PM₁₀ at this site was discontinued on January 1, 2011 since representative sampling for PM₁₀ was already being performed at San Luis Obispo. EPA was consulted and approved the elimination of PM₁₀ sampling at Morro Bay prior to its termination.
4. CDF: The TEOM PM₁₀ particulate sampler was replaced with two BAM 1020a samplers: one for monitoring PM₁₀ and one for PM_{2.5}.
5. Grover Beach: A sonic anemometer was installed on December 15, 2009 and replaces the cup anemometer and direction vane used at the site. The Grover Beach meteorological monitoring station was taken off-line for much of December and January 2011 for installation of a new tower and instrument shelter.

Other:

- 1 CDF: The building which houses the CDF monitors was upgraded with structural improvements to make it a permanent air monitoring station. No update to the EPA/AQS database was necessary as a result of this change.
- 2 All monitoring station site computers were upgraded with a new version of Excel which enables spreadsheets to be saved with an electronic signature in accordance with new EPA protocol.

Changes to the ARB network:

No changes to the ARB network in San Luis Obispo County occurred in 2011. The ARB network is separate from the District's and is administered by the ARB in Sacramento.

Ozone Monitoring Network

All ambient air monitoring stations in the county except for MESA2 and Grover Beach monitor for ozone (see Table 2). The SLAMS network in San Luis Obispo County features ozone monitors located in Atascadero, Red Hills, Carrizo Plains, Paso Robles, Morro Bay, San Luis Obispo, and Nipomo.

Atascadero – Operated by the SLOAPCD since 1988, this population-oriented neighborhood scale ozone monitor is located near the central business district of downtown Atascadero and is bounded on two sides by elementary schools. It provides a measurement of representative ozone concentration for the City of Atascadero. Ozone concentrations at this site exhibit strong diurnal fluctuations caused by titration of ozone by oxides of nitrogen from nearby mobile and residential sources. Measured concentrations at this site are often similar to those recorded at Paso Robles and are some of the highest in the SLAMS network. The highest ozone concentrations at Atascadero occur when high pressure over the interior southwest U.S. causes transport of “old” ozone and other pollutants into SLO County from the east. Under these infrequent conditions transported ozone enhanced by local pollutants can cause highly elevated concentrations. The prevailing West or Northwest winds from the coast help keep ozone levels at Atascadero low most of the time.

Paso Robles – Operated by ARB since 1974, this population-oriented neighborhood scale ozone monitor provides a representative ozone concentration for the suburban areas of the City of Paso Robles. The conditions under which elevated ozone levels occur and the location's prevailing winds are similar to Atascadero. NO_x monitoring is not performed at this site so the degree of removal of ambient ozone by titration is not known here, but is believed to be similar to that of other cities in the county.

Morro Bay – Operated since 1975 by SLOAPCD, this site provides regional scale and General/Background ozone monitoring. Located in downtown Morro Bay, the monitor generally measures background levels of ozone from the predominant northwest winds blowing off of the Pacific Ocean. Under unusual meteorological conditions noted in section 2.2 the Morro Bay site can record elevated ozone concentrations transported from urban areas as far south as the Los Angeles basin.

San Luis Obispo – Operated by ARB since 1970, this population-oriented, neighborhood scale ozone monitor provides a representative ozone concentration for the City of San Luis Obispo. The monitor is located in the urban area where ozone concentrations are significantly affected by the process of depletion by titration with local mobile and stationary NO_x sources. As a result the concentrations recorded here are often lower than at Morro Bay.

Nipomo Regional Park – Operated by SLOAPCD since 1998, this station provides monitoring of background levels of ozone on a regional scale. The station was relocated in 1998 from Wilson Street several miles away. The ozone concentrations measured here are representative of interior portions of the Nipomo Mesa and are the highest recorded in the coastal region of San Luis Obispo County.

Red Hills – Operated by SLOAPCD since 2000, this station is located on the summit of the Red Hills near the community of Shandon at an elevation of about 2000 feet. This site consistently records the highest and most persistent ozone concentrations in the county.

Carrizo Plains – Operated by SLOAPCD since January 2006 this station monitors background levels and ozone transport on a regional scale. The monitor is located in an outbuilding at the Carrizo Plains School. The ozone concentrations recorded here are second only to Red Hills in concentration and persistence.

