



# **Annual Air Monitoring Network Plan**

**For**

**Santa Barbara County**

**July 2013**

**Prepared by the**

**Santa Barbara County  
Air Pollution Control District**

# Annual Air Monitoring Network Plan for Santa Barbara County

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## **1.0 Introduction**

This report describes the network of ambient air quality monitors in Santa Barbara County. This report was prepared to meet the requirements for an annual network plan as listed in Title 40, Part 58, Section 10 of the Code of Federal Regulations (40 CFR 58.10). The language of 40 CFR 58.10 is included in Appendix A of this report. The regulations require that this annual monitoring network plan be submitted to the U.S. Environmental Protection Agency (EPA) by July 1 of each year. The plan must be made available for public inspections for at least 30 days prior to submission to EPA. This plan was made available for public review and comment from June 1 through June 30, 2013. No comments were received.

This review is used to determine if the State and Local Air Monitoring Station (SLAMS) network in Santa Barbara County meets the U.S. Environmental Protection Agency (EPA) criteria for station siting based on the EPA monitoring objectives. This network review ensures that the data collected by the SLAMS air monitoring network in Santa Barbara County is representative and will satisfy the data needs of EPA, California Air Resources Board (CARB), and the Santa Barbara County Air Pollution Control District (SBCAPCD).

This network plan includes SLAMS monitors which are federal reference methods (FRM), federal equivalent methods (FEM), or approved regional methods (ARM). Special purpose monitors (SPM) are also included in this plan. The SPMs in Santa Barbara County consist of a number of Prevention of Significant Deterioration (PSD) sites operated by the SBCAPCD or private contractors. There are a number of major oil and gas developments in Santa Barbara County with permits for the production, processing and transportation of oil and gas. These oil and gas permits trigger the PSD monitoring requirements.

### **1.1 Network Design**

The air monitoring network in Santa Barbara County consists of SLAMS and SPM operated by the SBCAPCD, California Air Resources Board (CARB) and private contractors. The monitoring network is designed to cover the diverse range of topography, meteorology, emissions and air quality in Santa Barbara County, while adequately representing the population in the county.

Santa Barbara County will schedule discussions with CARB to formalize an agreement to share responsibility for air monitoring network design within Santa Barbara County.

This network review is used to determine if the monitoring system meets the monitoring objectives defined in 40 CFR 58 Appendix D. The three basic monitoring objectives as described in Appendix D are:

- 1) Provide air pollution data to the general public in a timely manner.

- 2) Support compliance with ambient air quality standards and emissions strategy development.
- 3) Support for air pollution research studies.

## **1.2 Stations**

In order to support the air quality management work indicated in the three basic air monitoring objectives, the network is designed with a variety of monitoring site types. There are six general site types:

- 1) Highest concentrations expected to occur in the area.
- 2) Typical concentrations in areas of high population density.
- 3) Impact of significant sources on air quality.
- 4) General background concentration levels.
- 5) Regional pollutant transport among populated areas.
- 6) Air pollution impact on visibility, vegetation damage or other welfare-based impacts.

There are 16 ambient air monitoring stations located in Santa Barbara County. The map in Figure 1.1 shows the location of each site. These sites are operated for different objectives. There are six SLAMS stations which are sited to measure the typical concentrations in areas of high population density or to monitor the impacts of regional pollution. Two of these sites (Santa Barbara and Santa Maria) are operated by CARB. The other four SLAMS sites (Goleta, El Capitan, Lompoc H Street, and Santa Ynez) are operated by SBCAPCD.

There are ten sites which were installed as part of the PSD network to measure the impacts of stationary sources and to measure regional air quality. These sites are classified as SPM. Carpinteria, Exxon LFC 1, Lompoc HS & P, Nojoqui, Paradise Road, and VAFB STS were installed with ozone monitors to measure regional air quality in Santa Barbara County. Of these sites, Paradise Road and Exxon LFC 1 have measured the highest Ozone concentrations in the county. The Nojoqui monitoring station was located in a pass between the northern and southern portions of Santa Barbara County to measure transport between the two portions of the county. Exxon LFC 1, West Campus, Lompoc HS & P, and VAFB STS contain monitors to measure the impacts of nearby sources. Lompoc Odor, LFC Odor and Ellwood Odor are located near oil and gas processing facilities to monitor odorous compounds: hydrogen sulfide and total reduced sulfur. Table 1.1 lists the sites in Santa Barbara County and identifies the site's EPA AQS identification code, type of site, and operator. The sites in the table are numbered to match the site numbers of the map shown in Figure 1.1.

Figure 1.1  
 Map of Monitoring Network in Santa Barbara County

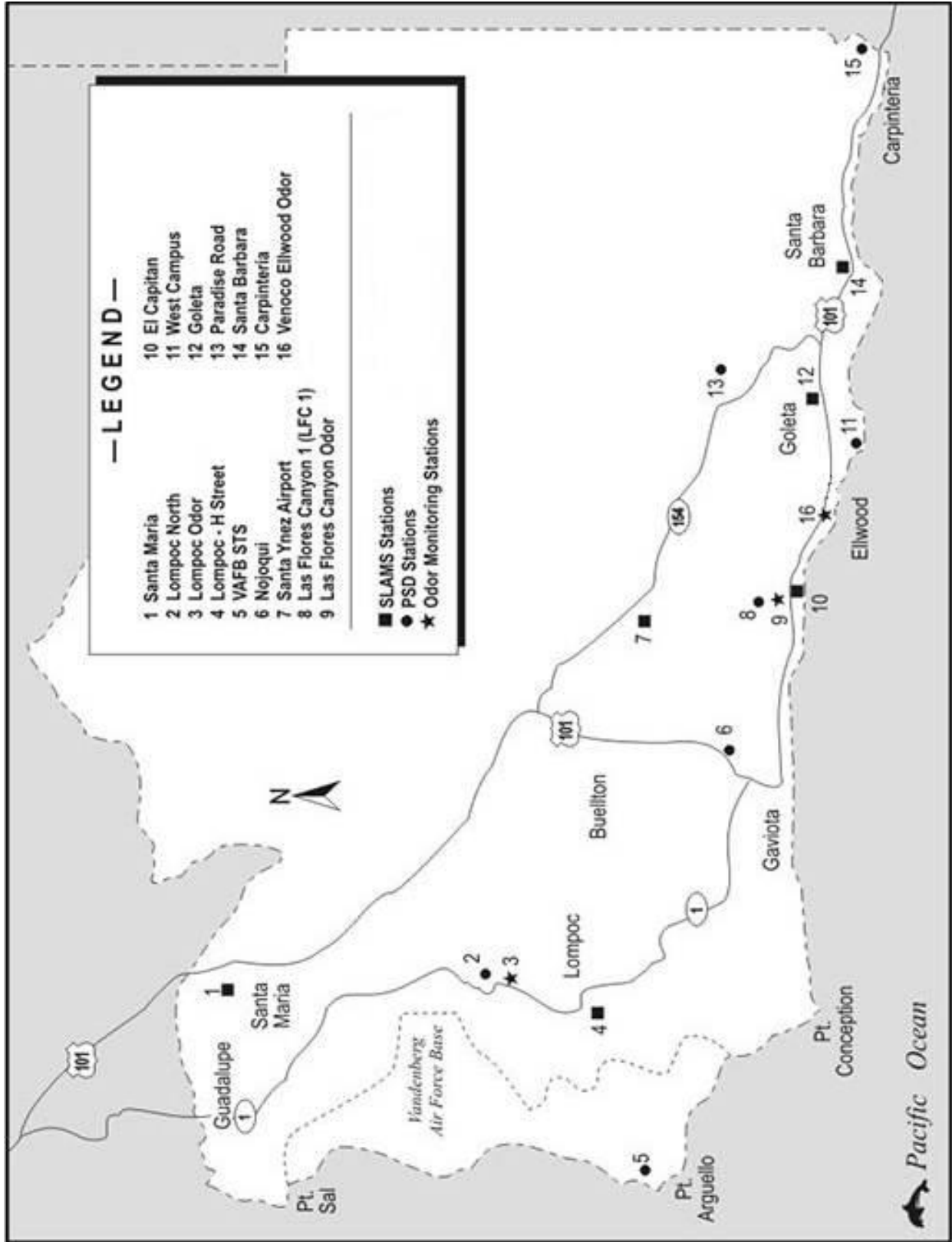


Table 1.1  
Monitoring Network in Santa Barbara County

| No. | Site Name                     | Site Code | Type  | Operator   |
|-----|-------------------------------|-----------|-------|------------|
| 1   | Santa Maria                   | 060831008 | SLAMS | CARB       |
| 2   | Lompoc HS & P                 | 060831013 | PSD   | Contractor |
| 3   | Lompoc Odor                   | 060831022 | PSD   | Contractor |
| 4   | Lompoc H Street               | 060832004 | SLAMS | SBCAPCD    |
| 5   | VAFB STS                      | 060834003 | PSD   | SBCAPCD    |
| 6   | Nojoqui                       | 060831018 | PSD   | SBCAPCD    |
| 7   | Santa Ynez                    | 060833001 | SLAMS | SBCAPCD    |
| 8   | Exxon LFC 1                   | 060831025 | PSD   | SBCAPCD    |
| 9   | LFC Odor                      | 060831037 | PSD   | SBCAPCD    |
| 10  | El Capitan                    | 060830008 | SLAMS | SBCAPCD    |
| 11  | West Campus                   | 060831020 | PSD   | Contractor |
| 12  | Goleta                        | 060832011 | SLAMS | SBCAPCD    |
| 13  | Paradise Road                 | 060831014 | PSD   | Contractor |
| 14  | Santa Barbara – Canon Perdido | 060830011 | SLAMS | CARB       |
| 15  | Carpinteria                   | 060831021 | PSD   | Contractor |
| 16  | Ellwood Odor                  | 060831032 | PSD   | Contractor |

### 1.3 Monitors

Many of the sites in the monitoring network serve multi-purposes. They may be ideal for background concentration for one pollutant while also measuring the impact of transport for another pollutant. To clarify the nature of the link between the general monitoring objectives, site types, and physical location of a particular monitor, the concept of spatial scale of representativeness is defined. The goal of locating monitors is to correctly match the spatial scale represented by the sample of monitored air with the spatial scale most appropriate for the monitoring site type, air pollutant to be measured, and the monitoring objective. The scales of representativeness of most interest for the monitoring site types are described as follows:

- 1) Micro scale – Defines the concentrations in air volumes associated with area dimensions ranging from several meters up to about 100 meters.
- 2) Middle scale – Defines the concentration typical of areas up to several city blocks in size with dimensions ranging from about 100 meters to 0.5 kilometer.
- 3) Neighborhood scale – Defines concentrations within some extended area of the city that has relatively uniform land use with dimensions in the 0.5 to 4.0 kilometers range.

- 4) Urban scale – Defines concentrations within an area of city like dimensions, on the order of 4 to 50 kilometers.
- 5) Regional scale – Defines usually a rural area of reasonably homogeneous geography without large sources, and extends from tens to hundreds of kilometers.

Classification of the monitor by its type and spatial scale of representativeness aids in the interpretation of the monitoring data for a particular monitoring objective. Table 1.2 illustrates the relationship between the various site types that can be used to support the three basic monitoring objectives and the scales of representativeness that are generally most appropriate for that type of site.

Table 1.2  
Relationship between Site Types and Scales of Representativeness

| <b>Site Type</b>                             | <b>Appropriate Siting Scales</b>  |
|--|---|
| Highest concentration                        | Micro, middle, neighborhood<br>(sometimes urban or regional for<br>secondarily formed pollutants) |
| Population oriented                          | Neighborhood, urban   |
| Source Impact                                | Micro, middle, neighborhood   |
| General/background and regional<br>transport | Urban, regional   |
| Welfare-related impacts                      | Urban, regional   |

The sites and the monitors located at each site in Santa Barbara County are listed in Table 1.3. The table includes the spatial scale and monitoring objective for each monitored pollutant.



