Annual Monitoring Network Report for Twenty-five Districts in California

June 2015

Volume 1

California Environmental Protection Agency

Air Resources Board

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Detailed Monitoring Site Reports

Introduction

Federal regulations require state and local agencies that conduct ambient air monitoring for regulatory purposes to submit an Annual Monitoring Network Report. The report must contain specific monitoring network information and be available for a 30-day public inspection period prior to submittal to the U.S. Environmental Protection Agency (U.S. EPA). This report meets the requirements specified in Title 40, Code of Federal Regulations (CFR), Part 58.10 (40 CFR 58.10) for a subset of the California monitoring network.

This report covers the monitoring network for 25 of the 32 air districts within the Air Resources Board (ARB) Primary Quality Assurance Organization (PQAO). A PQAO is the umbrella under which monitoring agencies are organized to ensure that monitoring is conducted according to a common set of procedures, using common calibration facilities and standards, with oversight by one air quality organization. Most of the districts in California are included in the ARB PQAO. The exceptions are the South Coast, San Diego, and Bay Area districts, which each comprise their own PQAO. Each PQAO is responsible for its monitoring network and reports directly to U.S. EPA on monitoring network requirements.

Table 1 lists the districts in the ARB PQAO that are included within the scope of this report, as well as those air districts that are preparing their own report. This report covers documentation of the monitoring network for the period of January 1 through December 31, 2014, along with a discussion of proposed near-term changes to the network. Consistent with directions from the U.S. EPA, this report includes monitors operated by the local districts, ARB, and other agencies such as the National Park Service (NPS) within the jurisdictions covered in this report. Included are monitors designated as State and Local Air Monitoring Sites (SLAMS), National Core (NCore) multi-pollutant monitoring stations, Special Purpose Monitoring (SPM), and other types of monitors operated by ARB, NPS, and air districts. This report also includes the Federal Reference Method (FRM) and Federal Equivalent Method (FEM) monitors.

This report documents for monitoring within the ARB PQAO, compliance with the federal requirements specified in 40 CFR 58, Appendices A through E. Table 2 identifies the elements from 40 CFR 58.10 that are required to be included in the annual report and where the elements are located. The requirements are comprehensive and include information on items such as minimum monitoring requirements, monitor operation, monitor siting, sampling schedule, and quality assurance activities.

Overview of Report

Table 1 and Figure 1 identify the 25 air districts within the ARB PQAO covered in this report as well as the seven districts in the ARB PQAO that are preparing their own report. A brief summary of elements included in this report is listed below.

- Summary of CFR elements required for inclusion in the report;
- Detailed information on each monitor;
- Minimum monitoring requirements and compliance with these requirements;
- Particulate matter (PM) collocation requirements;
- PM design values;
- Particulate matter of 2.5 microns or less in diameter ($PM_{2.5}$) Federal Reference Method (FRM) operating schedules;
- Proposed and implemented network changes.

In compiling this report, ARB solicited input from, and review by, the 25 local air districts. Also, the report was available for a 30 day public inspection period prior to its submittal to the U.S. EPA. This report can be downloaded from the internet at http://www.arb.ca.gov/aqd/amnr/amnr.htm.

Table 1
Districts Included in the ARB Primary Quality Assurance Organization (PQAO)

Air districts that are included in this ARB report	Air districts drafting their own Annual Network Plans
Amador County APCD	Great Basin Unified APCD
Antelope Valley AQMD	Monterey Bay Unified APCD
Butte County AQMD	North Coast Unified AQMD
Calaveras County APCD	Sacramento Metropolitan AQMD
Colusa County APCD	San Joaquin Valley APCD
Eastern Kern APCD	San Luis Obispo County APCD
El Dorado County AQMD	Santa Barbara County APCD
Feather River AQMD	
Glenn County APCD	
Imperial County APCD	
Lake County AQMD	
Lassen County APCD	
Mariposa County APCD	
Mendocino County AQMD	
Modoc County APCD	
Mojave Desert AQMD	
Northern Sierra AQMD	
Northern Sonoma County APCD	
Placer County APCD	
Shasta County AQMD	
Siskiyou County APCD	
Tehama County APCD	
Tuolumne County APCD	
Ventura County APCD	
Yolo-Solano AQMD	

Notes:
APCD stands for Air Pollution Control District.
AQMD stands for Air Quality Management District.

The South Coast, San Diego and Bay Area districts are not included in this table. These three districts are drafting their own network plans because they are designated PQAOs.

Figure 1
California PQAOs

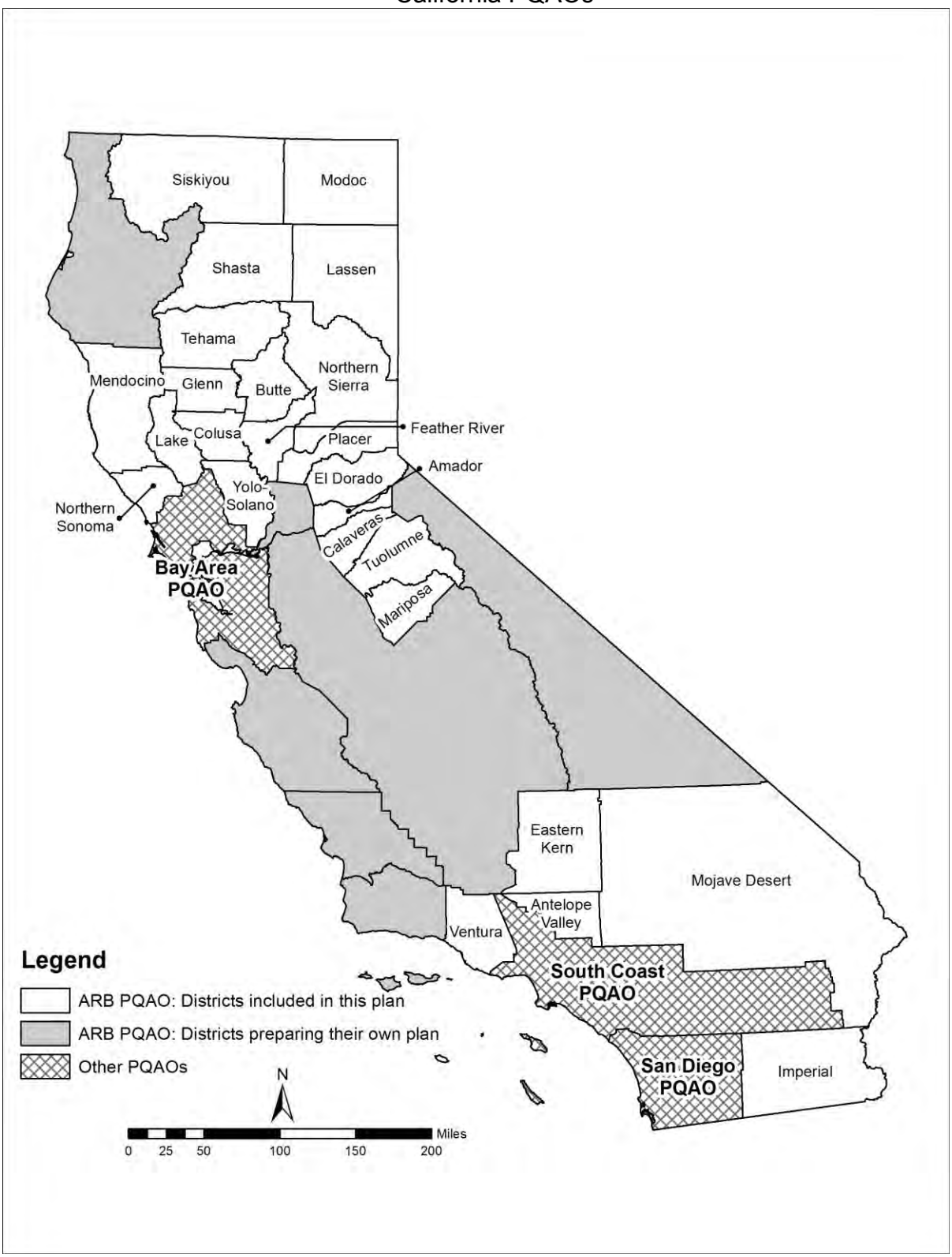


Table 2
Location of Elements Required for Annual Network Plan

Elements required by 40 CFR 58.10	Location in Annual Network Plan
Monitoring purpose information	Section 3
Evidence that siting and operation criteria are met:	
40 CFR 58, Appendix A	Section 6 & 7
40 CFR 58, Appendix B	Section 7
40 CFR 58, Appendix D	Section 5 & 6
40 CFR 58, Appendix E	Section 7
Air Quality System Site Identification Number (AQS Site ID)	Section 3, Table 3 Section 4, Table 5
Location of sites	
Street address	Section 3, Table 3
Geographic coordinates	Section 4, Table 5
Sampling and analysis methods of monitors	Section 4, Table 5
Operating schedules for monitors	Section 8
Proposals to move/remove stations	Section 10
Monitoring objectives and spatial scale	Sections 3 & 4, Tables 3 & 5
Sites suitable/not suitable for comparison to the annual $PM_{2.5}$ National Ambient Air Quality Standard	Section 9.1
Core-Based Statistical Area information (Metropolitan and Micropolitan)	Section 3, Table 3 Section 4, Table 5 Section 5, Tables 8, 9, 10 & 11 Appendix B
Review of changes to $PM_{2.5}$ Network	Section 9.2

Section 2. Monitoring Network Overview

California's ambient air monitoring network is one of the most extensive in the world, consisting of over 250 sites where air pollution levels are monitored and more than 700 monitors used to measure the pollutant levels. A monitoring network this large is needed to cover the diverse range of topography, meteorology, emissions, and air quality in California, while adequately representing a large population. The monitoring network is critical for assessing the State's clean air progress, understanding spatial and temporal variations in air pollutants, and evaluating pollutant exposure by people and the environment.

The density of air monitoring sites with the network tends to be greater in the areas with more severe air quality problems and larger populations. The monitoring network strives to collect data that are representative of all the broad geographical areas in California, including coastal, interior valley, desert, and mountainous regions. Monitoring is also conducted in Mexico, across the border from San Diego and Imperial counties. Monitors are operated by ARB, local air districts, and other entities, including the NPS, private contractors, and tribal authorities. Note that tribal monitors are not included in this report.

Ambient concentration data are collected for a wide variety of pollutants. These include ozone (O_3), particulate matter with a diameter of 2.5 microns or less ($PM_{2.5}$), particulate matter with a diameter of 10 microns or less (PM_{10}), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead (Pb), which are known are the federal criteria pollutants. A number of volatile organic compounds (VOC) or reactive organic gases (ROG) and toxic compounds are also monitored at a limited number of locations. Monitoring for meteorological parameters is conducted at a number of sites as well. While toxics, and meteorological monitoring play an integral part in California's air quality programs, this report only covers those pollutants specified by federal requirements to be included in the annual monitoring network plans, which focus on the criteria pollutants.

Not all pollutants are monitored at every site, although most sites monitor for multiple pollutants. The state and local air quality agencies in California make the effort to only collect data that is needed from each site. The needs for the monitoring data vary and are explained by the monitoring objectives and purposes in the next section of this report. One fundamental purpose of monitoring is to distinguish between areas where pollutant levels violate the ambient air quality standards and areas where they do not. Health-based ambient air quality standards are set at levels of pollutant concentrations that protect against adverse impacts to human health. Areas in violation of a standard usually have increased efforts to reduce the sources of pollution that result in the exceedances. Air quality agencies develop strategies, programs, and regulations to achieve needed emission reductions. Data from the ambient monitoring network are then used to determine the rate of progress towards attaining the standards.

Section 3. Site and Monitoring Information

This section details monitoring information for the sites and monitors that fall within the geographical scope of this report. U.S. EPA requires three types of information to be included in the annual network plans. These are: federal site type, federal monitoring objective, and federal monitor type. The first three subsections, below, describe these federal monitoring requirements. The fourth subsection provides detail on state and local monitoring purposes, which encompass a broader scope of active program areas than the federal monitoring requirements.

Federal Site Type

Monitoring sites must be capable of informing air quality program managers about many things including the peak air pollution levels, typical levels in populated areas, air pollution transported into and out of a city or region, and air pollution levels near specific sources. For these reasons, U.S. EPA requires that each monitor at a site be designated, at a minimum, with one of the following twelve site types established in the Air Quality System (AQS) database:

- Extreme Downwind
- Highest Concentration
- Population Exposure
- Upwind Background
- Regional Transport
- Quality Assurance
- Max Ozone Concentration
- Max Precursor Emissions Impacts
- Source Oriented
- Welfare Related Impacts
- General
- Other

Most of the site types are specific to a monitoring purpose, such as population exposure. However, two site types are general in nature and could be used for broad purposes (i.e., General and Other). States are encouraged not to use the “General” or “Other” categories unless no other options are appropriate. U.S. EPA requires that a monitor be properly designated with an appropriate site type so that the data collected can be used to support the three basic federal monitoring objectives, which are discussed in more detail below. The site types of the monitors covered in this report are included in Table 3.

Federal Monitoring Objective

An ambient air monitoring network must be designed to meet one or more of the three basic federal monitoring objectives, which are:

- to provide air quality data to the public in a timely manner;
- to support compliance with national air quality standards; and/or
- to support air quality research studies.

For purposes of this report, the monitoring objectives are the federal *monitoring objectives* defined in Appendix D of 40 CFR 58. Federal monitoring regulations require

that each monitor measuring criteria pollutants have at least one monitoring objective. However, many air quality agencies operate monitors with multiple objectives in mind. For example, monitoring is conducted to provide both air quality data to the public as well as to support air quality standards. The federal monitoring objectives for the monitors covered in this report are included in Table 3.

Federal Monitor Type

U.S. EPA requires that every state establish a network of air monitoring sites for criteria pollutants using criteria defined in the federal regulations for the monitoring sites' location and operation. The monitoring sites in this network are called the State and Local Air Monitoring Stations (SLAMS). In addition, U.S. EPA requires state and local monitoring agencies to establish monitoring sites to measure approximately 60 volatile hydrocarbons and carbonyls, which play an integral role in ozone studies. These sites are called the Photochemical Assessment Monitoring Stations (PAMS). A third type of monitor, the Special Purpose Monitor (SPM), is used by state and local monitoring agencies to fulfill very specific or short-term monitoring goals. While there are a total of fifteen monitor types established by U.S. EPA, SLAMS, PAMS, and SPM are the three most common monitor types used by state and local monitoring agencies in California. Table 3 lists the monitor type for the monitors at each site and the complete list of monitor types is listed after the table.

State and Local Monitoring Purposes

There are a number of monitoring purposes besides the federal classifications. These are directly related to the needs of state and local agencies. California has a very comprehensive monitoring network that is needed for implementing a variety of programs. Listed below are some of the most common state and local monitoring purposes:

Agricultural Burning refers to the intentional use of fire for vegetation management, both in agricultural settings, such as fields and orchards, as well as in wildlands, including rangeland and forests, to improve land for wildlife and game habitat or as a tool for disease or pest prevention. Monitors with this purpose are used to assess when and where burning can occur.

Expected High Concentration monitoring is used to measure pollutant concentrations in areas where air pollution is expected to be at its highest. The State designation criteria contain the requirement for this type of monitoring in order to show that an area attains the State air quality standards. During the State area designation process, the data from all monitors in an area are examined, but only the data from the monitors with the highest concentrations will determine the designation of the area.

The *Geyser Air Monitoring Program (GAMP)* was established to monitor ambient air quality in geothermal areas, primarily hydrogen sulfide.

Residential Burning or backyard burning is the open burning of yard waste by household residents. Backyard burning includes dry weeds, plant prunings, shrubbery, tree trimmings, and branches. Data from monitors with this purpose help guide decisions regarding appropriate times to allow residential burning.

Representative Concentration means locating a site to represent a geographical region with common topography and meteorology. These sites do not necessarily indicate the highest concentrations in the area for a particular pollutant. This is a purpose also listed by the U.S. EPA.

State Area Designation monitoring is used to determine compliance with the State ambient air quality standards for a particular pollutant. Using the monitors with the highest concentrations of a particular pollutant, the ARB determines if the area is in attainment or nonattainment of the State air quality standards, as already described in the discussion of Expected High Concentration monitoring.

State Implementation Plan (SIP) and/or Maintenance Plan Requirement is monitoring conducted to demonstrate compliance with SIP requirements. The SIP is a plan prepared by states and submitted to the U.S. EPA describing how each area will attain federal air quality standards. Once an area attains a standard, the area is required to show and maintain that status, which requires continued monitoring in the area.

Trend Analysis monitoring is useful for comparing and analyzing air pollution concentrations over time and distance. Usually, trend analyses show the progress or lack of progress in improving air quality for an area over a period of years. Some sites are more useful than others for trend analyses. For example, it is better to have a history of monitoring at a site that covers the full time period of the trend analysis.

The above list of state and local monitoring purposes is not comprehensive, but it includes the most common purposes used by air quality agencies in California. Note that the terms “objective” and “purpose” are very similar to one another and could be used interchangeably. However, to avoid confusion, this report separates the monitoring objectives from the monitoring purposes by limiting the monitoring objectives to the three federal objectives as defined above and the monitoring purposes to the state and local monitoring purposes. The state and local monitoring purposes are more comprehensive than the federal monitoring objectives. The state and local monitoring purpose for each monitor is included in Table 3.

Summary of Table 3

Table 3 lists the federal site type, federal monitoring objective, state and local monitoring purposes, and federal monitor type for each site and monitor. The monitoring sites are grouped by air basin and county (Figure 2). In addition, Table 3 lists other site and monitoring information, such as the AQS Site ID, site address, site name, pollutants monitored, and parameter codes. Note that the term “site type” refers to the individual monitor(s) at a site and not the site itself. U.S. EPA has determined that a single site type may not describe all of the monitors at a particular site; therefore, U.S. EPA

established the site type designations at the monitor level, rather than the site level. It should be noted that a monitor can have multiple site types, monitoring objectives, monitoring purpose designations, and/or monitor types.

Finally, Table 3 also lists the location of each monitor, including the Core-Based Statistical Area (CBSA) in which each monitor is located. CBSAs are defined by the United States Office of Management and Budget (OMB) and provide a consistent set of geographical areas for federal agencies to use in collecting, tabulating, and publishing statistical data. Two types of areas are included as CBSAs: Metropolitan Statistical Areas and Micropolitan Statistical Areas. The difference between a Metropolitan and Micropolitan statistical area is the area's population. A Metropolitan Statistical Area has an urban core with a population of 50,000 or more, whereas a Micropolitan Statistical Area has an urban core with a population of at least 10,000, but less than 50,000. Both Metropolitan and Micropolitan statistical areas can comprise one or more counties (Figure 3).

U.S. EPA specifies the number of monitors required for each pollutant based on the OMB statistical areas. Older standards, such as the federal ozone standard, specify required monitors based on Metropolitan Statistical Area and Micropolitan Statistical Area. More recent standards, such as the federal SO_2 standard, use the newer collective term, CBSA. Because it is more current, the term CBSA is used in this report, as well. Table 8 in Section 5 contains a comprehensive CBSA list for California. Also in Table 8 is information about CBSAs that are not covered in this plan, but are covered either in part or in whole, in other individual district reports.

Figure 2
Map showing Air Basins and Counties in California

Figure 3
Map showing the Core-Based Statistical Areas in California

U.S. DEPARTMENT OF COMMERCE Economics and Statistics Administration U.S. Census Bureau

Table 3

Site and Monitoring Information
(Monitors reporting data in 2014)

Station/Address/AQS Site #		OZONE 44201	CO 42101	NO_2 42602	SO_2 42401	$PM_{2.5}$* 88101	PM_{10}* 81102
LAKE COUNTY AIR BASIN							
Lake County / CBSA: Clearlake Micropolitan Statistical Area							
Middletown-Anderson Springs Road**	Site Type:						Gnrl
11270 Anderson Springs Road, Middletown	Objective:						RSupport
060333010	Purpose:						StateD, GAMP
	Mon. Type:						SLAMS
Glenbrook-High Valley Road**	Site Type:						Gnrl
8276 High Valley Road, Cobb	Objective:						RSupport
060333011	Purpose:						StateD, GAMP
	Mon. Type:						SLAMS
Lakeport-Lakeport Blvd**	Site Type:	Gnrl				Gnrl	Gnrl
905 Lakeport Blvd, Lakeport	Objective:	NAAQS				NAAQS	NAAQS
060333001	Purpose:	StateD				StateD	StateD
	Mon. Type:	SLAMS				SLAMS	SLAMS
LAKE TAHOE AIR BASIN							
El Dorado County / CBSA: Sacramento-Arden-Arcade-Roseville Metropolitan Statistical Area							
South Lake Tahoe-Sandy Way	Site Type:						(PopEx)
3337 Sandy Way, South Lake Tahoe	Objective:						(NAAQS/ PublicR)
060170011	Purpose:						(RConc)
	Mon. Type:						(SLAMS)
Placer County / CBSA: Sacramento-Arden-Arcade-Roseville Metropolitan Statistical Area							
Tahoe City	Site Type:	Gnrl					
221 Fairway Drive, Tahoe City	Objective:	NAAQS					
060611004	Purpose:	StateD					
	Mon. Type:	SLAMS					
MOJAVE DESERT AIR BASIN							
Kern County / CBSA: Bakersfield Metropolitan Statistical Area							
Canebrake-3147 Highway 178	Site Type:						PopEx
3147 Highway 178, Canebrake	Objective:						NAAQS
060290017	Purpose:						RConc
	Mon. Type:						SLAMS

Table 3

Site and Monitoring Information
(Monitors reporting data in 2014)

Station/Address/AQS Site #		OZONE 44201	CO 42101	NO_2 42602	SO_2 42401	$PM_{2.5}$* 88101	PM_{10}* 81102
Mojave-923 Poole Street	Site Type:	HConc				(PopEx)	(PopEx)
923 Poole Street, Mojave	Objective:	NAAQS				(NAAQS)	(NAAQS)
060290011	Purpose:	SIPMain				(SIPMain)	(SIPMain)
	Mon. Type:	SLAMS				(SLAMS)	(SLAMS)
Ridgecrest-100 West California Avenue	Site Type:					PopEx	PopEx
100 West California Avenue, Ridgecrest	Objective:					NAAQS	NAAQS
060290015	Purpose:					SIPMain	SIPMain
	Mon. Type:					SLAMS	SLAMS
Los Angeles County / CBSA: Los Angeles-Long Beach-Anaheim Metropolitan Statistical Area							
Lancaster-43301 Division Street	Site Type:	Trans	Gnrl	Gnrl		HConc	(Gnrl)
43301 Division Street, Lancaster	Objective:	NAAQS	NAAQS	NAAQS		NAAQS	(NAAQS/ PublicR)
060379033	Purpose:	Trnds	RConc	RConc		RConc	(RConc)
	Mon. Type:	SLAMS	SLAMS	SLAMS		SLAMS	(SLAMS)
Riverside County / CBSA: Riverside-San Bernardino-Ontario Metropolitan Statistical Area							
Blythe-445 W Murphy Street	Site Type:	Trans					
445 W Murphy Street, Blythe	Objective:	NAAQS/ PublicR					
060659003	Purpose:	RConc					
	Mon. Type:	SLAMS					
San Bernardino County / CBSA: Riverside-San Bernardino-Ontario Metropolitan Statistical Area							
Barstow-200 E Buena Vista Road	Site Type:	Trans	Gnrl	Gnrl			(Gnrl)
200 E Buena Vista Road, Barstow	Objective:	NAAQS	NAAQS	NAAQS			(NAAQS)
060710001	Purpose:	StateD	StateD	StateD			(StateD)
	Mon. Type:	SLAMS	SLAMS	SLAMS			(SLAMS)
Hesperia-Olive Street	Site Type:	Trans					(Gnrl)
17288 Olive Street, Hesperia	Objective:	NAAQS					(NAAQS)
060714001	Purpose:	StateD					(StateD)
	Mon. Type:	SLAMS					(SLAMS)
Joshua Tree National Mont.-Black Rock	Site Type:	PopEx					
060719002	Objective:	NAAQS/ PublicR					
	Purpose:	RConc					
	Mon. Type:	SLAMS					
Lucerne Valley-Middle School	Site Type:						Gnrl
8560 Aliento-Middle School, Lucerne Valley	Objective:						NAAQS
060710013	Purpose:						StateD
	Mon. Type:						SLAMS

Table 3

Site and Monitoring Information
(Monitors reporting data in 2014)

Station/Address/AQS Site #		OZONE 44201	CO 42101	NO_2 42602	SO_2 42401	$PM_{2.5}$* 88101	PM_{10}* 81102
Phelan-Beekley and Phelan Roads	Site Type:	Trans					
Beekley Road and Phelan Road, Phelan	Objective:	NAAQS					
060710012	Purpose:	StateD					
	Mon. Type:	SLAMS					
Trona-Athol and Telescope	Site Type:	Gnrl		Gnrl	Gnrl		(HConc)
Corner of Athol and Telescope, Trona	Objective:	NAAQS		NAAQS	NAAQS		(NAAQS)
060711234	Purpose:	StateD		StateD	StateD		(StateD)
	Mon. Type:	SLAMS		SLAMS	SLAMS		(SLAMS)
Victorville-14036 Park Avenue	Site Type:	Trans	Gnrl	Gnrl	Gnrl	Gnrl/Gnrl	(PopEx)
14036 Park Avenue, Victorville	Objective:	NAAQS	NAAQS	NAAQS	NAAQS	NAAQS/ NAAQS	(NAAQS)
060710306	Purpose:	StateD	StateD	StateD	StateD	StateD/ QAM	(StateD)
	Mon. Type:	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS/ SLAMS	(SLAMS)
MOUNTAIN COUNTIES AIR BASIN							
Amador County / Not in a CBSA							
Jackson-201 Clinton Road	Site Type:	Gnrl/ Trans					
201 Clinton Road, Jackson	Objective:	NAAQS					
060050002	Purpose:	StateD/ SIPMain					
	Mon. Type:	SLAMS					
Calaveras County / Not in a CBSA							
San Andreas-501 Gold Strike Road	Site Type:	Gnrl/ Trans				(Gnrl)	(Gnrl)
501 Gold Strike Road, San Andreas	Objective:	NAAQS				(NAAQS/ PublicR)	(NAAQS)
060090001	Purpose:	StateD/ SIPMain				(RConc)	(StateD)
	Mon. Type:	SLAMS				(SLAMS)	(SLAMS)
El Dorado County / CBSA: Sacramento-Arden-Arcade-Roseville Metropolitan Statistical Area							
Cool-Highway 193	Site Type:	HConc					
1400 American River Trail, Cool	Objective:	NAAQS					
060170020	Purpose:	SIPMain					
	Mon. Type:	SLAMS					
Echo Summit	Site Type:	Trans					
21200 Highway 50-Little Norway	Objective:	NAAQS					
060170012	Purpose:	StateD					
	Mon. Type:	SLAMS					

Table 3

Site and Monitoring Information
(Monitors reporting data in 2014)

Station/Address/AQS Site #		OZONE 44201	CO 42101	NO_2 42602	SO_2 42401	$PM_{2.5}$* 88101	PM_{10}* 81102
Placerville-Gold Nugget Way	Site Type:	HConc/ Trans					
3111 Gold Nugget Way, Placerville	Objective:	NAAQS					
060170010	Purpose:	StateD					
	Mon. Type:	SLAMS					
Mariposa County / Not in a CBSA							
Jerseydale-6440 Jerseydale	Site Type:	Trans					
6440 Jerseydale Road, Jerseydale	Objective:	NAAQS					
060430006	Purpose:	StateD					
	Mon. Type:	SLAMS					
Yosemite National Park-Turtleback Dome	Site Type:	HConc/ Trans					
060430003	Objective:	NAAQS					
	Purpose:	StateD					
	Mon. Type:	SLAMS					
Yosemite Village-Visitor Center	Site Type:						(PopEx)
060431001	Objective:						(NAAQS)
	Purpose:						(StateD)
	Mon. Type:						(SLAMS)
Nevada County / CBSA: Truckee-Grass Valley Micropolitan Statistical Area							
Grass Valley-Litton Building	Site Type:	HConc/ Trans				PopEx	
200 Litton Drive, Grass Valley	Objective:	NAAQS				NAAQS	
060570005	Purpose:	StateD/ Trnds				StateD	
	Mon. Type:	SLAMS				SLAMS	
Truckee-Fire Station^^^^	Site Type:					HConc/HConc	
10049 Donner Pass Road, Truckee	Objective:					NAAQS/NAAQS	
060571001	Purpose:					StateD/QAM	
	Mon. Type:					SLAMS/SLAMS	
White Cloud Mountain	Site Type:	Trans					
26533 State Highway 20, White Cloud Mtn.	Objective:	NAAQS					
060570007	Purpose:	StateD					
	Mon. Type:	SLAMS					

Table 3

Site and Monitoring Information
(Monitors reporting data in 2014)

Station/Address/AQS Site #		OZONE 44201	CO 42101	NO_2 42602	SO_2 42401	$PM_{2.5}$* 88101	PM_{10}* 81102
Placer County / CBSA: Sacramento-Arden-Arcade-Roseville Metropolitan Statistical Area							
Colfax-City Hall	Site Type:	Gnrl					Gnrl
33 South Main Street, Colfax	Objective:	NAAQS					NAAQS
060610004	Purpose:	StateD					StateD
	Mon. Type:	SLAMS					SLAMS
Plumas County / Not in a CBSA							
Portola-420 N Gulling St	Site Type:					HConc	
420 N Gulling Street, Portola	Objective:					NAAQS	
060631010	Purpose:					StateD	
	Mon. Type:					SLAMS	
Quincy-N Church Street	Site Type:					Hconc	
267 North Church Street, Quincy	Objective:					NAAQS	
060631006	Purpose:					StateD	
	Mon. Type:					SLAMS	
Tuolumne County / CBSA: Phoenix Lake-Cedar Ridge Micropolitan Statistical Area							
Sonora-Barretta Street	Site Type:	HConc					
251 South Barretta Street, Sonora	Objective:	NAAQS					
061090005	Purpose:	StateD/ SIPMain					
	Mon. Type:	SLAMS					
NORTH COAST AIR BASIN							
Mendocino County / CBSA: Ukiah Micropolitan Statistical Area							
Fort Bragg-Dana Street	Site Type:						(Gnrl)
300 Dana Street, Fort Bragg	Objective:						(NAAQS)
060450010	Purpose:						(SIPMain)
	Mon. Type:						(SLAMS)
Ukiah-County Library	Site Type:					(Gnrl)	
105 North Main Street, Ukiah	Objective:					(NAAQS)	
060450006	Purpose:					(SIPMain)	
	Mon. Type:					(SLAMS)	
Ukiah-East Gobbi Street	Site Type:	Trans					
306 East Gobbi Street, Ukiah	Objective:	NAAQS					
060450008	Purpose:	SIPMain					
	Mon. Type:	SLAMS					