The SLAMS monitoring objectives met by the existing ozone network are:

- 1) Highest Concentration – The Red Hills station consistently records the highest ozone concentrations in the county. The high ozone levels tend to occur in the interior areas of the county during summer, either following long periods of wind stagnation, or as a result of offshore winds which can transport pollutants from interior regions to the northeast.
- 2) High Population Exposure – The Paso Robles, Atascadero and San Luis Obispo monitors provide a good representation of the ozone levels in the major cities of the county.
- 3) Source Impact – Because ozone is a secondary pollutant the effect of emissions from any single source are experienced 5 to 7 hours later and often many miles distant. As a regional pollutant, monitoring for specific sources of ozone is not performed.
- 4) General/Background – The monitors at Morro Bay, Carrizo Plains and Nipomo Regional Park provide regional background ozone levels.
- 5) Regional Transport – The stations located at Carrizo Plains and Red Hills provide excellent surveillance of regional transport of ozone in the interior part of the county. Coastal monitoring stations have provided evidence in the past of regional transport of ozone over water from distant urban sources.

Welfare-related impacts are not currently addressed in the District's SLAMS ozone network and are not thought to be significant.

Nitrogen Dioxide Monitoring Network

The SLAMS network in San Luis Obispo County features nitrogen dioxide (NO₂) monitors at Atascadero, Morro Bay, and Nipomo Regional Park. NO₂ levels have always been well below the state and federal standards at all locations in our county. For this reason, except in the case of Morro Bay, NO₂ monitoring is most useful here as an indicator of depletion of ambient ozone through titration with nitric oxide. Having at least one NO₂ monitor in each geographical region of the county also serves a long-term air quality surveillance role.

Atascadero – Operated by SLOAPCD since 1990, this population-oriented monitor is considered neighborhood scale and highest concentration for NO₂. This, the only NO₂ monitor in the Salinas River air basin, records the highest NO, NO₂ and NO_x levels in the county. The monitor's location downtown has established a strong diurnal inverse relationship between ozone and NO₂ levels caused by local mobile sources and residential and commercial combustion of natural gas.

Morro Bay – Operated by SLOAPCD since 2001 this monitor is neighborhood scale and monitors emissions from a specific source: the Morro Bay power plant, located less than a mile upwind.

Nipomo Regional Park – Operated by the SLOAPCD since 1998, this monitor is regional in scale and is representative of background concentrations on the Nipomo Mesa. The site's location in a large natural area away from local or mobile sources makes it ideal for regional surveillance of NO₂. NO₂ monitoring had also been performed at the previous location of the Nipomo monitoring station on Wilson Street.

Table 2: Ambient Air Quality Parameters Monitored in San Luis Obispo County in 2010/2011

| O ₃ | NO | NO ₂ | NO _x | SO ₂ | PM ₁₀ | PM _{2.5} | WS | WD | ATM |
|----------------|----|-----------------|-----------------|-----------------|------------------|-------------------|----|----|-----|
|----------------|----|-----------------|-----------------|-----------------|------------------|-------------------|----|----|-----|

APCD Stations

| | | | | | | | | | | |
|----------------------|---|-----|-----|-----|---|---|---|---|---|---|
| Atascadero | P | P,C | P,C | P,C | | P | P | X | X | X |
| Morro Bay | B | S | S | S | | | | X | X | |
| Nipomo Regional Park | B | B | B | B | | P | | X | X | X |
| Grover Beach | | | | | | | | X | X | |
| MESA2 | | | | | S | S | S | X | X | X |
| CDF | | | | | | S | S | X | X | |
| Carrizo Plains | B | | | | | | | X | X | X |
| Red Hills | C | | | | | | | X | X | X |

ARB Stations

| | | | | | | | | | | |
|-----------------|---|--|--|--|--|---|---|---|---|---|
| San Luis Obispo | P | | | | | P | P | X | X | X |
| Paso Robles | P | | | | | P | | X | X | X |

Acronyms:

O₃ Ozone
 NO Nitric Oxide
 NO₂ Nitrogen Dioxide
 NO_x Oxides of Nitrogen

C Maximum Concentration
 SO₂ Sulfur Dioxide
 CO Carbon Monoxide
 TEOM Particulates <10 microns (monitored continuously)

P Population
 PM₁₀ Particulates < 10 microns (samples every sixth day)
 PM_{2.5} Particulates < 2.5 microns (samples every sixth day)

B Background Concentration
 WS Wind Speed
 WD Wind Direction
 ATM Ambient Temp

Table 3: Air Quality Parameters and Monitoring Objectives in SLO County in 2010/2011

| | Parameter | Monitoring Objective | | | | |
|------------------|------------|----------------------|------|--------|--------------------|-----------|
| | | Highest Conc. | Pop. | Source | General Background | Transport |
| OZONE | Atascadero | | x | | | |
| | Morro Bay | | | | x | |
| | Nipomo | | | | x | |
| | Carrizo | | | | x | x |
| | Red Hills | x | | | | x |
| | SLO | | x | | | |
| | Paso | | x | | | |
| NITROGEN DIOXIDE | Atascadero | x | x | | | |
| | Morro Bay | | | x | | |
| | Nipomo | | | | x | |
| SULFUR DIOXIDE | Mesa 2 | x | x | x | | |
| PARTICULATES | Atascadero | | x | | | |
| | Nipomo | | x | | | |
| | SLO | | x | | | |
| | Paso | | x | | | |
| | MESA2 | x | | x | | |