Table 1.3  
Measured Parameters with Spatial Scale and Monitoring Objective

| Parameter           | O3    | NO2   | SO2   | CO    | PM-2.5<br>FEM | PM-2.5<br>Non-<br>Fem | PM-10 | THC   | H2S   | TRS   |
|---------------------|-------|-------|-------|-------|---------------|-----------------------|-------|-------|-------|-------|
| AIRS Pollutant Code | 44201 | 42602 | 42401 | 42101 | 88101         | 88501                 | 81102 | 43101 | 42402 | 43911 |
| Carpinteria         | RS/HC | RS/BL |       |       |               |                       |       |       |       |       |
| El Capitan          | RS/BL | RS/BL | RS/BL |       |               |                       | NS/BL | RS/BL |       |       |
| Ellwood Odor        |       |       |       |       |               |                       |       |       | NS/IM | NS/IM |
| Goleta              | US/PO | US/PO |       | NS/PO | NS/PO         |                       | NS/PO |       |       |       |
| Las Flores Cyn 1    | RS/HC | NS/IM | NS/IM | NS/IM |               |                       | NS/IM | NS/IM |       |       |
| LFC Odor            |       |       |       |       |               |                       |       |       | NS/IM |       |
| Lompoc H St.        | NS/PO | NS/PO | NS/PO | NS/PO |               | MS/PO                 | MS/PO |       |       |       |
| Lompoc HSP          | RS/BL | NS/IM | NS/IM |       |               |                       |       | NS/IM |       |       |
| Lompoc Odor         |       |       |       |       |               |                       |       |       | NS/IM | NS/IM |
| Nojoqui             | RS/BL | RS/BL |       |       |               |                       |       |       |       |       |
| Paradise Road       | RS/HC | RS/BL |       |       |               |                       |       |       |       |       |
| Santa Barbara       | US/PO | NS/HC |       | MS/HC | NS/HC         |                       | NS/HC |       |       |       |
| Santa Maria         | US/PO | US/PO |       | MS/HC | NS/PO         |                       | NS/PO |       |       |       |
| Santa Ynez          | US/PO |       |       |       |               |                       |       |       |       |       |
| VAFB STS            | RS/BL | NS/IM | NS/IM | NS/IM |               |                       | NS/IM | NS/IM |       |       |
| West Campus         |       |       | NS/IM |       |               |                       |       | NS/IM | NS/IM | NS/IM |

Spatial Scale:

MI - Microscale  
 MS - Middle Scale  
 NS - Neighborhood Scale  
 US - Urban Scale  
 RS - Regional Scale  
 NG - National and Global scale

Monitoring Objective:

HC - Highest concentration  
 PO - Population Oriented  
 IM - Source Impact  
 BL - Background Levels  
 WR - Welfare-related impacts

## **2.0 Monitoring Requirements**

EPA regulations specify the minimum number of sites at which state and local air agencies must deploy monitors. Santa Barbara County meets or exceeds EPA's minimum requirements. In practice, the state and local agencies find they need to deploy more monitors than required by the law. The additional monitors are needed to fulfill state and local purposes for monitoring that are in addition to the federal purposes. A number of monitors are required by permits issued to operate stationary emission sources. California State air quality standards are more stringent than national standards and require more monitors to show compliance with the state standards. Monitors are also used to keep the public informed of the actual air quality conditions where they live and work. Also, due to the complex topography in Santa Barbara County, more monitors than the minimum required by EPA are needed to properly characterize the air quality in the county.

The requirements for numbers of monitors appear in Appendix D of Part 58 of the CFR. For ozone, PM<sub>2.5</sub>, and PM<sub>10</sub>, the required minimum number is based on the population of an area and the severity of the air quality for the pollutant in the area. For other pollutants, no monitoring is required unless an area exceeds or is close to exceeding a national ambient air quality standard. For purposes of the minimum requirements, the areas are defined by the metropolitan statistical areas (MSAs) developed by the U.S. Census Bureau. Santa Barbara County is part of the Santa Barbara – Santa Maria MSA. It covers the major cities in our county and has a population count of 423,895 based on the 2010 U.S. Census.

### **2.1 Ozone (O<sub>3</sub>)**

The minimum monitoring requirements for ozone are listed in Table 2.1. Santa Barbara County has 12 ozone monitors which meet the requirements of EPA. Santa Barbara County has a design value of .069 ppm based on 2010 – 2012 data which meets the federal 8-hour ozone standard of 0.075 ppm. Santa Barbara County is non-attainment for the state 8-hour ozone standard. Only the Exxon LFC site recorded concentrations of ozone in excess of the federal standards in 2012. The Exxon LFC and Carpinteria sites measured concentrations of ozone in excess of the state standard in 2012. The other sites with ozone monitors are Santa Maria, Vandenberg Air Force Base STS, Carpinteria, El Capitan, Paradise Road, Santa Barbara, Santa Ynez, Lompoc HSP, and Lompoc H Street. None of these sites recorded concentrations in excess of any federal or state ozone standards in 2012. These sites are used to keep the public informed of air quality in areas of major population. The data are used in air quality index (AQI) reporting and air quality mapping.

**Table 2.1  
Minimum Monitoring Requirements for Ozone**

| MSA                             | County               | Pop. (year)    | 8-hour Design Value (years) | Design Value Site (name, AQS ID) | Min. # Monitors Required | # Monitors Active | Monitors Needed |
|---------------------------------|----------------------|----------------|-----------------------------|----------------------------------|--------------------------|-------------------|-----------------|
| Santa Barbara – Santa Maria, CA | Santa Barbara County | 423,895 (2010) | .069 ppm 2010 - 2012        | Las Flores Canyon, 060831025     | 2                        | 12                | 0               |

## **2.2 Carbon Monoxide (CO)**

There are no EPA minimum requirements for the number of CO monitoring sites for CBSA's with a population less than one million. For CBSA's with a population of one million or greater, near roadway CO monitors are required. Continued operation of existing SLAMS CO sites is required until discontinuation is approved by the EPA. There are four SLAMS CO monitors located at Goleta, Lompoc H Street, Santa Barbara and Santa Maria which are used to measure the impacts of high population exposure and are not near roadway monitors. There are also CO monitors located at Exxon LFC1 and VAFB STS which are required by operating permit conditions issued to nearby sources.

**Table 2.2  
Near Roadway Monitoring Requirements**

| CBSA/MSA                      | Pop. (year)    | # Required Near Roadway Monitors | # Active Near Roadway Monitors | # Additional Monitors Needed |
|-------------------------------|----------------|----------------------------------|--------------------------------|------------------------------|
| Santa Barbara Santa Maria, CA | 423,895 (2010) | 0                                | 0                              | 0                            |

## **2.3 Nitrogen Dioxide (NO2)**

On January 22, 2010, EPA strengthened the health-based NAAQS for NO<sub>2</sub>. The rule also established new ambient air monitoring and reporting requirements. One "near road" monitor will be required in urban areas with a population greater than or equal to 500,000 people. A second monitor is required near another major road in areas with either a population greater than or equal to 2.5 million people or a road segment with an annual average daily traffic count greater than or equal to 250,000 vehicles. One community wide monitor is required in urban areas with a population of greater than or equal to 1 million people. Santa Barbara does not meet any of these criteria so no additional monitors will be required. Continued operation of existing SLAMS NO<sub>2</sub> sites is required until discontinuation is approved by the EPA. There are five SLAMS NO<sub>2</sub> monitors. Goleta, Lompoc H Street, Santa Barbara, and Santa Maria are used to measure

the impacts of high population exposure and El Capitan monitors the pollutant on a regional scale. There are six other sites which measure NO<sub>2</sub>: Carpinteria, Exxon LFC 1, Nojoqui, Paradise Road, Lompoc HS & P, and VAFB STS. These monitors are required by operating permit conditions of nearby sources and are used to measure the impact of sources on regional ozone formation. Table 2.3 lists the minimum monitoring requirements for Nitrogen Dioxide.

Table 2.3  
Minimum Monitoring Requirements for Nitrogen Dioxide

| CBSA/<br>MSA                              | Pop.<br>(year)    | Max AADT                            | #<br>Required<br>Near<br>Roadway | # Active<br>Near<br>Roadway | # Additional<br>Near<br>Roadway<br>needed | # Required<br>Area-wide | # Active<br>Area-<br>wide | #<br>Additional<br>Area-wide<br>needed |
|---|-------------------|-------------------------------------|----------------------------------|-----------------------------|---|-------------------------|---------------------------|--|
| Santa<br>Barbara<br>Santa<br>Maria,<br>CA | 423,895<br>(2010) | N/A<br>(below<br>pop.<br>Threshold) | 0                                | 0                           | 0   | 0                       | 11                        | 0                                      |

## 2.4 Sulfur Dioxide (SO<sub>2</sub>)

EPA strengthened the primary NAAQS for SO<sub>2</sub> on June 2, 2010. The rule established a new 1 hour standard and revised the monitoring requirements. Monitors will be required based on Core Based Statistical Areas (CBSAs) based on a population weighted emissions index for the area. Three monitors will be required in CBSAs with index values of 1,000,000 or more. Two monitors will be required in CBSAs with index values less than 1,000,000 but greater than 100,000; and 1 monitor will be required in CBSAs with index values greater than 5,000. Continued operation of existing SLAMS SO<sub>2</sub> sites is required until discontinuation is approved by the EPA. There are two SLAMS SO<sub>2</sub> monitors at El Capitan and Lompoc H Street which are used to measure the impacts of high population exposure. There are four other sites which measure SO<sub>2</sub>: Exxon LFC 1, UCSB West Campus, Lompoc HS&P, and VAFB STS. These monitors are required by operating permit conditions of nearby sources and are used to measure the impact of sources on the surrounding air quality. New SO<sub>2</sub> monitors must be operational by January 1, 2013. Table 2.4 lists the minimum monitoring requirements for SO<sub>2</sub>. No additional monitors will be required in Santa Barbara County.

Table 2.4  
Minimum Monitoring Requirements for Sulfur Dioxide

| CBSA/MSA                         | County        | Pop. (year)    | Total SO2 (Ton/yr) | Population Weighted Emissions Index | # Required Monitors | # Active Monitors | # Additional Monitors Required |
|----------------------------------|---------------|----------------|--------------------|-------------------------------------|---------------------|-------------------|--------------------------------|
| Santa Barbara<br>Santa Maria, CA | Santa Barbara | 423,895 (2010) | 1,068.5            | 452.9                               | 0                   | 7                 | 0                              |

## 2.5 Particulate Matter (PM10)

The minimum monitoring requirements for PM10 are listed in Table 2.5. There are five SLAMS PM10 monitors located at Santa Barbara, El Capitan, Goleta, Lompoc H Street, and Santa Maria. Note that the Santa Barbara and Santa Maria sites operated by CARB only report data in local conditions; therefore their data cannot be compared to NAAQS. There are two PSD sites which measure PM10: Exxon LFC 1 and VAFB STS. These monitors are required by operating permit conditions of nearby sources and are used to measure the impact of nearby sources on the surrounding air quality.

Table 2.5  
Minimum Monitoring Requirements for PM10

| MSA                             | County               | Pop. (year)    | Max Concentration (ug/m3) | Max Concentration Site (name, AQS ID) | # Required Monitors | # Active Monitors | # Additional Monitors Needed |
|---------------------------------|----------------------|----------------|---------------------------|---------------------------------------|---------------------|-------------------|------------------------------|
| Santa Barbara – Santa Maria, CA | Santa Barbara County | 423,895 (2010) | 67.9                      | Goleta-Fairview 060832011             | 0-1                 | 5                 | 0                            |

## 2.6 Particulate Matter (PM2.5)

The minimum monitoring requirements for PM2.5 are listed in Tables 2.6a and b. There are four PM2.5 monitors located at Santa Barbara, Santa Maria, Goleta, and Lompoc H Street. Santa Barbara and Santa Maria had FRM samplers but were removed in June 2010 and were replaced with FEM real time samplers. Lompoc H Street and Goleta have real time samplers however, they are not FEM approved. Because the PM2.5 monitors at Lompoc H Street and Goleta do not meet FEM requirements, this data is reported to AQS utilizing the 88501 parameter code, indicating non-regulatory monitoring.

PM2.5 colocation requirements are based on the primary quality assurance organization (PQAO) network. Santa Barbara County is part of the CARB PQAO. See the CARB annual network plan for details on meeting the PM2.5 colocation requirements.