Table 3

Site and Monitoring Information
(Monitors reporting data in 2014)

Station/Address/AQS Site #		OZONE 44201	CO 42101	NO_2 42602	SO_2 42401	$PM_{2.5}$* 88101	PM_{10}* 81102
Willits-125 East Commercial Street	Site Type:					(Gnrl)	
125 East Commercial Street, Willits	Objective:					(NAAQS)	
060452002	Purpose:					(SIPMain)	
	Mon. Type:					(SLAMS)	
Sonoma County / CBSA: Santa Rosa Metropolitan Statistical Area							
Cloverdale-100 Washington Street	Site Type:						(Gnrl)
100 Washington Street, Cloverdale	Objective:						(NAAQS)
060970001	Purpose:						(AgBn, ResBn)
	Mon. Type:						(SLAMS)
Guerneville-Church and 1st	Site Type:						(Gnrl)
16255 1st Street, Guerneville	Objective:						(NAAQS)
060973002	Purpose:						(AgBn, ResBn)
	Mon. Type:						(SLAMS)
Healdsburg-133 Matheson Street	Site Type:						(HConc)
133 Matheson Street, Healdsburg	Objective:						(NAAQS)
060970002	Purpose:						(AgBn, ResBn)
	Mon. Type:						(SLAMS)
Healdsburg-Municipal Airport	Site Type:	Gnrl					
200 Heidelberg Way, Healdsburg	Objective:	NAAQS					
060971003	Purpose:	StateD					
	Mon. Type:	SLAMS					
NORTHEAST PLATEAU AIR BASIN							
Siskiyou County / Not in a CBSA							
Yreka-Foothill Drive	Site Type:	Gnrl/ Trans				Gnrl	Gnrl
528 Foothill Drive, Yreka	Objective:	NAAQS/ PublicR				NAAQS	NAAQS
060932001	Purpose:	StateD				StateD	AgBn/ StateD
	Mon. Type:	SLAMS				SLAMS	SLAMS
SACRAMENTO VALLEY AIR BASIN							
Butte County / CBSA: Chico Metropolitan Statistical Area							
Chico-East	Site Type:	PopEx	PopEx	PopEx		HConc	(HConc)
984 East Avenue, Chico	Objective:	NAAQS	NAAQS	NAAQS		NAAQS	(NAAQS)
060070008	Purpose:	StateD/ AgBn	StateD	StateD		StateD	(StateD/ AgBn)
	Mon. Type:	SLAMS	SLAMS	SLAMS		SLAMS	(SLAMS)

Table 3

Site and Monitoring Information
(Monitors reporting data in 2014)

Station/Address/AQS Site #		OZONE 44201	CO 42101	NO_2 42602	SO_2 42401	$PM_{2.5}$* 88101	PM_{10}* 81102
Paradise-4405 Airport Road	Site Type:	Gnrl/ HConc					
4405 Airport Road, Paradise	Objective:	NAAQS					
060070007	Purpose:	StateD/ AgBn					
	Mon. Type:	SLAMS					
Colusa County/ Not in a CBSA							
Colusa-Sunrise Blvd	Site Type:	PopEx				Gnrl	Gnrl
100 Sunrise Blvd, Colusa	Objective:	NAAQS				NAAQS	NAAQS
060111002	Purpose:	StateD/ AgBn				StateD	StateD/ AgBn
	Mon. Type:	SLAMS				SLAMS	SLAMS
Glenn County / Not in a CBSA							
Willows-Colusa Street	Site Type:	PopEx					(Gnrl)
720 N Colusa Street, Willows	Objective:	NAAQS					(NAAQS)
060210003	Purpose:	StateD/ AgBn					(StateD/ AgBn)
	Mon. Type:	SLAMS					(SLAMS)
Placer County / CBSA: Sacramento-Arden-Arcade-Roseville Metropolitan Statistical Area							
Auburn-Atwood	Site Type:	Gnrl				(Gnrl)	
11645 Atwood Road, Auburn	Objective:	NAAQS				(NAAQS)	
060610003	Purpose:	StateD				(StateD)	
	Mon. Type:	SLAMS				(SLAMS)	
Auburn-Dewitt Center	Site Type:						Gnrl
11464 B Ave, Auburn	Objective:						NAAQS
060610002	Purpose:						StateD
	Mon. Type:						SLAMS
Lincoln-1st Street	Site Type:	Gnrl					
1445 1st Street, Lincoln	Objective:	NAAQS					
060612002	Purpose:	StateD					
	Mon. Type:	SLAMS					
Roseville-N Sunrise Blvd	Site Type:	Gnrl		Gnrl		Trans	Gnrl
151 N Sunrise Blvd, Roseville	Objective:	NAAQS		NAAQS		NAAQS	NAAQS
060610006	Purpose:	StateD/ AgBn		StateD		StateD	StateD/ AgBn
	Mon. Type:	SLAMS		SLAMS		SLAMS	SLAMS

Table 3

Site and Monitoring Information
(Monitors reporting data in 2014)

Station/Address/AQS Site #		OZONE 44201	CO 42101	NO_2 42602	SO_2 42401	$PM_{2.5}$* 88101	PM_{10}* 81102
Shasta County / CBSA: Redding Metropolitan Statistical Area							
Anderson-North Street	Site Type:	Gnrl					HConc
2220 North Street, Anderson	Objective:	NAAQS					NAAQS
060890007	Purpose:	RConc					RConc
	Mon. Type:	SLAMS					SLAMS
Lassen Volcanic Natl Park-Manzanita Lake	Site Type:	Gnrl					
060893003	Objective:	NAAQS					
	Purpose:	StateD					
	Mon. Type:	SLAMS					
Redding-Health Department Roof***	Site Type:	Gnrl				HConc	Gnrl
2630 Hospital Lane, Redding	Objective:	NAAQS				NAAQS	NAAQS
060890004	Purpose:	RConc				RConc	RConc
	Mon. Type:	SLAMS				SLAMS	SLAMS
Shasta Lake-13791 Lake Blvd	Site Type:	HConc					
13791 Lake Blvd, Shasta Lake	Objective:	NAAQS					
060890009	Purpose:	RConc					
	Mon. Type:	SLAMS					
Shasta Lake-4066 La Mesa Avenue	Site Type:						Gnrl
4066 La Mesa Avenue, Shasta Lake	Objective:						NAAQS
060890008	Purpose:						RConc
	Mon. Type:						SLAMS
Solano County / CBSA: Vallejo-Fairfield Metropolitan Statistical Area							
Vacaville-Merchant Street	Site Type:						HConc
650 Merchant Street, Vacaville	Objective:						NAAQS
060953001	Purpose:						RConc
	Mon. Type:						SLAMS
Vacaville-Ulatis Drive	Site Type:	Gnrl					
2012 Ulatis Drive, Vacaville	Objective:	NAAQS					
060953003	Purpose:	AgBn/ RConc					
	Mon. Type:	SLAMS					

Table 3

Site and Monitoring Information
(Monitors reporting data in 2014)

Station/Address/AQS Site #		OZONE 44201	CO 42101	NO_2 42602	SO_2 42401	$PM_{2.5}$* 88101	PM_{10}* 81102
Sutter County / CBSA: Yuba City Metropolitan Statistical Area							
Sutter Buttes-S Buttes	Site Type:	HConc/ Trans					
061010004	Objective:	NAAQS					
	Purpose:	AgBn					
	Mon. Type:	SLAMS					
Yuba City-Almond Street	Site Type:	HConc		PopEx		PopEx	(PopEx)
773 Almond Street, Yuba City	Objective:	NAAQS		NAAQS		NAAQS	(NAAQS)
061010003	Purpose:	StateD/ AgBn		StateD		StateD	(StateD)
	Mon. Type:	SLAMS		SLAMS		SLAMS	(SLAMS)
Tehama County / CBSA: Red Bluff Micropolitan Statistical Area							
Red Bluff-Oak Street****	Site Type:	Gnrl					
502 Oak Street, Red Bluff	Objective:	NAAQS					
061030005	Purpose:	StateD					
	Mon. Type:	SLAMS					
Red Bluff-Messer Drive****	Site Type:						Gnrl
700 Messer Drive, Red Bluff	Objective:						NAAQS
061030002	Purpose:						StateD
	Mon. Type:						SLAMS
Tuscan Butte	Site Type:	Gnrl/ Trans					
061030004	Objective:	NAAQS					
	Purpose:	StateD					
	Mon. Type:	SLAMS					
Yolo County / CBSA: Sacramento-Arden-Arcade-Roseville Metropolitan Statistical Area							
Davis-UCD Campus	Site Type:	PopEx		PopEx			
061130004	Objective:	NAAQS		NAAQS			
	Purpose:	StateD/ AgBn		StateD			
	Mon. Type:	SLAMS		SLAMS			
West Sacramento-15th Street	Site Type:						Gnrl
132 15th Street, West Sacramento	Objective:						NAAQS
061132001	Purpose:						RConc
	Mon. Type:						SLAMS

Table 3

Site and Monitoring Information
(Monitors reporting data in 2014)

Station/Address/AQS Site #		OZONE 44201	CO 42101	NO_2 42602	SO_2 42401	$PM_{2.5}$* 88101	PM_{10}* 81102
Woodland-Gibson Road	Site Type:	Gnrl				PopEx	Gnrl
41929 E Gibson Road, Woodland	Objective:	NAAQS				NAAQS	NAAQS
061131003	Purpose:	RConc/ AgBn				RConc/ AgBn	AgBn
	Mon. Type:	SLAMS				SLAMS	SLAMS
SALTON SEA AIR BASIN							
Imperial County / CBSA: El Centro Metropolitan Statistical Area							
Brawley	Site Type:					PopEx	Gnrl, Trans
220 Main Street, Brawley	Objective:					NAAQS	NAAQS
060250007	Purpose:					RConc/ Other	Rconc
	Mon. Type:					SLAMS	SLAMS
Calexico-Ethel^	Site Type:	HConc/ Trans	PopEx	HConc	PopEx	(see footnote)	HConc
1029 Belcher Street, Calexico	Objective:	NAAQS	NAAQS	NAAQS	NAAQS		NAAQS
060250005	Purpose:	EHConc	RConc	StateD	RConc		StateD
	Mon. Type:	SLAMS	SLAMS	SLAMS	SLAMS		SLAMS
El Centro	Site Type:	HConc	PopEx	PopEx		PopEx	PopEx
150 S. 9th Street, El Centro	Objective:	NAAQS	NAAQS	NAAQS		NAAQS	NAAQS
060251003	Purpose:	EHConc	RConc	RConc		RConc	RConc
	Mon. Type:	SLAMS	SLAMS	SLAMS		SLAMS	SLAMS
Niland	Site Type:	PopEx					PopEx
7711 English Road, Niland	Objective:	NAAQS					NAAQS
060254004	Purpose:	RConc					RConc, Other
	Mon. Type:	SLAMS					SLAMS
Westmorland^^	Site Type:						PopEx
570 Cook Street, Westmorland	Objective:						NAAQS
060254003	Purpose:						RConc/ other
	Mon. Type:						SLAMS
SOUTH CENTRAL COAST AIR BASIN							
Ventura County / CBSA: Oxnard-Thousand Oaks-Ventura Metropolitan Statistical Area							
El Rio-Rio Mesa School #2	Site Type:	PopEx		PopEx		(PopEx)	(PopEx)
545 Central Ave., Oxnard	Objective:	NAAQS		NAAQS		(NAAQS)	(NAAQS)
061113001	Purpose:	StateD/ Trnds/ RConc		RConc		(RConc/ Trnds/ AgBn)	(RConc/ Trnds/ EHConc/ StateD)
	Mon. Type:	SLAMS/ PAMS		PAMS		(SLAMS)	(SLAMS)

Table 3

Site and Monitoring Information
(Monitors reporting data in 2014)

Station/Address/AQS Site #		OZONE 44201	CO 42101	NO_2 42602	SO_2 42401	$PM_{2.5}$* 88101	PM_{10}* 81102
Ojai-Ojai Avenue	Site Type:	PopEx				(PopEx)	
1201 Ojai Ave., Ojai	Objective:	NAAQS				(NAAQS)	
061111004	Purpose:	EHConc/ Trnds/ RConc/ StateD				(RConc/ Trnds/ AgBn)	
	Mon. Type:	SLAMS				(SLAMS)	
Piru-Pacific Avenue	Site Type:	PopEx				(PopEx)	
3301 Pacific Ave., Piru	Objective:	NAAQS				(NAAQS)	
061110009	Purpose:	EHConc/ Trnds/ RConc/ StateD				(RConc/ Trnds/ AgBn)	
	Mon. Type:	SLAMS				(SLAMS)	
Simi Valley-Cochran Street^^^	Site Type:	HConc		HConc		(HConc/HConc)	(HConc)
5400 Cochran St., Simi Valley	Objective:	NAAQS		NAAQS		(PublicR/PublicR)	(NAAQS)
061112002	Purpose:	EHConc/ Trnds/ RConc/ StateD		EHConc		(RConc,Trnds/QAM)	(RConc/ Trnds/ EHConc/ StateD)
	Mon. Type:	SLAMS, PAMS		PAMS		(SLAMS/SLAMS)	(SLAMS)
Thousand Oaks-Moorpark Road	Site Type:	PopEx				(PopEx)	
2323 Moorpark Rd., Thousand Oaks	Objective:	NAAQS				(NAAQS)	
061110007	Purpose:	Trnds/ RConc/ StateD				(RConc/ Trnds)	
	Mon. Type:	SLAMS				(SLAMS)	

FOOTNOTES:

*Monitoring information inside a parenthesis ( ) in a PM column denotes that a continuous PM FEM monitor is located at the site. Monitoring information without a parenthesis reflects the filter-based PM FRM monitor.

**The filter-based PM_{10} FRM monitors at the Middletown, Glenbrook and Lakeport sites located in Lake County are reporting PM_{10} data in local conditions (i.e., 85101) and not standard temperature and pressure (i.e., 81102). The district is currently working with ARB and U.S. EPA to ensure that these monitors will also be reporting 81102 data as well.

***In addition to the Redding-Health Department site (060890004), there are also the Redding-Toyon (060893005) and Redding-Buckeye (060893004) sites located in the County of Shasta. The Redding-Toyon and Redding-Buckeye sites closed 12/31/2014.

****The $PM_{2.5}$ BAM at the Red Bluff-Main Street (061030006) site was determined to be a non-FEM because the monitor didn't meet FEM requirements; therefore, the monitor was removed from Tables 3 & 5 and added to Table 6. In addition, U.S. EPA approved the relocations of the three Red Bluff sites to a new location, but was still operating at their original locations at the end of 2014. Tables 3 & 5 reflect the 2014 site locations.

^The Calexico-Ethel site also monitored for Pb, but this monitor is currently being considered for termination. The CO and SO_2 monitors at this site are trace instruments, which started on March 1, 2013. In addition, there are four $PM_{2.5}$ monitors at this site, of which two are FEMs, POC 3 & 4 (170-SPM) and two are FRMs, POC 1 & 2 (118-SLAMS). Also, note that the two FRMs changed from method 145 to method 118 in July 2014. The monitoring information of the four $PM_{2.5}$ monitors is listed below:

- $PM_{2.5}$ FRM, POC 1, primary (HConc/NAAQS/StateD/SLAMS)
- $PM_{2.5}$ FRM, POC 2, audit (QA/NAAQS/QAM/SLAMS)
- $PM_{2.5}$ FEM, POC 3 (QA/PublicR/RConc/SPM)
- $PM_{2.5}$ FEM, POC 4 (QA/PublicR/RConc/SPM)

^^The ozone monitor at Westmorland was not active in 2014. The district plans to re-install an ozone monitor at this site in mid-2015.

^^^Simi Valley has collocated continuous $PM_{2.5}$ FEMs. Also, note that Ventura County APCD operates the Simi Valley-Upper Air site (061110008), but this site only collects meteorological data.

^^^^At the time of the writing of this report, the monitor at Truckee-Fire Station (060571001) has been found to deviate from CFR requirements and ARB is working with U.S. EPA to address the issue. The data are in the process of being reloaded into AQS as parameter code 88502 (non-FEM) with method code 145.

List of Codes Used in Table 3

Site Type

ExDwn	Extreme downwind
HConc	Highest concentration
MaxO3	Maximum ozone concentration
MaxEM	Maximum precursor emissions impact
PopEx	Population exposure
Sourc	Source oriented
UpWin	Upwind background
Gnrl	General/background
Trans	Regional transport
Welf	Welfare related impacts
QA	Quality assurance
Other	Other

Federal Monitoring Objectives

PublicR	Provide air pollution data to public in a timely manner
NAAQS	National Ambient Air Quality Standards comparison
RSupport	Research support

Monitoring Purposes

EHConc	Monitoring at expected high concentration sites relative to California Ambient Air Quality Standards
RConc	Representative concentrations
AgBn	Support agricultural/prescribed burn decisions
Trnds	Trends analysis
StateD	Support state area designation
SIPMain	State Implementation Plan (SIP) maintenance requirement
GAMP	Geyser Air Monitoring Program

Monitor Types

Impr	Improve
Indx	Index site
Indus	Industrial
NATTS	National Air Toxic Trends Site
NonEPA	Non-EPA federal
NonReg	Non-regulatory
PAMS	Photochemical Assessment Monitoring Station
NCore	National Core
QAcoll	Quality assurance collocated
SLAMS	State and Local Air Monitoring Station
SPM	Special Purpose Monitor
SusSP	Supplemental speciation
TrnSP	Trends speciation
Tribal	Tribal monitor
UnPAMS	Unofficial PAMS

Section 4. Additional Information about the Monitors

Required Monitor Information

U.S. EPA regulations require that the annual network plan list specific additional information that characterizes the nature and location of the monitors. To assist air agencies in preparing network plans, Region 9 staff has identified all of the detailed site information that is required to be included in annual monitoring network plans. The full list of required information is included in Table 4.

Unfortunately, not all of the detailed site information is available in U.S EPA's AQS or other existing databases. For this reason, Region 9, in consultation with the California Air Pollution Control Officers Association (CAPCOA), funded a project to develop a statewide database to collect and provide the information in a consistent way for all monitoring sites in California. This database, the California Air Monitoring Network Assessment Tools (CAMNAT), has just been released by the contractor. Detailed reports for the sites covered in the report will be included in Volume 2 as well as in certain tables included in Volume 1. However, because the database was just released in the first quarter of 2015, not all of the data are complete in the site reports included in Volume 2. It is expected to be complete by the 2016 network plan. Volume 2 can be downloaded from the internet at http://www.arb.ca.gov/aqd/amnr/amnr.htm.

Summary of Table 5

Similar to Table 3, Table 5 lists some of the required site information, including the spatial scales, sampling methods, method codes, parameter occurrence codes (POC) and start dates of the monitors. Also provided in Table 5 are the geographical coordinates of the monitoring sites. Note that the continuous PM FEM monitors are listed in parenthesis in the PM columns. At the end of Table 5, the codes used for the spatial scales, sampling methods, and method codes are defined, as well as a brief explanation of the POC.

Table 4
Required Detailed Monitoring Site Information

Pollutant, POC	Monitoring start date	Distance to collocated monitor (meters)
Parameter Code	Current sampling frequency	Unrestricted airflow (degrees)
Basic monitoring objective(s)	Calculated sampling frequency	Probe material for reactive gases
Site type(s)	Sampling season	Residence time reactive gases (seconds)
Monitor type(s)	Probe height (meters)	Will there be changes within next 18 months?
Instrument manufacturer and model	Distance from supporting structure (meters)	Is it suitable for comparison against the annual $PM_{2.5}$?
Method code	Distance from obstructions on roof (meters)	Frequency of flow rate verification for manual PM samplers
FRM/FEM/ARM/Other	Height of obstruction above probe (meters)	Frequency of flow rate verification for automated PM samplers
Collecting Agency	Distance from obstructions not on roof (meters)	Frequency of one-point QC check for gaseous instruments
Analytical Lab	Probe height above obstruction not on roof(meters)	Last Annual performance evaluation for gaseous parameters
Reporting Agency	Distance from trees (meters)	Last two semi-annual flow rate audits for PM monitors
Spatial scale	Distance to furnace or incinerator flue (meters)	

Table 5

Additional Information about the Monitors
(Monitors reporting data in 2014)

Station/Geographical Coordinates/AQS Site #		OZONE 44201	CO 42101	NO_2 42602	SO_2 42401	$PM_{2.5}$* 88101	PM_{10}* 81102
LAKE COUNTY AIR BASIN							
Lake County / CBSA: Clearlake Micropolitan Statistical Area							
Middletown-Anderson Springs Road**	Spatial Scale:						NGH
38.7744, -122.6994	Samp. Method:						SCH, XG
060333010	Mthd. Code/POC:						098 / 1
	Start Date:						1-1-2005
Glenbrook-High Valley Road**	Spatial Scale:						NGH
38.8502, -122.7361	Samp. Method:						SCH, XG
060333011	Mthd. Code/POC:						098 / 1
	Start Date:						4-1-2001
Lakeport-Lakeport Blvd**	Spatial Scale:	URB				URB	URB
39.0330, -122.9219	Samp. Method:	UV				SCH	SCH
060333001	Mthd. Code/POC:	087 / 1				117 / 1	098 / 2
	Start Date:	1-1-1980				1-1-1999	4-1-2001
LAKE TAHOE AIR BASIN							
El Dorado County / CBSA: Sacramento-Arden-Arcade-Roseville Metropolitan Statistical Area							
South Lake Tahoe-Sandy Way	Spatial Scale:						(NGH)
38.9450, -119.9703	Samp. Method:						(BAM)
060170011	Mthd. Code/POC:						(122 / 5)
	Start Date:						(6-1-2001)
Placer County / CBSA: Sacramento-Arden-Arcade-Roseville Metropolitan Statistical Area							
Tahoe City	Spatial Scale:	URB					
39.1660, -120.1488	Samp. Method:	UV					
060611004	Mthd. Code/POC:	087 / 1					
	Start Date:	11-1-2013					
MOJAVE DESERT AIR BASIN							
Kern County / CBSA: Bakersfield Metropolitan Statistical Area							
Canebrake-3147 Highway 178	Spatial Scale:						REG
35.7277, -118.1393	Samp. Method:						SI
060290017	Mthd. Code/POC:						141 / 1
	Start Date:						1/1/2009
Mojave-923 Poole Street	Spatial Scale:	REG				(NGH)	(REG)
35.0503, -118.1478	Samp. Method:	UV				(BAM)	(BAM)
060290011	Mthd. Code/POC:	087 / 1				(170 / 3)	(122 / 2)
	Start Date:	8-1-1993				(4-1-2011)	(4-1-2011)

Table 5

Additional Information about the Monitors
(Monitors reporting data in 2014)

Station/Geographical Coordinates/AQS Site #		OZONE 44201	CO 42101	NO_2 42602	SO_2 42401	$PM_{2.5}$* 88101	PM_{10}* 81102
Ridgecrest-100 West California Avenue	Spatial Scale:					NGH	NGH
35.6211, -117.6731	Samp. Method:					SI	SI
060290015	Mthd. Code/POC:					118 / 1	063 / 1
	Start Date:					6-1-1999	12-15-1999
Los Angeles County / CBSA: Los Angeles-Long Beach-Anaheim Metropolitan Statistical Area							
Lancaster-43301 Division Street	Spatial Scale:	MID	MID	MID		NGH	(NGH)
34.6713, -118.1305	Samp. Method:	UV	IR	CL		SQ	(BAM)
060379033	Mthd. Code/POC:	087 / 1	093 / 1	099 / 1		117 / 1	(122 / 2)
	Start Date:	11-1-2001	11-1-2001	11-1-2001		11-1-2001	(11-1-01)
Riverside County / CBSA: Riverside-San Bernardino-Ontario Metropolitan Statistical Area							
Blythe-445 W Murphy Street	Spatial Scale:	ExDwn					
33.6119, -114.6000	Samp. Method:	UV					
060659003	Mthd. Code/POC:	087 / 1					
	Start Date:	5-1-2003					
San Bernardino County / CBSA: Riverside-San Bernardino-Ontario Metropolitan Statistical Area							
Barstow-200 E Buena Vista Road	Spatial Scale:	NGH	NGH	NGH			(NGH)
34.8938, -117.0244	Samp. Method:	UV	IR	CL			(BAM)
060710001	Mthd. Code/POC:	087 / 1	093 / 1	099 / 1			(122/ 1)
	Start Date:	1-1-1974	1-1-1973	1-1-1973			(1-1-2014)
Hesperia-Olive Street	Spatial Scale:	NGH					(NGH)
34.4158, -117.2861	Samp. Method:	UV					(BAM)
060714001	Mthd. Code/POC:	087 / 1					(122 / 2)
	Start Date:	1-1-1980					(1-1-2014)
Joshua Tree National Mont.-Black Rock	Spatial Scale:	REG					
34.0694, -116.3888	Samp. Method:	UV					
060719002	Mthd. Code/POC:	047 / 1					
	Start Date:	10/1/1993					
Lucerne Valley-Middle School	Spatial Scale:						NGH
34.4103, -116.9067	Samp. Method:						SI
060710013	Mthd. Code/POC:						063 / 1
	Start Date:						6-1-1989
Phelan-Beekley and Phelan Roads	Spatial Scale:	NGH					
34.4250, -117.5897	Samp. Method:	UV					
060710012	Mthd. Code/POC:	087 / 1					
	Start Date:	7-1-1987					

Table 5

Additional Information about the Monitors
(Monitors reporting data in 2014)

Station/Geographical Coordinates/AQS Site #		OZONE 44201	CO 42101	NO_2 42602	SO_2 42401	$PM_{2.5}$* 88101	PM_{10}* 81102
Trona-Athol and Telescope	Spatial Scale:	REG		NGH	REG		(NGH)
35.7744, -117.3722	Samp. Method:	UV		CL	FL		(BAM)
060711234	Mthd. Code/POC:	087 / 1		099 / 1	077 / 1		(122/ 2)
	Start Date:	4-1-1997		4-1-1997	4-1-1997		(1-1-2013)
Victorville-14036 Park Avenue	Spatial Scale:	NGH	NGH	NGH	NGH	NGH/NGH	(NGH)
34.5122, -117.3250	Samp. Method:	UV	IR	CL	FL	SQ/SQ	(BAM)
060710306	Mthd. Code/POC:	087 / 1	093 / 1	099 / 1	077 / 1	117, 1 / 117, 2	(122 / 2)
	Start Date:	1-1-2000	1-1-2000	1-1-2000	1/1/2000	1-1-2000 / 1-1-2000	(1-1-2013)
MOUNTAIN COUNTIES AIR BASIN							
Amador County / Not in a CBSA							
Jackson-201 Clinton Road	Spatial Scale:	URB					
38.3427, -120.7644	Samp. Method:	UV					
060050002	Mthd. Code/POC:	087 / 1					
	Start Date:	5-1-1992					
Calaveras County / Not in a CBSA							
San Andreas-501 Gold Strike Road	Spatial Scale:	REG				(REG)	(REG)
38.2019, -120.6802	Samp. Method:	UV				(BAM)	(BAM)
060090001	Mthd. Code/POC:	087 / 1				(170 / 3)	(122 / 3)
	Start Date:	5-1-1994				(6-15-2010)	(10-1-2014)
El Dorado County / CBSA: Sacramento-Arden-Arcade-Roseville Metropolitan Statistical Area							
Cool-Highway 193	Spatial Scale:	REG					
38.8906, -121.0000	Samp. Method:	UV					
060170020	Mthd. Code/POC:	087 / 1					
	Start Date:	6-1-1996					
Echo Summit	Spatial Scale:	REG					
38.8117, -120.0331	Samp. Method:	UV					
060170012	Mthd. Code/POC:	087 / 1					
	Start Date:	5-7-2006					
Placerville-Gold Nugget Way	Spatial Scale:	REG					
38.7247, -120.8219	Samp. Method:	UV					
060170010	Mthd. Code/POC:	087 / 1					
	Start Date:	2-1-1992					

Table 5

Additional Information about the Monitors
(Monitors reporting data in 2014)

Station/Geographical Coordinates/AQS Site #		OZONE 44201	CO 42101	NO_2 42602	SO_2 42401	$PM_{2.5}$* 88101	PM_{10}* 81102
Mariposa County / Not in a CBSA							
Jerseydale-6440 Jerseydale	Spatial Scale:	REG					
37.5466, -119.8416	Samp. Method:	UV					
060430006	Mthd. Code/POC:	087 / 1					
	Start Date:	7-1-1995					
Yosemite National Park-Turtleback Dome	Spatial Scale:	REG					
37.7133, -119.7058	Samp. Method:	UV					
060430003	Mthd. Code/POC:	047 / 1					
	Start Date:	11-1-1988					
Yosemite Village-Visitor Center	Spatial Scale:						(NGH)
37.7486, -119.5869	Samp. Method:						(BAM)
060431001	Mthd. Code/POC:						(122 / 3)
	Start Date:						(8-1-2014)
Nevada County / CBSA: Truckee-Grass Valley Micropolitan Statistical Area							
Grass Valley-Litton Building	Spatial Scale:	URB				NGH	
39.2336, -121.0555	Samp. Method:	UV				SCH	
060570005	Mthd. Code/POC:	087 / 1				117 / 1	
	Start Date:	6-1-1993				12-30-98	
Truckee-Fire Station^^^^	Spatial Scale:					NGH / NGH	
39.3274, -120.1847	Samp. Method:					SQ / SQ	
060571001	Mthd. Code/POC:					**118, 1** / 118, 2	
	Start Date:					3-31-99 / 5-12-1999	
White Cloud Mountain	Spatial Scale:	REG					
39.3181, -120.8456	Samp. Method:	UV					
060570007	Mthd. Code/POC:	087 / 1					
	Start Date:	6-1-1995					
Placer County / CBSA: Sacramento-Arden-Arcade-Roseville Metropolitan Statistical Area							
Colfax-City Hall	Spatial Scale:	URB					NGH
39.0997, -120.9541	Samp. Method:	UV					SI
060610004	Mthd. Code/POC:	087 / 1					063 / 1
	Start Date:	1-1-1992					1-1-2012
Plumas County / Not in a CBSA							
Portola-420 N Gulling St	Spatial Scale:					NGH	
39.8133, -120.4707	Samp. Method:					SCH	
060631010	Mthd. Code/POC:					118 / 1	
	Start Date:					1-18-07	