The SLAMS monitoring objectives met by the existing NO₂ network are:

- 1) Highest Concentration – The Atascadero monitor historically has measured the highest NO₂ concentrations in the county. NO₂ levels are the result of titration of ambient ozone by local sources of nitric oxide and as a result values are always relatively low.
- 2) General/Background – With no significant local sources present the monitor at Nipomo Regional Park provides an excellent measure of background NO₂ levels on the Nipomo Mesa.
- 3) Source Impact – The monitor at Morro Bay is placed to monitor local impacts of emissions from the Morro Bay Power Plant, the single greatest stationary source of oxides of nitrogen in the county.

Regional Transport and Welfare-Related impacts of NO₂ are not currently addressed by the District’s SLAMS network and are not thought to be significant.

Sulfur Dioxide Monitoring Network

The sulfur dioxide (SO₂) monitoring network in San Luis Obispo County currently consists of one station: MESA2. More extensive SO₂ monitoring has been performed in the past and included monitors at Nipomo, Morro Bay, Grover Beach and (in now-decommissioned stations at MESA and Ralco Way) on the Nipomo Mesa.

MESA2 – Operated by the APCD since 2006 this monitor performs surveillance of a nearby oil refinery. It is considered middle scale and highest concentration for SO₂. Since it is located close

to a major source for SO₂ emissions it is representative only of the immediate locality. The station was sited to optimize surveillance of the nearby coke calciner which has recently shut down. The highest historical SO₂ levels were measured at the two decommissioned stations: MESA and Ralcoa Way.

The SLAMS SO₂ monitoring objectives met by the network are:

- 1) Highest Concentration – The monitor at MESA2 currently records the highest SO₂ levels in the county. Higher historical levels were measured at two nearby but now decommissioned stations: MESA and Ralcoa Way. The Mesa 2 station is not optimally sited for measuring the highest possible SO₂ concentrations from the nearby refinery.
- 2) Source Impact – The monitor at MESA2 is invaluable in determining the SO₂ source impact upon the region.

Monitoring objectives not addressed by the existing SO₂ network are: General/Background; Population; Regional Transport; and Welfare-Related. Historical SO₂ monitoring performed elsewhere in the county has provided good evidence that monitoring for these objectives is not needed

PM₁₀ and PM_{2.5} Particulate Monitoring Network

The particulate monitoring network in San Luis Obispo County consists of PM₁₀ monitors (at Paso Robles, Atascadero, San Luis Obispo, Mesa 2, CDF and Nipomo Regional Park) and PM_{2.5} monitors (at Atascadero, Mesa2 and San Luis Obispo). The PM₁₀ network has been in place since 1988. Originally, all particulate monitoring in the county was performed as part of ARB's network. In the past ten years, however, the District's PM₁₀ sampling program has become independent with our own processing facilities and operating procedures. Today, the Paso Robles and San Luis Obispo PM₁₀ samplers remain part of ARB's network while all other samplers in the county are in the District's network. The PM_{2.5} FRM monitors at Atascadero were part of the ARB network but were operated by the SLOAPCD. The PM_{2.5} samplers began operation in 1999 in response to the establishment of a new federal particulate standard for PM_{2.5} in 1997 and were replaced by a single BAM 1020a PM_{2.5} monitor in May 2009.

Paso Robles – Operated by ARB since 1991 this PM₁₀ monitor is urban in scale and representative of the city of Paso Robles. The hi-volume sampler at this site was replaced with a BAM 1020a PM10 sampler in August 2009.

Atascadero – Operated by SLOAPCD. The PM₁₀ monitor has been operated since 1988. The collocated RFM PM_{2.5} monitors began operation in 1999 and were replaced by a single BAM 1020a PM_{2.5} continuous monitor. The FRM samplers were taken offline in March 2010. In September 2010 a BAM 1020a PM10 sampler was installed at Atascadero to replace the 1-in-6 day hi-volume sampler. All monitors are urban in scale and representative of particulate concentrations in the city of Atascadero.

San Luis Obispo – Operated by ARB, the PM₁₀ sampler has been in place since 1988, and the PM_{2.5} sampler since 1999. These population-oriented monitors are neighborhood in scale and represent particulate concentrations in the City of San Luis Obispo. ARB intends to replace the hi-volume sampler with a PM10 BAM sampler in 2010.

MESA2 – Operated by the APCD since 2006, this site featured collocated PM₁₀ samplers which were replaced by a single BAM 1020a PM₁₀ monitor in June 2009. A BAM 1020a PM_{2.5} sampler was installed at the same time. This site monitors source impacts from the nearby oil refinery and coastal dunes and is middle scale. These monitors record some of the highest particulate levels in the county and are thought to be strongly influenced by their proximity to extensive coastal sand dunes and the Oceano Dunes State Vehicular Recreation Area (ODSVRA) in the direction of the prevailing wind.