**Table 2.6a**  
**Minimum Monitoring Requirements for PM2.5 Monitors**

| MSA                             | County               | Pop. (year)    | Annual Design Value (years) | Annual Design Value Site (name, AQS ID) | Daily Design Value (years) | Daily Design Value Site (name, AQS ID) | # Required SLAMS Monitors | # Active SLAMS Monitors | # Additional SLAMS Monitors Needed |
|---------------------------------|----------------------|----------------|-----------------------------|---|----------------------------|--|---------------------------|-------------------------|------------------------------------|
| Santa Barbara – Santa Maria, Ca | Santa Barbara County | 423,895 (2010) | 9.5 ug/m3 2010 – 2012       | Santa Barbara 06-083-0011               | 18 ug/m3 2010 - 2012       | Santa Barbara 06-083-0011              | 0                         | 2                       | 0                                  |

**Table 2.6b**  
**Minimum Monitoring Requirements for Continuous PM2.5 Monitors**

| MSA                             | County               | Pop. (year)    | Annual Design Value (years) | Annual Design Value Site (name, AQS ID) | Daily Design Value (years) | Daily Design Value Site (name, AQS ID) | # Required Cont. Monitors | # Active Cont. Monitors | # Additional Cont. Monitors Needed |
|---------------------------------|----------------------|----------------|-----------------------------|---|----------------------------|--|---------------------------|-------------------------|------------------------------------|
| Santa Barbara – Santa Maria, Ca | Santa Barbara County | 423,895 (2010) | 9.5 ug/m3 2010 – 2012       | Santa Barbara 06-083-0011               | 18 ug/m3 2010 - 2012       | Santa Barbara 06-083-0011              | 0                         | 2                       | 0                                  |

## 2.7 Lead (Pb)

EPA substantially strengthened the NAAQS for lead on October 15, 2008. The level of the primary standard was revised from 1.5 ug/m3 down to 0.15 ug/m3 measured as total suspended particles (TSP). The secondary standard was revised to be identical to the primary standard. Source oriented Monitors are required in areas with airport sources that emit one ton or more per year of lead or non-airport sources that emit one half ton per year of lead. Additionally, non-source lead monitoring is required at NCORE sites in a CBSA with a population greater than 500,000. The population of Santa Barbara County is below the 500,000 threshold and there are no NCORE sites required in Santa Barbara County; therefore non-source lead monitors are not required. The highest emission inventory of lead in Santa Barbara County is the Santa Barbara Municipal airport with 0.4 tons per year. Since this is below the threshold, no source oriented lead monitors are required.

Table 2.7a  
Minimum Monitoring Requirements for Pb at NCORE sites

| CBSA/MSA                        | Pop. (year)    | # Required Near Road Monitors | # Active Near Road Monitors | # Additional Monitors Needed |
|---------------------------------|----------------|-------------------------------|-----------------------------|------------------------------|
| Santa Barbara – Santa Maria, Ca | 423,895 (2010) | 0                             | 0                           | 0                            |

Table 2.7b  
Minimum Monitoring Requirements for Source Oriented Pb Monitoring

| Source Name                     | Address                             | Pb Emissions | Emissions Source (year)      | Max Design Value | Desing Value Date | # Required Monitors | # Active Monitors | # Additional Monitors Needed |
|---------------------------------|-------------------------------------|--------------|------------------------------|------------------|-------------------|---------------------|-------------------|------------------------------|
| Santa Barbara Municipal Airport | 601 Firestone Rd. Santa Barbara, CA | 0.4 ton/yr   | National Emissions Inventory | N/A              | N/A               | 0                   | 0                 | 0                            |

## 2.8 Recent or Proposed Modifications to the Network

There have been no changes requiring EPA approval to the network since the submission of the 2012 Network Plan.

Plans for the next 18 months include completing the relocation the Santa Ynez monitoring station to a new location. Pepper trees have become overgrown to the north of the original site and the probe no longer meets siting criteria. A nearby location has been secured, a new shelter is in place and the installation of equipment has begun. The new site will be operated concurrently with the original Santa Ynez site to provide a cross comparison between the two locations. Once sufficient data has been gathered, a formal request will be made to EPA to discontinue monitoring at the original monitoring location.

Santa Barbara County has been working to transition the monitoring methods utilized for PM10 from hi-volume samplers to continuous beta attenuation monitors. This transition was completed on 1/1/13, and the new monitoring methods will be reflected in next year's network plan. Eliminating the use of the hi-vol PM10 method also eliminated the co-location requirements for PM-10 as continuous FEM PM-10 monitors have no co-location requirements.

## **2.9 Additional Monitors**

Santa Barbara County operates some monitors which are not required by 40 CFR 58.10. These sites and monitors are included in the network review for reference only and not to show compliance with any requirements even though they are operated under the same quality assurance/control guidelines as the FRM monitors.

There are four stations which are set up near oil and gas processing facilities to monitor for two odorous compounds: Hydrogen sulfide (H<sub>2</sub>S) and total reduced sulfur (TRS). These monitors are located at the following stations: Lompoc Odor, LFC Odor, Ellwood Odor, and UCSB West Campus.

Total Hydrocarbon monitors (THC) are also located at some of the PSD monitoring stations located near oil and gas processing facilities. These sites are: El Capitan, Exxon LFC 1, Lompoc HS&P, West Campus, and VAFBSTS.

All of the monitoring stations listed in this report also measure wind speed, wind directions and ambient temperature. These data are used for modeling and tracking.



## **3.0 Additional information on PM2.5 monitors**

This section includes information for a couple of elements required to be in the annual network plan that relate specifically to PM2.5. One required element relates to whether data for a PM2.5 monitor can be used to determine compliance with the national annual PM2.5 air quality standard. This is termed as the suitability for comparison to the annual standard. The other element requires information regarding the review process followed by air agencies when changes are made to the location of a PM2.5 monitor that is violating a PM2.5 NAAQS.

### **3.1 Comparison to annual PM2.5 NAAQS**

Only data from a PM2.5 FRM or FEM can be used in regulatory determinations of compliance with the annual PM2.5 NAAQS and that the monitor be located at a neighborhood scale. For a PM2.5 monitor to be representative at a neighborhood scale, the concentration values measured by the monitor should be representative of concentrations expected over an area with dimensions of a few kilometers. Therefore the monitor should not be located too close to a hot spot of PM2.5 concentrations that extends over distances less than a few hundred meters. All of the PM2.5 FRM and FEM monitors in Santa Barbara County are sited to be representative of a neighborhood scale and meet this suitability requirement.

### **3.2 Review of changes to PM2.5 network**

As required by regulation, prior to any changes to the PM2.5 network are made, a formal request is drafted outlining the reason for the change, when the change will occur, and any other relevant information about the proposed change. The proposal (either as part of an annual network review or between reviews) will be posted on the District website for a 30 day public comment period. Following the comment period, the District will forward the request with comments and District responses to EPA for consideration. Only after EPA has granted approval of the proposed change, will the District make the changes to the PM2.5 monitoring network.

## **4.0 Quality Assurance and Data Submittal**

All data collected from the monitors in the Santa Barbara County network are reviewed for quality assurance by the SBCAPCD with the exception of the Santa Barbara and Santa Maria monitoring stations which are reviewed and processed by CARB.

### **4.1 Annual performance evaluation**

Annual performance evaluations challenge the monitors with known concentrations of audit gases to evaluate the accuracy of the monitors. The SLAMS sites in Santa Barbara County are audited on an annual basis by the CARB. The PSD stations are evaluated by an independent contractor who audits the monitors on a quarterly basis.

### **4.2 Data submittal**

Digital records of the data including precision and accuracy data are submitted to EPA by uploading the records to their air quality system data base (AQS). These records are submitted within 90 days following the end of each quarterly reporting period.

### **4.3 Annual certification**

The data are certified for their accuracy and completeness on an annual basis and a certification letter is submitted to the regional EPA administrator by May 1 of each year.

## **5.0 Detailed Site Information**

The tables in this section give detailed information relating to the sites and monitors. They are presented to show compliance with the monitoring requirements found in 40 CFR 58.10.

Table 5.1  
Carpinteria Monitoring Station Details

|  |  |                      |  |  |
|--|--|----------------------|--|--|
| <b>Site Name</b>                             | <b>Carpinteria</b>                                       |                      |  |  |
| AQS ID                                       | 060831021  |                      |  |  |
| GIS coordinates                              | Lat 34° 24' 10.97" Long 119° 27' 28.62"                  |                      |  |  |
| Location                                     | Located in a rural setting NE of the City of Carpinteria |                      |  |  |
| Address                                      | Gobernador Road, Carpinteria, CA 93013                   |                      |  |  |
| County                                       | Santa Barbara County                                     |                      |  |  |
| Dist. to road                                | 200 meters   |                      |  |  |
| Traffic count                                | 20 Vehicles per day                                      |                      |  |  |
| Groundcover                                  | Grass  |                      |  |  |
| Representative area                          | MSA (Santa Barbara – Santa Maria, CA)                    |                      |  |  |
| <b>Pollutant, POC</b>                        | <b>O3,1</b>  | <b>NO2,1</b>         |  |  |
| Parameter Code                               | 44201  | 42602                |  |  |
| Monitoring Objective                         | NAAQS  | NAAQS                |  |  |
| Site type(s)                                 | Highest conc.  | Gen. background      |  |  |
| Mfg/Model                                    | TAPI 400e  | TEI 42C              |  |  |
| Method Code                                  | 087  | 074                  |  |  |
| FRM/FEM or other                             | FEM  | FRM                  |  |  |
| Collecting Agency                            | Consultant   | Consultant           |  |  |
| Reporting Agency                             | Santa Barbara County                                     | Santa Barbara County |  |  |
| Spatial Scale                                | Regional   | Regional             |  |  |
| Start date                                   | 1/1/86   | 1/1/86               |  |  |
| Operation schedule                           | Continuous   | Continuous           |  |  |
| Sampling season                              | All Year   | All Year             |  |  |
| Probe height                                 | 4.1 m  | 4.1 m                |  |  |
| Distance from supporting structure           | 1.3 m  | 1.3 m                |  |  |
| Distance from obstructions on roof           | None   | None                 |  |  |
| Distance from obstructions not on roof       | None   | None                 |  |  |
| Distance from trees                          | None   | None                 |  |  |
| Distance to furnace or incinerator           | None   | None                 |  |  |
| Unrestricted airflow                         | 360°   | 360°                 |  |  |
| Probe material                               | Glass & Teflon   | Glass & Teflon       |  |  |
| Residence time                               | 8.8 s  | 8.4 s                |  |  |
| Will there be changes in next 18 months?     | No   | No                   |  |  |
| Frequency of one-point QC check (gaseous)    | Bi-weekly  | Bi-weekly            |  |  |
| Last annual performance evaluation (gaseous) | 12/13/12   | 12/13/12             |  |  |