Table 5

Additional Information about the Monitors
(Monitors reporting data in 2014)

Station/Geographical Coordinates/AQS Site #		OZONE 44201	CO 42101	NO_2 42602	SO_2 42401	$PM_{2.5}$* 88101	PM_{10}* 81102
Quincy-N Church Street	Spatial Scale:					NGH	
39.9397, -120.9441	Samp. Method:					SQ	
060631006	Mthd. Code/POC:					118 / 1	
	Start Date:					3-26-99	
Tuolumne County / CBSA: Phoenix Lake-Cedar Ridge Micropolitan Statistical Area							
Sonora-Barretta Street	Spatial Scale:	REG					
37.9819, -120.3786	Samp. Method:	UV					
061090005	Mthd. Code/POC:	087 / 1					
	Start Date:	7-1-1992					
NORTH COAST AIR BASIN							
Mendocino County / CBSA: Ukiah Micropolitan Statistical Area							
Fort Bragg-Dana Street	Spatial Scale:						(NGH)
39.4373, -123.7877	Samp. Method:						(BAM)
060450010	Mthd. Code/POC:						(122 / 1)
	Start Date:						(8-17-2011)
Ukiah-County Library	Spatial Scale:					(NGH)	
39.1511, -123.2066	Samp. Method:					(BAM)	
060450006	Mthd. Code/POC:					(170 / 3)	
	Start Date:					(12-31-2008)	
Ukiah-East Gobbi Street	Spatial Scale:	URB					
39.1447, -123.2002	Samp. Method:	UV					
060450008	Mthd. Code/POC:	199 / 1					
	Start Date:	8-1-1992					
Willits-125 East Commercial Street	Spatial Scale:					(NGH)	
39.4118, -123.3528	Samp. Method:					(BAM)	
060452002	Mthd. Code/POC:					(170 / 3)	
	Start Date:					(9-15-2009)	
Sonoma County / CBSA: Santa Rosa Metropolitan Statistical Area							
Cloverdale-100 Washington Street	Spatial Scale:						(NGH)
38.8047, -123.0177	Samp. Method:						(BAM)
060970001	Mthd. Code/POC:						(122 / 2)
	Start Date:						(1-1-2014)
Guerneville-Church and 1st	Spatial Scale:						(NGH)
38.5016, -122.9977	Samp. Method:						(BAM)
060973002	Mthd. Code/POC:						(122 / 1)
	Start Date:						(1-1-2014)

Table 5

Additional Information about the Monitors
(Monitors reporting data in 2014)

Station/Geographical Coordinates/AQS Site #		OZONE 44201	CO 42101	NO_2 42602	SO_2 42401	$PM_{2.5}$* 88101	PM_{10}* 81102
Healdsburg-133 Matheson Street	Spatial Scale:						(NGH)
38.6111, -122.8686	Samp. Method:						(BAM)
060970002	Mthd. Code/POC:						(122 / 2)
	Start Date:						(1-1-2014)
Healdsburg-Municipal Airport	Spatial Scale:	URB					
38.6536, -122.9005	Samp. Method:	UV					
060971003	Mthd. Code/POC:	087 / 1					
	Start Date:	6-1-1991					
NORTHEAST PLATEAU AIR BASIN							
Siskiyou County / Not in a CBSA							
Yreka-Foothill Drive	Spatial Scale:	NGH				NGH	NGH
41.7267, -122.6336	Samp. Method:	UV				SQ	SI
060932001	Mthd. Code/POC:	087 / 1				117 / 1	063 / 2
	Start Date:	1-1-1981				8-21-2008	1-1-1988
SACRAMENTO VALLEY AIR BASIN							
Butte County / CBSA: Chico Metropolitan Statistical Area							
Chico-East	Spatial Scale:	URB	NGH	NGH		NGH	(NGH)
39.7616, -121.8405	Samp. Method:	UV	GFC	CL		SCH	(BAM)
060070008	Mthd. Code/POC:	087 / 1	593 / 3	099 / 1		118 / 1	(122 / 3)
	Start Date:	6-1-2012	6-1-2012	6-8-2012		4-27-12	(10-1-2014)
Paradise-4405 Airport Road	Spatial Scale:	REG					
39.7141, -121.6177	Samp. Method:	UV					
060070007	Mthd. Code/POC:	087 / 1					
	Start Date:	5-1-2000					
Colusa County / Not in a CBSA							
Colusa-Sunrise Blvd	Spatial Scale:	REG				NGH	REG
39.1888, -121.9980	Samp. Method:	UV				SQ	SI
060111002	Mthd. Code/POC:	087 / 1				118 / 1	063 / 2
	Start Date:	7-1-1996				12-16-98	5-1-1988
Glenn County / Not in a CBSA							
Willows-Colusa Street	Spatial Scale:	URB					(REG)
39.5172, -122.1897	Samp. Method:	UV					(BAM)
060210003	Mthd. Code/POC:	087 / 1					(122 / 3)
	Start Date:	9-13-2006					(10-1-2013)

Table 5

Additional Information about the Monitors
(Monitors reporting data in 2014)

Station/Geographical Coordinates/AQS Site #		OZONE 44201	CO 42101	NO_2 42602	SO_2 42401	$PM_{2.5}$* 88101	PM_{10}* 81102
Placer County / CBSA: Sacramento-Arden-Arcade-Roseville Metropolitan Statistical Area							
Auburn-Atwood	Spatial Scale:	URB				(NGH)	
38.9356, -121.0995	Samp. Method:	UV				(BAM)	
060610003	Mthd. Code/POC:	087 / 1				(170 / 1)	
	Start Date:	6-24-2011				(6-24-2011)	
Auburn-Dewitt Center	Spatial Scale:						NGH
38.9394, -121.1055	Samp. Method:						SI
060610002	Mthd. Code/POC:						063 / 1
	Start Date:						1-1-2012
Lincoln-1st Street	Spatial Scale:	URB					
38.8856, -121.3020	Samp. Method:	UV					
060612002	Mthd. Code/POC:	087 / 1					
	Start Date:	12-21-2012					
Roseville-N Sunrise Blvd	Spatial Scale:	URB		NGH		NGH	URB
38.7461, -121.2647	Samp. Method:	UV		CL		SCH	SI
060610006	Mthd. Code/POC:	087 / 1		099 / 1		117 / 1	063 /1
	Start Date:	1-13-1993		1-13-1993		12-31-98	1-13-1993
Shasta County / CBSA: Redding Metropolitan Statistical Area							
Anderson-North Street	Spatial Scale:	NGH					NGH
40.4531, -122.2986	Samp. Method:	UV					SI
060890007	Mthd. Code/POC:	087 / 1					063 / 1
	Start Date:	5-1-1993					5-1-1993
Lassen Volcanic Natl Park-Manzanita Lake	Spatial Scale:	REG					
40.5372, -121.5764	Samp. Method:	UV					
060893003	Mthd. Code/POC:	047 / 1					
	Start Date:	11-1-1987					
Redding-Health Department Roof***	Spatial Scale:	NGH				NGH	NGH
40.5514, -122.3808	Samp. Method:	UV				SCH	SI
060890004	Mthd. Code/POC:	087 / 1				117 / 1	063 / 2
	Start Date:	5-1-1990				12-19-1998	1-1-1988
Shasta Lake-13791 Lake Blvd	Spatial Scale:	NGH					
40.6894, -122.4011	Samp. Method:	UV					
060890009	Mthd. Code/POC:	087 / 1					
	Start Date:	4-1-2009					

Table 5

Additional Information about the Monitors
(Monitors reporting data in 2014)

Station/Geographical Coordinates/AQS Site #		OZONE 44201	CO 42101	NO_2 42602	SO_2 42401	$PM_{2.5}$* 88101	PM_{10}* 81102
Shasta Lake-4066 La Mesa Avenue	Spatial Scale:						REG
40.6775, -122.3733	Samp. Method:						SI
060890008	Mthd. Code/POC:						063 / 1
	Start Date:						1-1-2004
Solano County / CBSA: Vallejo-Fairfield Metropolitan Statistical Area							
Vacaville-Merchant Street	Spatial Scale:						URB
38.3516, -121.9933	Samp. Method:						SI
060953001	Mthd. Code/POC:						063 / 2
	Start Date:						1-1-1988
Vacaville-Ulatis Drive	Spatial Scale:	URB					
38.3583, -121.9500	Samp. Method:	UV					
060953003	Mthd. Code/POC:	087 / 1					
	Start Date:	7-21-2003					
Sutter County / CBSA: Yuba City Metropolitan Statistical Area							
Sutter Buttes-S Buttes	Spatial Scale:	REG					
39.1583, -121.7500	Samp. Method:	UV					
061010004	Mthd. Code/POC:	087 / 1					
	Start Date:	5-1-1993					
Yuba City-Almond Street	Spatial Scale:	URB		NGH		NGH	(NGH)
39.1388, -121.6191	Samp. Method:	UV		CL		SCH	(BAM)
061010003	Mthd. Code/POC:	087 / 1		099 / 1		118 / 1	(122 / 3)
	Start Date:	10-1-1989		10-1-1989		12-19-98	(6-1-2014)
Tehama County / CBSA: Red Bluff Micropolitan Statistical Area							
Red Bluff-Oak Street****	Spatial Scale:	URB					
40.1749, -122.2366	Samp. Method:	UV					
061030005	Mthd. Code/POC:	087 / 1					
	Start Date:	2-1-1996					
Red Bluff-Messer Drive****	Spatial Scale:						NGH
40.1638, -122.2213	Samp. Method:						SI
061030002	Mthd. Code/POC:						063 / 2
	Start Date:						1-1-1998
Tuscan Butte	Spatial Scale:	REG					
40.2622, -122.0928	Samp. Method:	UV					
061030004	Mthd. Code/POC:	087 / 1					
	Start Date:	6-1-1995					

Table 5

Additional Information about the Monitors
(Monitors reporting data in 2014)

Station/Geographical Coordinates/AQS Site #		OZONE 44201	CO 42101	NO_2 42602	SO_2 42401	$PM_{2.5}$* 88101	PM_{10}* 81102
Yolo County / CBSA: Sacramento-Arden-Arcade-Roseville Metropolitan Statistical Area							
Davis-UCD Campus	Spatial Scale:	URB		NGH			
38.5352, -121.7730	Samp. Method:	UV		CL			
061130004	Mthd. Code/POC:	087 / 1		099 / 1			
	Start Date:	9-1-1987		5-21-1996			
West Sacramento-15th Street	Spatial Scale:						NGH
38.5713, -121.5258	Samp. Method:						SI
061132001	Mthd. Code/POC:						063 / 1
	Start Date:						9-1-1990
Woodland-Gibson Road	Spatial Scale:	URB				NGH	URB
38.6605, -121.7305	Samp. Method:	UV				SQ	SI
061131003	Mthd. Code/POC:	087 / 1				118 / 1	063 / 1
	Start Date:	5-27-1998				1-9-1999	10-26-1998
SALTON SEA AIR BASIN							
Imperial County / CBSA: El Centro Metropolitan Statistical Area							
Brawley	Spatial Scale:					NGH	NGH
32.9783, -115.5390	Samp. Method:					SQ	SI
060250007	Mthd. Code/POC:					118 / 1	063, 1
	Start Date:					1-1-2004	1/1/2004
Calexico-Ethel^	Spatial Scale:	NGH	NGH	URB	URB	(see footnote)	NGH
32.6761, -115.4830	Samp. Method:	UV	GFC	CL	PF		SI
060250005	Mthd. Code/POC:	087 / 1	593 / 3	099 / 1	560 / 3		063 / 1
	Start Date:	3-1-1994	3-1-2013	3-1-1994	3-1-2013		3-1-1994
El Centro	Spatial Scale:	NGH	NGH	NGH		NGH	NGH
32.7921, -155.5629	Samp. Method:	UV	IR	CL		SQ	SI
060251003	Mthd. Code/POC:	087 / 1	093 / 1	099 / 1		118 / 1	063 / 2
	Start Date:	2-1-1988	2-1-1988	2-1-1988		2-1-1988	2-1-1988
Niland	Spatial Scale:	REG					MID
33.2134, -115.5451	Samp. Method:	UV					SI
060254004	Mthd. Code/POC:	087 / 1					063, 1
	Start Date:	6-1-1996					6-1-1996
Westmorland^^	Spatial Scale:						MID
33.0323, -115.6236	Samp. Method:						SI
060254003	Mthd. Code/POC:						063 / 1
	Start Date:						4-1-1993

Table 5

Additional Information about the Monitors
(Monitors reporting data in 2014)

Station/Geographical Coordinates/AQS Site #		OZONE 44201	CO 42101	NO_2 42602	SO_2 42401	$PM_{2.5}$* 88101	PM_{10}* 81102
SOUTH CENTRAL COAST AIR BASIN							
Ventura County / CBSA: Oxnard-Thousand Oaks-Ventura Metropolitan Statistical Area							
El Rio-Mesa School #2	Spatial Scale:	URB		URB		(NGH)	(NGH)
34.2523, -119.14318	Samp. Method:	UV		CL		(BAM)	(BAM)
061113001	Mthd. Code/POC:	087 / 1		099 / 1		(170 / 3)	(122 / 3)
	Start Date:	1-1-1979		1-1-1980		(1-26-2012)	(7-22-2012)
Ojai-Ojai Avenue	Spatial Scale:	URB				(NGH)	
34.4480, -119.2313	Samp. Method:	UV				(BAM)	
061111004	Mthd. Code/POC:	087 / 1				(170 / 3)	
	Start Date:	4-1-1996				(11-29-2011)	
Piru-Pacific Avenue	Spatial Scale:	URB				(NGH)	
34.4042, -118.8099	Samp. Method:	UV				(BAM)	
061110009	Mthd. Code/POC:	087 / 1				(170 / 3)	
	Start Date:	11-3-2000				(11-15-2011)	
Simi Valley-Cochran Street^^^	Spatial Scale:	URB		URB		(NGH / NGH)	(NGH)
34.2764, -118.6837	Samp. Method:	UV		CL		(BAM / BAM)	(BAM)
061112002	Mthd. Code/POC:	087 / 1		099/ 1		(**170, 3** / 170, 4)	(122 / 3)
	Start Date:	6-1-1985		6-1-1985		(6-29-2013 / 3-17-2014)	(6-19-2012)
Thousand Oaks-Moorpark Road	Spatial Scale:	URB				(NGH)	
34.2101, -118.8705	Samp. Method:	UV				(BAM)	
061110007	Mthd. Code/POC:	087 / 1				(170 / 3)	
	Start Date:	3-1-1992				(1-7-2012)	

FOOTNOTES:

*Monitoring information inside a parenthesis ( ) in a PM column denotes that a continuous PM FEM monitor is located at the site. Monitoring information without a parenthesis reflects the filter-based PM FRM monitor. PM sites with collocated monitors, the Primary monitor is **BOLD**, which could also be identified by the POC. For example, (**118, 1** / 118, 2).

**The filter-based PM_{10} FRM monitors at the Middletown, Glenbrook and Lakeport sites located in Lake County are reporting PM_{10} data in local conditions (i.e., 85101) and not standard temperature and pressure (i.e., 81102). The Lake County Air Quality Management District (LCAQMD) is currently working with ARB and U.S. EPA to ensure that these monitors will also be reporting 81102 data as well.

***In addition to the Redding-Health Department site (060890004), there are also the Redding-Toyon (060893005) and Redding-Buckeye (060893004) sites located in the County of Shasta. The Redding-Toyon and Redding-Buckeye sites closed 12/31/2014.

****The $PM_{2.5}$ BAM at the Red Bluff-Main Street (061030006) site was determined to be a non-FEM because the monitor didn't meet FEM requirements; therefore, the monitor was removed from Tables 3 & 5 and added to Table 6. In addition, U.S. EPA approved the relocations of the three Red Bluff sites to a new location, but the sites were still operating at their original locations at the end of 2014. Tables 3 and 5 still reflect the 2014 site locations.

^The Calexico-Ethel site also monitored for Pb, but this monitor is currently being considered for termination. The CO and SO_2 monitors at this site are trace instruments, which started on March 1, 2013. In addition, there are four $PM_{2.5}$ monitors at this site, of which two are FEMs, POC 3 & 4 (170-SPM) and two are FRMs, POC 1 & 2 (118-SLAMS). Also, note that the two FRMs will be changed from method 118 to method 145 in 2015. The monitoring information of the four $PM_{2.5}$ monitors is listed below:

$PM_{2.5}$ FRM, POC 1, primary (NGH/SQ/118/1-1-1999)
$PM_{2.5}$ FRM, POC 2, audit (NGH/SQ/118/1-1-1999)
$PM_{2.5}$ FEM, POC 3 (NGH/BAM/170/1-1-2014)
$PM_{2.5}$ FEM, POC 4 (NGH/BAM/170/1-1-2014)

^^The ozone monitor at Westmorland was not active in 2014. The district plans to re-install an ozone monitor at this site in mid-2015.

^^^Simi Valley has collocated continuous $PM_{2.5}$ FEMs. Also, note that Ventura County APCD operates the Simi Valley-Upper Air site (061110008) too, but this site only collects meteorological data.

^^^^At the time of the writing of this report, the monitor at Truckee-Fire Station (060571001) has been found to deviate from CFR requirements and ARB is working with U.S. EPA to address the issue. The data are in the process of being reloaded into AQS as parameter code 88502 (non-FEM) with method code 145.

List of Codes used in Table 5

Spatial Scales

MIC	Microscale
MID	Middle Scale
NGH	Neighborhood Scale
URB	Urban Scale
REG	Regional Scale

Sampling Methods

CL	Chemiluminescent
FL	Fluorescence
IR	Nondispersive infrared
SCH	Low volume single channel sampler, size selective inlet
SI	High volume sampler, size selective inlet
SQ	Low volume sequential sampler, size selective inlet
UV	Ultraviolet absorption
XG	X-ray fluorescence
BAM	Beta Attenuation Monitor
TEOM	Tapered Element Oscillating Microbalance Monitor
GFC	Gas filter correlation
PF	Pulsed fluorescent

Method Codes

047	Thermo Electron/Thermo Environmental Instr., Inc. Model 49, 49C, & 49i Ozone analyzer
063	Anderson-General Metal Works Model 1200 High Volume sampler
077	Advance Pollution Instruments Model 100 SO_2 analyzer
087	Teledyne-Advance Pollution Instruments Model 400 or T400 Ozone analyzer
093	Advance Pollution Instruments Model 300, GFC CO analyzer
098	Rupprecht & Patashnick Partisol Model 2000 Air Sampler
099	Advance Pollution Instruments Model 200A NO analyzer
117	Rupprecht & Patashnick Model 2000 $PM_{2.5}$ Air Sampler
118	Rupprecht & Patashnick Plus Model 2025PM SEQ $PM_{2.5}$ Air sampler
122	Met One BAM/GBAM Model 1020 Monitor
141	Tisch Environmental Model TE-6070 PM_{10} High-Volume Sampler
143	Rupprecht & Patashnick Model 2000 Air Sampler with BGI VSCC
145	Rupprecht & Patashnick Model 2025 Sequential Air Sampler BGI VSCC
170	Met One BAM Model 1020 Monitor $PM_{2.5}$ VSCC FEM
560	Thermo Electron 43c
593	Advance Pollution Instruments Model 300 EU, GFC CO analyzer
731	Met One BAM-1020 Monitor W/$PM_{2.5}$ SCC

Notes: The POC is used to differentiate between the numbers of physical monitors at a site that measure for the same pollutant. For example, the PM_{10} monitors at a collocated PM_{10} site will use different POCs to differentiate between the primary and quality assurance PM_{10} monitors.

Information on the continuous $PM_{2.5}$ non-FEM monitors included in this plan

The federal regulations require that monitors are FRM, FEM, or ARM and meet certain siting criteria in order for the data to be used for NAAQS comparisons. While all continuous PM_{10} monitors discussed in this report are FEM monitors, there are some continuous $PM_{2.5}$ monitors that are non-FEMs. Table 6 lists the continuous $PM_{2.5}$ non-FEM monitoring sites that are covered in the geographical scope of this report. The continuous $PM_{2.5}$ data reported from these non-FEM monitors are excluded from NAAQS comparison. However, these non-FEM monitors are California Approved Samplers (CAS) and the data are used for State designations and in AirNow for Air Quality Index reporting.

Table 6
Monitoring Sites Operating $PM_{2.5}$ Non-FEM monitors
(Monitoring sites in the geographic area covered in this plan during 2014)

Site Name	AQS Number
Chester	060631007
Chico-East	060070008
Colfax	060610004
Colusa	060111002
Davis	061130004
Grass Valley	060570005
Gridley	060074001
Lincoln-1st	060612002
Paradise	060072002
Portola-Gulling	060631010
Quincy	060631006
Roseville	060610006
Sloughhouse	060675003
Tahoe City	060611004
Truckee-Fire Station	060571001
Willows-E Laurel	060210003
Yosemite Village-Visitor Center	060431001
Yuba City	061010003

Section 5. Federal Minimum Monitoring Requirements

For most pollutants, U.S. EPA has established minimum monitoring requirements. These requirements are usually based on the CBSA along with considerations of population, emissions, or current air quality. Minimum monitoring requirements for ozone, $PM_{2.5}$, PM_{10}, PM-coarse, NO_2, SO_2, lead and chemical speciation will be discussed in this section. In addition, there are also monitoring requirements that apply to an entire Primary Quality Assurance Organization (PQAO) or State or are based on ozone nonattainment classification, which will be discussed in the next section.

Federal Ozone, PM_{10}, and $PM_{2.5}$ Monitoring Requirements

Minimum monitoring requirements are specified in federal regulations (Appendix D of Title 40, Part 58 of the CFR). The requirements are based on the population of the CBSA and the severity of the air quality problem, as specified by the design value. Table 7 summarizes the required and existing ozone, $PM_{2.5}$, and PM_{10} monitors for the 11 CBSAs covered in this report. In all cases, sufficient monitoring exists and no additional monitoring is required.

Federal regulations also require that near-roadway $PM_{2.5}$ monitoring at one location in each urban area, or CBSA, with a population of 1 million or more. These monitors will likely be located at existing near-roadway monitoring sites also measuring NO_2 or CO. The near-roadway monitoring will be phased-in, beginning with the largest urban areas (population of 2.5 million or more) by January 1, 2015, and extending to the remainder of the areas by January 1, 2017. U.S. EPA anticipates that states will be able to relocate existing monitors (about 52 total) to meet the near-roadway requirement at little or no additional cost. For more information on near-roadway monitoring requirements, please see Table 9 and related discussion.

To provide a broader picture of California, Figure 3 (shown previously in Section 3) and Table 8 provide a complete list of the CBSAs in California, including those covered in other district network plans. Note that ozone and PM monitoring are only required in Metropolitan areas and not in Micropolitan areas (Refer to detailed information on CBSA, Metropolitan and Micropolitan areas at the end of Section 3). Additional information on the ozone, $PM_{2.5}$, continuous $PM_{2.5}$, and PM_{10} monitoring requirements and compliance with federal requirements can be found in Appendix B of this report.

Table 7
Numbers of Required and Existing Sites by CBSA

CBSA	Population	Ozone		$PM_{2.5}$				PM_{10} (SSI)[3]	
		Required SLAMS[1]	Existing SLAMS	Required SLAMS	Existing SLAMS	Required Cont.[2]	Existing Cont.	Required SLAMS	Existing SLAMS
Bakersfield*	839,361	2	8	2	5	1	3	4-8	4
Chico	220,000	1	2	0	1	1	3	N/A	N/A
Los Angeles-Long Beach-Anaheim*	12,828,837	4	16	3	11	2	7	2-4	8
Redding	177,223	1	4	0	1	0	0	0	3
Riverside-San Bernardino-Ontario*	4,224,851	3	21	3	10	2	8	6-10	12
Sacramento-Arden Arcade-Roseville*	2,149,127	2	17	3	6	2	9	6-10	10
Santa Rosa*	483,878	1	2	0	1	0	1	N/A	N/A
Vallejo-Fairfield^	413,344	2	3	0	1	0	1	0-1	1
Yuba City	166,892	1	2	0	1	0	1	N/A	N/A
El Centro	174,528	1	3	1	3	1	1	1-2	5
Oxnard-Thousand Oaks-Ventura	823,318	2	5	1	5	1	5	N/A	N/A

FOOTNOTES:
2012-2014 air quality data was used in determining the number of required sites.

This table excludes tribal monitoring sites.

Population is based on year 2010 Census data.

* Parts of these MSAs are included in the geographical scope of this report, and parts are within the geographical scope of the reports being completed by the districts.

The numbers of sites listed are for the entire CBSA. See Table 3a for a completed list of CBAs in California.

[1] SLAMS: State and Local Air Monitoring Stations.

[2] Cont.: Refers to a continuous $PM_{2.5}$ monitor, i.e., one that measures hourly data.
For this assessment, both continuous FEMs and non-FEMs are counted for each CBSA.

[3] SSI: Size Selective Inlet. The SSI is an FRM for PM_{10}. N/A means there is no PM_{10} monitor in the CBSA.

^The $PM_{2.5}$ FRM monitor at Vallejo was discontinued in March 2011 and was replaced with a continuous $PM_{2.5}$ FEM monitor.

Table 8
Core-Based Statistical Areas in California (Metropolitan Areas)

CBSA Name	County/Counties	Included in the ARB plan?	Included in other District Plan?
Bakersfield	Kern	Yes; Eastern Kern	San Joaquin Valley
Chico	Butte	Yes	--
El Centro	Imperial	Yes	--
Fresno	Fresno	No	San Joaquin Valley
Hanford-Corcoran	Kings	No	San Joaquin Valley
Los Angeles-Long Beach-Anaheim	Los Angeles; Orange	Yes; Antelope Valley	South Coast
Madera	Madera	No	San Joaquin Valley
Merced	Merced	No	San Joaquin Valley
Modesto	Stanislaus	No	San Joaquin Valley
Napa	Napa	No	Bay Area
Oxnard-Thousand Oaks-Ventura	Ventura	Yes	--
Redding	Shasta	Yes	--
Riverside-San Bernardino-Ontario	Riverside; San Bernardino	Yes, Mojave Desert	South Coast
Sacramento-Roseville-Arden Arcade	El Dorado; Placer; Sacramento; Yolo	Yes; Placer, Yolo-Solano, and El Dorado	Sacramento Metropolitan
Salinas	Monterey	No	Monterey Bay Unified
San Diego-Carlsbad	San Diego	No	San Diego County
San Francisco-Oakland-Hayward	Alameda; Contra Costa; Marin; San Francisco; San Mateo	No	Bay Area
San Jose-Sunnyvale-Santa Clara	San Benito; Santa Clara	No	Bay Area
San Luis Obispo-Paso Robles-Arroyo Grande	San Luis Obispo	No	San Luis Obispo County
Santa Cruz-Watsonville	Santa Cruz	No	Monterey Bay Unified
Santa Maria-Santa Barbara	Santa Barbara	No	Santa Barbara County
Santa Rosa	Sonoma	Yes; Northern Sonoma	Bay Area
Stockton-Lodi	San Joaquin	No	San Joaquin Valley
Vallejo-Fairfield	Solano	Yes; Yolo-Solano	Bay Area
Visalia-Porterville	Tulare	No	San Joaquin Valley
Yuba City	Sutter; Yuba	Yes	--

Table 8 (cont.)
Core-Based Statistical Areas in California (Micropolitan Areas)

CBSA Name	County/Counties	Included in the ARB plan?	Included in other District Plan?
Clearlake	Lake	Yes	--
Crescent City	Del Norte	No	North Coast Unified
Eureka-Arcata-Fortuna	Humboldt	No	North Coast Unified
Red Bluff	Tehama	Yes	--
Sonora	Tuolumne	Yes	--
Susanville	Lassen	Yes	--
Truckee-Grass Valley	Nevada	Yes	--
Ukiah	Mendocino	Yes	--

Federal Near-Road, Area-Wide and Susceptible Population NO_2 Monitoring Requirements

There are federal requirements for NO_2 near-roadway monitors that are applicable in California. Table 9 lists the required number of monitoring sites for California. Ventura County APCD is the only air district covered in this report that is required to deploy a near-road NO_2 monitor. Monitoring in Ventura is required to begin in 2017. Details on the proposed Ventura site will be discussed in the 2016 network Plan.

Table 9
Near-Road NO_2 Monitoring Requirements

CBSA	District Responsible for NO_2 Near-Road Monitoring	Number of Required NO_2 Monitors
Bakersfield	San Joaquin Valley	1
Fresno	San Joaquin Valley	1
Los Angeles-Long Beach-Anaheim	South Coast	2
Modesto	San Joaquin Valley	1
Oxnard-Thousand Oaks-Ventura	***Ventura County***	***1***
Riverside-San Bernardino-Ontario	South Coast	2
Sacramento-Arden-Arcade-Roseville	Sacramento Metro	1
San Diego-Carlsbad-San Marcos	San Diego	2
San Francisco-Oakland-Fremont	Bay Area	2
San Jose-Sunnyvale-Santa Clara	Bay Area	1
Stockton	San Joaquin Valley	1

In addition, federal monitoring regulations also require that there must be NO_2 monitoring at a location of expected highest NO_2 concentration representing the neighborhood or larger spatial scales within each CBSA with a population of 1,000,000 or greater. There are six CBSAs that meet the population criteria as shown in Table 10.

Table 10
CBSAs in which Area-Wide NO_2 Monitoring is Required

CBSA	Included in Other District Plan
Los Angeles-Long Beach-Anaheim	South Coast
Riverside-San Bernardino-Ontario	South Coast
San Diego-Carlsbad-San Marcos	San Diego
San Francisco-Oakland-Fremont	Bay Area
San Jose-Sunnyvale-Santa Clara	Bay Area
Sacramento-Roseville-Arden Arcade	Sacramento

Finally, federal regulations also require that NO_2 monitoring be conducted in 40 locations throughout the U.S., in selected areas, to protect susceptible and vulnerable populations. The locations of these areas were determined by each U.S. EPA Regional Administrator. In California, seven locations were selected in the following six counties/cities and they are discussed in the San Diego, Bay Area, and San Joaquin Valley annual network plans.