CDF – Originally established for the Nipomo Mesa Phase 2 Particulate Study, this site has become a permanent part of our SLAMS particulate network. The site features two BAM 1020a samplers for PM₁₀ and PM_{2.5} which are neighborhood in scale and measure source impacts from the ODSVRA.

Nipomo Regional Park – Operated at this location by SLOAPCD since 1998, it was previously located at Wilson Street in Nipomo where it had been in place since 1990. The 1-in-6 day hi-volume sampler was replaced with a BAM 1020a continuous PM₁₀ sampler in May 2010. The monitor is regional in scale and is representative of PM₁₀ concentrations on the Nipomo Mesa.

2.3 Air Quality Data

All of the ambient air monitoring stations in the county are registered with the USEPA and regularly report data to the EPA’s AIRS/AQS database. The data generated at these stations are public information and are available in various formats from the respective agencies. Table 4 below lists some popular sources for air quality data.

Table 4: Some Sources Of Ambient Air Quality Data

| Agency | Address For Data Requests | Internet address | Data Available |
|---|---|--|--------------------------------|
| San Luis Obispo County APCD | 3343 Roberto Court San Luis Obispo, CA 93401 attn: Jay Courtney | www.sloapcd.dst.ca.us www.slocleanair.org/air/data.asp | San Luis Obispo County only |
| California Air Resources Board | P.O. Box 2815 Sacramento, CA 95812 attn: Xiaomang Pan | www.arb.ca.gov www.arb.ca.gov/aqd/aqdpag | California Air Monitoring Data |
| United States Environmental Protection Agency | Ariel Rios Building 1200 Pennsylvania Avenue, N.W. Washington, DC 20460 | www.epa.gov www.epa.gov/ttn/airs/airsaqs/index | National Air Monitoring Data |

2.4 Proposed Network Changes and Improvements

Ozone Monitoring Network:

No changes to the ozone monitoring network for 2011-2012 are anticipated.

Nitrogen Dioxide Network:

No changes to the nitrogen dioxide monitoring network for 2011-2012 are anticipated.

Sulfur Dioxide Monitoring Network:

No changes to the sulfur dioxide monitoring network for 2011-2012 are anticipated.

Particulate Monitoring Network:

No changes to the particulate monitoring network for 2011-2012 are anticipated.

Site and Structural Improvements:

1. The Morro Bay station is scheduled to have new flooring installed, the roof sealed and a new air conditioner installed this year.
2. The Nipomo Regional Park station is scheduled to have the deck repaired, a new rooftop catwalk installed and a new light fixture installed this year.

Appendix A: Minimum Monitoring Requirements

The SLOAPCD monitoring network meets the minimum monitoring requirements for all criteria pollutants measured as established in 40 CFR 58. Tables 2-6 list the criteria used to determine compliance with federal regulations.

Table A 1: Minimum Monitoring Requirements for Ozone

| MSA | County | Population | 8-hour Design Value (years) | Minimum # of Monitors Required | Number of Active Monitors | Monitors Needed |
|---|-----------------|----------------|-----------------------------|--------------------------------|---------------------------|-----------------|
| 7460 San Luis Obispo-Atascadero-Paso Robles | San Luis Obispo | 241,600 (1999) | 0.101 ppm 2004-06 | 1-2 | 9 | 0 |

Monitors required for SIP or Maintenance Plan: None

Table A 2: Minimum Monitoring Requirements for PM2.5

| MSA | County | Pop. | Annual Design Value (years) | Daily Design Value (years) | Minimum Number of Monitors Required | Number of Active Monitors | Monitors Needed |
|--|-----------------|----------------|-----------------------------|----------------------------|-------------------------------------|---------------------------|-----------------|
| San Luis Obispo-Atascadero-Paso Robles | San Luis Obispo | 241,600 (1999) | 22ug/m3 (2004) | 22.2 (2006) | 1-2 | 4 | 0 |

Monitors required for SIP or Maintenance Plan: None

Table A 3: Minimum Monitoring Requirements for PM10

| MSA | County | Population | Daily Design Value (years) | Minimum Number of Monitors Required | Number of Active Monitors | Monitors Needed |
|--|-----------------|----------------|----------------------------|-------------------------------------|---------------------------|-----------------|
| San Luis Obispo-Atascadero-Paso Robles | San Luis Obispo | 241,600 (1999) | 83 ug/m3 (2007-2009) | 0-1 | 4 | 0 |