Table 5.2  
El Capitan Monitoring Station Details

|  |  |                      |                      |                      |                               |
|--|--|----------------------|----------------------|----------------------|-------------------------------|
| <b>Site Name</b>                         | <b>El Capitan</b>                            |                      |                      |                      |                               |
| AQS ID                                   | 060830008                                    |                      |                      |                      |                               |
| GIS coordinates                          | Lat 34° 27' 44.8" Long 120° 1' 31.8"         |                      |                      |                      |                               |
| Location                                 | Behind maintenance yard of campground        |                      |                      |                      |                               |
| Address                                  | US Hwy 101, El Capitan State Beach, CA 93117 |                      |                      |                      |                               |
| County                                   | Santa Barbara County                         |                      |                      |                      |                               |
| Dist. to road                            | 100 meters                                   |                      |                      |                      |                               |
| Traffic count                            | 50000 Vehicles per day                       |                      |                      |                      |                               |
| Groundcover                              | Grass and dirt                               |                      |                      |                      |                               |
| Representative area                      | MSA (Santa Barbara – Santa Maria, CA)        |                      |                      |                      |                               |
| <b>Pollutant, POC</b>                    | <b>O3,1</b>                                  | <b>NO2,1</b>         | <b>SO2,1</b>         | <b>THC,1</b>         | <b>PM10,1 &amp; 2</b>         |
| Parameter Code                           | 44201  | 42602                | 42401                | 43101                | 81102                         |
| Monitoring Objective                     | Public Info                                  | Public Info          | Public Info          | Public Info          | Public Info                   |
| Site type(s)                             | General Background                           | General Background   | General Background   | General Background   | General Background , QA(POC2) |
| Mfg/ Model                               | TAPI 400e                                    | TAPI 200e            | TEI 43i              | TEI 51i-LT           | SA 1200                       |
| Method Code                              | 087  | 099                  | 060                  | 011                  | 064                           |
| FRM/FEM or other                         | FEM  | FRM                  | FEM                  | N/A                  | FRM                           |
| Collecting Agency                        | Santa Barbara County                         | Santa Barbara County | Santa Barbara County | Santa Barbara County | Santa Barbara County          |
| Analytical Lab                           | N/A  | N/A                  | N/A                  | N/A                  | Weighed by SBCAPCD            |
| Reporting Agency                         | Santa Barbara County                         | Santa Barbara County | Santa Barbara County | Santa Barbara County | Santa Barbara County          |
| Spatial Scale                            | Regional                                     | Regional             | Regional             | Regional             | Regional                      |
| Start date                               | 6/1/78                                       | 6/1/78               | 6/1/78               | 6/1/78               | 6/1/78                        |
| Operation schedule                       | Continuous                                   | Continuous           | Continuous           | Continuous           | 1 in 6 day                    |
| Sampling season                          | All Year                                     | All Year             | All Year             | All Year             | All Year                      |
| Probe height                             | 3.8 m  | 3.8 m                | 3.8 m                | 3.8 m                | 4.1 m                         |
| Distance from supporting structure       | 1.2 m  | 1.2 m                | 1.2 m                | 1.2 m                | 1.5 m                         |
| Distance from obstructions on roof       | None   | None                 | None                 | None                 | None                          |
| Distance from obstructions not on roof   | None   | None                 | None                 | None                 | None                          |
| Distance from trees                      | None   | None                 | None                 | None                 | None                          |
| Distance to furnace or incinerator       | None   | None                 | None                 | None                 | None                          |
| Distance between collocated monitors     | N/A  | N/A                  | N/A                  | N/A                  | 2 m                           |
| Unrestricted airflow                     | 360°   | 360°                 | 360°                 | 360°                 | 360°                          |
| Probe material                           | Glass & Teflon                               | Glass & Teflon       | Glass & Teflon       | Glass & Teflon       | N/A                           |
| Residence time                           | 10.9 s                                       | 11.1 s               | 13.4 s               | 10.8 s               | N/A                           |
| Will there be changes in next 18 months? | No   | No                   | No                   | No                   | Yes                           |

|  |         |         |         |         |                     |
|--|---------|---------|---------|---------|---------------------|
| Frequency of flow rate verification for manual PM samplers | N/A     | N/A     | N/A     | N/A     | Monthly             |
| Frequency of one-point QC check (gaseous)                  | Weekly  | Weekly  | Weekly  | Weekly  | N/A                 |
| Last annual performance evaluation (gaseous)               | 7/25/12 | 7/25/12 | 7/25/12 | 7/25/12 | N/A                 |
| Last two semi-annual flow rate audits for PM monitors      | N/A     | N/A     | N/A     | N/A     | 7/25/12<br>12/27/12 |

Table 5.3  
Ellwood Odor Monitoring Station Details

|  |   |                      |  |  |  |
|--|---|----------------------|--|--|--|
| <b>Site Name</b>                             | <b>Ellwood Odor</b>                     |                      |  |  |  |
| AQS ID                                       | 060831032                               |                      |  |  |  |
| GIS coordinates                              | Lat 34° 25' 49.30" Long 119° 53' 51.18" |                      |  |  |  |
| Location                                     | Located in a vehicle storage lot        |                      |  |  |  |
| Address                                      | Hollister Ave, Goleta, CA               |                      |  |  |  |
| County                                       | Santa Barbara County                    |                      |  |  |  |
| Dist. to road                                | 100 meters                              |                      |  |  |  |
| Traffic count                                | 20000 Vehicles per day                  |                      |  |  |  |
| Groundcover                                  | Asphalt                                 |                      |  |  |  |
| Representative area                          | MSA (Santa Barbara – Santa Maria, CA)   |                      |  |  |  |
| <b>Pollutant, POC</b>                        | <b>H2S,1</b>                            | <b>TRS,1</b>         |  |  |  |
| Parameter Code                               | 42402                                   | 43911                |  |  |  |
| Monitoring Objective                         | Public Info                             | Public Info          |  |  |  |
| Site type(s)                                 | Source                                  | Source               |  |  |  |
| MFG/ Model                                   | ML 8850                                 | TEI 43i              |  |  |  |
| Method Code                                  | 020                                     | 020                  |  |  |  |
| FRM/FEM or other                             | N/A                                     | N/A                  |  |  |  |
| Collecting Agency                            | Consultant                              | Consultant           |  |  |  |
| Reporting Agency                             | Santa Barbara County                    | Santa Barbara County |  |  |  |
| Spatial Scale                                | Neighborhood                            | Neighborhood         |  |  |  |
| Start date                                   | 4/1/00                                  | 4/1/00               |  |  |  |
| Operation schedule                           | Continuous                              | Continuous           |  |  |  |
| Sampling season                              | All Year                                | All Year             |  |  |  |
| Probe height                                 | 3.5                                     | 3.5                  |  |  |  |
| Distance from supporting structure           | 1.1                                     | 1.1                  |  |  |  |
| Distance from obstructions on roof           | None                                    | None                 |  |  |  |
| Distance from obstructions not on roof       | None                                    | None                 |  |  |  |
| Distance from trees                          | None                                    | None                 |  |  |  |
| Distance to furnace or incinerator           | None                                    | None                 |  |  |  |
| Unrestricted airflow                         | 360°                                    | 360°                 |  |  |  |
| Probe material                               | Glass & Teflon                          | Glass & Teflon       |  |  |  |
| Residence time                               | 14.9 s                                  | 14.9 s               |  |  |  |
| Will there be changes in next 18 months?     | No                                      | No                   |  |  |  |
| Frequency of one-point QC check (gaseous)    | Bi-Weekly                               | Bi-Weekly            |  |  |  |
| Last annual performance evaluation (gaseous) | 12/11/12                                | 12/11/12             |  |  |  |

Table 5.4  
Goleta Monitoring Station Details

|   |                                       |                            |                         |                         |                            |
|---|---------------------------------------|----------------------------|-------------------------|-------------------------|----------------------------|
| <b>Site Name</b>  | <b>Goleta</b>                         |                            |                         |                         |                            |
| AQS ID  | 060832011                             |                            |                         |                         |                            |
| GIS coordinates   | Lat 34° 26' 43.8" Long 119° 49' 42"   |                            |                         |                         |                            |
| Location  | In field behind Lutheran Church       |                            |                         |                         |                            |
| Address   | 380 N. Fairview Ave., Goleta, CA      |                            |                         |                         |                            |
| County  | Santa Barbara County                  |                            |                         |                         |                            |
| Dist. to road   | 150 meters                            |                            |                         |                         |                            |
| Traffic count   | 14000 Vehicles per day                |                            |                         |                         |                            |
| Groundcover   | Grass                                 |                            |                         |                         |                            |
| Representative area   | MSA (Santa Barbara – Santa Maria, CA) |                            |                         |                         |                            |
| <b>Pollutant, POC</b>   | <b>O3,1</b>                           | <b>NO2,1</b>               | <b>CO,1</b>             | <b>PM10,1</b>           | <b>PM2.5 ,1</b>            |
| Parameter Code  | 44201                                 | 42602                      | 42101                   | 81102                   | 88501                      |
| Monitoring Objective  | NAAQS,<br>Public Info                 | NAAQS,<br>Public Info      | NAAQS,<br>Public Info   | NAAQS,<br>Public Info   | Public Info                |
| Site type(s)  | Population                            | Population                 | Population              | Population              | Population                 |
| MFG/ Model  | TAPI 400e                             | TAPI 200e                  | TAPI 300e               | BAM 1020                | BAM 1020                   |
| Method Code   | 087                                   | 099                        | 093                     | 122                     | 733                        |
| FRM/FEM or other  | FEM                                   | FRM                        | FRM                     | FEM                     | Non-FEM                    |
| Collecting Agency   | Santa<br>Barbara<br>County            | Santa<br>Barbara<br>County | Santa Barbara<br>County | Santa Barbara<br>County | Santa<br>Barbara<br>County |
| Reporting Agency  | Santa<br>Barbara<br>County            | Santa<br>Barbara<br>County | Santa Barbara<br>County | Santa Barbara<br>County | Santa<br>Barbara<br>County |
| Spatial Scale   | Urban                                 | Urban                      | Neighborhood            | Neighborhood            | Neighborhood               |
| Start date  | 1/1/1980                              | 1/1/1992                   | 5/1/1982                | 1/1/10                  | 1/1/10                     |
| Operation schedule  | Continuous                            | Continuous                 | Continuous              | Continuous              | Continuous                 |
| Sampling season   | All Year                              | All Year                   | All Year                | All Year                | All Year                   |
| Probe height  | 4.5 m                                 | 4.5 m                      | 4.5 m                   | 7.0 m                   | 7.0 m                      |
| Distance from<br>supporting structure                                   | 2.1 m                                 | 2.1 m                      | 2.1 m                   | 2.0 m                   | 2.0 m                      |
| Distance from<br>obstructions on roof                                   | None                                  | None                       | None                    | None                    | None                       |
| Distance from<br>obstructions not on<br>roof                            | None                                  | None                       | None                    | None                    | None                       |
| Distance from trees   | None                                  | None                       | None                    | None                    | None                       |
| Distance to furnace or<br>incinerator                                   | None                                  | None                       | None                    | None                    | None                       |
| Unrestricted airflow  | 360°                                  | 360°                       | 360°                    | 360°                    | 360°                       |
| Probe material  | Glass &<br>Teflon                     | Glass &<br>Teflon          | Glass & Teflon          | N/A                     | N/A                        |
| Residence time  | 8.4 s                                 | 9.1 s                      | 9.3 s                   | N/A                     | N/A                        |
| Will there be changes<br>in next 18 months?                             | No                                    | No                         | No                      | No                      | No                         |
| Frequency of one-<br>point QC check<br>(gaseous)                        | Weekly                                | Weekly                     | Weekly                  | N/A                     | N/A                        |
| Frequency of flow rate<br>verification for<br>automated PM<br>analyzers | N/A                                   | N/A                        | N/A                     | Bi-Weekly               | Bi-Weekly                  |

|   |         |         |         |                     |                     |
|---|---------|---------|---------|---------------------|---------------------|
| Last annual performance evaluation (gaseous)            | 5/08/12 | 5/08/12 | 5/08/12 | N/A                 | N/a                 |
| Last two semi-annual flow rate audits for PM monitors   |         |         |         | 5/08/12<br>10/17/12 | 5/08/12<br>10/17/12 |
| Is it suitable for comparison against the annual PM2.5? | N/A     | N/A     | N/A     | N/A                 | No                  |