- San Diego County
- City of Oakland
- City of Long Beach
- Los Angeles County
- San Bernardino County
- Fresno County

Federal CO and SO_2 Monitoring Requirements

Near-road monitors for CO are also required. One CO monitor is required to operate collocated with one near-road NO_2 monitor in CBSAs that have a population of 1 million of greater. Note that if a CBSA has more than one near-road NO_2 monitoring site, a CO monitor is only required at one site in the CBSA. The CO monitor must be operational by January 1, 2015, in CBSAs having a population of 2.5 million, and by January 1, 2017, for all other CBSAs. The monitors required for the 2017 deadline will be identified in the 2016 Annual Network Plan.

On June 2, 2010, the U.S. EPA published the final rule for the revised federal SO_2 standard which specifies the minimum number of sites at which state and local air agencies must deploy SO_2 monitors. The monitoring regulations require SO_2 monitors be placed in CBSAs based on a population weighted emissions index (PWEI) for the area. The PWEI of a CBSA is calculated by multiplying the latest available SO_2 emission data within each CBSA by the population of the CBSA and then divided by one million. The final rule requires:

- Three SO_2 monitors in CBSAs with PWEI values of one million or more;

- Two SO_2 monitors in CBSAs with PWEI values less than one million but greater than 100,000; and

- One SO_2 monitor in CBSAs with PWEI values greater than 5,000 but less than 100,000.

California has 35 CBSAs, with populations ranging from 17,000 to more than 12 million people. Table 11 lists the CBSAs in California that require SO_2 monitoring. In addition, Table 11 shows that these CBSAs exceed federal monitoring requirements for SO_2. None of the areas included in this report are required to monitor for SO_2.

Table 11
Minimum Monitoring Requirements for SO_2

CBSA	County/ Counties	Population (2010)	SO2 Emissions per CBSA (tpy)	PWEI (Million persons-tpy)	Number of Required Monitors	Number of Active Monitors	Number of Additional Monitors Needed
Los Angeles-Long Beach-Anaheim	Los Angeles and Orange	12,828,837	13,498	173,785	2	5	0
Riverside-San Bernardino-Ontario	Riverside and San Bernardino	4,224,851	2,478	10,266	1	4	0
San Francisco-Oakland-Fremont	Alameda, Contra Costa, San Francisco, San Mateo, and Marin	4,335,391	12,669	54,702	1	9	0

Federal Lead Monitoring Requirements

Three types of monitoring are required under federal regulations:

- Near-source (facilities that have greater than 5 tpy emissions)
- Selected airports
- Population exposure monitoring at NCORE sites

There are no areas covered in this report with facilities that would trigger the near-source monitoring requirement or are on the list of airports selected by the U.S. EPA for

monitoring. Finally Pb monitoring is required at NCORE sites. There are no NCORE sites located in the jurisdiction covered in this report. Section 6 contains details on the NCORE monitoring site locations in California.

The U.S. EPA selected 15 airports for a one-year study as part of the new Pb rule. Five of the selected airports are in California: Palo Alto Airport, McClellan-Palomar Airport, Reid-Hillview Airport, Gillespie Field Airport, and San Carlos Airport. None of these airports fall within the geographical scope of this report. With respect to source-oriented monitoring for Pb, the only stationary sources in California subject to the 0.5 tpy threshold are located in the South Coast Air Basin. The South Coast annual network plan provides a description of their source-oriented lead monitors. The areas covered in this network plan are not required to conduct source-oriented lead monitoring.

Lastly, the final rule requires Pb monitoring at urban NCore sites. Urban NCore sites are those sites in a CBSA of 500,000 or more. Currently, there are six urban NCore sites in California and they are located in El Cajon, Fresno, Los Angeles, Riverside, Sacramento, and San Jose. A seventh rural NCore site is located at White Mountain Research Station. None of these NCore sites are located in areas covered by this network plan. More information on NCore sites is provided in Section 6.

Federal PM-Coarse ($PM_{10-2.5}$) Monitoring Requirements

The CFR requirement for coarse particulate matter monitoring is in Section 4.8, Appendix D of 40 CFR 58. PM-coarse monitoring is required at NCore sites. At the time this report was drafted, the six urban NCore sites currently monitor for PM-coarse.

Federal $PM_{2.5}$ Chemical Speciation Trends Network (STN) Requirements

The requirements for $PM_{2.5}$ trends speciation monitoring is in Section 4.7.4, Appendix D of 40 CFR 58. The California $PM_{2.5}$ Chemical Speciation Network (CSN) includes National Air Monitoring Stations (NAMS) as well as SLAMS. The data from these sites are used to track long-term trends in $PM_{2.5}$ mass and composition to support NAAQS implementation, evaluate the effectiveness of control strategies, and support health and research exposure studies. Each site collects $PM_{2.5}$ mass and its major components including sulfate, nitrate, ammonium, organic carbon and elemental carbon, and a number of elemental species. Table 12 lists all of the speciation sites in California.

Table 12
$PM_{2.5}$ CSN Sites in California

Site Name	AQS ID	Monitor Type	Collocated?
Bakersfield-California	60290014	NAMS	Yes
Calexico-Ethel	60250005	SLAMS	
Chico-East	60070008	SLAMS	
El Cajon	60730003	NAMS	
Escondido	60731002	SLAMS	
Fresno-Garland	60190011	NAMS	
Livermore	60010007	SLAMS	
Los Angeles-North Main	60371103	NAMS	
Modesto-14th	60990005	SLAMS	
Oakland-West	60010011	SLAMS	
Portola-Gulling	60631010	SLAMS	
Riverside-Rubidoux	60658001	NAMS	Yes
Sacramento-Del Paso Manor	60670006	NAMS	
Sacramento-T Street	60670010	SLAMS	
San Jose-Jackson	60850005	NAMS	
Vallejo	60950004	SLAMS	
Visalia	61072002	SLAMS	

Section 6. Federal Monitoring Requirements at State-level or by PQAO or Area

Certain parts of 40 CFR 58 require that state and local agencies operate multi-pollutant monitoring sites, meet PM collocation requirements, and monitor at sites that are considered background, transport, or highest (maximum) concentration sites. The rest of this Section discusses these requirements. See Section 10 for a discussion of the Photochemical Assessment Monitoring sites.

Federal NCore Monitoring Requirements for California

On October 17, 2006, U.S. EPA issued amendments to the ambient air monitoring requirements for criteria pollutants. These amendments are codified in 40 CFR Parts 53 and 58. One of the most significant changes in the regulations was the requirement to establish a network of NCore multi-pollutant monitoring stations. NCore sites include neighborhood and urban scale measurements in metropolitan areas and rural areas. Sites are long term and sited away from direct emission sources that could impact the ability to detect area-wide concentrations.

Currently, in California, there are a total of seven monitoring sites that are part of the NCore network. The seven NCore sites are listed in Table 13 along with the agency that operates the site. Note that in 2014, the school grounds on which the El Cajon station was sited were being remodeled. As a result, the San Diego Air Pollution Control District was forced to temporarily relocate the station to a vacant area on Gillespie Field property. U.S. EPA approved this temporary relocation. Once construction is completed, the San Diego will move the NCORE site back to its original location. This could occur in the 4th quarter of 2015. Refer to the San Diego 2015 Annual Network Plan for the most recent information on the status of this site.

Table 13
NCore Monitoring Sites in California

Site Name	NCore Type	Agency Responsible for NCore Monitoring
El Cajon	Urban	San Diego
Fresno-Garland	Urban	ARB
Los Angeles-North Main	Urban	South Coast
Riverside-Rubidoux	Urban	South Coast
Sacramento-Del Paso Manor	Urban	Sacramento Metro
San Jose	Urban	Bay Area
White Mountain Research Station	Rural	Great Basin Unified

6.1 Federal Collocation Requirements for the ARB PQAO

Appendix A of 40 CFR 58 includes requirements for collocation of samplers as part of quality checks for the $PM_{2.5}$, continuous $PM_{2.5}$, PM_{10}, and Pb monitoring networks. The requirements are to be met for each PQAO. The following information reflects network status as of the time of this report, not for calendar year 2014 as reflected in Tables 3 and 5.

$PM_{2.5}$ Collocation Status

For $PM_{2.5}$, the CFR requires that, for each type of *manual* $PM_{2.5}$ monitor operated as a primary monitor, 15 percent of the sites within a PQAO have a collocated monitor of the same type. Three types of manual $PM_{2.5}$ FRMs currently exist in the ARB PQAO. Collocation requirements apply to each method type. The types of manual $PM_{2.5}$ samplers and method codes are the R&P Non-sequential (117), R&P or Thermo Partisol (143), and R&P or Thermo Sequential (145). The collocation requirements for monitors within the ARB PQAO are include in Table 14.

Table 14
Collocation Requirements for Manual $PM_{2.5}$ Monitors

Method Code	Number of Primary Monitors	Number of Required Collocated Monitors	Number of Active Collocated Monitors
117	8	1	1
143	4	1	1
145	21	3	4

For method 117, the collocation site is Victorville. This site is operated by the Mojave Desert Air Quality Management District (MDAQMD). MDAQMD is proposing to switch out one of the manual FRM monitors at the Victorville site to a continuous $PM_{2.5}$ FEM monitor. Once this proposal becomes fully implemented, the ARB PQAO will have to find a replacement site to collocate for this method type. ARB will continue to assess the collocation situation for this method type and coordinate with districts within the ARB PQAO to ensure that collocation requirements are met.

For method 143, the collocation site is Roseville. These samplers have been incorrectly identified in AQS as method 117. At the time of this report, this error is in the process of being corrected.

For method 145, the collocation sites are Bakersfield-California, Calexico-Ethel, Fresno-Garland, and Sacramento-Del Paso Manor. Many of these samplers have been incorrectly identified in AQS as method 118. At the time of this report, this error is in the process of being corrected. The monitor at Truckee-Fire Station (AQS ID 06-057-1001) has been recently found to deviate from CFR requirements and ARB is working with U.S. EPA to address the issue. The data are in the process of being reloaded into AQS as parameter code 88502 (non-FEM) with method code 145. As a result, the Truckee-Fire Station is not included in the totals shown in Table 10.

The CFR also requires that for each *continuous* $PM_{2.5}$ FEM, 15 percent of the sites must be collocated, but that the first collocation monitor is an FRM, the second an FEM, and so on alternating FRM with FEM as additional collocation monitors are required. At the time this report was drafted, 35 sites in the ARB PQAO operate continuous $PM_{2.5}$ FEM monitors representing three method types; Met-One BAM (170), Thermo Scientific TEOM (181) and Grimm (195).

Table 15
Collocation Requirements for continuous $PM_{2.5}$ FEM

Method Code	Number of Primary Monitors	Number of Required Collocated Monitors	Number of Active Collocated FRM Monitors	Number of Active Collocated FEM Monitors (same method designation as primary)
170	33	5	3	2
181	1	1	1	0
195	1	1	1	0

For method 170, the 33 sites in the ARB PQAO require that five sites are collocated, of which the first, third, and fifth collocations are between an FEM/FRM and the second and fourth collocations are between an FEM/FEM. At the time this report was drafted, there are three FEM/FRM sites in the ARB PQAO: Madera, Modesto, and Salinas. There are currently two FEM/FEM sites in the ARB PQAO: Stockton-Hazelton and Simi Valley.

For method 181, the one site utilizing this method in the ARB PQAO is the Keeler site located in Inyo County, and it currently meets collocation requirements.

For method 195, the one site utilizing this method in the ARB PQAO is the Humboldt Hill site located in the City of Eureka. The North Coast Unified Air Quality Management District discontinued the $PM_{2.5}$ FRM at the Eureka-I Street site and moved it to the Humboldt Hill site, collocating with the FEM Grimm monitor (195). The Humboldt Hill site currently meets collocation requirements. However, the District is planning to designate the $PM_{2.5}$ FRM monitor at Humboldt Hill as the primary monitor and re-designate the Grimm monitor as the quality assurance monitor at this site. In addition, the District is working with ARB and U.S. EPA for approval via a waiver to exclude the Grimm data at this site from NAAQS comparison. More detailed information regarding this proposed network change will be provided in the 2016 ARB network plan. Table 15 summarizes the collocation requirements for continuous $PM_{2.5}$ FEM in the ARB PQAO.

The CFR also requires that 80 percent of the collocated $PM_{2.5}$ monitors are sited at monitoring stations that are within +/- 20 percent of the federal $PM_{2.5}$ standards. California is a very large state in which environmental conditions (e.g., temperature, precipitation, humidity, wind speeds, and elevation) vary widely and the composition of the $PM_{2.5}$ varies significantly. Also, a large number of agencies operate sites in the statewide $PM_{2.5}$ network. ARB and local air districts designed the locations of collocated $PM_{2.5}$ samplers to strike a balance at adequately representing all of these factors. In this way, the quality control function of the collocated monitoring is best realized. While Appendix A of 40 CFR 58 requires 80 percent of the collocated monitors to be within +/-20 percent of the applicable federal air quality standard, focusing on achieving this was deemed to result in too much clustering of the collocated monitors in too few of the

factors needing representation. To support this determination, the U.S. EPA requested that the network plan includes design values of the collocation sites. Table 16 lists the design values of the $PM_{2.5}$ FRM and FEM monitors at each of the collocation sites in the ARB PQAO. Note that exceptional events are included in the determination of the design values for these PM sites.

Table 16
Design Values for $PM_{2.5}$ Collocation Sites (µg/m^3)

Collocation Site Name	AQS Number	Primary Monitor Type and POC	Collocated Monitor Type and POC	2014 Annual Design Value	2014 24-hr Design Value
Bakersfield-Cal	06-029-0014	FRM	FRM	17.2	69
Calexico	06-025-0005	FRM	FRM	13.9	31
Fresno-Garland	06-019-0011	FRM	FRM	15.3	61
Sacramento-Del Paso	06-067-0006	FRM	FRM	9.8	32
Victorville	06-071-0306	FRM	FRM	7.2	16

Collocation Site Name	AQS Number	Primary Monitor Type and POC	Collocated Monitor Type and POC	2014 Annual Design Value	2014 24-hr Design Value
Eureka-Humboldt Hill	06-023-1005	FEM	FRM	5.6	14
Keeler	06-027-1003	FEM	FRM	7.3	33
Madera	06-039-2010	FEM	FRM	15.8	51
Modesto	06-099-0005	FEM	FRM	12.5	49
Salinas	06-053-1003	FEM	FRM	5.6	14
Simi Valley	06-111-2002	FEM	FEM	9.2	20
Stockton-Hazelton	06-077-1002	FEM	FEM	14.0	45

PM_{10} Collocation Status

The CFR also requires that 15 percent of PM_{10} sites with manual monitoring have collocated samplers. For this assessment, per U.S. EPA's guidance, the ARB combines all of the PM_{10} FRM monitors regardless of method type to get the total number of collocation sites required in the ARB PQAO. Currently, there are 37 PM_{10} FRM sites in the ARB PQAO of which four sites are collocated. The collocation sites are: Bakersfield-California, Fresno-Drummond, Sacramento-Del Paso Manor, and Keeler.

To meet the PM_{10} collocation requirement, the ARB PQAO needs two additional PM_{10} collocation sites. ARB is currently evaluating locations in the ARB PQAO to add these additional sites. More information regarding the selection of additional PM_{10} collocation sites will be provided in the 2016 ARB network plan.

Lead Collocation Status

On December 14, 2010, U.S. EPA finalized the rule for the revised federal Pb standard, which also specifies the collocation requirements for Pb. The regulations specify that PQAOs that have a combination of source and non-source Pb sites have 15 percent of their Pb monitoring sites collocated. The regulations also require that the Pb network be treated independently from the PM network, and that the first collocation site be at the highest Pb concentration site within the network. Moreover, the regulations specify that if a PQAO has no source or non-source Pb monitoring, and the only Pb monitoring is conducted at NCore sites, then the collocated Pb monitor must be of the same method designation as the primary Pb monitor.

The ARB PQAO requires no source or non-source Pb monitoring. However, the ARB PQAO does have two NCore sites located at Fresno-Garland and Sacramento-Del Paso Manor and one SLAMS site located at Calexico-Ethel that monitor for Pb. Pb collocation at the NCore sites is being handled at the national level so ARB is not required to collocate for Pb at either the Fresno or Sacramento sites. However, since ARB is monitoring for Pb at Calexico-Ethel, collocation is required. Alternatively, since Pb monitoring at Calexico-Ethel is not required and Pb concentrations are very low, ARB is requesting approval from U.S. EPA to terminate Pb monitoring at Calexico-Ethel (see Appendix G).

Distance between Collocated PM Monitors

The CFR requires that information regarding the distance between collocated PM monitors be included in the network plan. Table 17 lists the distance between the collocated monitors at each of the PM collocation sites in the ARB PQAO. Note that most of the PM collocation sites listed in Table 17 are not covered in the geographical scope of this network plan. However, because collocation is a PQAO requirement, ARB is including this information in this plan.

Table 17
Distance between Collocated PM Monitors

$PM_{2.5}$ FRM/FRM

Collocation Site Name	AQS Number	Primary Monitor Hi-Vol/Lo-Vol?	Collocated Monitor Hi-Vol/Lo-Vol?	Distance (in meters)
Bakersfield-Cal	06-029-0014	Lo-Vol	Lo-Vol	2.3
Calexico	06-025-0005	Lo-Vol	Lo-Vol	1.4
Fresno-Garland	06-019-0011	Lo-Vol	Lo-Vol	2.0
Sacramento-Del Paso	06-067-0006	Lo-Vol	Lo-Vol	1.8
Victorville	06-071-0306	Lo-Vol	Lo-Vol	2.0

$PM_{2.5}$ FEM/FRM

Collocation Site Name	AQS Number	Primary Monitor Method Type	Collocated Monitor Hi-Vol/Lo-Vol?	Distance (in meters)
Eureka-Humboldt Hill	06-023-1005	195 - GRIMM	Lo-Vol	2.0
Keeler	06-027-1003	181 - TEOM	Lo-Vol	2.0
Madera	06-039-2010	170 - BAM	Lo-Vol	2.0
Modesto	06-099-0005	170 - BAM	Lo-Vol	2.8
Salinas	06-053-1003	170 - BAM	Lo-Vol	2.9

$PM_{2.5}$ FEM/FEM

Collocation Site Name	AQS Number	Primary Monitor Monitor Type	Collocated Monitor Monitor Type	Distance (in meters)
Simi Valley	06-111-2002	170 - BAM	170 - BAM	1.8
Stockton-Hazelton	06-077-1002	170 - BAM	170 - BAM	3.0

PM_{10} FRM/FRM

Collocation Site Name	AQS Number	Primary Monitor Hi-Vol/Lo-Vol?	Collocated Monitor Hi-Vol/Lo-Vol?	Distance (in meters)
Bakersfield-Cal	06-029-0014	Hi-Vol	Hi-Vol	3.5
Fresno-Drummond	06-019-0007	Hi-Vol	Hi-Vol	4.0
Keeler	06-027-1003	Hi-Vol	Hi-Vol	2.0
Sacramento-Del Paso	06-067-0006	Hi-Vol	Hi-Vol	2.8

Federal Background, Transport, Max Concentration and Area-wide $PM_{2.5}$ Monitoring Requirements

Federal monitoring requirements state that the network plan list sites in California that represent background, transport, maximum concentration or area-wide monitoring for $PM_{2.5}$. From a statewide perspective, background sites are intended to quantify regionally representative $PM_{2.5}$ concentrations for sites located away from populated areas and other significant emission sources. The following sites serve as regional background sites in California:

Northern California - Point Reyes National Seashore (AQS # 06-041-0002)
Southern California - San Rafael Wilderness (AQS # 06-083-9000)

These background $PM_{2.5}$ sites are a part of the Interagency Monitoring of Protected Visual Environments (IMPROVE) program, which is governed by a steering committee composed of representatives from federal and regional-state agencies. $PM_{2.5}$ mass data (i.e., 88502) from these two sites are currently being reported to AQS. More information on the IMPROVE program can be found at: http://vista.cira.colostate.edu/improve/Overview/Overview.htm

For transport monitoring, ARB has identified two $PM_{2.5}$ monitoring sites within the geographical area of this report:

Bay Area to Sacramento region - Vallejo (AQS # 06-095-0004)
Sacramento region to outlying areas - Roseville (AQS # 06-061-0006)

Among the remaining sites included in this report, ARB has identified a total of 28 area-wide $PM_{2.5}$ monitoring sites. These sites are identified as area-wide based on their siting scale designation as either neighborhood, urban, or regional per Subpart A of 40 CFR, Part 58, Section 58.1. Eight of these area-wide monitoring sites have been identified as representing the maximum concentration sites in their respective MSA. These area-wide and maximum concentration $PM_{2.5}$ sites are listed in Table 18. Maximum concentration sites for the Bakersfield, Sacramento-Arden Arcade-Roseville, and Los Angeles-Long Beach-Anaheim MSAs are not included here and can be found in the annual network plans for the San Joaquin Valley APCD, and Sacramento Metropolitan AQMD, and the South Coast PQAO respectively. Note that not all $PM_{2.5}$ sites are designated as background, transport, maximum concentration or area-wide. There are other purposes for $PM_{2.5}$ monitoring; for example, monitoring for quality assurance purposes.

Table 18
Area-Wide and Maximum Concentration $PM_{2.5}$ Sites

MSA/Site Name	AQS Number	Maximum Concentration $PM_{2.5}$ Site
Bakersfield Metropolitan Statistical Area		
Mojave	06-029-0011	
Ridgecrest	06-029-0015	
Chico Metropolitan Statistical Area		
Chico	06-007-0008	X
Clearlake Micropolitan Statistical Area		
Lakeport	06-033-3001	X
El Centro Metropolitan Statistical Area		
Brawley	06-025-0007	
Calexico	06-025-0005	X
El Centro	06-025-1003	
Los Angeles-Long Beach-Anaheim Metropolitan Statistical Area		
Lancaster	06-037-9033	
Oxnard-Thousand Oaks-Ventura Metropolitan Statistical Area		
El Rio	06-111-3001	
Ojai	06-111-1004	
Piru	06-111-0009	
Simi Valley	06-111-2002	
Thousand Oaks	06-111-0007	X
Redding Metropolitan Statistical Area		
Redding	06-089-0004	X
Riverside-San Bernardino-Ontario Metropolitan Statistical Area		
Victorville	06-071-0306	
Sacramento-Arden Arcade-Roseville Metropolitan Statistical Area		
Auburn	06-061-0003	
Roseville	06-061-0006	
Woodland	06-113-1003	
Truckee-Grass Valley Micropolitan Statistical Area		
Grass Valley	06-057-0005	
Truckee	06-057-1001	X
Ukiah Micropolitan Statistical Area		
Ukiah	06-045-0008	
Willits	06-045-2002	X
Yuba City Metropolitan Statistical Area		
Yuba City	06-101-0003	X
Not in a CBSA		
Colusa	06-011-1002	
Portola	06-063-1010	
Quincy	06-063-1006	
San Andreas	06-009-0001	
Yreka	06-093-2001	

Section 7. Federal Air Quality Assurance

The information in this section, along with the information available on ARB's Quality Assurance website, http://www.arb.ca.gov/aaqm/qa/qa.htm, provides an overview of ARB's Quality Management Branch (QMB) compliance status with the requirements of 40 CFR Part 58, Appendices A, C, and E. The compliance status overview is part of the annual network plan requirement.

Background

The Quality Assurance Section (QAS) and Quality Management Section (QMS) fulfill the QMB mission to ensure ambient air quality data meet or exceed the quality and program objectives of the end users. QAS and QMS perform various quality assurance activities to verify that the data collected comply with procedures and regulations set forth by U.S. EPA and can be considered good quality data and data-for-record.

The quality assurance activities are achieved through various audits which are independent from the ambient air monitoring program responsibilities. California's large network and unique ambient air monitoring challenges require a comprehensive state of the art audit program. ARB's audit program meets the federal requirements for conducting annual performance evaluations and has been designated as equivalent to the National Performance Audit Program. Audits are conducted by using independent National Institute of Standards and Technology (NIST) traceable standards and must adhere to federally established acceptance criteria.

QAS is responsible for conducting performance audits of criteria and non-criteria pollutant analyzers, particulate matter samplers, meteorological equipment, and laboratory analyses utilized for generating ambient level measurements. QAS also performs site reviews as well as reports quality assessment and quality control results. QMS is responsible for ensuring that ARB meets its federally mandated PQAO responsibilities. QMS performs system audits and provides quality assurance oversight of the PQAO districts.

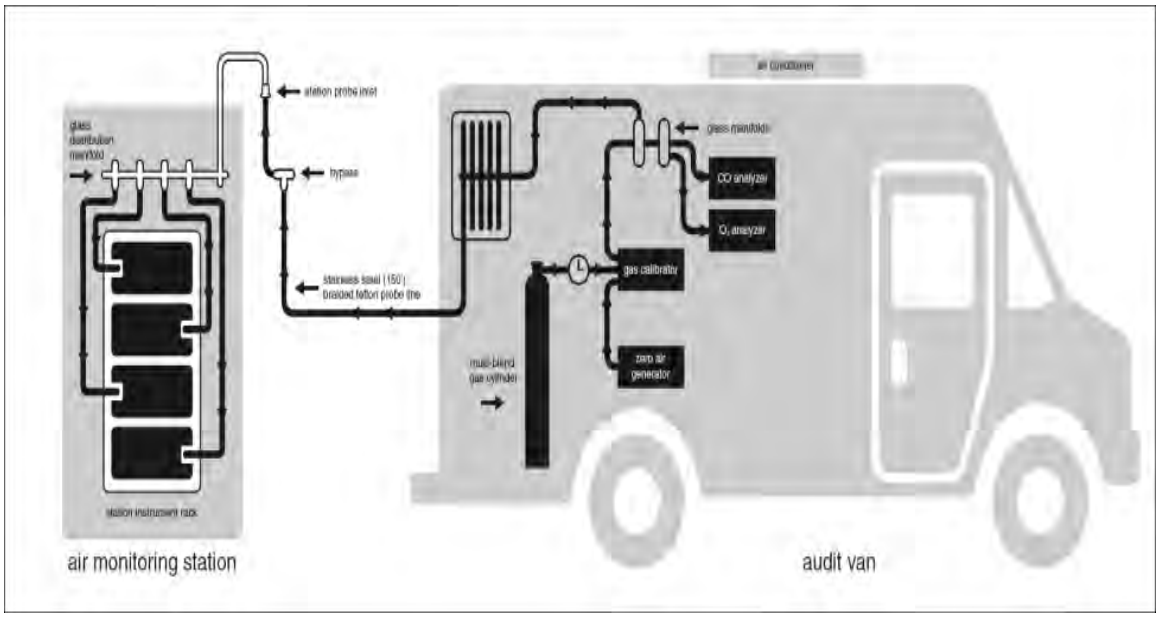
During a performance audit, if a parameter fails to meet critical criteria (QA Handbook Volume II, Appendix D), an Air Quality Data Action (AQDA) request is issued to the facility operator. All AQDA's must be investigated by the operator and resolved to bring the parameter in question into compliance. The station operator completes the AQDA by documenting the resolution, specifying the time period during which data were potentially affected, and recommending whether the data are to be released, corrected, or invalidated. QMB reviews the completed AQDA and discusses any concerns with the operator. A finalized copy of the AQDA is forwarded to the operator and ARB's Air Quality Analysis Section. Other issues identified as systematic or operational criteria that may impact or potentially impact data quality are documented through the issuance of a Corrective Action Notification (CAN).

ARB Quality Assurance Activities

Monitoring Station Audits

Annually, QAS conducts through-the-probe (TTP) audits for all continuous gaseous analyzers in the network. TTP audits of the gaseous analyzers, which monitor for carbon monoxide, nitrogen dioxide, hydrogen sulfide, sulfur dioxide, and ozone, are conducted in accordance with U.S. EPA requirements (Title 40, CFR, Part 58, Appendix A). These audits verify the accuracy of the gaseous analyzers and ensure the integrity of the entire sampling system. For most TTP audits, an audit van is transported by QAS to the ambient air monitoring station. Audit vans house the necessary instrumentation and equipment to allow the audit to be conducted at the same condition as the station instruments. TTP audits, depicted in Figure 4, are conducted by introducing NIST traceable gases from the van into the station sampling probe inlet at various concentrations. QAS compares the results obtained from the station analyzer to the known values generated in the van.

Figure 4
Through-the-Probe Audit



TTP audit methodology can identify deficiencies caused by poor analyzer response, pollutant scavenging contaminants, and sampling system leaks. Deficiencies like these can cause the gaseous analyzers to fail an audit and possibly affect the quality of the ambient air data.

Biannually, QAS determines the accuracy of each particulate matter sampler in the network by comparison of the instrument's flow rate to either a certified orifice or a mass flow meter. These devices are certified against a NIST traceable flow device or

calibrator. The audit device is connected in-line with the sampler's flow path and the flow rate is measured while the sampler is operating under normal sampling conditions. The true flow is calculated from the audit device's calibration curve. The sampler's flow is then compared to the true flow and a percent difference is determined for verifying compliance.

QAS also conducts annual audits of meteorological sensor s using NIST traceable equipment. Accurate meteorological data are important for characterizing meteorological processes such as transport and diffusion, and to make air quality forecasts and burn-day decisions.

An integral part of a performance audit is conducting a siting evaluation. Stations that meet siting criteria at the time of initial setup may no longer conform due to updated regulations or changes in surrounding conditions and land use. Physical measurements and observations are noted on the site survey or accompanying documentation to determine compliance with 40 CFR Part 58, Appendix E requirements. Many of the siting issues result from the growth of vegetation/trees infringing on the minimum distance required from probes/inlets.

Laboratory Performance and System Audits

Laboratory mass analysis performance audits are conducted annually by QAS. These audits utilize NIST certified weights, hygrometers, and temperature sensors to verify the accuracy of the laboratory balance, relative humidity, and temperature sensors.

QMB conducts system audits to determine whether a district’s air monitoring program satisfies the requirements of 40 CFR Part 58 and U.S. EPA's Quality Assurance Handbook for Air Pollution Measurement Systems, Volume II. Compliance with these regulations is necessary if the data are to be considered data-for-record per the California Code of Regulations (Title 17, Article 3, Section 70301). Data meeting these requirements are eligible to be used in actions taken pursuant to the federal and California Clean Air Acts.

Quality Assessment and Quality Control

QAS ensures the quality of the data collected by the air monitoring stations operating in California through the analysis of precision data submitted to U.S. EPA’s AQS database. Precision checks for gaseous/continuous samplers are required once every two weeks. These precision checks are conducted nightly at ARB and some district operated sites, and weekly or bi-weekly at other district sites. Precision checks for non-continuous, collocated particulate matter samplers are to be performed at least every 12 days. QAS staff analyzes the precision data in accordance with 40 CFR 58, Appendix A.