Monitors required for SIP or Maintenance Plan: None

Table A 4: Minimum Monitoring Requirements for NO2

| MSA | County | Population | Daily Design Value (years) | Minimum Number of Monitors Required | Number of Active Monitors | Monitors Needed |
|--|-----------------|----------------|----------------------------|-------------------------------------|---------------------------|-----------------|
| San Luis Obispo-Atascadero-Paso Robles | San Luis Obispo | 241,600 (1999) | .021 ppm (2004-2006) | 0 | 3 | 0 |

Monitors required for SIP or Maintenance Plan: None

Table A 5: Minimum Monitoring Requirements for SO2

| MSA | County | Population | Daily Design Value (years) | Minimum Number of Monitors Required | Number of Active Monitors | Monitors Needed |
|--|-----------------|-------------------|-----------------------------------|--|----------------------------------|------------------------|
| San Luis Obispo-Atascadero-Paso Robles | San Luis Obispo | 241,600 (1999) | .012 ppm (2004 & 2006) | 0 | 1 | 0 |

Monitors required for SIP or Maintenance Plan: None

Data Submission Requirements

Federal regulations require air monitoring organizations to submit Precision and accuracy data for the data reported to federal and state databases. SLOAPCD air monitoring precision data are submitted to the USEPA AIRS/AQS database on a quarterly basis and are up to date as of the publication of this report. Accuracy data are reported to the USEPA by ARB.

Federal regulations require the air monitoring organization to annually submit a letter certifying that data has been submitted for that year to the EPA AIRS/AQS database and that the data accurately represents the air quality in the county. The SLOAPCD 2010 data was certified in May 2010.

Appendix B: Detailed Site Information

This appendix presents detailed site information the reporting of which is required by federal regulation.

| | | |
|--|---|------------------|
| Site Name | Paso Robles | |
| AQS ID | 06-079-0005 | |
| GIS Coordinates | 35°36'53" N, 120°39'28" E | |
| Location | Trailer | |
| Address | 235 Santa Fe Avenue, Paso Robles | |
| Distance to Road | 92 meters | |
| Traffic Count | 4000 | |
| Groundcover | Paved | |
| Representative Area | 7460 Paso Robles, Atascadero, San Luis Obispo | |
| Pollutant | Ozone | PM10 |
| Monitoring Objective | Population | Population |
| Spatial Scale | Urban | Urban |
| Sampling Method | API 400 | BAM 1020a |
| Analysis Method | UV photometric | Beta Attenuation |
| Start Date | 9/1/1991 | 8/10/09 |
| Operation Schedule | Continuous | Continuous |
| Sampling Season | All year | All year |
| Probe Height | 4 meters | 4 meters |
| Distance From Supporting Structure | n/a | n/a |
| Distance From Obstructions On Roof | n/a | n/a |
| Distance From Obstructions Not On Roof | n/a | n/a |
| Distance from trees | n/a | n/a |
| Distance to Furnace or incinerator flue | n/a | n/a |
| Distance between collocated monitors | n/a | n/a |
| Unrestricted airflow | 360 deg | 360 deg |
| Probe material | Teflon | n/a |
| Residence time | 8.9 sec | n/a |
| Will there be changes within the next 18 months | No | No |
| Frequency of flow rate verification for PM analyzers | n/a | Twice Monthly |
| Frequency of one-point QC check (gases) | Daily | n/a |
| Last annual performance evaluation (gases) | 6/28/10 | n/a |

| | |
|---------------------|-------------------------------|
| Site Name | Grover Beach |
| AQS ID | 06-079-2001 |
| GIS Coordinates | 35°7'26" N, 120°37'56" E |
| Location | Trailer |
| Address | 9 Le Sage Drive, Grover Beach |
| Distance to Road | 10 meters |
| Traffic Count | 100 |
| Groundcover | Roof |
| Representative Area | None |
| Pollutant | None- meteorology only |

| | | | |
|---|-----------------------------|--------------------|------------------|
| Site Name | Mesa 2 | | |
| AQS ID | 06-079-2004 | | |
| GIS Coordinates | 35°1'15" N, 120°33'50" E | | |
| Location | Trailer | | |
| Address | 1300 Guadalupe Road, Nipomo | | |
| Distance to Road | 80 meters | | |
| Traffic Count | 1500 | | |
| Groundcover | Vegetated | | |
| Representative Area | None | | |
| Pollutant | SO ₂ | PM _{2.5} | PM ₁₀ |
| Monitoring Objective | Source | Source | Source |
| Spatial Scale | Middle | Middle | Middle |
| Sampling Method | Teco 43C | BAM 1020a | BAM 1020a |
| Analysis Method | UV florescence | Beta Attenuation | Beta Attenuation |
| Start Date | 9/21/2005 | 5/1/2009 | 5/1/2009 |
| Operation Schedule | Continuous | Continuous | Continuous |
| Sampling Season | All year | All year | All year |
| Probe Height | 4 meters | 4 meters | 4 meters |
| Distance From Supporting Structure | n/a | n/a | n/a |
| Distance From Obstructions On Roof | n/a | n/a | n/a |
| Distance From Obstructions Not On Roof | n/a | n/a | n/a |
| Distance from trees | n/a | n/a | n/a |
| Distance to Furnace or incinerator flue | n/a | n/a | n/a |
| Distance between collocated monitors | n/a | n/a | n/a |
| Unrestricted airflow | 360 deg | 360 deg | 360 deg |
| Probe material | Teflon | n/a | n/a |
| Residence time | 8.9 sec | n/a | n/a |
| Will there be changes within the next 18 months | No | No | No |
| Suitable for comparison against the annual PM _{2.5} | n/a | n/a | n/a |
| Frequency of flow rate verification for PM analyzers | n/a | Twice monthly | Twice monthly |
| Frequency of one-point QC check (gases) | Daily | n/a | n/a |
| Last annual performance evaluation (gases) | 7/14/10 | n/a | n/a |
| Last two semi-annual flow rate audits for PM _{2.5} monitors. | n/a | 12/7/10 7/14/10 | n/a |