Table 5.5  
Las Flores Canyon #1 Monitoring Station Details

|  |  |                      |                      |                      |                      |
|--|--|----------------------|----------------------|----------------------|----------------------|
| <b>Site Name</b>   | <b>Las Flores Canyon #1</b>                        |                      |                      |                      |                      |
| AQS ID   | 060831025  |                      |                      |                      |                      |
| GIS coordinates  | Lat 34° 29' 23.1" Long 120° 2' 48.9"               |                      |                      |                      |                      |
| Location   | North end of canyon behind an oil and gas facility |                      |                      |                      |                      |
| Address  | Calle Real US Hwy 101, El Capitan, CA              |                      |                      |                      |                      |
| County   | Santa Barbara County                               |                      |                      |                      |                      |
| Dist. to road  | 3200 meters  |                      |                      |                      |                      |
| Traffic count  | 50000 Vehicles per day                             |                      |                      |                      |                      |
| Groundcover  | Grass and dirt                                     |                      |                      |                      |                      |
| Representative area  | MSA (Santa Barbara – Santa Maria, CA)              |                      |                      |                      |                      |
| <b>Pollutant, POC</b>                                      | <b>O3,1</b>  | <b>NO2,1</b>         | <b>SO2,1</b>         | <b>CO,1</b>          | <b>PM10,1</b>        |
| Parameter Code   | 44201  | 42602                | 42401                | 42101                | 81102                |
| Monitoring Objective                                       | NAAQS, public                                      | NAAQS, public        | NAAQS, public        | NAAQS, public        | NAAQS, public        |
| Site type(s)   | Max O3 conc.                                       | Source               | Source               | Source               | Source               |
| MFG/ Model   | TAPI 400e  | TAPI 200e            | TEI 43i              | TEI 48i              | SA 1200              |
| Method Code  | 087  | 099                  | 060                  | 093                  | 064                  |
| FRM/FEM or other   | FEM  | FRM                  | FEM                  | FRM                  | FRM                  |
| Collecting Agency  | Santa Barbara County                               | Santa Barbara County | Santa Barbara County | Santa Barbara County | Santa Barbara County |
| Analytical Lab   | N/A  | N/A                  | N/A                  | N/A                  | Weighed by SBCAPCD   |
| Reporting Agency   | Santa Barbara County                               | Santa Barbara County | Santa Barbara County | Santa Barbara County | Santa Barbara County |
| Spatial Scale  | Regional   | Neighborhood         | Neighborhood         | Neighborhood         | Neighborhood         |
| Start date   | 4/1/88   | 4/1/88               | 4/1/88               | 4/1/88               | 4/1/88               |
| Operation schedule   | Continuous   | Continuous           | Continuous           | Continuous           | 1 in 6 day           |
| Sampling season  | All Year   | All Year             | All Year             | All Year             | All Year             |
| Probe height   | 3.5 m  | 3.5 m                | 3.5 m                | 3.5 m                | 4.0 m                |
| Distance from supporting structure                         | 1.2 m  | 1.2 m                | 1.2 m                | 1.2 m                | 1.0 m                |
| Distance from obstructions on roof                         | None   | None                 | None                 | None                 | None                 |
| Distance from obstructions not on roof                     | None   | None                 | None                 | None                 | None                 |
| Distance from trees  | None   | None                 | None                 | None                 | None                 |
| Distance to furnace or incinerator                         | None   | None                 | None                 | None                 | None                 |
| Unrestricted airflow                                       | 360°   | 360°                 | 360°                 | 360°                 | 360°                 |
| Probe material   | Glass & Teflon                                     | Glass & Teflon       | Glass & Teflon       | Glass & Teflon       | N/A                  |
| Residence time   | 9.6 s  | 12.6 s               | 14.5 s               | 9.9 s                | N/A                  |
| Will there be changes in next 18 months?                   | No   | No                   | No                   | No                   | Yes                  |
| Frequency of flow rate verification for manual PM samplers | N/A  | N/A                  | N/A                  | N/A                  | Monthly              |

|   |         |         |         |         |                     |
|---|---------|---------|---------|---------|---------------------|
| Frequency of one-point QC check (gaseous)             | Weekly  | Weekly  | Weekly  | Weekly  | N/A                 |
| Last annual performance evaluation (gaseous)          | 4/24/12 | 4/24/12 | 4/24/12 | 4/24/12 | N/A                 |
| Last two semi-annual flow rate audits for PM monitors | N/A     | N/A     | N/A     | N/A     | 4/24/12<br>10/17/12 |

Table 5.6  
Las Flores Canyon Odor Monitoring Station Details

|  |   |  |  |  |  |
|--|---|--|--|--|--|
| <b>Site Name</b>                             | <b>Las Flores Canyon Odor</b>                                 |  |  |  |  |
| AQS ID                                       | 060831037   |  |  |  |  |
| GIS coordinates                              | Lat 34° 27' 52.3" Long 120° 02' 41.9"                         |  |  |  |  |
| Location                                     | Located in a parking lot at the entrance to Las Flores Canyon |  |  |  |  |
| Address                                      | Calle Real US Hwy 101, El Capitan, CA                         |  |  |  |  |
| County                                       | Santa Barbara County  |  |  |  |  |
| Dist. to road                                | 100 meters  |  |  |  |  |
| Traffic count                                | 50000 Vehicles per day  |  |  |  |  |
| Groundcover                                  | Gravel  |  |  |  |  |
| Representative area                          | MSA (Santa Barbara – Santa Maria, CA)                         |  |  |  |  |
| <b>Pollutant, POC</b>                        | <b>H2S,1</b>  |  |  |  |  |
| Parameter Code                               | 42402   |  |  |  |  |
| Monitoring Objective                         | Public  |  |  |  |  |
| Site type(s)                                 | Source  |  |  |  |  |
| MFG/ Model                                   | API 101e  |  |  |  |  |
| Method Code                                  | 020   |  |  |  |  |
| FRM/FEM or other                             | N/A   |  |  |  |  |
| Collecting Agency                            | Santa Barbara County  |  |  |  |  |
| Reporting Agency                             | Santa Barbara County  |  |  |  |  |
| Spatial Scale                                | Neighborhood  |  |  |  |  |
| Start date                                   | 2/1/88  |  |  |  |  |
| Operation schedule                           | Continuous  |  |  |  |  |
| Sampling season                              | All Year  |  |  |  |  |
| Probe height                                 | 3.5   |  |  |  |  |
| Distance from supporting structure           | 1.1   |  |  |  |  |
| Distance from obstructions on roof           | None  |  |  |  |  |
| Distance from obstructions not on roof       | None  |  |  |  |  |
| Distance from trees                          | None  |  |  |  |  |
| Distance to furnace or incinerator           | None  |  |  |  |  |
| Unrestricted airflow                         | 360°  |  |  |  |  |
| Probe material                               | Glass & Teflon  |  |  |  |  |
| Residence time                               | 12.7 s  |  |  |  |  |
| Will there be changes in next 18 months?     | No  |  |  |  |  |
| Frequency of one-point QC check (gaseous)    | Weekly  |  |  |  |  |
| Last annual performance evaluation (gaseous) | 4/24/12   |  |  |  |  |

Table 5.7  
Lompoc HS&P Monitoring Station Details

|  |   |                         |                         |                         |  |
|--|---|-------------------------|-------------------------|-------------------------|--|
| <b>Site Name</b>                                   | <b>Lompoc HS&amp;P</b>                                  |                         |                         |                         |  |
| AQS ID   | 060831013   |                         |                         |                         |  |
| GIS coordinates                                    | Lat 34° 43' 31.19" Long 120° 25' 43.28"                 |                         |                         |                         |  |
| Location   | Located North of Lompoc near an oil processing facility |                         |                         |                         |  |
| Address  | 2988 Harris Grade Rd, Lompoc, CA 93436                  |                         |                         |                         |  |
| County   | Santa Barbara County                                    |                         |                         |                         |  |
| Dist. to road                                      | 2000 meters   |                         |                         |                         |  |
| Traffic count                                      | 100 Vehicles per day                                    |                         |                         |                         |  |
| Groundcover  | Dirt  |                         |                         |                         |  |
| Representative area                                | MSA (Santa Barbara – Santa Maria, CA)                   |                         |                         |                         |  |
| <b>Pollutant, POC</b>                              | <b>O3,1</b>   | <b>NO2,1</b>            | <b>SO2,1</b>            | <b>THC,1</b>            |  |
| Parameter Code                                     | 44201   | 42602                   | 42401                   | 43101                   |  |
| Monitoring Objective                               | NAAQS,<br>public  | NAAQS,<br>public        | NAAQS,<br>public        | Public                  |  |
| Site type(s)                                       | Source  | Source                  | Source                  | Source                  |  |
| MFG/ Model   | TEI 49i   | TEI 42c                 | TEI 43i                 | TEI 51 CIt              |  |
| Method Code  | 047   | 074                     | 100                     | 011                     |  |
| FRM/FEM or other                                   | FEM   | FRM                     | FEM                     | N/A                     |  |
| Collecting Agency                                  | Consultant  | Consultant              | Consultant              | Consultant              |  |
| Reporting Agency                                   | Santa<br>Barbara<br>County                              | Santa Barbara<br>County | Santa Barbara<br>County | Santa Barbara<br>County |  |
| Spatial Scale                                      | Regional  | Neighborhood            | Neighborhood            | Neighborhood            |  |
| Start date   | 1/1/86  | 1/1/86                  | 1/1/86                  | 1/1/86                  |  |
| Operation schedule                                 | Continuous  | Continuous              | Continuous              | Continuous              |  |
| Sampling season                                    | All Year  | All Year                | All Year                | All Year                |  |
| Probe height                                       | 4.7   | 4.7                     | 4.7                     | 4.7                     |  |
| Distance from<br>supporting structure              | 1.6   | 1.6                     | 1.6                     | 1.6                     |  |
| Distance from<br>obstructions on roof              | None  | None                    | None                    | None                    |  |
| Distance from<br>obstructions not on<br>roof       | None  | None                    | None                    | None                    |  |
| Distance from trees                                | None  | None                    | None                    | None                    |  |
| Distance to furnace or<br>incinerator              | None  | None                    | None                    | None                    |  |
| Unrestricted airflow                               | 360°  | 360°                    | 360°                    | 360°                    |  |
| Probe material                                     | Glass &<br>Teflon                                       | Glass & Teflon          | Glass & Teflon          | Glass & Teflon          |  |
| Residence time                                     | 7.3 s   | 9.0 s                   | 9.5 s                   | 9.5 s                   |  |
| Will there be changes<br>in next 18 months?        | No  | No                      | No                      | No                      |  |
| Frequency of one-<br>point QC check<br>(gaseous)   | Bi-weekly   | Bi-weekly               | Bi-Weekly               | Bi-Weekly               |  |
| Last annual<br>performance<br>evaluation (gaseous) | 12/17/12  | 12/17/12                | 12/17/12                | 12/17/12                |  |

Table 5.8  
Lompoc H Street Monitoring Station Details

|  |                                       |                      |                      |                      |                      |                      |
|--|---------------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| <b>Site Name</b>   | <b>Lompoc H Street</b>                |                      |                      |                      |                      |                      |
| AQS ID   | 060832004                             |                      |                      |                      |                      |                      |
| GIS coordinates  | Lat 34° 38' 16.2" Long 120° 27' 27"   |                      |                      |                      |                      |                      |
| Location   | Parking lot behind gas company        |                      |                      |                      |                      |                      |
| Address  | 128 S. H Street, Lompoc CA 93436      |                      |                      |                      |                      |                      |
| County   | Santa Barbara County                  |                      |                      |                      |                      |                      |
| Dist. to road  | 13 meters                             |                      |                      |                      |                      |                      |
| Traffic count  | 10000 Vehicles per day                |                      |                      |                      |                      |                      |
| Groundcover  | Asphalt                               |                      |                      |                      |                      |                      |
| Representative area  | MSA (Santa Barbara – Santa Maria, CA) |                      |                      |                      |                      |                      |
| <b>Pollutant, POC</b>  | <b>O3,1</b>                           | <b>NO2,1</b>         | <b>SO2,1</b>         | <b>CO,1</b>          | <b>PM10,2</b>        | <b>PM2.5,1</b>       |
| Parameter Code   | 44201                                 | 42602                | 42401                | 42101                | 81102                | 88501                |
| Monitoring Objective   | NAAQS, Public                         | NAAQS, Public        | NAAQS, Public        | NAAQS, Public        | NAAQS, Public        | Public               |
| Site type(s)   | Population                            | Population           | Population           | Population           | Population           | Population           |
| MFG/ Model   | TAPI 400e                             | TAPI 200e            | TEI 43i              | TAPI 300             | BAM 1020             | BAM 1020             |
| Method Code  | 087                                   | 074                  | 100                  | 93                   | 122                  | 731                  |
| FRM/FEM or other   | FEM                                   | FRM                  | FEM                  | FRM                  | FEM                  | Non-FEM              |
| Collecting Agency  | Santa Barbara County                  | Santa Barbara County | Santa Barbara County | Santa Barbara County | Santa Barbara County | Santa Barbara County |
| Reporting Agency   | Santa Barbara County                  | Santa Barbara County | Santa Barbara County | Santa Barbara County | Santa Barbara County | Santa Barbara County |
| Spatial Scale  | Neighborhood                          | Neighborhood         | Neighborhood         | Neighborhood         | Neighborhood         | Neighborhood         |
| Start date   | 1/1/84                                | 5/1/91               | 1/1/84               | 1/1/84               | 8/1/09               | 9/1/08               |
| Operation schedule   | Continuous                            | Continuous           | Continuous           | Continuous           | Continuous           | Continuous           |
| Sampling season  | All Year                              | All Year             | All Year             | All Year             | All Year             | All Year             |
| Probe height   | 5.3 m                                 | 5.3 m                | 5.3 m                | 5.3 m                | 7.0 m                | 7.0 m                |
| Distance from supporting structure                             | 1.3 m                                 | 1.3 m                | 1.3 m                | 1.3 m                | 2.0 m                | 2.0 m                |
| Distance from obstructions on roof                             | None                                  | None                 | None                 | None                 | None                 | None                 |
| Distance from obstructions not on roof/Obs. Height above inlet | 15 m/1 m                              | 15 m/1 m             | 15 m/1 m             | 15 m/1 m             | 15 m/1 m             | 15 m/ 1 m            |
| Distance from trees  | None                                  | None                 | None                 | None                 | None                 | None                 |
| Distance to furnace or incinerator                             | None                                  | None                 | None                 | None                 | None                 | None                 |
| Unrestricted airflow   | 360°                                  | 360°                 | 360°                 | 360°                 | 360°                 | 360°                 |
| Probe material   | Glass & Teflon                        | Glass & Teflon       | Glass & Teflon       | Glass & Teflon       | N/A                  | N/A                  |
| Residence time   | 6.7 s                                 | 8.1 s                | 7.4 s                | 6.7 s                | N/A                  | N/A                  |
| Will there be changes in next 18 months?                       | No                                    | No                   | No                   | No                   | No                   | No                   |
| Is it suitable for comparison against the annual PM2.5?        | N/A                                   | N/A                  | N/A                  | N/A                  | N/A                  | No                   |