Air monitoring staff perform a one-point flow rate verification check at least once every month on the filter-based and automated PM analyzers. Air monitoring staff review these data and takes corrective action when the results exceed U.S. EPA’s

requirements. These flow rate verifications are used to assess bias of the automated instruments in accordance with 40 CFR Part 58, Appendix A, 3.2.3. These bias estimates are further verified by the semi-annual flow rate audits that are conducted five to seven months apart in each calendar year. In the course of auditing the $PM_{2.5}$ FRM and continuous samplers, the date of the last six months of flow rate and leak checks performed by the air monitoring staff are recorded.

Audit Report Summary

Information about each air monitoring station audited by QMB is available at: http://www.arb.ca.gov/qaweb/sitelist_create.php. This web page provides the map location, latitude and longitude coordinates, site photos, the pollutants monitored, along with a detailed site survey of the instrumentation and physical parameters for each site.

The 2014 calendar year audit dates for both the gaseous analyzers and PM monitors operating at the monitoring sites covered in this report are provided in Table 19. The residence time for each gas analyzer is included in Table 20. Audit results are directly submitted to AQS quarterly per Appendix A of 40 CFR Part 58. In addition, as required by 40 CFR Part 58.15, ARB submits a data certification letter along with the required AQS reports (AMP450NC and AMP600) to U.S.EPA, annually. The last certification letter was sent to the U.S. EPA on May 8, 2015. In 2016, ARB intends to certify the data on or before the May 1 deadline.

Table 19
2014 Audit Date Information for the Monitors in this Plan

Site Name	Gaseous Audit	First Flow Audit	Second Flow Audit
Middletown – Anderson Springs	08/19/2014	03/11/2014	08/19/2014
Anderson – North Street	04/09/2014	04/09/2014	10/15/2014
Auburn – Atwood Road	07/17/2014	02/24/2014	07/17/2014
Auburn – Dewitt C Avenue	-	02/24/2014	07/17/2014
Barstow	02/11/2014	02/11/2014	08/04/2014
Brawley – Main Street #2	-	02/05/2014	08/07/2014
Blythe – Murphy Street	02/10/2014	-	-
Calexico – Ethel Street	12/16/2014	06/10/2014	12/16/2014
Canebrake	-	03/04/2014	09/09/2014
Chester	-	03/11/2014	10/09/2014
Chico – East Avenue	09/03/2014	02/12/2014	09/03/2014
Cloverdale	-	06/26/2014	12/23/2014
Colfax – City Hall	07/22/2014	01/27/2014	07/22/2014
Colusa-Sunrise Blvd	04/02/2014	03/20/2014	09/17/2014
Cool (seasonal)	07/23/2014	-	-
Davis – UCD Campus	08/26/2014	02/26/2014	08/26/2014
Echo Summit (seasonal)	06/09/2014	-	-

Site Name	Gaseous Audit	First Flow Audit	Second Flow Audit
El Centro-9th Street	02/06/2014	02/06/2014	08/07/2014
El Rio – Rio Mesa School #2	05/01/2014	05/01/2014	11/04/2014
Fort Bragg – 300 Dana Street	-	06/25/2014	12/22/2014
Glenbrook	08/19/2014	03/11/2014	08/19/2014
Grass Valley – Litton Building	09/30/2014	03/14/2014	09/30/2014
Gridley	-	05/13/2014	12/02/2014
Guerneville – Church and 1st	-	06/24/2014	12/23/2014
Healdsburg – Matheson	-	06/24/2014	12/23/2014
Healdsburg – Municipal Airport	06/24/2014	-	-
Hesperia – Olive Street	02/26/2014	02/26/2014	08/05/2014
Jackson – Clinton Road	03/18/2014	-	-
Jerseydale (seasonal)	10/06/2014	-	-
Joshua Tree National Monument	05/06/2014	-	-
Joshua Tree – Pinto Wells	05/07/2014	-	-
Joshua Tree – Cottonwood	05/06/2014	-	-
Lakeport – Lakeport Blvd	08/20/2014	03/11/2014	08/20/2014
Lancaster – Division Street	02/27/2014	02/27/2014	08/05/2014
Lassen Volcanic National Park	04/08/2014	-	-
Lucerne Valley – Middle School	-	02/12/2014	08/06/2014
Mojave	03/06/2014	03/06/2014	09/11/2014
Niland – English Road	02/05/2014	02/05/2014	08/07/2014
Ojai – East Ojai Avenue	04/29/2014	04/29/2014	11/05/2014
Paradise – Airport	09/04/2014	-	-
Phelan – Beekley Road & Phelan	02/12/2014	-	-
Piru – Pacific	05/19/2014	05/19/2014	11/04/2014
Placerville – Gold Nugget Way	06/10/2014	-	-
Portola – Gulling Street	-	03/11/2014	10/03/2014
Quincy – N Church Street	-	03/11/2014	10/09/2014
Red Bluff – Main Street	-	02/13/2014	09/02/2014
Red Bluff – Messer Drive	-	02/13/2014	09/02/2014
Red Bluff – Oak Street	09/02/2014	-	-
Redding – Health Department	04/08/2014	04/08/2014	10/15/2014
Ridgecrest – California Ave	-	03/04/2014	09/10/2014
Roseville – N Sunrise Blvd	09/03/2014	02/27/2014	09/03/2014
San Andreas – Gold Strike Road	03/19/2014	03/19/2014	10/08/2014
Shasta Lake – Lake Blvd	04/07/2014	-	-
Shasta Lake – La Mesa	-	04/07/2014	10/16/2014
Simi Valley – Cochran Street	05/08/2014	05/08/2014	11/04/2014
Sonora – Barretta Street	03/18/2014	-	-
South Lake Tahoe – Sandy Way	-	06/09/2014	12/10/2014

Site Name	Gaseous Audit	First Flow Audit	Second Flow Audit
Sutter Buttes (seasonal)	05/13/2014	-	-
Thousand Oaks – Moorpark Rd	04/30/2014	04/30/2014	11/04/2014
Trona – Athol/Telescope #2	10/16/2014	04/22/2014	10/16/2014
Truckee - Fire Station	-	03/12+14/2014	10/03/2014
Tuscan Butte (seasonal)	05/15/2014	-	-
Ukiah – Gobbi Street	06/25/2014	-	-
Ukiah – Library	-	06/25/2014	12/22/2014
Vacaville – Merchant Street	-	02/21/2014	09/18/2014
Vacaville – Ulatis Drive	09/30/2014	-	-
Victorville – Park Avenue	02/25/2014	02/25/2014	08/05/2014
Westmorland	-	02/05/2014	08/07/2014
West Sacramento – 15th Street	-	02/21/2014	09/17/2014
White Cloud (seasonal)	10/02/2014	-	-
Willits – Justice Center	-	06/25/2014	12/22/2014
Willows – Colusa	09/16/2014	02/20/2014	09/16/2014
Woodland – Gibson Road	09/30/2014	02/20/2014	09/18/2014
Yosemite Natl Park – Turtleback	10/07/2014	-	-
Yosemite Village – Visitor Center	-	04/07/2014	10/07/2014
Yreka	04/09/2014	04/09/2014	10/16/2014
Yuba City	02/12/2014	02/12/2014	09/05/2014

Table 20
2014 Gaseous Inlet Probe Residence Time

Site Name	Gaseous Residence Time (seconds)				
	Ozone	Nitrogen Dioxide	Carbon Monoxide	Sulfur Dioxide	Hydrogen Sulfide
Middletown – Anderson Springs	-	-	-	-	3.8
Anderson – North Street	6.9	-	-	-	-
Auburn – Atwood Road	17.2	-	-	-	-
Barstow	12.4	12.7	11.9	-	-
Blythe – Murphy Street	15.7	-	-	-	-
Calexico – Ethel Street	5.8	8.1	5.7	8.5	-
Chico – East Avenue	11.7	12.9	10.8	-	-
Colfax – City Hall	12.5	-	-	-	-
Colusa – Sunrise Blvd	19.8	-	-	-	-
Cool (seasonal)	11.0	-	-	-	-
Davis – UCD Campus	9.6	16.7	-	-	-
Echo Summit (seasonal)	12.0	-	-	-	-
El Centro – 9th Street	8.2	8.7	8.3	-	-
El Rio – Rio Mesa School #2	5.0	7.4	-	-	-
Glenbrook	-	-	-	-	5.7
Grass Valley – Litton Building	13.9	-	-	-	-
Healdsburg – Municipal Airport	14.1	-	-	-	-
Hesperia – Olive Street	4.9	-	-	-	-
Jackson – Clinton Road	15.4	-	-	-	-
Jerseydale	14.6	-	-	-	-
Joshua Tree National Monument	4.3	-	-	-	-
Joshua Tree – Pinto Wells	4.5	-	-	-	-
Joshua Tree – Cottonwood	6.2	-	-	-	-
Lakeport – Lakeport Blvd	13.6	-	-	-	-
Lancaster – Division Street	14.0	15.7	14.0	-	-
Lassen Volcanic National Park	9.3	-	-	-	-
Mojave	7.6	-	-	-	-
Niland – English Road	5.1	-	-	-	-
Ojai – East Ojai Avenue	8.5	-	-	-	-
Paradise – Airport	11.7	-	-	-	-
Phelan – Beekley Road & Phelan	6.4	-	-	-	-
Piru – Pacific	10.0	-	-	-	-
Placerville – Gold Nugget Way	6.2	-	-	-	-
Red Bluff – Oak Street	12.1	-	-	-	-

Site Name	Gaseous Residence Time (seconds)				
	Ozone	Nitrogen Dioxide	Carbon Monoxide	Sulfur Dioxide	Hydrogen Sulfide
Redding – Health Department	14.4	-	-	-	-
Roseville – N Sunrise Blvd	18.2	18.7	-	-	-
San Andreas – Gold Strike Road	11.0	-	-	-	-
Shasta Lake – Lake Blvd	18.2	-	-	-	-
Simi Valley – Cochran Street	14.6	12.2	-	-	-
Sonora – Barretta Street	10.8	-	-	-	-
Sutter Buttes (seasonal)	12.1	-	-	-	-
Thousand Oaks – Moorpark Rd	12.7	-	-	-	-
Trona – Athol/Telescope #2	7.9	10.0	-	8.3	8.6
Tuscan Butte (seasonal)	6.4	-	-	-	-
Ukiah – Gobbi Street	7.7	-	-	-	-
Vacaville – Ulatis Drive	7.6	-	-	-	-
Victorville – Park Avenue	13.3	14.7	13.1	13.5	-
White Cloud (seasonal)	15.9	-	-	-	-
Willows – Colusa	7.6	-	-	-	-
Woodland – Gibson Road	6.4	-	-	-	-
Yosemite Nat'l Park – Turtleback	13.5	-	-	-	-
Yreka	4.8	-	-	-	-
Yuba City	11.7	14.1	-	-	-

Section 8. Operating Schedules

The CFR requires that the annual network plan include information about operating schedules. While gaseous (e.g., O_3, CO, NO_2, SO_2) and FEM particulate matter monitors usually operate continuously throughout the year, FRM particulate matter monitors often operate one day out of every three or six days. The primary reason why particulate matter FRMs operate less frequently is that they are filter-based and much more labor intensive, requiring that field staff frequently retrieve and replace filters and that laboratory staff pre- and post-weigh filters. The continuous gaseous and particulate matter monitors produce hourly measurements of the pollutants, while the filter-based particulate matter monitors produce 24-hour measurements.

Particulate matter operating schedules

Current operating schedules for $PM_{2.5}$ FRM monitors in the areas included in this report are listed in Table 21. Design values are also included in Table 21. Exceptional events are included in the determination of the design values. ARB is working with local air districts to reassess the current sampling schedules and assist in applying for additional funding to comply with continuous collocation requirements.

Table 21
Current $PM_{2.5}$ FRM Operating Schedules, Design Values, and Exceedance Days
(Monitors of the air districts included in this report)

Site Name	AQS Site Number	Current Schedules	2014 Design Values		Exceedance Days (2012-2014)
			24-Hour (ug/m^3)	Annual Average (ug/m^3)	
Brawley	060250007	1-in-3 day	20	7.5	0
Calexico-Ethel	060250005	Daily	31	13.9	12
Chico-East (combined*)	060070008	Daily	28	9.0	3
Colusa-Sunrise Blvd	060111002	1-in-6 day	21	7.2	0
El Centro	060251003	1-in-3 day	19	7.0	0
Grass Valley-Litton Building	060570005	1-in-6 day	32	5.0	2
Lakeport-Lakeport Blvd	060333001	1-in-6 day	12	4.0	0
Lancaster-43301 Division St	060379033	1-in-6 day	17	6.1	1
Portola-Gulling (combined*)	060631010	1-in-3 day	45	14.6	22
Quincy-N Church Street	060631006	1-in-3 day	33	9.6	6
Redding-Health Department Roof	060890004	1-in-6 day	16	5.7	0
Ridgecrest-100 West California	060290015	1-in-6 day	11	5.1	0
Roseville-N Sunrise Blvd	060610006	1-in-6 day	18	7.3	0
Truckee-Fire Station	060571001	1-in-3 day	20	6.9	3
Victorville-14036 Park Ave	060710306	1-in-6 day	16	7.2	0
Woodland-Gibson Road	061131003	1-in-6 day	16	6.6	0
Yreka-Foothill Drive	060932001	1-in-6 day	42	7.5	4
Yuba City-Almond Street	061010003	Daily	25	8.1	3

* Chico-East (combined) data are calculated using data combined with the closed Chico-Manzanita site; Portola-Gulling (combined) data are calculated using data combined with the closed Portola-Nevada site.

While there are a number of continuous $PM_{2.5}$ monitors deployed, most of these are not federal equivalent methods (FEM). In March of 2008, U.S. EPA approved the first continuous $PM_{2.5}$ FEM. Then on June 2009 and March 2011, U.S. EPA approved two more continuous $PM_{2.5}$ FEMs. At the time this report was drafted, in the ARB PQAO, there are 34 continuous $PM_{2.5}$ FEM sites.

All of the manual PM_{10} samplers operate on a 1-in-6 day schedule. Similar to the $PM_{2.5}$ FRM monitors, the 1-in-6 day schedule of the PM_{10} FRM monitors must also meet certain monitoring criteria. To determine whether the PM_{10} FRM monitors also meet the 1-in-6 day schedule, EPA requested the maximum 24-hour concentrations for the PM_{10} FRM sites. Table 22 lists the PM_{10} FRM sites covered in this plan along with the maximum 24-hour PM_{10} concentrations. Note that exceptional events are included in the determination of the maximum concentrations.

Table 22
Maximum 24-Hour Concentrations for the PM_{10} FRM Sites in 2014

Site Name	AQS Site Number	2014 24-hr max conc. (ug/m^3)
Anderson	060890007	64
Auburn	060610002	125
Brawley	060250007	472
Calexico-Ethel	060250005	132
Canebrake	060290017	87
Colfax	060610004	287
Colusa	060111002	56
El Centro	060251003	120
Niland	060254004	173
Red Bluff – Messer Drive	061030002	38
Redding	060890004	72
Ridgecrest	060290015	52
Roseville	060610006	30
Shasta Lake	060890008	76
Vacaville	060953001	29
West Sacramento	061132001	46
Westmorland	060254003	404
Woodland	061131003	45
Yreka	060932001	91

Notes:
The PM_{10} FRM monitors at Glenbrook (060333011), Lakeport (060333001), and Middletown (060333010) were not included in this table as these monitors report PM_{10} data in local conditions (i.e., 85101) and not in standard conditions (i.e., 81102). PM_{10} data is required to be reported in standard conditions for NAAQS comparison.

Ozone operating schedules

While most ozone monitors operate continuously, year-round, a small number of ozone sites only operate in the warmer six months of the year. Several of these sites are at higher elevation where access during the winter can be problematic. Also, for most of the state, ozone is a summertime problem and concentrations during the winter are well below the levels of the ambient air quality standards. The following seasonal ozone sites only operate from May through October:

- Cool - El Dorado County
- Echo Summit - El Dorado County
- Jerseydale - Mariposa County
- Sutter Buttes - Sutter County
- Tuscan Butte - Tehama County
- White Cloud Mountain - Nevada County

Federal regulations require that ozone monitors operate every day, from January through December, unless certain monitoring criteria are met and U.S. EPA approves the seasonal schedule. A waiver request for the current year is included in Appendix C. In the request, ARB is once again asking U.S. EPA for approval of the monitoring schedule for the seasonal ozone sites.

Section 9. Additional Information on $PM_{2.5}$ Monitors

This section includes information for two required annual network plan elements that relate specifically to $PM_{2.5}$ and do not fit well elsewhere in the report. One required element relates to whether data for a $PM_{2.5}$ monitor can be used to determine compliance with the national annual $PM_{2.5}$ air quality standard. In the CFR, this is termed as the suitability for comparison to the annual standard. The other element requires that the annual network plan include information regarding the review process followed by air agencies when changes are made to the location of a $PM_{2.5}$ monitor that is violating a $PM_{2.5}$ standard.

Suitability for comparison to the annual $PM_{2.5}$ standard

The CFR states that for $PM_{2.5}$ FRM or FEM monitors used in area-wide monitoring, and that meet siting criteria, the reported data are comparable to the annual $PM_{2.5}$ standard. For a $PM_{2.5}$ monitor to be considered area-wide, the concentration values measured by the monitor should be representative of concentrations expected over an area with dimensions of a few kilometers. The $PM_{2.5}$ FRM and FEM monitors included in this report are sited per the definition of area-wide monitoring in the CFR and meet applicable requirements; therefore, the FRM and FEM data are suitable for comparison to the $PM_{2.5}$ NAAQS.

Review of changes to $PM_{2.5}$ network

The $PM_{2.5}$ network of FRM monitors in California was largely established in 1999 and completed in 2000. Little has changed in the siting of the FRM monitoring network between then and now. However, between 2008 and 2011, U.S. EPA approved three types of $PM_{2.5}$ FEMs, which are Met One (method 170), GRIMM (method 195) and Thermo (method 181). At the time this report was drafted, four agencies (ARB, Mendocino County, Placer County and Ventura County) in the areas covered by this report submit data from these monitors to the AQS database.

As part of ARB's ongoing oversight process, ARB requests the opportunity to review and comment on the possible regulatory consequences of any proposal to move or discontinue a monitor for any pollutant that violates a national or State air quality standard. Furthermore, when a local agency proposes to move or discontinue a monitor indicating the highest concentrations of a pollutant in an area, ARB requests that the agency conduct a period of concurrent or parallel monitoring at that site and at the replacement site being proposed to represent the area as the required high site for the pollutant. This is expected even when the site is close to, but not exceeding, any standard for the pollutant. The parallel monitoring is typically for a period of many months or a year, but is dependent on the pollutant, the standard that is of most concern, and other factors. In addition, ARB utilizes the annual network plan process to document and provide the public opportunities to comment on any proposed changes to the monitoring network. Any received comments are formally addressed via letters and are documented in the network plan. The network plan is submitted to the U.S. EPA

annually for formal approval of all network modifications, including changes to the $PM_{2.5}$ network.

Section 10. Proposed and Recently Implemented Monitoring Site Changes

This section lists the proposed and recently implemented monitoring site changes in the areas included in this report, as well as changes to the monitoring sites that the ARB operates in areas outside the stated geographical scope of this report. Proposed monitoring site changes include proposals by the ARB or by districts to add, remove, or move sites and/or monitors in the monitoring network before the end of 2015. Recently implemented monitoring changes include deployed and/or terminated sites and monitors in the monitoring network that the ARB has become aware of since last year's report. Listed below are the implemented and proposed changes to the monitoring network that ARB is aware of at this time.

Proposed or Implemented ARB Changes:

- ARB plans to discontinue Pb monitoring at Calexico and close the ARB Pb analysis laboratory. Pb samples from ARB's NCORE site will be handled by a U.S. EPA approved contractor. See Appendix G for more information.

- ARB plans to request discontinuation of NO_y analysis at the Fresno-Garland NCORE site. A request will be submitted to Region 9 and U.S EPA Headquarters in the near future.

- The current $PM_{2.5}$ FEM BAM at T Street will be converted to a non-FEM sampler in late-spring 2015.

- ARB plans to relocate the Placerville monitoring site during the next year due to lease issues with the current location.

Proposed or Implemented District Changes:

Eastern Kern
- Replace PM_{10} and $PM_{2.5}$ FRMs with MET One BAMs at the Ridgecrest site
- Add ozone to the Ridgecrest site; the monitor is pending U.S. EPA approval

Imperial County
- Add continuous $PM_{2.5}$ at Niland (through end of 2016)
- Add continuous PM_{10} at El Centro and Westmorland (through end of 2016)
- Add H_2S at Niland (through end of 2016)
- Re-install ozone at Westmorland (mid-2015). The analyzer was severely damaged by a fire and was not operational in 2014.

Lake County
- Lakeport site was relocated one mile south of current location. The Lake County request letter and the ARB approval letter are located in Appendix E. U.S. EPA is still reviewing this request. U.S. EPA's final approval is contingent upon the conversion of PM_{10} data from local to standard conditions.

Mojave Desert

- Lucerne Valley PM_{10} SI monitor was closed on 1/7/2015; and replaced with a PM_{10} FEM monitor on 1/14/2015.

Northern Sierra

- Change the particle separators (SCC to VSCC) of the $PM_{2.5}$ monitors at the following sites:
  - Grass Valley
  - Truckee (both primary and QA)
  - Quincy
- At the time of writing this report, the Truckee-Fire Station $PM_{2.5}$ POC 1 monitor was found to deviate from CFR requirements and ARB is working with U.S. EPA to address the issue. The data are in the process of being reloaded into AQS as parameter code 88502 (non-FEM) with method code 145.

Placer County

- ARB is currently working with the U.S. EPA and the Placer County APCD on the closure of the PM_{10} monitors at Auburn and Colfax.

Sacramento Metro

- ARB is coordinating with the District to establish a new $PM_{2.5}$ FEM/FEM collocation monitor at the Folsom-Natoma site beginning June 2015.

Siskiyou County

- Siskiyou plans to make the following changes at the Yreka monitoring site:
  - Add a BAM FEM PM2.5, initially as a special purpose monitor
  - Working with the U.S. EPA on eliminating PM10 monitoring
  - Working with the ARB and U.S. EPA to relocate the ozone monitor from the current building to the new monitoring shed housing the BAM FEM.
  - In coordination with the ARB and U.S. EPA, work on relocating the PM2.5 FRM from the parking area to the platform where the PM10 FRM is located.
  - Upgrade the data logging and management systems.

Tehama County

- Red Bluff-Main Street closed on 1/28/2015
- Red Bluff-Messer Drive closed on 1/20/2015. PM_{10} monitor moved to new site at Red Bluff-Walnut (061030007).
- Red Bluff-Oak Street closed on 1/20/2015
- A new site was established at Red Bluff-Walnut on 1/15/2015 and the AQS number is 061030007. The District request letter and the U.S. EPA approval letter are located in Appendix D.

Ventura County

- Recent Changes to Ventura County APCD's PAMS Network
  - U.S. EPA has proposed significant changes for the PAMS program. These changes were published in the Federal Register on December 17, 2014 and final changes will likely be promulgated on October 1, 2015.
  - The future of VCAPCD's participation in the PAMS program is uncertain because it is likely that VCAPCD will be excluded from the PAMS network in the future. VCAPCD has been advised to not purchase new equipment related to its program. As a result, VCAPCD has reduced monitoring within its PAMS program when equipment has failed and also due to the loss of key personnel.
  - In a letter dated January 28, 2015, VCAPCD received formal approval from U.S. EPA headquarters to end continuous total hydrocarbon monitoring and carbonyl sampling at both its El Rio and Simi Valley sites.
  - VCAPCD's PAMS sampling program for the 2015 season follows: Consistent with the California Alternative Plan, VCAPCD is doing trend day sampling at its type 2 – El Rio and type 3 – Simi Valley sites. In addition, VCAPCD will attempt to capture all days when the maximum 8-hour ozone exceeds 75 ppb. In 2014, there were seven days in Ventura County when the 8-hour ozone maximum exceeded 75 ppb.
  - VCAPCD has hired a contractor, Atmospheric Analysis and Consulting, Inc. (AAC), to perform the collection of field samples, the laboratory sample analysis, and to perform the quality control/quality assurance of data for the 2015 PAMS season. VCAPCD will submit the final data to the U.S. EPA Air Quality System by December 31, 2015. VCAPCD decided to hire a contractor to do the PAMS work when the VCAPCD chemist took another position within the agency in January 2014.
  - VCAPCD will continue to operate the Simi Valley atmospheric profiler (profiler). A major upgrade was completed in 2014 and the profiler continues to operate satisfactorily. It is expected that the profiler will remain part of the meteorological monitoring network even if VCAPCD is no longer part of the PAMS network.
  - U.S. EPA's approval of the most recent changes to the Ventura PAMS program is located in Appendix F.

Section 11. Access to More Information about the Network

While this report includes a great deal of information about the ambient air quality monitoring network, much more information is readily available, including summaries of the pollutant data from the monitors around the State. Much of this information is available on the web. This section lists a number of additional sources of such information. Also listed is contact information for the agencies responsible for the monitoring covered in this report.

ARB's Monitoring and Laboratory Division (MLD) maintains web pages with information about all the existing monitoring sites that routinely monitor and submit air quality data in California. The pages also include detailed local maps showing the location of the sites. This information can be found at: http://www.arb.ca.gov/aaqm/mldaqsb/amn.htm. A more general MLD web page that provides links to other aspects of ambient monitoring is located at: http://www.arb.ca.gov/aaqm/aaqm.htm.

Summaries of the official air quality data from sites around the State can be found at: http://www.arb.ca.gov/adam/welcome.html. Summaries of the most recent preliminary data can be viewed at: http://www.arb.ca.gov/aqmis2/aqmis2.php. These last two sources of information are maintained by ARB staff of the Air Quality Planning and Science Division, as is the following more general web page that lists links to other aspects of the ambient air quality data program: http://www.arb.ca.gov/html/ds.htm.

Agency contacts for ARB

Regarding this report and questions relating to the collected ambient air quality data:
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(916) 322-6923

Regarding the collection of the ambient data:
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Regarding quality oversight of the monitoring program:
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Regarding questions on quality assurance:
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Agency contacts for the air districts covered in this report

Amador County Air Pollution Control District, Jackson, CA
Jim McHargue, Air Pollution Control Officer
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(209) 257-0112

Antelope Valley Air Quality Management District, Lancaster, CA
Eldon Heaston, Air Pollution Control Officer (also APCO for Mojave Desert)
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(661) 723-8070

Butte County Air Quality Management District, Chico, CA
James Wagoner, Air Pollution Control Officer
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Calaveras County Air Pollution Control District, San Andreas, CA
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(209) 754-6399

Colusa County Air Pollution Control District, Colusa, CA
Joe Damiano, Air Pollution Control Officer
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(530) 458-0590

Eastern Kern Air Pollution Control District, Bakersfield, CA
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El Dorado County Air Quality Management District, Placerville, CA
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Feather River Air Quality Management District, Yuba City, CA
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(530) 634-7659

Glenn County Air Pollution Control District, Willows, CA
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Imperial County Air Pollution Control District, El Centro, CA
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Northern Sierra Air Quality Management District, Grass Valley, CA
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Northern Sonoma County Air Pollution Control District, Healdsburg, CA
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Tuolumne County Air Pollution Control District, Sonora, CA
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Ventura County Air Pollution Control District, Ventura, CA
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Yolo-Solano Air Quality Management District, Davis, CA
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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, new determinations that data are not of sufficient quality to be compared to the NAAQS, and changes in identification of monitors as suitable or not suitable for comparison against the annual $PM_{2.5}$ NAAQS) 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, and has submitted the received comments together with the plan, the Regional Administrator is not required to provide a separate opportunity for comment.

(3) The plan for establishing required NCore multipollutant 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.

(4) A plan for establishing source-oriented Pb monitoring sites in accordance with the requirements of Appendix D to this part for Pb sources emitting 1.0 tpy or greater shall be submitted to the EPA Regional Administrator no later than July 1, 2009, as part of the annual network plan required in paragraph (a)(1) of this section. The plan shall provide for the required source-oriented Pb monitoring sites for Pb sources emitting 1.0 tpy or greater to be operational by January 1, 2010. A plan for establishing source-oriented Pb monitoring sites in accordance with the requirements of Appendix D to this part for Pb sources emitting equal to or greater than 0.50 tpy but less than 1.0 tpy shall be submitted to the EPA Regional Administrator no later than July 1, 2011. The plan shall provide for the required source-oriented Pb monitoring sites for Pb sources emitting equal to or greater than 0.50 tpy but less than 1.0 tpy to be operational by December 27, 2011.

(5)(i) A plan for establishing or identifying an area-wide NO_2 monitor, in accordance with the requirements of Appendix D, section 4.3.3 to this part, shall be submitted as part of the Annual Monitoring Network Plan to the EPA Regional Administrator by July 1, 2012. The plan shall provide for these required monitors to be operational by January 1, 2013.

(ii) A plan for establishing or identifying any NO_2 monitor intended to characterize vulnerable and susceptible populations, as required in Appendix D, section 4.3.4 to this part, shall be submitted as part of the Annual Monitoring Network Plan to the EPA Regional Administrator by July 1, 2012. The plan shall provide for these required monitors to be operational by January 1, 2013.

(iii) A plan for establishing a single near-road NO_2 monitor in CBSAs having 1,000,000 or more persons, in accordance with the requirements of Appendix D, section 4.3.2 to this part, shall be submitted as part of the Annual Monitoring Network Plan to the EPA Regional Administrator by July 1, 2013. The plan shall provide for these required monitors to be operational by January 1, 2014.

(iv) A plan for establishing a second near-road NO_2 monitor in any CBSA with a population of 2,500,000 or more persons, or a second monitor in any CBSA with a population of 500,000 or more persons that has one or more roadway segments with 250,000 or greater AADT counts, in accordance with the requirements of Appendix D, section 4.3.2 to this part, shall be submitted as part of the Annual Monitoring Network Plan to the EPA Regional Administrator by July 1, 2014. The plan shall provide for these required monitors to be operational by January 1, 2015.