| | | | |
|---|---|------------------|--------------------|
| Site Name | San Luis Obispo | | |
| AQS ID | 06-079-2006 | | |
| GIS Coordinates | 35°15'23" N, 120°40'08" E | | |
| Location | Building | | |
| Address | 3220 Higuera Street, San Luis Obispo | | |
| Distance to Road | 30 meters | | |
| Traffic Count | 6000 | | |
| Groundcover | Roof | | |
| Representative Area | 7460 Paso Robles, Atascadero, San Luis Obispo | | |
| Pollutant | Ozone | PM ₁₀ | PM _{2.5} |
| Monitoring Objective | Population | Population | Population |
| Spatial Scale | Urban | Urban | Urban |
| Sampling Method | API 400 | BAM 1020a | BAM 1020a |
| Analysis Method | UV photometric | Beta Attenuation | Beta Attenuation |
| Start Date | 9/21/2005 | 9/19/2005 | 9/19/2005 |
| Operation Schedule | Continuous | Continuous | Continuous |
| Sampling Season | All year | All year | All year |
| Probe Height | 12.5 meters | 12.5 meters | 12.5 meters |
| Distance From Supporting Structure | n/a | n/a | n/a |
| Distance From Obstructions On Roof | n/a | n/a | n/a |
| Distance From Obstructions Not On Roof | n/a | n/a | n/a |
| Distance from trees | n/a | n/a | n/a |
| Distance to Furnace or incinerator flue | n/a | n/a | n/a |
| Unrestricted airflow | 360 deg | 360 deg | 360 deg |
| Probe material | Teflon | n/a | n/a |
| Residence time | 8.9 sec | n/a | n/a |
| Will there be changes within the next 18 months | No | No | No |
| Suitable for comparison against the annual PM _{2.5} | n/a | n/a | n/a |
| Frequency of flow rate verification for PM analyzers | n/a | Twice monthly | Twice monthly |
| Frequency of one-point QC check (gases) | Daily | n/a | n/a |
| Last annual performance evaluation (gases) | 6/29/10 | n/a | n/a |
| Last two semi-annual flow rate audits for PM _{2.5} monitors. | n/a | n/a | 6/29/10 12/8/10 |

| | | |
|---|---------------------------------|-------------------|
| Site Name | CDF | |
| AQS ID | 06-079-2007 | |
| GIS Coordinates | 35°2'48" N, 120°35'16.6" E | |
| Location | Building | |
| Address | 2391 Willow Road, Arroyo Grande | |
| Distance to Road | 30 meters | |
| Traffic Count | 2000 | |
| Groundcover | Vegetation (grasses) | |
| Representative Area | None | |
| Pollutant | PM ₁₀ | PM _{2.5} |
| Monitoring Objective | Population | Population |
| Spatial Scale | Urban | Urban |
| Sampling Method | BAM 1020a | BAM 1020a |
| Analysis Method | Beta Attenuation | Beta Attenuation |
| Start Date | 8/28/2010 | 8/28/2010 |
| Operation Schedule | Continuous | Continuous |
| Sampling Season | All year | All year |
| Probe Height | 4 meters | 4 meters |
| Distance From Supporting Structure | n/a | n/a |
| Distance From Obstructions On Roof | n/a | n/a |
| Distance From Obstructions Not On Roof | n/a | n/a |
| Distance from trees | n/a | n/a |
| Distance to Furnace or incinerator flue | n/a | n/a |
| Unrestricted airflow | 360 deg | 360 deg |
| Probe material | n/a | n/a |
| Residence time | n/a | n/a |
| Will there be changes within the next 18 months | No | No |
| Suitable for comparison against the annual PM _{2.5} | n/a | n/a |
| Frequency of flow rate verification for PM analyzers | Twice monthly | Twice monthly |
| Frequency of one-point QC check (gases) | n/a | n/a |
| Last annual performance evaluation (gases) | n/a | n/a |
| Last two semi-annual flow rate audits for PM _{2.5} monitors. | n/a | 12/7/10 |