|  |         |         |         |         |                     |                     |
|--|---------|---------|---------|---------|---------------------|---------------------|
| Frequency of flow rate verification for manual PM samplers     | N/A     | N/A     | N/A     | N/A     | N/A                 | N/A                 |
| Frequency of flow rate verification for automated PM analyzers | N/A     | N/A     | N/A     | N/A     | Bi-Weekly           | Bi-Weekly           |
| Frequency of one-point QC check (gaseous)                      | Weekly  | Weekly  | Weekly  | Weekly  | N/A                 | N/A                 |
| Last annual performance evaluation (gaseous)                   | 4/24/12 | 4/24/12 | 4/24/12 | 4/24/12 | N/A                 | N/A                 |
| Last two semi-annual flow rate audits for PM monitors          | N/A     | N/A     | N/A     | N/A     | 4/24/12<br>10/17/12 | 4/24/12<br>10/17/12 |
| Is it suitable for comparison against the annual PM2.5?        | N/A     | N/A     | N/A     | N/A     | N/A                 | No                  |

Table 5.9  
Lompoc Odor Monitoring Station Details

|  |   |                      |  |  |  |
|--|---|----------------------|--|--|--|
| <b>Site Name</b>                             | <b>Lompoc Odor</b>                      |                      |  |  |  |
| AQS ID                                       | 060831022                               |                      |  |  |  |
| GIS coordinates                              | Lat 34° 43' 08.37" Long 120° 25' 57.94" |                      |  |  |  |
| Location                                     | Located near an oil processing facility |                      |  |  |  |
| Address                                      | 2988 Harris Grade Rd, Lompoc, CA 93436  |                      |  |  |  |
| County                                       | Santa Barbara County                    |                      |  |  |  |
| Dist. to road                                | 1000 meters                             |                      |  |  |  |
| Traffic count                                | 100 Vehicles per day                    |                      |  |  |  |
| Groundcover                                  | Dirt                                    |                      |  |  |  |
| Representative area                          | MSA (Santa Barbara – Santa Maria, CA)   |                      |  |  |  |
| <b>Pollutant, POC</b>                        | <b>H2S,1</b>                            | <b>TRS,1</b>         |  |  |  |
| Parameter Code                               | 42402                                   | 43911                |  |  |  |
| Monitoring Objective                         | Public                                  | Public               |  |  |  |
| Site type(s)                                 | Source                                  | Source               |  |  |  |
| MFG/ Model                                   | TEI 45C                                 | TEI 43i              |  |  |  |
| Method Code                                  | 020                                     | 020                  |  |  |  |
| FRM/FEM or other                             | N/A                                     | N/A                  |  |  |  |
| Collecting Agency                            | Consultant                              | Consultant           |  |  |  |
| Reporting Agency                             | Santa Barbara County                    | Santa Barbara County |  |  |  |
| Spatial Scale                                | Neighborhood                            | Neighborhood         |  |  |  |
| Start date                                   | 2/1/88                                  | 2/1/88               |  |  |  |
| Operation schedule                           | Continuous                              | Continuous           |  |  |  |
| Sampling season                              | All Year                                | All Year             |  |  |  |
| Probe height                                 | 3.5                                     | 3.5                  |  |  |  |
| Distance from supporting structure           | 1.1                                     | 1.1                  |  |  |  |
| Distance from obstructions on roof           | None                                    | None                 |  |  |  |
| Distance from obstructions not on roof       | None                                    | None                 |  |  |  |
| Distance from trees                          | None                                    | None                 |  |  |  |
| Distance to furnace or incinerator           | None                                    | None                 |  |  |  |
| Unrestricted airflow                         | 360°                                    | 360°                 |  |  |  |
| Probe material                               | Glass & Teflon                          | Glass & Teflon       |  |  |  |
| Residence time                               | 12.0 s                                  | 12.0 s               |  |  |  |
| Will there be changes in next 18 months?     | No                                      | No                   |  |  |  |
| Frequency of one-point QC check (gaseous)    | Bi-Weekly                               | Bi-Weekly            |  |  |  |
| Last annual performance evaluation (gaseous) | 12/18/12                                | 12/18/12             |  |  |  |

Table 5.10  
Nojoqui Monitoring Station Details

|  |   |                          |  |  |  |
|--|---|--------------------------|--|--|--|
| <b>Site Name</b>                                   | <b>Nojoqui</b>  |                          |  |  |  |
| AQS ID   | 060831018   |                          |  |  |  |
| GIS coordinates                                    | Lat 34° 31' 38.9" Long 120° 11' 47.4"                     |                          |  |  |  |
| Location   | Located at the top of Nojoqui pass just off of US Hwy 101 |                          |  |  |  |
| Address  | US Hwy 101 & Nojoqui Pass, Gaviota Ca 93117               |                          |  |  |  |
| County   | Santa Barbara County                                      |                          |  |  |  |
| Dist. to road                                      | 200 meters  |                          |  |  |  |
| Traffic count                                      | 30000 Vehicles per day                                    |                          |  |  |  |
| Groundcover  | Grass   |                          |  |  |  |
| Representative area                                | MSA (Santa Barbara – Santa Maria, CA)                     |                          |  |  |  |
| <b>Pollutant, POC</b>                              | <b>O3,1</b>   | <b>NO2,1</b>             |  |  |  |
| Parameter Code                                     | 44201   | 42602                    |  |  |  |
| Monitoring Objective                               | NAAQS,<br>Public  | NAAQS,<br>Public         |  |  |  |
| Site type(s)                                       | Transport,<br>background                                  | Transport,<br>background |  |  |  |
| MFG/ Model   | TAPI 400e   | TEI 42i                  |  |  |  |
| Method Code  | 087   | 074                      |  |  |  |
| FRM/FEM or other                                   | FEM   | FRM                      |  |  |  |
| Collecting Agency                                  | Santa Barbara<br>County                                   | Santa Barbara<br>County  |  |  |  |
| Reporting Agency                                   | Santa Barbara<br>County                                   | Santa Barbara<br>County  |  |  |  |
| Spatial Scale                                      | Regional  | Regional                 |  |  |  |
| Start date   | 7/1/87  | 7/1/87                   |  |  |  |
| Operation schedule                                 | Continuous  | Continuous               |  |  |  |
| Sampling season                                    | All Year  | All Year                 |  |  |  |
| Probe height                                       | 3.0 m   | 3.0 m                    |  |  |  |
| Distance from<br>supporting structure              | 1.0 m   | 1.0 m                    |  |  |  |
| Distance from<br>obstructions on roof              | None  | None                     |  |  |  |
| Distance from<br>obstructions not on<br>roof       | None  | None                     |  |  |  |
| Distance from trees                                | None  | None                     |  |  |  |
| Distance to furnace or<br>incinerator              | None  | None                     |  |  |  |
| Unrestricted airflow                               | 360°  | 360°                     |  |  |  |
| Probe material                                     | Glass &<br>Teflon   | Glass &<br>Teflon        |  |  |  |
| Residence time                                     | 12.6 s  | 15.2 s                   |  |  |  |
| Will there be changes<br>in next 18 months?        | No  | No                       |  |  |  |
| Frequency of one-<br>point QC check<br>(gaseous)   | Weekly  | Weekly                   |  |  |  |
| Last annual<br>performance<br>evaluation (gaseous) | 7/24/12   | 7/24/12                  |  |  |  |



Table 5.11  
Paradise Road Monitoring Station Details

|  |  |                            |  |  |  |
|--|--|----------------------------|--|--|--|
| <b>Site Name</b>                                   | <b>Paradise Road</b>                                     |                            |  |  |  |
| AQS ID   | 060831014  |                            |  |  |  |
| GIS coordinates                                    | Lat 34° 32' 39.97" Long 119° 47' 29.27"                  |                            |  |  |  |
| Location   | Located in Los Padres National Forest off of Paradise Rd |                            |  |  |  |
| Address  | Paradise Road, Los Padres National Forrest CA 93105      |                            |  |  |  |
| County   | Santa Barbara County                                     |                            |  |  |  |
| Dist. to road                                      | 800 meters   |                            |  |  |  |
| Traffic count                                      | 100 Vehicles per day                                     |                            |  |  |  |
| Groundcover  | Trees and brush  |                            |  |  |  |
| Representative area                                | MSA (Santa Barbara – Santa Maria, CA)                    |                            |  |  |  |
| <b>Pollutant, POC</b>                              | <b>O3,1</b>  | <b>NO2,1</b>               |  |  |  |
| Parameter Code                                     | 44201  | 42602                      |  |  |  |
| Monitoring Objective                               | NAAQS,<br>Public   | NAAQS,<br>Public           |  |  |  |
| Site type(s)                                       | Max O3<br>Conc.  | Background                 |  |  |  |
| MFG/ Model   | TEI 49i  | TEI 42i                    |  |  |  |
| Method Code  | 047  | 074                        |  |  |  |
| FRM/FEM or other                                   | FEM  | FRM                        |  |  |  |
| Collecting Agency                                  | Consultant   | Consultant                 |  |  |  |
| Reporting Agency                                   | Santa<br>Barbara<br>County                               | Santa<br>Barbara<br>County |  |  |  |
| Spatial Scale                                      | Regional   | Regional                   |  |  |  |
| Start date   | 1/1/86   | 1/1/86                     |  |  |  |
| Operation schedule                                 | Continuous   | Continuous                 |  |  |  |
| Sampling season                                    | All Year   | All Year                   |  |  |  |
| Probe height                                       | 5.0 m  | 5.0 m                      |  |  |  |
| Distance from<br>supporting structure              | 1.8 m  | 1.8 m                      |  |  |  |
| Distance from<br>obstructions on roof              | None   | None                       |  |  |  |
| Distance from<br>obstructions not on<br>roof       | None   | None                       |  |  |  |
| Distance from trees                                | 20 m   | 20 m                       |  |  |  |
| Distance to furnace or<br>incinerator              | None   | None                       |  |  |  |
| Unrestricted airflow                               | 360°   | 360°                       |  |  |  |
| Probe material                                     | Glass &<br>Teflon  | Glass &<br>Teflon          |  |  |  |
| Residence time                                     | 7.0 s  | 10.0 s                     |  |  |  |
| Will there be changes<br>in next 18 months?        | No   | No                         |  |  |  |
| Frequency of one-<br>point QC check<br>(gaseous)   | Bi-weekly  | Bi-weekly                  |  |  |  |
| Last annual<br>performance<br>evaluation (gaseous) | 12/12/12   | 12/12/12                   |  |  |  |