(v) A plan for establishing a single near-road NO_2 monitor in all CBSAs having 500,000 or more persons, but less than 1,000,000, not already required by paragraph (a)(5)(iv) of this section, in accordance with the requirements of Appendix D, section 4.3.2 to this part, shall be submitted as part of the Annual Monitoring Network Plan to the EPA Regional Administrator by July 1, 2016. The plan shall provide for these monitors to be operational by January 1, 2017.

(6) A plan for establishing SO_2 monitoring sites in accordance with the requirements of Appendix D to this part shall be submitted to the EPA Regional Administrator by July 1, 2011 as part of the annual network plan required in paragraph (a) (1). The plan shall provide for all required SO_2 monitoring sites to be operational by January 1, 2013.

(7) A plan for establishing CO monitoring sites in accordance with the requirements of Appendix D to this part shall be submitted to the EPA Regional Administrator. Plans for required CO monitors shall be submitted at least six months prior to the date such monitors must be established as required by section 58.13.

(8)(i) A plan for establishing near-road $PM_{2.5}$ monitoring sites in CBSAs having 2.5 million or more persons, in accordance with the requirements of Appendix D to this part, shall be submitted as part of the annual monitoring network plan to the EPA

Regional Administrator by July 1, 2014. The plan shall provide for these required monitoring stations to be operational by January 1, 2015.

(ii) A plan for establishing near-road $PM_{2.5}$ monitoring sites in CBSAs having 1 million or more persons, but less than 2.5 million persons, in accordance with the requirements of Appendix D to this part, shall be submitted as part of the annual monitoring network plan to the EPA Regional Administrator by July 1, 2016. The plan shall provide for these required monitoring stations to be operational by January 1, 2017.

(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 $PM_{2.5}$ NAAQS as described in § 58.30.

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

(9) The designation of any Pb monitors as either source-oriented or non-source-oriented according to Appendix D to 40 CFR Part 58.

(10) Any source-oriented monitors for which a waiver has been requested or granted by the EPA Regional Administrator as allowed for under paragraph 4.5(a)(ii) of Appendix D to 40 CFR Part 58.

(11) Any source-oriented or non-source-oriented site for which a waiver has been requested or granted by the EPA Regional Administrator for the use of Pb-PM_{10} monitoring in lieu of Pb-TSP monitoring as allowed for under paragraph 2.10 of Appendix C to 40 CFR Part 58.

(12) The identification of required NO_2 monitors as near-road, area-wide, or vulnerable and susceptible population monitors in accordance with Appendix D, section 4.3 of this part.

(13) The identification of any $PM_{2.5}$ FEMs and/or ARMs used in the monitoring agency's network where the data are not of sufficient quality such that data are not to be compared to the NAAQS. For required SLAMS where the agency identifies that the $PM_{2.5}$ Class III FEM or ARM does not produce data of sufficient quality for comparison to the NAAQS, the monitoring agency must ensure that an operating FRM or filter-based FEM meeting the sample frequency requirements described in § 58.12 or other Class III $PM_{2.5}$ FEM or ARM with data of sufficient quality is operating and reporting data to meet the network design criteria described in Appendix D to this part.

(c) The annual monitoring network plan must document how state and local agencies provide for the review of changes to a $PM_{2.5}$ monitoring network that impact the location of a violating $PM_{2.5}$ monitor. 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. 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 assessments are due every five years beginning 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.

APPENDIX B

Minimum Monitoring Requirements for O_3, $PM_{2.5}$, and PM_{10}

For ozone, $PM_{2.5}$, and PM_{10}, the required minimum number of monitors is based on the population of the Core-Based Statistical Area (CBSA) and the severity of the pollutant concentrations each CBSA. The tables below include the CBSAs, population of the CBSAs, the site in each CBSA that is currently measuring the highest concentration, and monitor information used to evaluate whether the minimum monitoring requirement is satisfied. In all cases, sufficient monitoring exists and no additional monitoring is required.

Minimum Monitoring Requirements for Ozone[1]

CBSA	County/ Counties	Population (2010 Census)	3-Year Average the 4th Highest Concentration (ppm)	Site with the Highest 3-Year Average of the 4th Highest Concentration	Number of Monitors Required	Number of Active Monitors	Number of Additional Monitors Needed
Bakersfield*	Kern	839,361	0.091	Bakersfield-Municipal Airport	2	8	0
Chico	Butte	220,000	0.075	Paradise-Airport Road	1	2	0
El Centro	Imperial	174,528	0.080	El Centro	1	3	0
Los Angeles-Long Beach-Anaheim*	Los Angeles and Orange	12,828,837	0.098	Santa Clarita	4	16	0
Oxnard-Thousand Oaks-Ventura	Ventura	823,318	0.079	Simi Valley	2	5	0
Redding	Shasta	177,223	0.068	Anderson & Lassen Volcanic	1	4	0
Riverside-San Bernardino-Ontario*	Riverside and San Bernardino	4,224,851	0.103	Redlands-Dearborn	3	21	0
Sacramento-Arden Arcade-Roseville*	El Dorado, Placer, Sacramento, Nevada and Yolo	2,149,127	0.085	Folsom-Natoma Street	2	17	0
Santa Rosa*^	Sonoma	483,878	0.057	Healdsburg	1	2	0
Vallejo-Fairfield*	Solano	413,344	0.066	Vacaville-Ulatis Drive	2	3	0
Yuba City	Sutter and Yuba	166,892	0.074	Sutter Buttes^^	1	2	0

[1] The 3-year average of the 4th highest 8 hour ozone concentration usually represents the design value. Prior to 2011, the highest concentration in the Bakersfield CBSA was measured at Arvin-Bear Mountain,

which had a 2010 design value of 0.104 ppm and was the federal 8-hour ozone design site. Arvin Bear Mountain was forced to close and U.S EPA has not yet approved another site in Kern County as a replacement for the design value site. Therefore, the 3-year average of the 4th high at the Bakersfield-Municipal Airport, while recording the highest ozone levels at any monitor operating in this CBSA, may not represent the design value for this CBSA. The San Joaquin Valley Air Pollution Control District, ARB and U.S EPA Region 9 are working together to address the closure of the Arvin Bear Mountain site.

* Parts of these CBSAs are included in the geographical scope of this report, and parts are within the geographical scope of the reports being completed by the districts. See Table 8 for a complete list of CBSAs in California. The number of active ozone monitors listed is for the entire CBSA (see below for site details). Only ozone monitors that are part of the SLAMS and SPM networks are counted towards this monitoring requirement.

^ The Santa Rosa site closed on 12/17/2013. A new ozone site (060970004), operated by Bay Area, in Sonoma County started on 1/9/2014 at 103 Morris Street in Sebastopol. With the addition of the new site in Sebastopol, along with the existing Healdsburg site, the Santa Rosa CBSA still has two active ozone sites in the CBSA.

^^ The Sutter Buttes site is a seasonal site (May-October).

Ozone sites used to meet minimum monitoring requirements.

CBSA	Site
Bakersfield	Arvin-DiGiorgio
	Bakersfield-California
	Bakersfield-Municipal Airport
	Edison
	Maricopa
	Mojave
	Oildale
	Shafter

CBSA	Site
Chico	Chico-East
	Paradise

CBSA	Site
El Centro	Calexico-Ethel
	El Centro
	Niland

CBSA	Site
Los Angeles-Long Beach-Anaheim	Anaheim
	Azusa
	Compton
	Costa Mesa
	Glendora
	La Habra
	Lancaster
	Los Angeles-North Main
	Los Angeles-Westchester
	Mission Viejo
	Pasadena
	Pico Rivera
	Pomona
	Reseda
	Santa Clarita
	West Los Angeles

CBSA	Site
Oxnard-Thousand Oaks-Ventura	El Rio-Rio Mesa School #2
	Ojai - East Ojai Av
	Piru - Pacific
	Simi Valley - Cochran Street
	Thousand Oaks-Moorpark Road

CBSA	Site
Redding	Anderson
	Redding
	Shasta Lake

CBSA	Site
Riverside-San Bernardino-Ontario	Banning-Airport
	Barstow
	Blythe
	Crestline
	Elsinore
	Fontana
	Hesperia
	Indio
	Mira Loma
	Palm Springs
	Perris
	Phelan
	Redlands
	Riverside-Rubidoux
	San Bernardino
	Trona
	Upland
	Victorville
	Westchester

CBSA	Site
Sacramento-Arden Arcade-Roseville	Auburn
	Cool
	Colfax
	Davis
	Echo Summit
	Elk Grove
	Folsom
	Lincoln
	North Highlands
	Placerville
	Roseville
	Sac-Del Paso
	Sac-Goldenland
	Sac-T St
	Sloughhouse
	Tahoe City
	Woodland

CBSA	Site
Vallejo-Fairfield	Vallejo
	Vacaville
	Fairfield

CBSA	Site
Yuba City	Yuba City-Almond
	Sutter Buttes

Minimum Monitoring Requirements for $PM_{2.5}$[1]

CBSA	County/ Counties	Population (2010 Census)	3-year Highest Annual Design Value (µg/m^3)	Site with the Highest 3-year Annual Design Value	3-year Highest 24-hr Design Value (µg/m^3)	Site(s) with the Highest 3-year Design Value	Number of Required SLAMS Sites	Number of Active SLAMS Sites	Number of Additional SLAMS Sites Needed
Bakersfield*	Kern	839,361	19.7	Bakersfield-Planz	71	Bakersfield-Planz	2	5	0
Chico	Butte	220,000	9	Chico-East**	28	Chico-East**	0	1	0
El Centro	Imperial	174,528	13.9	Calexico	31	Calexico	1	3	0
Los Angeles-Long Beach-Anaheim*	Los Angeles and Orange	12,828,837	12.5$	Los Angeles-North Main	31$	Burbank & LA-North Main	3	11	0
Oxnard-Thousand Oaks-Ventura	Ventura	823,318	9.3	Thousand Oaks	20	Simi Valley & Thousand Oaks	1	5	0
Redding	Shasta	177,223	5.7	Redding-Health	16	Redding-Health	0	1	0
Riverside-San Bernardino-Ontario*	Riverside and San Bernardino	4,224,851	14.8$	Mira Loma	37$	Mira Loma	3	10	0
Sacramento-Arden Arcade-Roseville*	El Dorado, Placer, Sacramento and Yolo	2,149,127	9.8	Sacramento-Del Paso	32	Sacramento-Del Paso	3	6	0
Santa Rosa*	Sonoma	483,878	8.5$	Santa Rosa	22$	Santa Rosa	0	1	0
Vallejo-Fairfield*	Solano	413,344	9.6	Vallejo	26	Vallejo	0	1	0
Yuba City	Sutter and Yuba	166,892	8.1	Yuba City-Almond	25	Yuba City-Almond	0	1	0

[1]Design values are based on both FRM and FEM data. The total number of active $PM_{2.5}$ monitors includes both the filter-based FRMs and the continuous FEM $PM_{2.5}$ monitors that are part of the SLAMS network.

*Parts of these CBSAs are included in the geographical scope of this report, and parts are within the geographical scope of the reports being completed by the districts. See Table 8 for a complete list of CBSAs in California. The number of active $PM_{2.5}$ SLAMS monitors listed is for the entire CBSA (see below for site details).

**The Chico-East site started on 4/2/2012. All monitors at the Chico-East site were relocated from the discontinued Chico-Manzanita site. The 2014 design values for the Chico CBSA were computed by combining the $PM_{2.5}$ data from the two Chico locations (i.e., Chico-Manzanita and Chico-East).

$2013

$PM_{2.5}$ SLAMS sites used to meet minimum monitoring requirements.

CBSA	Site
Bakersfield	Bakersfield-California
	Bakersfield-Golden
	Bakersfield-Planz (Airport)
	Mojave
	Ridgecrest

CBSA	Site
Chico	Chico-East

CBSA	Site
El Centro	Brawley
	Calexico
	El Centro

CBSA	Site
Los Angeles-Long Beach-Anaheim	Anaheim
	Azusa
	Compton
	Lancaster
	Los Angeles-North Main
	Mission Viejo
	North Long Beach
	Pasadena
	Pico Rivera
	Reseda
	South Long Beach

CBSA	Site
Oxnard-Thousand Oaks-Ventura	El Rio
	Ojai
	Piru
	Simi Valley
	Thousand Oaks

CBSA	Site
Redding	Redding-Health

CBSA	Site
Riverside-San Bernardino-Ontario	Big Bear City
	Fontana
	Indio
	Mira Loma
	Ontario
	Palm Springs
	Riverside-Magnolia
	Riverside-Rubidoux
	San Bernardino
	Victorville

CBSA	Site
Sacramento-Arden Arcade-Roseville	Auburn-Atwood
	Roseville
	Sac-Del Paso
	Sac-Health
	Sac-T St
	Woodland

CBSA	Site
Santa Rosa	Santa Rosa

CBSA	Site
Vallejo-Fairfield	Vallejo

CBSA	Site
Yuba City	Yuba City-Almond

Minimum Monitoring Requirements for Continuous $PM_{2.5}$[1]

CBSA	County/ Counties	Population (2010 Census)	Site with the Highest Annual Design Value	Site with the Highest 24-hr Design Value	Number of Required Continuous Monitors^	Number of Active Continuous Monitors^^	Number of Additional Continuous Monitors Needed
Bakersfield*	Kern	839,361	Bakersfield-California	Bakersfield-California	1	3	0
Chico	Butte	220,000	Chico-East	Chico-East	0	3	0
El Centro	Imperial	174,528	Calexico	Calexico	1	1	0
Los Angeles-Long Beach-Anaheim*	Los Angeles and Orange	12,828,837	Los Angeles-North Main	Burbank & LA-North Main	2	7	0
Oxnard-Thousand Oaks-Ventura	Ventura	823,318	Thousand Oaks	Simi Valley & Thousand Oaks	1	5	0
Redding	Shasta	177,223	N/A	N/A	0	0	0
Riverside-San Bernardino-Ontario*	Riverside and San Bernardino	4,224,851	Mira Loma (Van Buren)	Mira Loma (Van Buren)	2	8	0
Sacramento-Arden Arcade-Roseville*	El Dorado, Placer, Sacramento, and Yolo	2,149,127	Sacramento-Del Paso	Sacramento-Del Paso	2	11	0
Santa Rosa*	Sonoma	483,878	Sebastopol	Sebastopol	0	1	0
Vallejo-Fairfield*	Solano	413,344	Vallejo	Vallejo	1	1	0
Yuba City	Sutter and Yuba	166,892	Yuba City-Almond	Yuba City-Almond	0	1	0

[1]The CFR does not specify that continuous $PM_{2.5}$ monitors have to be Federal Equivalent Methods (FEMs); therefore, this assessment includes both continuous FEM and non-FEM $PM_{2.5}$ monitors.

* Parts of these CBSAs are included in the geographical scope of this report, and parts are within the geographical scope of the reports being completed by the districts. See Table 8 for a complete list of CBSAs in California. The numbers of active continuous $PM_{2.5}$ monitors listed are for the entire CBSA (see below for site details).

^ The required number of continuous $PM_{2.5}$ monitor is one-half (round up) the total number of required $PM_{2.5}$ SLAMS sites in each CBSA (40 CFR 58 Appendix A Section 4.7.2).

^^The number of active continuous $PM_{2.5}$ monitors listed for each CBSA include both FEM and non-FEM monitors.

N/A means that there is no continuous $PM_{2.5}$ monitor in the CBSA.

Continuous $PM_{2.5}$ sites used to meet minimum monitoring requirements.

CBSA	Site
Bakersfield	Bakersfield-California
	Lebec
	Mojave

CBSA	Site
Chico	Chico-East
	Gridley
	Paradise

CBSA	Site
El Centro	Calexico

CBSA	Site
Los Angeles-Long Beach-Anaheim	Anaheim
	Burbank
	Glendora
	Los Angeles-North Main
	Reseda
	Santa Clarita

CBSA	Site
Oxnard-Thousand Oaks-Ventura	El Rio
	Ojai
	Piru
	Simi Valley
	Thousand Oaks

CBSA	Site
Redding	--

CBSA	Site
Riverside-San Bernardino-Ontario	Banning-Airport
	Crestline
	Lake Elsinore
	Mira Loma (Van Buren)
	Riverside-Magnolia
	Riverside-Rubidoux
	Temecula (Winchester)
	Upland

CBSA	Site
Sacramento-Arden Arcade-Roseville	Auburn-Atwood
	Colfax
	Davis-UCD Campus
	Elk Grove
	Folsom
	Lincoln
	Roseville
	Sac-Del Paso
	Sac-T St

CBSA	Site
Santa Rosa	Sebastopol

CBSA	Site
Vallejo-Fairfield	Vallejo

CBSA	Site
Yuba City	Yuba City-Almond

Minimum Monitoring Requirements for PM_{10}[1]

CBSA	County/ Counties	Population (2010 Census)	2014 Max Daily Concentration ($\mu g/m^3$)	Max Concentration Site	Number of Required Monitors	Number of Active Monitors	Number of Additional Monitors Needed
Bakersfield*	Kern	839,361	430	Bakersfield-California	4-8	4	0
Chico	Butte	220,000	N/A	N/A	N/A	N/A	N/A
El Centro	Imperial	174,528	472	Brawley	1-2	5	0
Los Angeles-Long Beach-Anaheim*	Los Angeles and Orange	12,828,837	96	Azusa	2-4	8	0
Oxnard-Thousand Oaks-Ventura	Ventura	823,318	N/A	N/A	N/A	N/A	N/A
Redding	Shasta	177,223	76	Shasta Lake	0	3	0
Riverside-San Bernardino-Ontario*	Riverside and San Bernardino	4,224,851	322	Indio	6-10	12	0
Sacramento-Arden Arcade-Roseville*	El Dorado, Placer, Sacramento, and Yolo	2,149,127	287	Colfax	6-10	10	0
Santa Rosa*	Sonoma	483,878	N/A	N/A	N/A	N/A	N/A
Vallejo-Fairfield*	Solano	413,344	29	Vacaville	0-1	1	0
Yuba City	Sutter and Yuba	166,781	N/A	N/A	N/A	N/A	N/A

[1] For the purpose of this monitoring requirement, only PM_{10} FRM monitors with size selective inlets (SSI) are counted.

* Parts of these CBSAs are included in the geographical scope of this report, and parts are within the geographical scope of the reports being completed by the districts. See Table 8 for a complete list of CBSAs in California. The number of active PM_{10} monitors listed is for the entire CBSA (see below for site details).

N/A means that there is no PM_{10} monitor in the CBSA.

PM_{10} FRM sites used to meet minimum monitoring requirements.

CBSA	Site
Bakersfield	Bakersfield-California
	Canebrake
	Oildale
	Ridgecrest

CBSA	Site
Chico	-

CBSA	Site
El Centro	Brawley
	Calexico
	El Centro
	Niland
	Westmorland

CBSA	Site
Los Angeles-Long Beach-Anaheim	Anaheim
	Burbank
	Lancaster
	Los Angeles-North Main
	Los Angeles-Westchester
	Mission Viejo
	Santa Clarita
	South Long Beach

CBSA	Site
Oxnard-Thousand Oaks-Ventura	-

CBSA	Site
Redding	Anderson
	Redding-Health Dept
	Shasta Lake

CBSA	Site
Riverside-San Bernardino-Ontario	Banning-Airport
	Crestline
	Fontana
	Indio
	Mira Loma
	Norco
	Ontario
	Palm Springs
	Perris
	Redlands
	Riverside-Rubidoux
	San Bernardino

CBSA	Site
Sacramento-Arden Arcade-Roseville	Auburn
	Colfax
	North Highlands
	Roseville
	Sac-Branch
	Sac-Del Paso
	Sac-Goldenland
	Sac-Health Dept
	West Sac
	Woodland

CBSA	Site
Santa Rosa	-

CBSA	Site
Vallejo-Fairfield	Vacaville

CBSA	Site
Yuba City	-

APPENDIX C

Ozone Seasonal Waiver Request

WAIVER JUSTIFICATION FOR SEASONAL OZONE MONITORING SITES

Under Appendix D to 40 CFR Part 58, California's ozone monitoring season is defined as January through December. However, the Air Resources Board (ARB) maintains six seasonal ozone monitors that only operate during the months of May through October, none of which has ever operated on a year-round basis. In 2013, ARB was granted a seasonal ozone waiver for five of the six monitors. The sixth monitor (Tuscan Buttes) had a pre-existing waiver. The United States Environmental Protection Agency (U.S. EPA) has subsequently determined that seasonal site waivers must be updated on an annual basis. The purpose of this document is to provide justification for continuing the waiver utilizing the most recent data.

ARB staff has updated several analyses which demonstrate that a May through October monitoring season is adequate for the six seasonal ozone monitors included in ARB's annual network report. The following analyses provide the justification needed for the U.S. EPA to continue to grant a waiver for the seasonal sites, in accordance with 40 Code of Federal Regulations (CFR) Part 58.12 (a)(3). The six ozone monitors included in the current analyses are listed in Table 1 and shown in Figure 1.

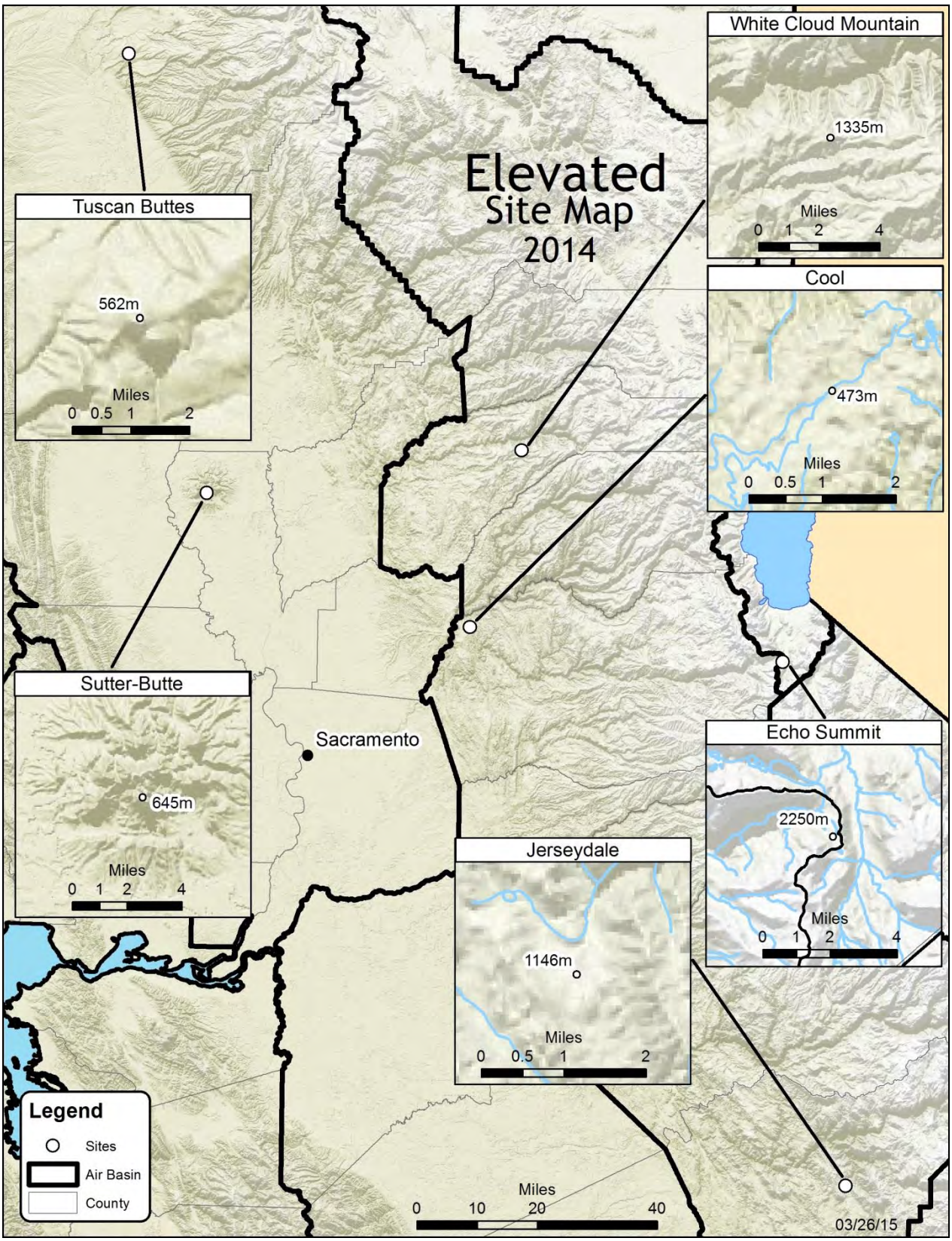
TABLE 1
SEASONAL OZONE MONITORS

AQS Site ID	Site Name	County	Start Year
060170012	Echo Summit	El Dorado	2000
060170020	Cool-Highway 193	El Dorado	1996
060430006	Jerseydale-6440 Jerseydale	Mariposa	1995
060570007	White Cloud Mountain	Nevada	1995
061010004	Sutter Butte	Sutter	1993
061030004	Tuscan Buttes	Tehama	1995

Ozone concentration data used in the analyses presented here were retrieved from ARB's ADAM and AQMIS databases between February and March 2015. Graphs of average monthly maximum 8-hour ozone concentrations for each seasonal site are shown in Figures 2 through 7. The averages are based on data collected during the five-year period 2010 through 2014. In addition to averages for the seasonal sites, average monthly maximum concentrations are also graphed for the closest surrounding site(s) that operate year-round. In the case of the Sutter Butte site, the Colfax monitor was also included because it is representative of ozone conditions at the seasonal site

due to its location at a similar altitude and at roughly the same transport distance from Sacramento. To enhance understanding of the five-year averages, a table of monthly maximums for each of the five years is also included (refer to Table 2).

Figure 1
ARB SEASONAL OZONE MONITORING SITES



It is clear from Figures 2 through 7 and Table 2 that the highest average monthly maximum 8-hour average ozone concentrations measured at both the seasonal sites and the surrounding sites occur during the hotter summer months (June through September). The figures show that the concentrations at the seasonal sites during June through September are 0 to 8% percent higher than the averages for the preceding month (May) and 9 to 15% higher than the averages for the following month (October). Concentrations measured at the year-round sites show similar patterns. Thus, for the six seasonal ozone monitoring sites, the May through October monitoring season captures the highest annual concentrations. None of the monitoring sites, seasonal or year-round, measured concentrations above the federal 8-hour average standard of 0.075 ppm during the non-ozone season months of November through April during the five years evaluated.

Perhaps as important as the maximum annual concentration is the fourth high annual concentration. The fourth high concentration is used in calculating the design value that is then compared with the federal standard to determine an area's designation status. Fourth high concentrations for each of the seasonal and surrounding year-round sites are shown in Table 3, along with the measurement date. Although the fourth high at the Anderson (2010), Auburn (2012), Jerseydale (2010, 2012), and Yosemite (2012) monitoring sites occurred between October 1 and 3, just outside the June through September period, nearly all other fourth highs had occurred during June through September. On the two other occasions when the fourth highs occurred outside of the main summer months, Echo Summit (2014) and Red Bluff (2014), the fourth highs occurred in late May and were well-below the federal 8-hour ozone standard. It is important to note that all of the fourth high measurements shown in Table 3 occurred during the May through October period. Finally, the fourth high measurements at the seasonal sites are generally lower than the fourth highs at the surrounding sites, reflecting the fact that the seasonal ozone sites are not the design site for their respective planning area.

The two exceptions to this observation are the Sutter Butte and the Tuscan Buttes sites, which present unique situations. Sutter Butte and Tuscan Buttes are high elevation sites, located on isolated hilltops (refer to Figures 8 and 9). The sites were originally deployed to measure the impact of pollutant transport. Because there are no nearby developed areas, ozone concentrations measured at Sutter Butte and Tuscan Buttes are not representative of population exposure. U.S. EPA recognized the uniqueness of the Sutter Butte site when promulgating area designations for the 1997 federal 8-hour ozone standard. U.S. EPA limited the nonattainment area to the area immediately surrounding the Sutter Butte monitor. Although concentrations at Sutter Butte are higher than those at Yuba City (the closest populated area), concentrations continue to decrease, and Sutter Butte is currently designated as attainment for the 2008 federal

ozone standard. Tuscan Buttes received similar recognition during designations for the 2008 federal 8-hour ozone standard and the area immediately surrounding the monitor was designated a nonattainment area. The 2014 preliminary design value for Tuscan Buttes is 0.075 ppm, indicating that air quality has improved at the site since its original designation.

In addition to air quality, there are other considerations for maintaining a seasonal monitoring schedule at the Echo Summit, Cool, Jerseydale, White Cloud Mountain, Sutter Butte, and Tuscan Buttes locations. For instance, all six seasonal monitoring sites are located in remote, mountainous areas and significant distances from ARB headquarters in Sacramento. Also, as denoted in Figure 1, all of the monitors are located at high elevations, with the lowest site, Cool, at 473 meters (1,552 feet) and the highest site, Echo Summit, at 2,250 meters (7,382 feet). These physical characteristics require significant time and resources for servicing the monitoring equipment. Winter weather conditions further complicate the issue, at times making the access roads impassable and/or unsafe for travel.

Based on our analyses of the measured data and other considerations, ARB finds that the May through October monitoring season is adequate for capturing the highest ozone concentrations at the Echo Summit, Cool, Jerseydale, White Cloud Mountain, Sutter Butte, and Tuscan Buttes monitoring sites. Therefore, ARB is requesting that U.S. EPA grant a waiver for seasonal monitoring (May through October) at these sites, in accordance with 40 CFR Part 58.12 (a)(3).