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|--|--------------------------------|-------------------|
| Site Name | Morro Bay | |
| AQS ID | 06-079-3001 | |
| GIS Coordinates | 35°21'59" N, 120°50'34" E | |
| Location | Trailer | |
| Address | 899 Morro Bay Blvd., Morro Bay | |
| Distance to Road | 20 meters | |
| Traffic Count | 3000 | |
| Groundcover | Paved | |
| Representative Area | None | |
| Pollutant | Ozone | Nitrogen Dioxide |
| Monitoring Objective | Background | Source |
| Spatial Scale | Regional | Neighborhood |
| Sampling Method | API 400 | API 200A |
| Analysis Method | UV photometric | Chemiluminescence |
| Start Date | 1/1/1981 | 6/1/2001 |
| Operation Schedule | Continuous | Continuous |
| Sampling Season | All year | All year |
| Probe Height | 4 meters | 4 meters |
| Distance From Supporting Structure | n/a | n/a |
| Distance From Obstructions On Roof | n/a | n/a |
| Distance From Obstructions Not On Roof | n/a | n/a |
| Distance from trees | n/a | n/a |
| Distance to Furnace or incinerator flue | n/a | n/a |
| Distance between collocated monitors | n/a | n/a |
| Unrestricted airflow | 360 deg | 360 deg |
| Probe material | Teflon | Teflon |
| Residence time | 9.8 sec | 10.2 sec |
| Will there be changes within the next 18 months | No | No |
| Frequency of flow rate verification for PM analyzers | n/a | n/a |
| Frequency of one-point QC check (gases) | Daily | Daily |
| Last annual performance evaluation (gases) | 6/30/10 | 6/30/10 |

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|--|------------------------------------|-------------------|------------------|
| Site Name | Nipomo Regional Park | | |
| AQS ID | 06-079-4002 | | |
| GIS Coordinates | 35°1'54" N, 120°30'3" E | | |
| Location | Trailer | | |
| Address | W Tefft St. & Pomeroy Road, Nipomo | | |
| Distance to Road | 200 | | |
| Traffic Count | 1500 | | |
| Groundcover | Vegetated | | |
| Representative Area | None | | |
| Pollutant | Ozone | Nitrogen Dioxide | PM ₁₀ |
| Monitoring Objective | Background | Background | Background |
| Spatial Scale | Regional | Regional | Regional |
| Sampling Method | API 400a | API 200a | BAM 1020a |
| Analysis Method | UV photometric | Chemiluminescence | Beta Attenuation |
| Start Date | 11/1/1998 | 11/1/1998 | 5/26/2010 |
| Operation Schedule | Continuous | Continuous | Continuous |
| Sampling Season | All year | All year | All year |
| Probe Height | 4 meters | 4 meters | 4 meters |
| Distance From Supporting Structure | n/a | n/a | n/a |
| Distance From Obstructions On Roof | n/a | n/a | n/a |
| Distance From Obstructions Not On Roof | n/a | n/a | n/a |
| Distance from trees | n/a | n/a | n/a |
| Distance to Furnace or incinerator flue | n/a | n/a | n/a |
| Distance between collocated monitors | n/a | n/a | n/a |
| Unrestricted airflow | 360 deg | 360 deg | 360 deg |
| Probe material | Teflon | Teflon | n/a |
| Residence time | 5.1 sec | 3.8 sec | n/a |
| Will there be changes within the next 18 months | No | No | Yes |
| Frequency of flow rate verification for PM analyzers | n/a | n/a | Twice monthly |
| Frequency of one-point QC check (gases) | Daily | Daily | n/a |
| Last annual performance evaluation (gases) | 7/13/10 | 7/13/10 | n/a |