Table 5.12  
Santa Barbara Monitoring Station Details

|  |  |                    |                    |                |               |
|--|--|--------------------|--------------------|----------------|---------------|
| <b>Site Name</b>   | <b>Santa Barbara</b>                         |                    |                    |                |               |
| AQS ID   | 060830011                                    |                    |                    |                |               |
| GIS coordinates  | Lat 34° 25' 39.76" Long 119° 41' 27.04"      |                    |                    |                |               |
| Location   | In parking lot of the National Guard Armory  |                    |                    |                |               |
| Address  | 700 E. Canon Perdido, Santa Barbara CA 93103 |                    |                    |                |               |
| County   | Santa Barbara County                         |                    |                    |                |               |
| Dist. to road  | 35 meters                                    |                    |                    |                |               |
| Traffic count  | 10000 Vehicles per day                       |                    |                    |                |               |
| Groundcover  | Asphalt                                      |                    |                    |                |               |
| Representative area  | MSA (Santa Barbara – Santa Maria, CA)        |                    |                    |                |               |
| <b>Pollutant, POC</b>  | <b>O3,1</b>                                  | <b>NO2,1</b>       | <b>CO,3</b>        | <b>PM2.5,3</b> | <b>PM10,1</b> |
| Parameter Code   | 44201  | 42602              | 42101              | 88101          | 85101         |
| Monitoring Objective   | NAAQS, public                                | NAAQS, public      | NAAQS, public      | NAAQS, public  | public        |
| Site type(s)   | population                                   | High concentration | High concentration | population     | population    |
| MFG/ Model   | TAPI 400                                     | TAPI 200           | TAPI 300           | BAM 1020       | BAM 1020      |
| Method Code  | 087  | 099                | 593                | 170            | 122           |
| FRM/FEM or other   | FEM  | FRM                | FRM                | FEM            | Non-FEM       |
| Collecting Agency  | CARB   | CARB               | CARB               | CARB           | CARB          |
| Reporting Agency   | CARB   | CARB               | CARB               | CARB           | CARB          |
| Spatial Scale  | Urban  | Urban              | Urban              | Neighborhood   | Neighborhood  |
| Start date   | 5/1/02                                       | 5/1/02             | 5/1/02             | 7/1/10         | 5/1/02        |
| Operation schedule   | Continuous                                   | Continuous         | Continuous         | Continuous     | Continuous    |
| Sampling season  | All Year                                     | All Year           | All Year           | All Year       | All Year      |
| Probe height   | 6.0 m  | 6.0 m              | 6.0 m              | 7.0 m          | 7.0 m         |
| Distance from supporting structure                             | 2.5 m  | 2.5 m              | 2.5 m              | 2.0 m          | 2.0 m         |
| Distance from obstructions on roof                             | None   | None               | None               | None           | None          |
| Distance from obstructions not on roof                         | None   | None               | None               | None           | None          |
| Distance from trees  | None   | None               | None               | None           | None          |
| Distance to furnace or incinerator                             | None   | None               | None               | None           | None          |
| Unrestricted airflow   | 360°   | 360°               | 360°               | 360°           | 360°          |
| Probe material   | Glass & Teflon                               | Glass & Teflon     | Glass & Teflon     | N/A            | N/A           |
| Residence time   | 4.9 s  | 4.9 s              | 4.9 s              | N/A            | N/A           |
| Will there be changes in next 18 months?                       | No   | No                 | No                 | No             | No            |
| Frequency of one-point QC check (gaseous)                      | Weekly                                       | Weekly             | Weekly             |                |               |
| Frequency of flow rate verification for automated PM analyzers |  |                    |                    | Bi-Weekly      | Bi-Weekly     |
| Last annual performance evaluation (gaseous)                   | 4/19/12                                      | 4/19/12            | 4/19/12            |                |               |

|   |     |     |     |                     |                     |
|---|-----|-----|-----|---------------------|---------------------|
| Last two semi-annual flow rate audits for PM monitors   |     |     |     | 4/19/12<br>10/17/12 | 4/19/12<br>10/17/12 |
| Is it suitable for comparison against the annual PM2.5? | N/A | N/A | N/A | Yes                 | N/A                 |

Note: This site is owned and operated by CARB. Data in this table are provided for reference only.

Table 5.13  
Santa Maria Monitoring Station Details

|  |  |                |                |               |                 |
|--|--|----------------|----------------|---------------|-----------------|
| <b>Site Name</b>   | <b>Santa Maria</b>                               |                |                |               |                 |
| AQS ID   | 060831008  |                |                |               |                 |
| GIS coordinates  | Lat 34° 56 34.31Long 120° 26' 8.25"              |                |                |               |                 |
| Location   | Located on second floor of small office building |                |                |               |                 |
| Address  | 906 S. Broadway, Santa Maria CA 93454            |                |                |               |                 |
| County   | Santa Barbara County                             |                |                |               |                 |
| Dist. to road  | 60 meters  |                |                |               |                 |
| Traffic count  | 30000 Vehicles per day                           |                |                |               |                 |
| Groundcover  | Roof   |                |                |               |                 |
| Representative area  | MSA (Santa Barbara – Santa Maria, CA)            |                |                |               |                 |
| <b>Pollutant, POC</b>  | <b>O3,1</b>                                      | <b>NO2,1</b>   | <b>CO, 1</b>   | <b>PM10,2</b> | <b>PM2.5, 3</b> |
| Parameter Code   | 44201  | 42602          | 42101          | 85101         | 88101           |
| Monitoring Objective   | NAAQS, public                                    | NAAQS, public  | NAAQS, public  | public        | NAAQS, public   |
| Site type(s)   | Population                                       | Population     | Highest Conc.  | Population    | Population      |
| MFG/ Model   | TAPI 400   | TAPI 200       | TAPI T300u     | BAM 1020      | BAM 1020        |
| Method Code  | 087  | 099            | 067            | 122           | 170             |
| FRM/FEM or other   | FEM  | FRM            | FRM            | Non-FEM       | FEM             |
| Collecting Agency  | CARB   | CARB           | CARB           | CARB          | CARB            |
| Reporting Agency   | CARB   | CARB           | CARB           | CARB          | CARB            |
| Spatial Scale  | Urban  | Urban          | Urban          | Neighborhood  | Neighborhood    |
| Start date   | 5/1/99   | 5/1/99         | 5/1/99         | 7/1/09        | 7/1/10          |
| Operation schedule   | Continuous                                       | Continuous     | Continuous     | Continuous    | Continuous      |
| Sampling season  | All Year   | All Year       | All Year       | All Year      | All Year        |
| Probe height   | 9.0 m  | 9.0 m          | 9.0 m          | 7.0 m         | 9.0 m           |
| Distance from supporting structure                             | 3.0 m  | 3.0 m          | 3.0 m          | 2.0 m         | 2.0 m           |
| Distance from obstructions on roof                             | None   | None           | None           | None          | None            |
| Distance from obstructions not on roof                         | None   | None           | None           | None          | None            |
| Distance from trees  | None   | None           | None           | None          | None            |
| Distance to furnace or incinerator                             | None   | None           | None           | None          | None            |
| Unrestricted airflow   | 360°   | 360°           | 360°           | 360°          | 360°            |
| Probe material   | Glass & Teflon                                   | Glass & Teflon | Glass & Teflon | N/A           | N/A             |
| Residence time   | 6.1 s  | 6.1 s          | 6.1 s          | N/A           | N/A             |
| Will there be changes in next 18 months?                       | No   | No             | No             | No            | No              |
| Frequency of one-point QC check (gaseous)                      | Weekly   | Weekly         | Weekly         |               |                 |
| Frequency of flow rate verification for automated PM analyzers |  |                |                | Bi-Weekly     | Bi-Weekly       |

|   |         |         |         |                     |                     |
|---|---------|---------|---------|---------------------|---------------------|
| Last annual performance evaluation (gaseous)            | 4/18/12 | 4/18/12 | 4/18/12 |                     |                     |
| Last two semi-annual flow rate audits for PM monitors   |         |         |         | 4/18/12<br>10/16/12 | 4/18/12<br>10/16/12 |
| Is it suitable for comparison against the annual PM2.5? | N/A     | N/A     | N/A     | N/A                 | Yes                 |

Note: This site is owned and operated by CARB. Data in this table are provided for reference only

Table 5.14  
Santa Ynez Monitoring Station Details

|  |                                       |  |  |  |  |
|--|---------------------------------------|--|--|--|--|
| <b>Site Name</b>                                   | <b>Santa Ynez</b>                     |  |  |  |  |
| AQS ID   | 060833001                             |  |  |  |  |
| GIS coordinates                                    | Lat 34° 36' 30.2" Long 120° 4' 29.0"  |  |  |  |  |
| Location   | Santa Ynez airport office building    |  |  |  |  |
| Address  | 900 Airport Rd., Santa Ynez, CA       |  |  |  |  |
| County   | Santa Barbara County                  |  |  |  |  |
| Dist. to road                                      | 600 meters                            |  |  |  |  |
| Traffic count                                      | 7000 Vehicles per day                 |  |  |  |  |
| Groundcover  | Grass                                 |  |  |  |  |
| Representative area                                | MSA (Santa Barbara – Santa Maria, CA) |  |  |  |  |
| <b>Pollutant, POC</b>                              | <b>O3,1</b>                           |  |  |  |  |
| Parameter Code                                     | 44201                                 |  |  |  |  |
| Monitoring Objective                               | NAQQS,<br>public                      |  |  |  |  |
| Site type(s)                                       | Population                            |  |  |  |  |
| MFG/ Model   | TAPI 400e                             |  |  |  |  |
| Method Code  | 087                                   |  |  |  |  |
| FRM/FEM or other                                   | FEM                                   |  |  |  |  |
| Collecting Agency                                  | Santa<br>Barbara<br>County            |  |  |  |  |
| Reporting Agency                                   | Santa<br>Barbara<br>County            |  |  |  |  |
| Spatial Scale                                      | Urban                                 |  |  |  |  |
| Start date   | 1/1/1980                              |  |  |  |  |
| Operation schedule                                 | Continuous                            |  |  |  |  |
| Sampling season                                    | All Year                              |  |  |  |  |
| Probe height                                       | 5.5 m                                 |  |  |  |  |
| Distance from<br>supporting structure              | 2.0 m                                 |  |  |  |  |
| Distance from<br>obstructions on roof              | None                                  |  |  |  |  |
| Distance from<br>obstructions not on<br>roof       | None                                  |  |  |  |  |
| Distance from trees                                | 5 m *                                 |  |  |  |  |
| Distance to furnace or<br>incinerator              | None                                  |  |  |  |  |
| Unrestricted airflow                               | 180°                                  |  |  |  |  |
| Probe material                                     | Glass &<br>Teflon                     |  |  |  |  |
| Residence time                                     | 16.5 s                                |  |  |  |  |
| Will there be changes<br>in next 18 months?        | Yes                                   |  |  |  |  |
| Frequency of one-<br>point QC check<br>(gaseous)   | Weekly                                |  |  |  |  |
| Last annual<br>performance<br>evaluation (gaseous) | 5/14/12                               |  |  |  |  |

\* Note: Pepper trees planted north of the probe have become overgrown and are preventing unrestricted airflow from the north. This site has been in operation since 1980. Historical pollution roses from a period of time prior to the trees being planted show that high ozone predominately occurs with westerly winds, a direction of unrestricted airflow. The Santa Barbara APCD is currently relocating this site and will operate the new Santa Ynez site location concurrently with the original location to provide a cross comparison of data. When sufficient cross comparison data has been gathered, a formal request to shut down the original Santa Ynez site location will be made to EPA.