FIGURE 2

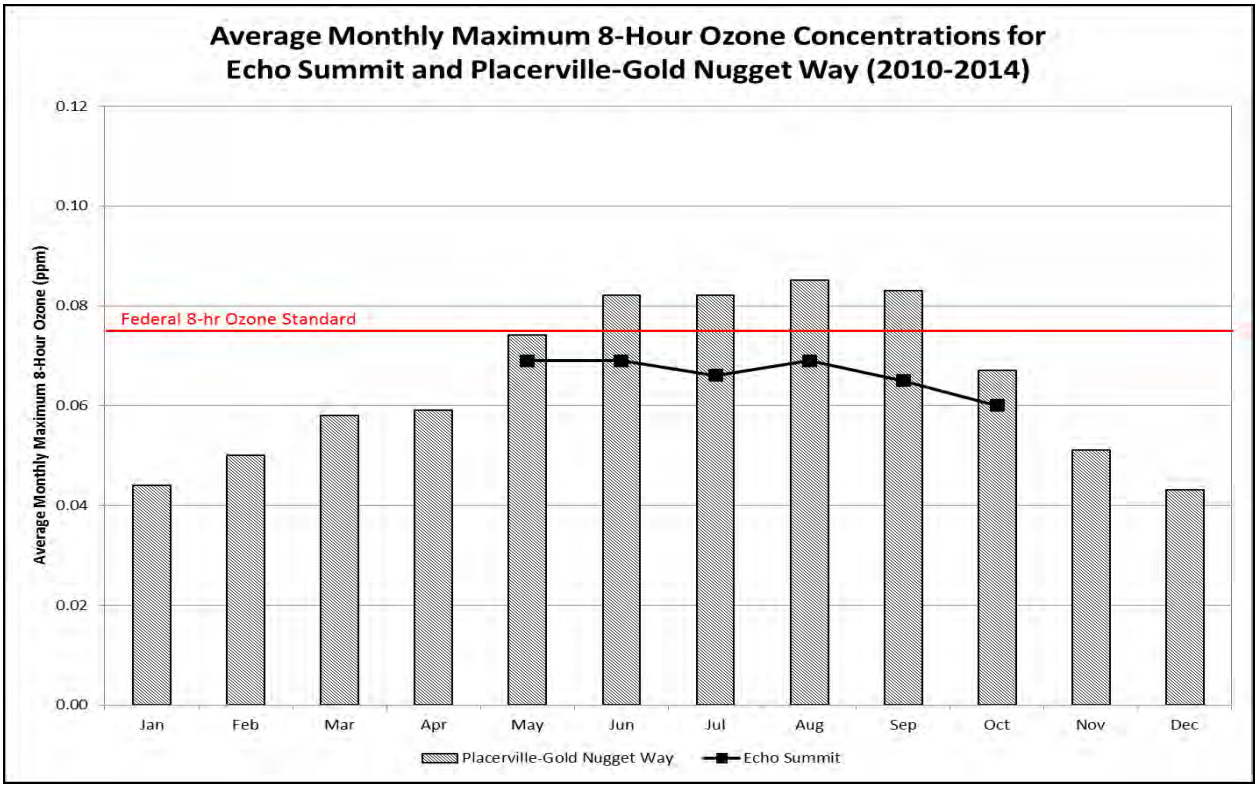

Average Monthly Maximum 8-Hour Ozone Concentrations for
Echo Summit and Placerville-Gold Nugget Way (2010-2014)
Average Monthly Maximum 8-Hour Ozone (ppm)
0.12
0.10
0.08
0.06
0.04
0.02
0.00
Federal 8-hr Ozone Standard
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Placerville-Gold Nugget Way
Echo Summit

FIGURE 3

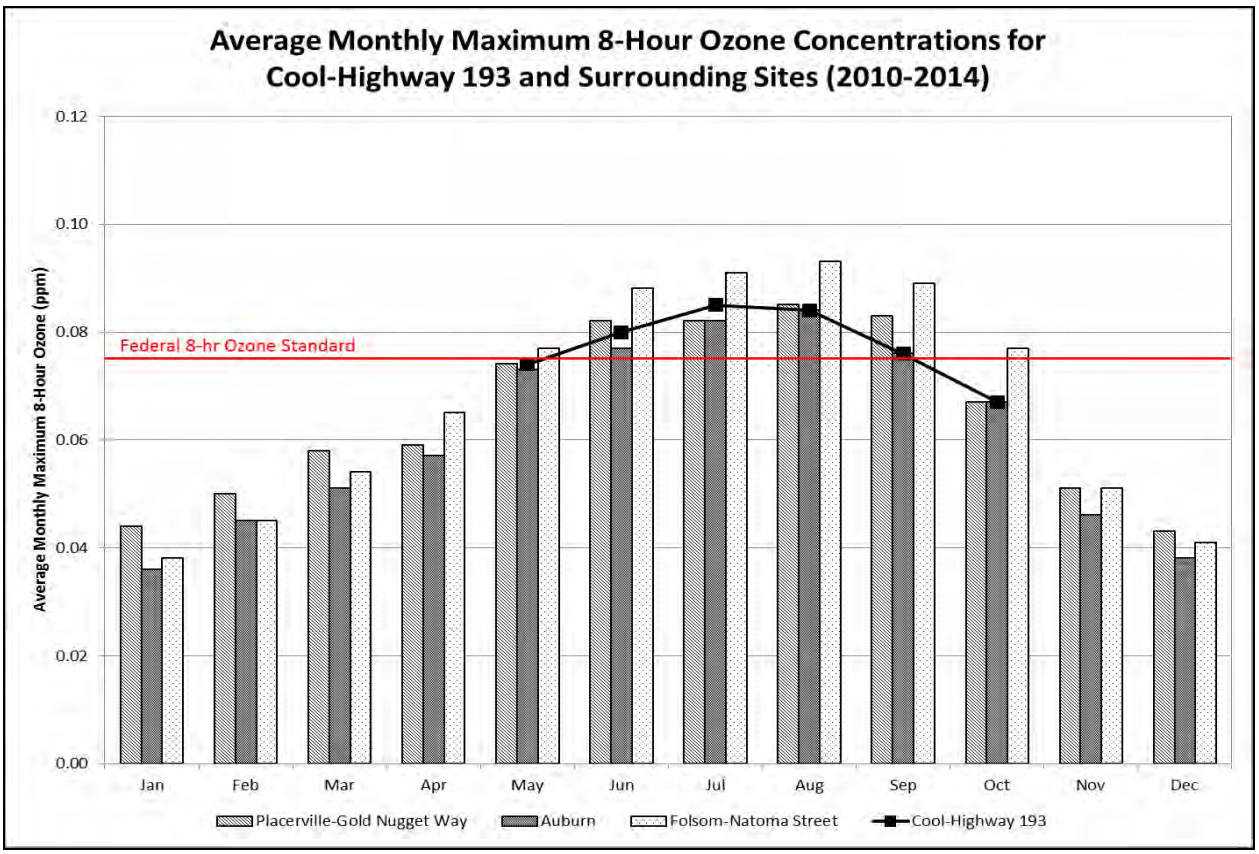

Average Monthly Maximum 8-Hour Ozone Concentrations for Cool-Highway 193 and Surrounding Sites (2010-2014)
Average Monthly Maximum 8-Hour Ozone (ppm)
0.12
0.10
0.08
0.06
0.04
0.02
0.00
Federal 8-hr Ozone Standard
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Placerville-Gold Nugget Way
Auburn
Folsom-Natoma Street
Cool-Highway 193

FIGURE 4

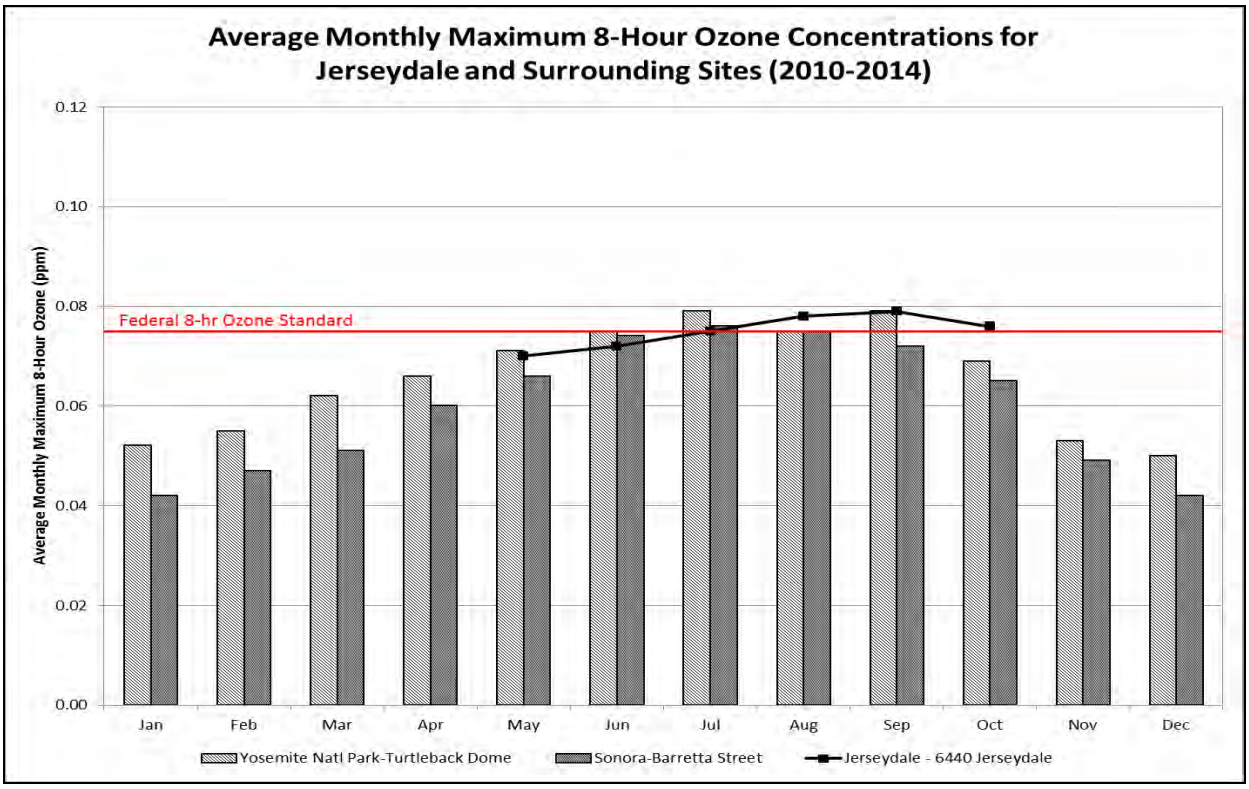

Average Monthly Maximum 8-Hour Ozone Concentrations for Jerseydale and Surrounding Sites (2010-2014)
Average Monthly Maximum 8-Hour Ozone (ppm)
0.12
0.10
0.08
0.06
0.04
0.02
0.00
Federal 8-hr Ozone Standard
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Yosemite Natl Park-Turtleback Dome
Sonora-Barretta Street
Jerseydale - 6440 Jerseydale

FIGURE 5

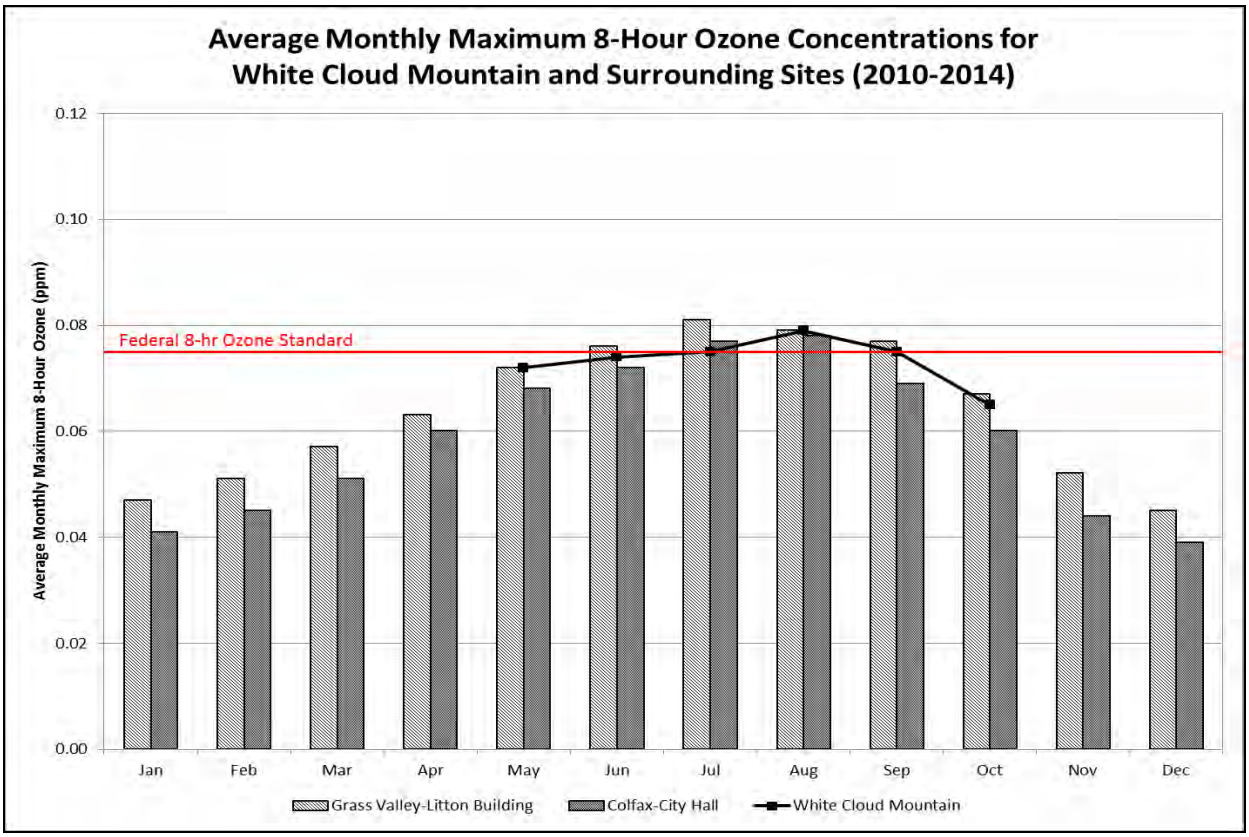

Average Monthly Maximum 8-Hour Ozone Concentrations for
White Cloud Mountain and Surrounding Sites (2010-2014)
Average Monthly Maximum 8-Hour Ozone (ppm)
0.12
0.10
0.08
0.06
0.04
0.02
0.00
Federal 8-hr Ozone Standard
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Grass Valley-Litton Building
Colfax-City Hall
White Cloud Mountain

FIGURE 6

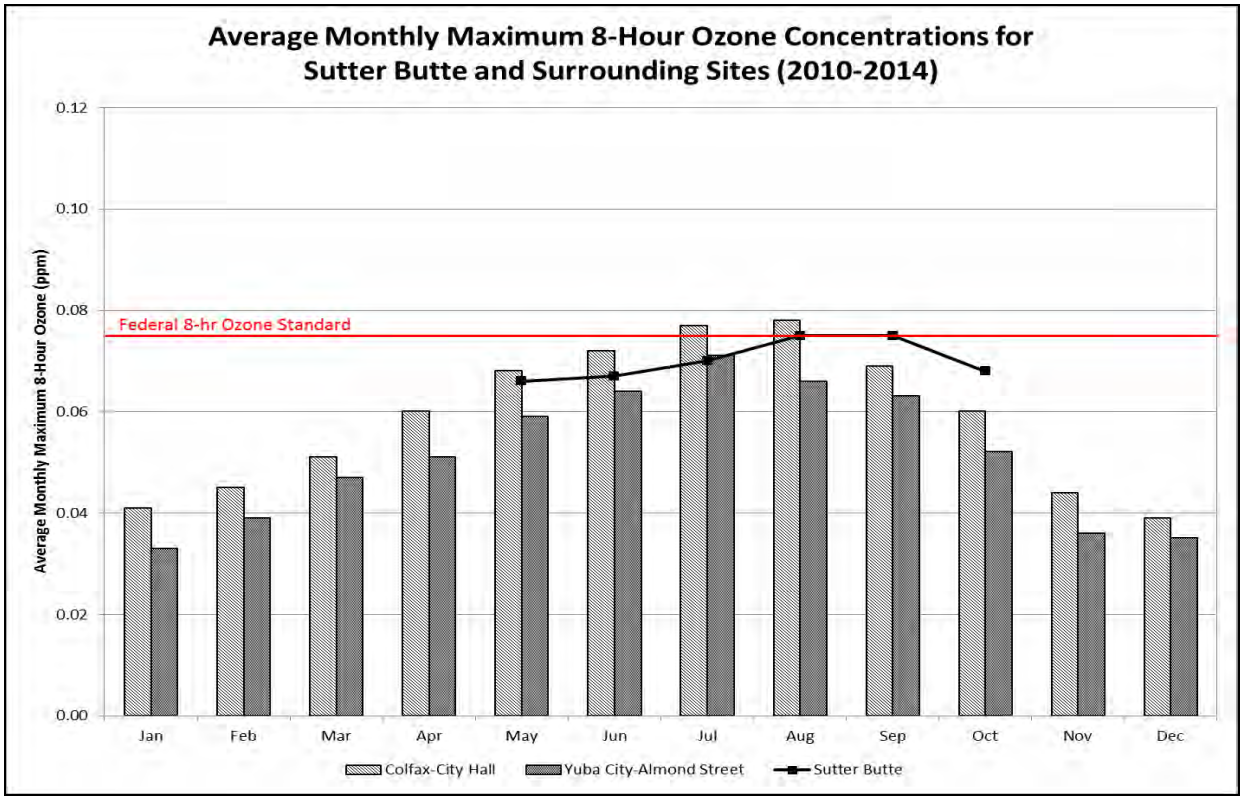

Average Monthly Maximum 8-Hour Ozone Concentrations for Sutter Butte and Surrounding Sites (2010-2014)
Average Monthly Maximum 8-Hour Ozone (ppm)
0.12
0.10
0.08
0.06
0.04
0.02
0.00
Federal 8-hr Ozone Standard
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Colfax-City Hall
Yuba City-Almond Street
Sutter Butte

FIGURE 7

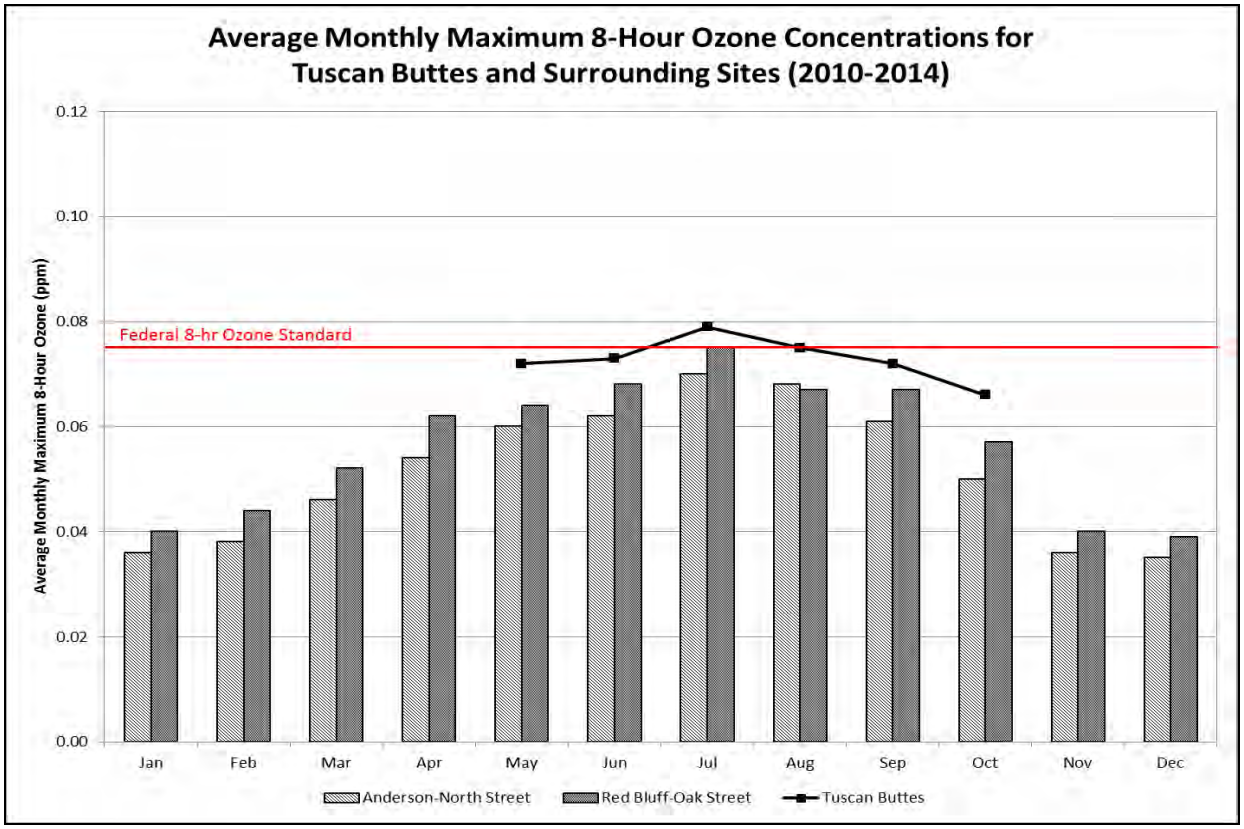

Average Monthly Maximum 8-Hour Ozone Concentrations for Tuscan Buttes and Surrounding Sites (2010-2014)
Average Monthly Maximum 8-Hour Ozone (ppm)
0.12
0.10
0.08
0.06
0.04
0.02
0.00
Federal 8-hr Ozone Standard
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Anderson-North Street
Red Bluff-Oak Street
Tuscan Buttes

TABLE 2
MONTHLY MAXIMUM 8-HOUR OZONE CONCENTRATIONS AT SEASONAL AND SURROUNDING MONITORING SITES
(Ozone in parts per million)

Month & Year	SITE															
	Anderson-North Street	Auburn	Colfax-City Hall	Cool-Highway 193	Echo Summit	Folsom-Natoma Street	Grass Valley-Litton Building	Jerseydale - 6440 Jerseydale	Placerville-Gold Nugget Way	Red Bluff-Oak Street	Sonora-Barretta Street	Sutter Butte	Tuscan Buttes	White Cloud Mountain	Yosemite Natl Park-Turtleback Dome	Yuba City-Almond Street
	060890007	060610002 & 060610003	060610004	060170020	060170012	060670012	060570005	060430006	060170010	061030005	061090005	061010004	061030004	060570007	060430003	061010003
Jan '10	0.040	0.037	0.043	---	---	0.043	0.046	---	0.044	0.044	0.045	---	---	---	0.053	0.035
Feb '10	0.039	0.038	0.041	---	---	0.040	0.049	---	0.042	0.048	0.044	---	---	---	0.053	0.029
Mar '10	0.051	0.053	0.052	---	---	0.054	0.056	---	0.053	0.058	0.052	---	---	---	0.073	0.045
Apr '10	0.056	0.047	0.057	---	---	0.060	0.062	---	0.056	0.068	0.056	---	---	---	0.065	0.043
May '10	0.058	0.059	0.063	0.057	0.066	0.066	0.069	0.072	0.067	0.063	0.064	0.055	0.065	0.067	0.074	0.050
Jun '10	0.062	0.075	0.074	0.074	0.068	0.096	0.073	0.064	0.082	0.065	0.070	0.058	0.068	0.076	0.069	0.064
Jul '10	0.075	0.085	0.077	0.081	0.070	0.089	0.084	0.070	0.074	0.081	0.072	0.064	0.077	0.072	0.077	0.065
Aug '10	0.074	0.089	0.081	0.093	0.070	0.112	0.079	---	0.102	0.077	0.083	0.074	0.075	0.082	0.076	0.075
Sep '10	0.062	0.089	0.074	0.083	0.064	0.103	0.087	---	0.093	0.075	0.084	0.075	0.077	0.084	0.085	0.069
Oct '10	0.072	0.077	0.064	0.075	0.065	0.069	0.069	0.075	0.066	0.071	0.070	0.062	0.075	0.077	0.068	0.051
Nov '10	0.039	0.044	0.047	---	---	0.051	0.053	---	0.048	0.039	0.046	---	---	---	0.055	0.036
Dec '10	0.034	0.038	0.041	---	---	0.038	0.039	---	0.040	0.036	0.041	---	---	---	0.049	0.036
Jan '11	0.030	0.030	0.041	---	---	0.037	0.045	---	0.041	0.036	0.040	---	---	---	0.055	0.034
Feb '11	0.033	0.044	0.043	---	---	0.048	0.046	---	0.046	0.042	0.045	---	---	---	0.059	0.042
Mar '11	0.033	0.050	0.052	---	---	0.053	0.051	---	---	0.044	0.050	---	---	---	0.058	0.046
Apr '11	0.051	0.059	0.057	---	---	0.056	0.054	---	0.049	0.052	0.055	---	---	---	0.066	0.051
May '11	0.056	0.087	0.069	0.085	0.066	0.085	0.071	---	0.071	0.061	0.061	---	0.070	0.081	0.068	0.063
Jun '11	0.061	0.088	0.081	0.086	---	0.097	0.076	0.072	0.070	0.069	0.078	0.067	0.077	0.075	0.078	0.067
Jul '11	0.064	0.082	0.072	0.085	0.057	0.094	0.074	0.075	0.076	0.072	0.074	0.063	0.073	0.069	0.076	0.064
Aug '11	0.065	0.089	0.086	0.086	0.069	0.096	0.081	0.075	0.076	0.070	0.073	---	0.075	0.087	0.079	0.064
Sep '11	0.061	0.083	0.073	0.094	0.063	0.098	0.073	0.085	0.086	0.069	0.074	0.079	0.075	0.072	0.083	0.063
Oct '11	0.041	0.053	0.051	0.060	0.049	0.066	0.054	0.056	0.057	0.044	0.050	0.066	0.055	0.054	0.058	0.040
Nov '11	0.035	0.048	0.041	---	---	0.045	0.052	---	0.058	0.038	0.052	---	---	---	0.052	0.030
Dec '11	0.035	0.038	0.038	---	---	0.039	0.046	---	0.047	0.043	0.041	---	---	---	0.050	0.036

Month & Year	SITE															
	Anderson-North Street	Auburn	Colfax-City Hall	Cool-Highway 193	Echo Summit	Folsom-Natoma Street	Grass Valley-Litton Building	Jerseydale - 6440 Jerseydale	Placerville-Gold Nugget Way	Red Bluff-Oak Street	Sonora-Barretta Street	Sutter Butte	Tuscan Buttes	White Cloud Mountain	Yosemite Natl Park-Turtleback Dome	Yuba City-Almond Street
	060890007	060610002 & 060610003	060610004	060170020	060170012	060670012	060570005	060430006	060170010	061030005	061090005	061010004	061030004	060570007	060430003	061010003
Jan '12	0.031	0.037	0.041	---	---	0.035	0.044	---	0.041	0.041	0.046	---	---	---	0.048	0.032
Feb '12	0.039	0.052	0.044	---	---	0.046	0.051	---	0.058	0.044	0.049	---	---	---	0.056	0.039
Mar '12	0.047	0.050	0.050	---	---	0.053	0.056	---	0.058	0.053	0.051	---	---	---	0.064	0.048
Apr '12	0.054	0.062	0.066	---	---	0.069	0.067	---	0.063	0.058	0.065	---	---	---	0.071	0.053
May '12	0.059	0.078	0.074	0.084	0.071	0.084	0.074	0.067	0.082	0.062	0.067	0.068	0.072	0.076	0.071	0.066
Jun '12	0.058	0.076	0.072	0.084	0.076	0.099	0.074	0.073	0.089	0.069	0.078	0.061	0.076	0.078	0.078	0.060
Jul '12	0.069	0.088	0.085	0.095	0.075	0.103	0.081	0.082	0.096	0.085	0.081	0.080	0.083	0.091	0.091	0.073
Aug '12	0.073	0.083	0.080	0.081	0.065	0.097	0.078	0.079	0.094	---	0.072	0.085	0.079	0.080	0.075	0.073
Sep '12	0.062	0.077	0.068	0.069	0.073	0.084	0.075	0.078	0.079	0.066	0.070	0.076	0.072	0.088	0.078	0.064
Oct '12	0.052	0.081	0.065	0.070	0.062	0.105	0.070	0.092	0.073	0.060	0.073	0.072	0.071	0.066	0.081	0.063
Nov '12	0.034	0.043	0.038	---	---	0.045	0.046	---	0.045	0.034	0.045	---	---	---	0.055	0.033
Dec '12	0.036	0.037	0.038	---	---	0.042	0.044	---	0.042	0.037	0.045	---	---	---	0.049	0.037
Jan '13	0.041	0.036	0.039	---	---	0.036	0.046	---	0.044	0.038	0.036	---	---	---	0.051	0.035
Feb '13	0.045	0.047	0.047	---	---	---	0.056	---	0.051	0.043	0.046	---	---	---	0.052	0.042
Mar '13	0.058	0.048	0.052	---	---	0.055	0.062	---	0.061	0.054	0.051	---	---	---	0.054	0.050
Apr '13	0.054	0.055	0.057	---	---	0.070	0.065	---	0.065	0.061	0.061	---	---	---	0.066	0.057
May '13	0.067	0.067	0.065	0.071	0.070	0.075	0.072	0.071	0.075	0.068	0.070	0.071	0.081	0.064	0.071	0.056
Jun '13	0.064	0.066	0.063	0.076	0.066	0.070	0.074	0.077	0.080	0.072	0.070	0.078	0.068	0.064	0.073	0.059
Jul '13	0.067	0.074	0.076	0.080	0.061	0.087	0.082	0.076	0.084	0.075	0.074	0.067	0.077	0.067	0.077	0.067
Aug '13	0.058	0.080	0.071	0.077	0.075	0.083	0.078	0.081	0.081	0.063	0.076	0.074	0.071	0.069	0.074	0.055
Sep '13	0.060	0.067	0.066	0.058	0.063	0.076	0.070	0.070	0.077	0.066	0.063	0.075	0.069	0.062	0.066	0.056
Oct '13	0.042	0.059	0.059	0.056	0.063	0.067	0.068	0.078	0.068	0.054	0.065	0.067	0.063	0.059	0.070	0.048
Nov '13	0.038	0.051	0.051	---	---	0.061	0.060	---	0.058	0.049	0.053	---	---	---	0.058	0.042
Dec '13	0.035	0.040	0.037	---	---	0.045	0.051	---	0.046	0.043	0.040	---	---	---	0.050	0.033