| | | | | |
|--|---|-------------------|------------------|-------------------|
| Site Name | Atascadero | | | |
| AQS ID | 06-079-8001 | | | |
| GIS Coordinates | 35°29'30" N, 120°40'05" E | | | |
| Location | Trailer | | | |
| Address | 6005 Lewis Avenue, Atascadero | | | |
| Distance to Road | 30 meters | | | |
| Traffic Count | 2000 | | | |
| Groundcover | Paved | | | |
| Representative Area | 7460 Paso Robles, Atascadero, San Luis Obispo | | | |
| Pollutant | Ozone | Nitrogen Dioxide | PM ₁₀ | PM _{2.5} |
| Monitoring Objective | Population | Population | Population | Population |
| Spatial Scale | Neighborhood | Neighborhood | Urban | Urban |
| Sampling Method | API 400a | API 200a | BAM 1020a | BAM 1020a |
| Analysis Method | UV photometric | Chemiluminescence | Beta Attenuation | Beta Attenuation |
| Start Date | 10/1/1988 | 8/1/1990 | 8/28/2010 | 5/1/2009 |
| Operation Schedule | Continuous | Continuous | Continuous | Continuous |
| Sampling Season | All year | All year | All year | All year |
| Probe Height | 5.8 meters | 5.8 meters | 5.2 meters | 5.2 meters |
| Distance From Supporting Structure | n/a | n/a | n/a | n/a |
| Distance From Obstructions On Roof | n/a | n/a | n/a | n/a |
| Distance From Obstructions Not On Roof | n/a | n/a | n/a | n/a |
| Distance from trees | n/a | n/a | n/a | n/a |
| Distance to Furnace or incinerator flue | n/a | n/a | n/a | n/a |
| Distance between collocated monitors | n/a | n/a | n/a | n/a |
| Unrestricted airflow | 360 deg | 360 deg | 360 deg | 360 deg |
| Probe material | Teflon | Teflon | n/a | n/a |
| Residence time | 4.3 sec | 3.8 sec | No | n/a |
| Will there be changes within the next 18 mos | No | No | No | No |

| Site Name | Atascadero | | | |
|---|-------------------|---------|---------------|-------------------------|
| Suitable for comparison against the annual PM _{2.5} | n/a | n/a | n/a | Yes |
| Frequency of flow rate verification for PM analyzers | n/a | n/a | Twice monthly | Twice Monthly |
| Frequency of one-point QC check (gases) | Daily | Daily | n/a | n/a |
| Last annual performance evaluation (gases) | 4/27/10 | 4/27/10 | n/a | n/a |
| Last two semi-annual flow rate audits for PM _{2.5} monitors. | n/a | n/a | n/a | 4/27/2010 10/06/2010 |

| | | |
|--|----------------------------------|--|
| Site Name | Red Hills | |
| AQS ID | 06-079-8005 | |
| GIS Coordinates | 35°64'42" N, 120°23'00" E | |
| Location | Trailer | |
| Address | 3601 Gillis Canyon Road, Shandon | |
| Distance to Road | 1000 meters | |
| Traffic Count | 40 | |
| Groundcover | Vegetated | |
| Representative Area | None | |
| Pollutant | Ozone | |
| Monitoring Objective | Transport-Highest Concentration | |
| Spatial Scale | Regional | |
| Sampling Method | API 400 | |
| Analysis Method | UV photometric | |
| Start Date | 7/1/2000 | |
| Operation Schedule | Continuous | |
| Sampling Season | All year | |
| Probe Height | 4 meters | |
| Distance From Supporting Structure | n/a | |
| Distance From Obstructions On Roof | n/a | |
| Distance From Obstructions Not On Roof | n/a | |
| Distance from trees | n/a | |
| Distance to Furnace or incinerator flue | n/a | |
| Distance between collocated monitors | n/a | |
| Unrestricted airflow | 360 deg | |
| Probe material | Teflon | |
| Residence time | 11.9 sec | |
| Will there be changes within the next 18 months | No | |
| Suitable for comparison against the annual PM _{2.5} | n/a | |
| Frequency of flow rate verification for PM analyzers | n/a | |
| Frequency of one-point QC check (gases) | Daily | |
| Last annual performance evaluation (gases) | 4/29/10 | |

| | | |
|--|---------------------------|--|
| Site Name | Carrizo Plains | |
| AQS ID | 06-079-2006 | |
| GIS Coordinates | 35°22'00" N, 120°04'00" E | |
| Location | Building | |
| Address | 9640 Carrizo Highway | |
| Distance to Road | 40 meters | |
| Traffic Count | 300 | |
| Groundcover | Vegetated | |
| Representative Area | None | |
| Pollutant | Ozone | |
| Monitoring Objective | Background | |
| Spatial Scale | Regional | |
| Sampling Method | API 400 | |
| Analysis Method | UV photometric | |
| Start Date | 1/1/2006 | |
| Operation Schedule | Continuous | |
| Sampling Season | All year | |
| Probe Height | 4 meters | |
| Distance From Supporting Structure | n/a | |
| Distance From Obstructions On Roof | n/a | |
| Distance From Obstructions Not On Roof | n/a | |
| Distance from trees | n/a | |
| Distance to Furnace or incinerator flue | n/a | |
| Distance between collocated monitors | n/a | |
| Unrestricted airflow | 360 deg | |
| Probe material | Teflon | |
| Residence time | 9.5 sec | |
| Will there be changes within the next 18 months | No | |
| Suitable for comparison against the annual PM _{2.5} | n/a | |
| Frequency of flow rate verification for PM analyzers | n/a | |
| Frequency of one-point QC check (gases) | Daily | |
| Last annual performance evaluation (gases) | 4/29/10 | |