Table 5.15  
UCSB West Campus Monitoring Station Details

|  |  |                      |                      |                      |  |
|--|--|----------------------|----------------------|----------------------|--|
| <b>Site Name</b>                             | <b>UCSB West Campus</b>                    |                      |                      |                      |  |
| AQS ID                                       | 060831020                                  |                      |                      |                      |  |
| GIS coordinates                              | Lat 34° 24' 53.79" Long 119° 52' 46.24"    |                      |                      |                      |  |
| Location                                     | Located West of Deverouix slough near UCSB |                      |                      |                      |  |
| Address                                      | UCSB West Campus, Santa Barbara, CA        |                      |                      |                      |  |
| County                                       | Santa Barbara County                       |                      |                      |                      |  |
| Dist. to road                                | 0 meters                                   |                      |                      |                      |  |
| Traffic count                                | 0 Vehicles per day                         |                      |                      |                      |  |
| Groundcover                                  | Grass                                      |                      |                      |                      |  |
| Representative area                          | MSA (Santa Barbara – Santa Maria, CA)      |                      |                      |                      |  |
| <b>Pollutant, POC</b>                        | <b>SO2,2</b>                               | <b>H2S,1</b>         | <b>TRS,1</b>         | <b>THC,1</b>         |  |
| Parameter Code                               | 42401                                      | 42402                | 43911                | 43101                |  |
| Monitoring Objective                         | Public                                     | Public               | Public               | Public               |  |
| Site type(s)                                 | Source                                     | Source               | Source               | Source               |  |
| MFG/ Model                                   | TEI 43i                                    | TEI 43i              | TEI 43i              | 51i-HT               |  |
| Method Code                                  | 060  | 020                  | 020                  | 011                  |  |
| FRM/FEM or other                             | FEM  | N/A                  | N/A                  | N/A                  |  |
| Collecting Agency                            | Consultant                                 | Consultant           | Consultant           | Consultant           |  |
| Reporting Agency                             | Santa Barbara County                       | Santa Barbara County | Santa Barbara County | Santa Barbara County |  |
| Spatial Scale                                | Neighborhood                               | Neighborhood         | Neighborhood         | Neighborhood         |  |
| Start date                                   | 6/1/99                                     | 6/1/99               | 6/1/99               | 6/1/99               |  |
| Operation schedule                           | Continuous                                 | Continuous           | Continuous           | Continuous           |  |
| Sampling season                              | All Year                                   | All Year             | All Year             | All Year             |  |
| Probe height                                 | 3.5  | 3.5                  | 3.5                  | 3.5                  |  |
| Distance from supporting structure           | 1.1  | 1.1                  | 1.1                  | 1.1                  |  |
| Distance from obstructions on roof           | None                                       | None                 | None                 | None                 |  |
| Distance from obstructions not on roof       | None                                       | None                 | None                 | None                 |  |
| Distance from trees                          | None                                       | None                 | None                 | None                 |  |
| Distance to furnace or incinerator           | None                                       | None                 | None                 | None                 |  |
| Unrestricted airflow                         | 360°                                       | 360°                 | 360°                 | 360°                 |  |
| Probe material                               | Glass & Teflon                             | Glass & Teflon       | Glass & Teflon       | Glass & Teflon       |  |
| Residence time                               | 14.9 s                                     | 14.9 s               | 14.9 s               | 14.9 s               |  |
| Will there be changes in next 18 months?     | NO   | No                   | No                   | No                   |  |
| Frequency of one-point QC check (gaseous)    | Bi-Weekly                                  | Bi-Weekly            | Bi-Weekly            | Bi-Weekly            |  |
| Last annual performance evaluation (gaseous) | 4/21/2011                                  | 4/21/2011            | 4/21/2011            | 4/21/2011            |  |



Table 5.16  
VAFB STS Monitoring Station Details

|  |  |                            |                         |                            |                            |
|--|--|----------------------------|-------------------------|----------------------------|----------------------------|
| <b>Site Name</b>   | <b>VAFB STS</b>  |                            |                         |                            |                            |
| AQS ID   | 060834003  |                            |                         |                            |                            |
| GIS coordinates  | Lat 34° 35' 45.10" Long 120° 37' 52.86"                    |                            |                         |                            |                            |
| Location   | Coastal hillside east of a gas turbine peaking power plant |                            |                         |                            |                            |
| Address  | South VAFB, Vandenburg AFB, CA                             |                            |                         |                            |                            |
| County   | Santa Barbara County                                       |                            |                         |                            |                            |
| Dist. to road  | 1000 meters  |                            |                         |                            |                            |
| Traffic count  | 1000 Vehicles per day                                      |                            |                         |                            |                            |
| Groundcover  | Grass  |                            |                         |                            |                            |
| Representative area  | MSA (Santa Barbara – Santa Maria, CA)                      |                            |                         |                            |                            |
| <b>Pollutant, POC</b>  | <b>O3,1</b>  | <b>NO2,1</b>               | <b>SO2,1</b>            | <b>CO,1</b>                | <b>PM10,1</b>              |
| Parameter Code   | 44201  | 42602                      | 42401                   | 42101                      | 81102                      |
| Monitoring Objective   | NAAQS,<br>Public   | NAAQS,<br>Public           | NAAQS,<br>Public        | NAAQS,<br>Public           | NAAQS,<br>Public           |
| Site type(s)   | General<br>Background                                      | Source                     | Source                  | Source                     | Source                     |
| MRG/Model  | TAPI 400e  | TAPI 200e                  | TAPI 100e               | TAPI 300                   | SA 1200                    |
| Method Code  | 087  | 074                        | 100                     | 093                        | 064                        |
| FRM/FEM or other   | FEM  | FRM                        | FEM                     | FRM                        | FRM                        |
| Collecting Agency  | Santa<br>Barbara<br>County                                 | Santa<br>Barbara<br>County | Santa Barbara<br>County | Santa<br>Barbara<br>County | Santa<br>Barbara<br>County |
| Analytical Lab   | N/A  | N/A                        | N/A                     | N/A                        | Weighed by<br>SBCAPCD      |
| Reporting Agency   | Santa<br>Barbara<br>County                                 | Santa<br>Barbara<br>County | Santa Barbara<br>County | Santa<br>Barbara<br>County | Santa<br>Barbara<br>County |
| Spatial Scale  | Regional   | Neighborhood               | Neighborhood            | Neighborhood               | Neighborhood               |
| Start date   | 6/1/88   | 6/1/88                     | 6/1/88                  | 6/1/88                     | 6/1/88                     |
| Operation schedule   | Continuous   | Continuous                 | Continuous              | Continuous                 | 1 in 6 day                 |
| Sampling season  | All Year   | All Year                   | All Year                | All Year                   | All Year                   |
| Probe height   | 4.5 m  | 4.5 m                      | 4.5 m                   | 4.5 m                      | 5.0 m                      |
| Distance from<br>supporting structure                                  | 1.0 m  | 1.0 m                      | 1.0 m                   | 1.0 m                      | 1.5 m                      |
| Distance from<br>obstructions on roof                                  | None   | None                       | None                    | None                       | None                       |
| Distance from<br>obstructions not on<br>roof                           | None   | None                       | None                    | None                       | None                       |
| Distance from trees  | None   | None                       | None                    | None                       | None                       |
| Distance to furnace or<br>incinerator                                  | None   | None                       | None                    | None                       | None                       |
| Unrestricted airflow   | 360°   | 360°                       | 360°                    | 360°                       | 360°                       |
| Probe material   | Glass &<br>Teflon  | Glass &<br>Teflon          | Glass & Teflon          | Glass &<br>Teflon          | N/A                        |
| Residence time   | 11.2 s   | 11.5 s                     | 10.6 s                  | 10.0 s                     | N/A                        |
| Will there be changes<br>in next 18 months?                            | No   | No                         | No                      | No                         | No                         |
| Frequency of flow rate<br>verification for<br>automated PM<br>samplers | N/A  | N/A                        | N/A                     | N/A                        | Monthly                    |

|   |          |          |          |          |                         |
|---|----------|----------|----------|----------|-------------------------|
| Frequency of one-point QC check (gaseous)             | Weekly   | Weekly   | Weekly   | Weekly   | N/A                     |
| Last annual performance evaluation (gaseous)          | 12/06/11 | 12/06/11 | 12/06/11 | 12/06/11 | N/A                     |
| Last two semi-annual flow rate audits for PM monitors | N/A      | N/A      | N/A      | N/A      | 8/03/2011<br>12/06/2011 |

## Glossary of Acronyms

|                   |  |
|-------------------|--|
| AQS               | Air quality system                                   |
| ARB               | Air Resources Board                                  |
| ARM               | Approved regional method                             |
| CARB              | California Air Resources Board                       |
| CFR               | Code of Federal Regulations                          |
| CO                | Carbon monoxide                                      |
| FEM               | Federal equivalent method                            |
| FRM               | Federal reference method                             |
| H <sub>2</sub> S  | Hydrogen Sulfide                                     |
| MSA               | Metropolitan statistical area                        |
| NAAQS             | National ambient air quality standard                |
| NO <sub>2</sub>   | Nitrogen dioxide                                     |
| O <sub>3</sub>    | Ozone  |
| PM <sub>10</sub>  | Particulate matter less than 10 microns in diameter  |
| PM <sub>2.5</sub> | Particulate matter less than 2.5 microns in diameter |
| PSD               | Prevention of significant deterioration              |
| SBCAPCD           | Santa Barbara County Air Pollution Control District  |
| SLAMS             | State and Local Air Monitoring Station               |
| SO <sub>2</sub>   | Sulfur dioxide                                       |
| SPM               | Special purpose monitor                              |
| THC               | Total hydrocarbons                                   |
| TRS               | Total reduced sulfur                                 |
| US EPA            | United States Environmental Protection Agency        |

## APPENDIX A

### Regulatory language of 40 CFR 58.10

#### **§ 58.10 Annual monitoring network plan and periodic network assessment.**

(a)(1) Beginning July 1, 2007, the State, or where applicable local, agency shall adopt and submit to the Regional Administrator an annual monitoring network plan which shall provide for the establishment and maintenance of an air quality surveillance system that consists of a network of SLAMS monitoring stations including FRM, FEM, and ARM monitors that are part of SLAMS, NCore stations, STN stations, State speciation stations, SPM stations, and/or, in serious, severe and extreme ozone nonattainment areas, PAMS stations, and SPM monitoring stations. The plan shall include a statement of purposes for each monitor and evidence that siting and operation of each monitor meets the requirements of appendices A, C, D, and E of this part, where applicable. The annual monitoring network plan must be made available for public inspection for at least 30 days prior to submission to EPA.

(2) Any annual monitoring network plan that proposes SLAMS network modifications including new monitoring sites is subject to the approval of the EPA Regional Administrator, who shall provide opportunity for public comment and shall approve or disapprove the plan and schedule within 120 days. If the State or local agency has already provided a public comment opportunity on its plan and has made no changes subsequent to that comment opportunity, the Regional Administrator is not required to provide a separate opportunity for comment.

(3) The plan for establishing required NCore multi-pollutant stations shall be submitted to the Administrator not later than July 1, 2009. The plan shall provide for all required stations to be operational by January 1, 2011.

(b) The annual monitoring network plan must contain the following information for each existing and proposed site:

- (1) The AQS site identification number.
- (2) The location, including street address and geographical coordinates.
- (3) The sampling and analysis method(s) for each measured parameter.
- (4) The operating schedules for each monitor.

(5) Any proposals to remove or move a monitoring station within a period of 18 months following plan submittal.

(6) The monitoring objective and spatial scale of representativeness for each monitor as defined in appendix D to this part.

(7) The identification of any sites that are suitable and sites that are not suitable for comparison against the annual PM<sub>2.5</sub>NAAQS as described in §58.30.

(8) The MSA, CBSA, CSA or other area represented by the monitor.

(c) The annual monitoring network plan must document how States and local agencies provide for the review of changes to a PM<sub>2.5</sub> monitoring network that impact the location of a violating PM<sub>2.5</sub> monitor or the creation/change to a community monitoring zone, including a description of the proposed use of spatial averaging for purposes of making comparisons to the annual PM<sub>2.5</sub> NAAQS as set forth in appendix N to part 50 of this chapter. The affected State or local agency must document the process for obtaining public comment and include any comments received through the public notification process within their submitted plan.

(d) The State, or where applicable local, agency shall perform and submit to the EPA Regional Administrator an assessment of the air quality surveillance system every 5 years to determine, at a minimum, if the network meets the monitoring objectives defined in appendix D to this part, whether new sites are needed, whether existing sites are no longer needed and can be terminated, and whether new technologies are appropriate for incorporation into the ambient air monitoring network. The network assessment must consider the ability of existing and proposed sites to support air quality characterization for areas with relatively high populations of susceptible individuals (e.g., children with asthma), and, for any sites that are being proposed for discontinuance, the effect on data users other than the agency itself, such as nearby States and Tribes or health effects studies. For PM<sub>2.5</sub>, the assessment also must identify needed changes to population-oriented sites. The State, or where applicable local, agency must submit a copy of this 5-year assessment, along with a revised annual network plan, to the Regional Administrator. The first assessment is due July 1, 2010.

(e) All proposed additions and discontinuations of SLAMS monitors in annual monitoring network plans and periodic network assessments are subject to approval according to §58.14.