Month & Year	SITE															
	Anderson-North Street	Auburn	Colfax-City Hall	Cool-Highway 193	Echo Summit	Folsom-Natoma Street	Grass Valley-Litton Building	Jerseydale - 6440 Jerseydale	Placerville-Gold Nugget Way	Red Bluff-Oak Street	Sonora-Barretta Street	Sutter Butte	Tuscan Buttes	White Cloud Mountain	Yosemite Natl Park-Turtleback Dome	Yuba City-Almond Street
	060890007	060610002 & 060610003	060610004	060170020	060170012	060670012	060570005	060430006	060170010	061030005	061090005	061010004	061030004	060570007	060430003	061010003
Jan '14	0.039	0.040	0.045	---	---	0.041	0.057	---	0.050	0.043	0.044	---	---	---	0.054	0.033
Feb '14	0.038	0.048	0.051	---	---	0.049	0.054	---	0.054	0.044	0.053	---	---	---	0.059	0.043
Mar '14	0.041	0.054	0.053	---	---	0.059	0.062	---	0.063	0.053	---	---	---	---	0.063	0.048
Apr '14	0.056	0.063	0.064	---	---	0.070	0.067	---	0.063	0.071	0.066	---	---	---	0.066	0.054
May '14	0.063	0.074	0.070	0.075	0.072	0.078	0.076	0.070	0.078	0.068	0.071	0.071	0.075	0.075	0.071	0.064
Jun '14	0.066	0.081	0.073	0.083	0.068	0.080	0.083	0.077	0.090	---	0.075	0.075	0.076	0.080	0.078	0.071
Jul '14	0.077	0.084	---	0.087	0.071	0.083	0.085	---	0.083	0.065	0.080	0.080	0.086	0.080	0.075	0.088
Aug '14	0.071	0.081	0.076	0.083	0.068	0.081	0.082	---	0.076	0.061	0.074	0.069	0.075	0.078	0.074	0.064
Sep '14	0.064	0.066	0.065	---	0.065	0.084	0.081	0.084	0.084	0.063	0.071	0.071	0.071	0.071	0.084	0.063
Oct '14	0.044	0.068	0.064	0.074	0.061	0.078	0.074	0.081	0.074	---	0.071	0.077	0.069	0.073	0.070	0.061
Nov '14	0.036	0.048	0.047	---	---	0.053	0.053	---	0.048	---	0.052	---	---	---	0.048	0.043
Dec '14	0.039	0.040	0.041	---	---	0.041	0.048	---	0.040	---	0.047	---	---	---	0.052	0.037

Notes:

[1] Surrounding monitors used for comparison with more than one seasonal site are only listed once

[2] Data for the Auburn-Dewitt and Auburn-11645 Atwood Road monitoring sites were merged to make a continuous Auburn record for the 5-year period

[3] Months with no data or less than 75% data completeness are denoted by "---"

[4] Highlighted cells indicate the maximum 8-hour average concentration for each site during each calendar year

[5] An exceedance of the federal 8-hour average ozone standard is any concentration greater than 0.075 ppm

TABLE 3
ANNUAL 4th HIGH 8-HOUR OZONE CONCENTRATIONS AT SEASONAL AND SURROUNDING MONITORING SITES
(Ozone in parts per million)

SiteName	2010		2011		2012		2013		2014	
	4th High	Date	4th High	Date	4th High	Date	4th High	Date	4th High	Date
Anderson-North Street	0.072	10/1/2010	0.062	7/29/2011	0.069	7/10/2012	0.064	6/6/2013	0.071	7/1/2014
Auburn	0.084	9/3/2010	0.087	6/22/2011	0.081	10/2/2012	0.073	7/8/2013	0.081	6/5/2014
Colfax-City Hall	0.075	8/7/2010	0.073	9/4/2011	0.077	7/23/2012	0.071	7/25/2013	0.073	6/5/2014
Cool-Highway 193	0.081	7/22/2010	0.087	9/4/2011	0.081	8/3/2012	0.076	6/3/2013	0.083	8/27/2014
Echo Summit	0.068	6/9/2010	0.066	6/22/2011	0.075	7/13/2012	0.066	6/12/2013	0.068	5/27/2014
Folsom-Natoma Street	0.096	6/28/2010	0.094	7/8/2011	0.097	8/10/2012	0.079	7/19/2013	0.081	8/27/2014
Grass Valley-Litton Building	0.079	8/6/2010	0.076	6/22/2011	0.077	8/3/2012	0.078	8/20/2013	0.082	8/27/2014
Jerseydale - 6440 Jerseydale	0.075	10/1/2010	0.076	9/30/2011	0.081	10/2/2012	0.077	6/8/2013	0.077	6/2/2014
Placerville-Gold Nugget Way	0.080	8/3/2010	0.076	8/23/2011	0.089	6/1/2012	0.082	7/2/2013	0.082	6/6/2014
Red Bluff-Oak Street	0.077	7/15/2010	0.069	9/5/2011	0.075	8/13/2012	0.072	7/9/2013	0.068	5/31/2014
Sonora-Barretta Street	0.072	7/11/2010	0.074	9/3/2011	0.075	7/11/2012	0.070	6/1/2013	0.075	6/4/2014
Sutter Butte	0.068	8/19/2010	0.075	9/10/2011	0.077	7/12/2012	0.072	6/7/2013	0.075	6/6/2014
Tuscan Buttes	0.076	7/23/2010	0.075	9/10/2011	0.077	7/11/2012	0.072	7/9/2013	0.076	6/1/2014
White Cloud Mountain	0.077	9/3/2010	0.075	8/25/2011	0.084	9/7/2012	0.065	7/30/2013	0.078	8/27/2014
Yosemite Natl Park-Turtleback Dome	0.077	7/21/2010	0.078	6/22/2011	0.081	10/3/2012	0.073	6/1/2013	0.077	9/13/2014
Yuba City-Almond Street	0.066	9/27/2010	0.064	8/10/2011	0.069	8/10/2012	0.060	7/20/2013	0.069	7/7/2014

Notes:
[1] Surrounding monitors used for comparison with more than one seasonal site are only listed once
[2] Data for the Auburn-Dewitt and Auburn-11645 Atwood Road monitoring sites were merged to make a continuous Auburn record for the 5-year period

FIGURE 8
PHOTOS OF AREA SURROUNDING THE SUTTER BUTTE OZONE MONITORING SITE FROM 2014

Sutter Butte: Looking north from probe.

Sutter Butte: Looking east from probe.

Sutter Butte: Looking south from probe.

Sutter Butte: Looking west from probe.

FIGURE 9
PHOTOS OF AREA SURROUNDING THE TUSCAN BUTTES OZONE MONITORING SITE FROM 2014

Tuscan Buttes: Looking north from probe.

Tuscan Buttes: Looking east from probe.

Tuscan Buttes: Looking south from probe.

Tuscan Buttes: Looking west from probe.

APPENDIX D

District Request and U.S. EPA Approval for Red Bluff-Walnut Site

October 7, 2014

Meredith Kurpius
Air Quality Analysis Office
U.S. Environmental Protection Agency
Region 9
75 Hawthorne Street, AIR-7
San Francisco, California 94105-3901

Subject: Approval Request for Network Modifications in Tehama County APCD

Dear Meredith Kurpius:

The Tehama County Air Pollution Control District (District) is requesting approval from U.S. EPA to move three air monitoring stations in Tehama County (AQS IDs: 061030006, 061030005, and 061030002), based on 40 CFR 58.14. The new site will be 1.9 miles northwest of the current location of the PM_{10} monitor, 1.5 miles west of the current location of the $PM_{2.5}$ monitor, and 1 mile southwest of the ozone monitor. Consolidating the monitors to a District-owned building will reduce monitor downtime and reduce staff time required for travel and maintenance. The consolidation will also eliminate current issues associated with site access to secured locations, and temperature/humidity control the room housing the Ozone and $PM_{2.5}$ monitors.

$PM_{2.5}$ Site:

Site Information:

The AQS ID is 061030006 and is a SLAMS Site. The $PM_{2.5}$ monitoring site is located at 310 S. Main St. Red Bluff, CA at the Tehama County Social Services building on the north end of a strip mall. The site coordinates are latitude 40.167954°, longitude -122.226649°. The elevation is 81 (265 feet) above mean sea level. The monitoring site is located 370 meters (1213 feet) west of interstate 5. The dominant land use is residential and commercial with paved roads, parking lots and agricultural land to the east. Figure 14 is a map of the monitoring location and surrounding area. The $PM_{2.5}$ is a neighborhood scale PM site.

Sources:

The major sources of $PM_{2.5}$ impacting the site are managed burning and disposal, residential fuel combustion and unpaved road dust as well as forest fires.

Equipment:

The site is currently equipped with a Metone BAM 1020 and PM_{10} head with $PM_{2.5}$ Sharp Cut cyclone.

Siting:

The monitor is housed in an insulated non-temperature controlled room fully contained within the building. The Inlet is 7.1 meters (23 feet) above the ground and 2.4 meters (8 feet) above the platform. There is an uninterrupted air flow 360 degrees around the inlet. The monitoring objective of this site is to measure the general/background $PM_{2.5}$ concentrations for comparison with National Ambient Air Quality Standards. Please see Figures 1-5 for photos of the site location.

Traffic

All main roads in the immediate area of the monitoring site are paved. The Average Daily Traffic (ADT) for S. Main St. is 16,580 North of Sister Mary Columbia Dr., 17,391 South of Reeds Creek Bridge, and 19,259 South of Diamond. Diamond Ave's ADT is 5,344 East of S. Main St. Interstate 5's Annual Average Daily Traffic (AADT) is 32,500 measured at Diamond Ave. Please see tables 5 and 6 for a complete list of all known traffic counts in Red Bluff, CA and Figure 14 to see a street map of the monitor location and surrounding area.

Ozone Site

Site Information:

The AQS ID for this site is 061030005 and is a SLAMS Site. The Ozone monitoring site is located on the top of the second story of the Tehama County Jail located at 502 Oak St. Red Bluff, CA. The site coordinates are latitude 40.175704°, longitude -122.237046°. The Sites elevation is 98 meters (321 feet) the probe height is 10 meters (33 feet) from the ground and 3.5 meters (11.5 feet) from the platform. The site is located in the downtown area and is approximately 1.13 kilometers (3707 feet) WSW of Interstate 5. The dominant land use in commercial/retail buildings and residential buildings, outlying areas become mixed open vegetated land and residential buildings. Figure 15 is a map of the monitoring location and surrounding area. The ozone monitor is an urban scale Ozone site.

Sources:

Ground level ozone is not emitted directly as ozone, it is instead formed by the reaction of other pollutants. Pollutants that contribute to this reaction include VOC's and nitrogen oxides (NO_X). Major sources of VOCs and NO_X impacting the site are on road motor vehicles, farm equipment, petroleum production, and other stationary sources.

Equipment:

The site is currently equipped with a Teledyne 400E UV ozone monitor and Campbell scientific weather station.

Siting:

The ozone monitor is currently housed in the server room of the Tehama County Jail. The Room is fully contained within the building and is temperature controlled at 76 degrees Fahrenheit. There is uninterrupted airflow 360 degrees around the inlet. The monitoring objective of this site is to measure the general/background ozone concentrations for comparison with National Ambient Air Quality Standards. Please see site Figures 6-9 for photos of the site

Traffic:

The ADT for Oak St. is unknown. The ADT for Main St/36 is 19,200 measured at Oak St. the ADT for walnut St. is 10,656 measured west of Main St. the ADT for Jackson St is 10,078 measured North of Reeds Ave. Please see tables 5 and 6 for a complete list of all known traffic counts in Red Bluff, CA and Figure 15 to see a street map of the monitor location and surrounding area.

PM_{10}:

Site Information:

The AQS ID for this site is 061030002 and is a SLAMS site. The PM_{10} monitoring site is located at 700 Messer Dr. Red Bluff, CA within the Red Bluff waste water treatment plant on top of the building that houses the emergency backup generator. The site coordinates are latitude 40.162301°, longitude -122.221368°. The elevation of the site is 88 meters (288 feet) above mean sea level. The monitoring site is located 100 meters (328 feet) East of Interstate 5. . The dominant land use is residential and commercial with paved roads, parking lots and agricultural land to the east. Figure 16 is a map of the monitoring location and surrounding area. The PM_{10} is a neighborhood scale PM site.

Sources:

The major sources of PM_{10} impacting the site are unpaved road dust, farming operations, managed burning and disposal and fugitive windblown dust.

Equipment:

The site is equipped with a PM_{10} HI-VOL sampler with timer.

Siting:

The Monitoring is fully outdoors mounted to the roof of the supporting structure. The inlet is 5.5 meters (18 feet) above the ground and 1.8 meters (6 Feet) above the platform surface. There is an uninterrupted air flow 360 degrees around the inlet. The monitoring objective of this site is to measure the general/background PM_{10} concentrations for comparison with National Ambient Air Quality Standards. Please see site Figures 10-13 for photos of the site

Traffic:

All main roads in the immediate area of the monitoring site are paved. The ADT for S. Main St. measured south of the Reeds Creek Bridge is 17,391, Diamond Ave measured east of S. Main St is 5,344, S. Main St measured south of Diamond is 19,259, and S. Main St measured south of Luther is 18,461, the AADT for Interstate 5 is 32,500 measured at Diamond Ave. Please see tables 5 and 6 for a complete list of all known traffic counts in Red Bluff, CA and Figure 16 to see a street map of the monitor location and surrounding area.

Proposed Site for Ozone, PM_{10}, and $PM_{2.5}$ Monitors

Site Information:

The proposed site does not currently have an AQS ID, the Site will be a SLAMS site. The proposed monitoring site is located in the northwestern corner of a Lot owned by the County of Tehama, APN# 029-320-079-001. The lot contains many different buildings which provide many different government services. The coordinates of the proposed monitoring site are latitude 40.170934°, longitude -122.255547°. The elevation of the site is 99 meters (327 feet) above mean sea level. The dominant land use is residential, commercial, open space/ranch land. There is a high school located 450 meters (1476 feet) north of the monitoring site. The Proposed site will contain all three of the monitors currently

operated by the Tehama County Air Pollution Control District. Figure 17 is a map of the monitoring location and surrounding area.

Sources:

- $PM_{2.5}$ – The major sources of $PM_{2.5}$ impacting the site are managed burning and disposal, residential fuel combustion and unpaved road dust as well as forest fires.
- PM_{10} – The major sources of PM_{10} impacting the site are unpaved road dust, farming operations, managed burning and disposal and fugitive windblown dust.
- Ozone -- Ground level ozone is not emitted directly as ozone, it is instead formed by the reaction of other pollutants. Pollutants that contribute to this reaction include VOC's and nitrogen oxides (NO_X). Major sources of VOC's and NO_X impacting the site are on road motor vehicles, farm equipment, petroleum production, and other stationary sources.

Equipment:

The site will be equipped with a Metone BAM 1020 with $PM_{2.5}$ Sharp Cut cyclone and PM_{10} head, a PM_{10} Hi-VOL Sampler, and a Teledyne 400E UV ozone monitor with Campbell Scientific weather station.

Siting:

The Ozone and PM2.5 monitor will be housed in an insulated temperature controlled room. The roof platform will be approximately 4.0 meters (13 feet) above the ground surface. The Inlet for the PM2.5 will be approximately 2.4 Meters (8 feet) above the roof surface. The Ozone inlet will be about 3.5 meters (11 feet) above the platform surface. The PM_{10} monitor inlet will be about 1.8 meters (6 feet) above the platform surface. The PM2.5, PM_{10} and Ozone monitor will have an uninterrupted air flow 360 degrees around the inlets. The Ozone monitor will remain an urban scale, the PM2.5 and PM_{10} will remain neighborhood scale monitors.

Traffic:

All main roads in the surrounding area paved, with the exception of a service road on the west entrance to Red Bluff High School. The ADT of Walnut St. measured west of Main St is 10,656 Breckenridge measures west of Main St. is 1,948 and Cedar St measured west of Main St. is 2,752. Please see tables 5 and 6 for a complete list of all known traffic counts in Red Bluff, CA and Figure 17 to see a street map of the monitor location and surrounding area. Figure 18 and figure 19 in the Enclosure shows the locations of the three existing monitoring sites and the proposed monitoring location, including some of the landmarks and roadways detailed above.

The last ten years of data showed that pollutant concentrations for ozone has decreased in the City of Red Bluff and in Tehama County, excluding the Tuscan Buttes area (see Table 2 and Figure 21 in the Enclosure). Similarly, PM_{10} concentrations have decreased in the last ten years in the City of Red Bluff and Tehama County as well. Twenty-four hour PM_{10} maximum concentrations in 2011, 2012 and 2013 were 51, 42 and 48 $\mu g/m^3$, respectively, about three times lower than the federal 24-hour PM_{10} standard (see Table 1 and Figure 20 in the Enclosure). The PM2.5 monitor was recently established at the County Social Services building in 2010. The 2013 annual average and 24-hour design values for PM2.5 at Red

Bluff-Main Street were 8.3 μg/m^3 and 25 μg/m^3, respectively. Table 3 in the Enclosure lists the available PM2.5 design values for this site since its inception.

ARB staff conducted an assessment of the hourly winds during the daily maximum 8-hour ozone period for Red Bluff-Oak Street days that exceeded the federal 8-hour ozone standard (2002-2012). The goal was to determine the wind direction(s) during these 8-hour daily maximum periods. The district does not measure wind at the Red Bluff-Oak Street location, so winds measured at the Red Bluff Municipal Airport were used in the assessment. The Red Bluff Municipal Airport wind is a 2-minute average wind, recorded within the last 10 minutes of each hour. Wind data was obtained from ARB's AQMIS-2 database for the 44 days that exceeded the federal 8-hour ozone standard during 2002 through 2012. Results of the analysis indicate that daily maximum 8-hour ozone periods are characterized by calm, light and variable winds (less than 7 knots) or moderate winds with north components during the first half, and then are followed in the second half by stronger winds typically from the southeast through south. This temporal splitting of the winds is seen in Table 4 in the Enclosure. Based on this evaluation, both sites (new and old) would receive transported Sacramento Valley emissions from the south, including local Red Bluff emissions. However, it is possible at the new site, that emissions from the general aviation airport to the south may also be included in the local emissions. There is also a possibility that transport emissions from the north, primarily due to residential burning or agricultural emissions, could be detected.

Tehama County which encompasses the City of Red Bluff is considered a micropolitan statistical area, in which neither requires ozone, $PM_{2.5}$ nor PM_{10} monitoring per federal regulations (Appendix D to Part 58 of 40 CFR). Excluding the Tuscan Buttes area, Tehama County is currently designated as unclassifiable/attainment for ozone and $PM_{2.5}$ and unclassifiable for PM10. The District believes that relocating the monitors to the proposed new location would not jeopardize data integrity or siting requirements. The District acknowledge that these monitors are not required per federal regulations, however, because these monitors are SLAMS monitors, U.S. EPA approval is needed for the relocations per §58.14. The District requests that the U.S EPA approves the relocations of these monitors to the proposed new location in the City of Red Bluff.

The proposed site location will comply with siting requirements in Appendix E to Part 58 and all applicable 40CFR58 requirements. This letter, including U.S. EPA's response will be included in ARB's 2015 annual network plan, and will be available for public comment. If you have any questions regarding this request, please contact me at 530-527-3717 x101.

Sincerely,

Alan Abbs, Air Pollution Control Officer
Tehama County APCD
PO Box 8069

Red Bluff, CA 96080

ENCLOSURES

cc:

Gayle Sweigert
California Air Resources Board
1001 I Street
Sacramento, CA 95812

Webster Tasat
California Air Resources Board
1001 I Street
Sacramento, CA 95812

Mike Miguel
California Air Resources Board
1927 13TH Street
Sacramento, CA 95812

ENCLOSURES

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Figure 1: $PM_{2.5}$ Looking North

Figure 2: $PM_{2.5}$ Looking East

Figure 3: $PM_{2.5}$ Looking South

Figure 4: $PM_{2.5}$ Looking West

Figure 5: $PM_{2.5}$ Looking and Inlet Facing North

Figure 6: Ozone Looking North

Figure 7: Ozone Looking East

Figure 8: Ozone Looking South

Figure 9: Ozone Looking West

Figure 10: PM_{10} Looking North

Figure 11: PM_{10} Looking East

Figure 12: PM_{10} Looking South

Figure 13: PM_{10} Looking West

(Blank)

Figure 14:
$PM_{2.5}$ Street Map

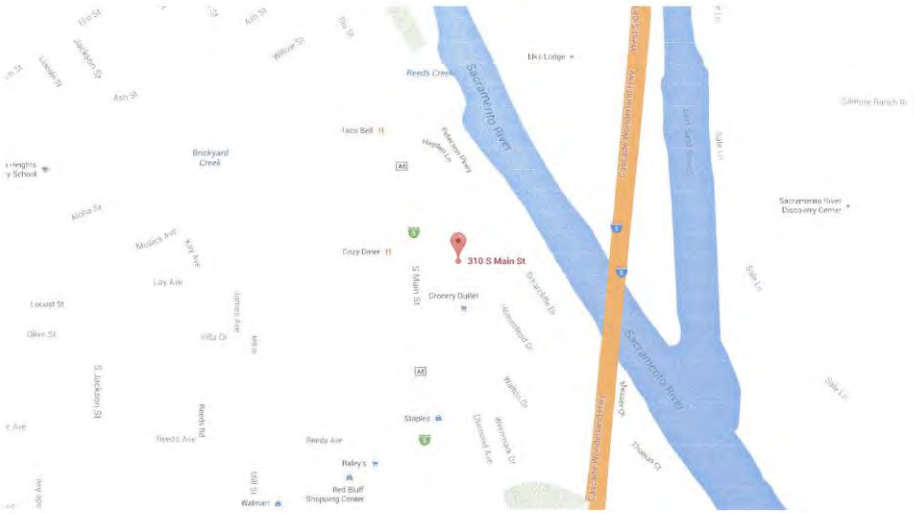


Figure 15:
Ozone Street Map

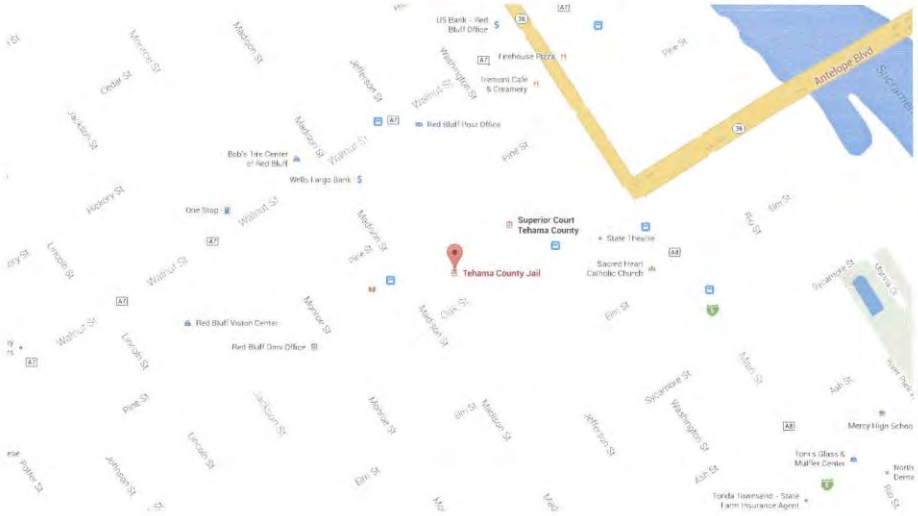


Figure 16:
PM10 Street Map

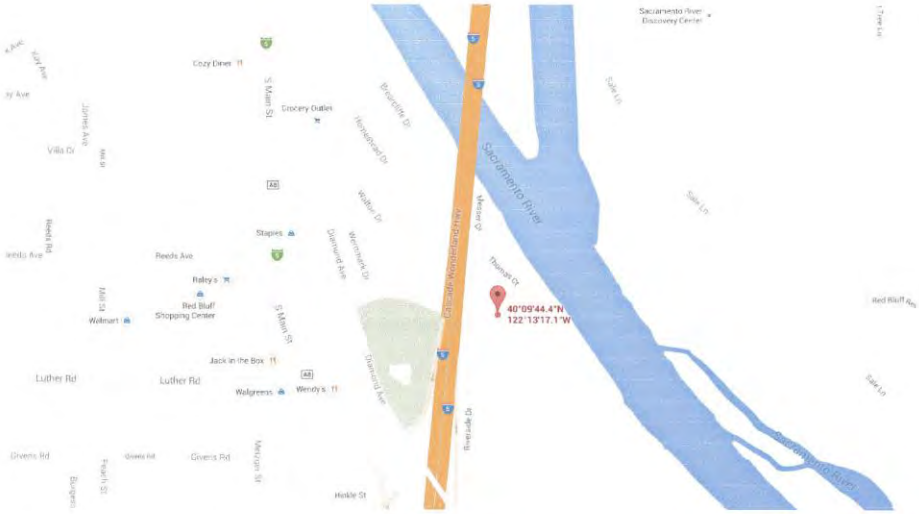


Figure 17:
Proposed Location Street Map

Figure 18:
Proposed and Current Location Overview Map

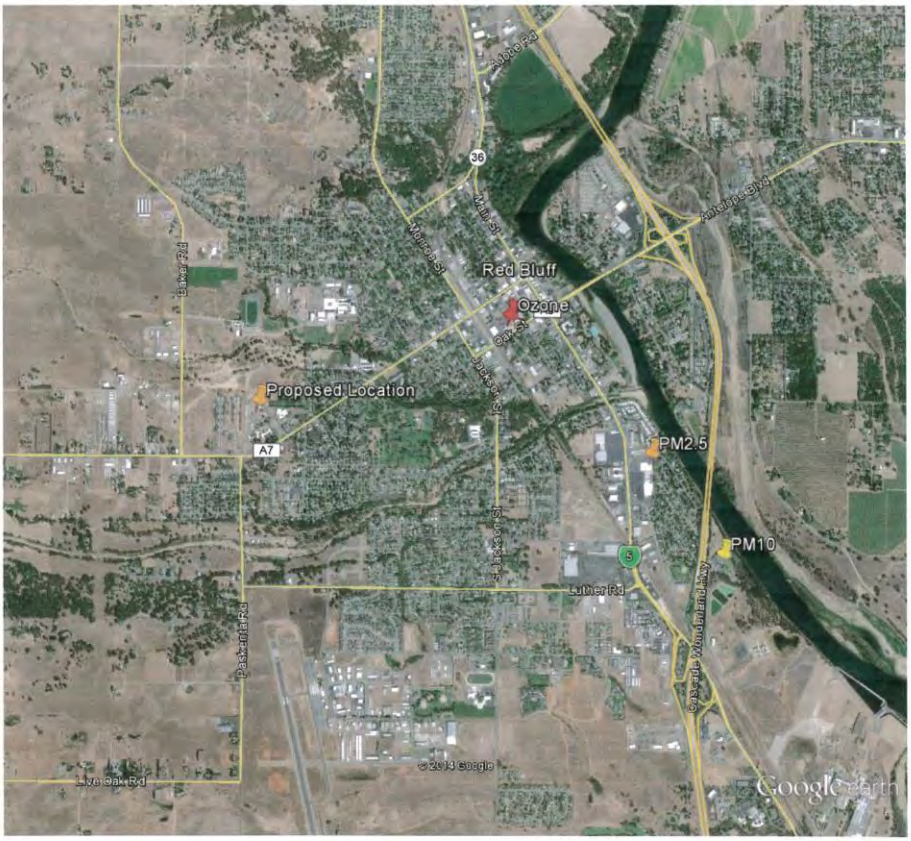
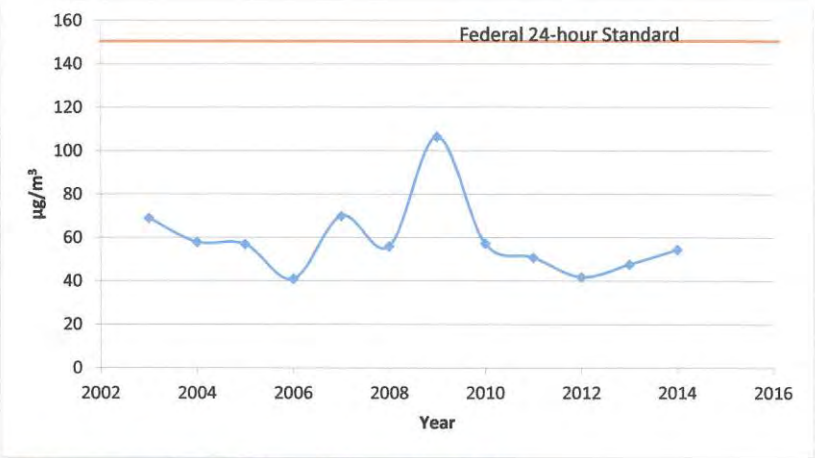


Figure 19:
Proposed Location Facility Rendering

Table 1:
24-hour PM_{10} Maximum Concentrations at Red bluff-Messer Drive
(2003-2014)

Year	24-hour maxes (µg/m³)
2003	69.0
2004	58.0
2005	57.0
2006	41.0
2007	70.0
2008	56.0
2009*	106.5
2010	57.3
2011	50.9
2012	41.9
2013	47.7
2014**	54.5

Figure 20:
24-Hour PM_{10} Maximum Concentrations at Red Bluff-Messer Drive
(2003-2014)

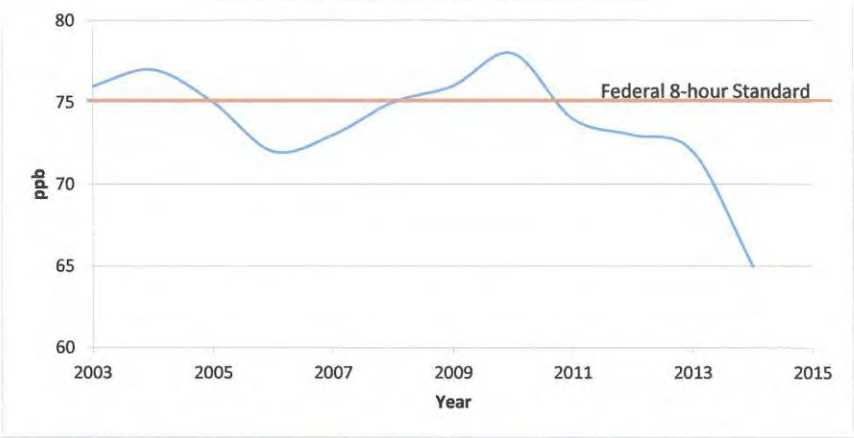


*PM_{10} concentrations in 2009 were influenced by wildfires.
** The 2014 PM_{10} maximum concentration is only provided for informative purposes. The 2014 maximum concentration is preliminary because year 2014 is not yet complete. However, the 2014 maximum concentration at Red Bluff-Messer Drive is expected to be of similar concentrations as previous years at this site.

Table 2:
8-hour Ozone Design Values at Red Bluff-Oak Street

Year	8-hr Design Value (ppm)
2003	0.076
2004	0.077
2005	0.075
2006	0.072
2007	0.073
2008	0.075
2009	0.076
2010	0.078
2011	0.074
2012	0.073
2013	0.072
2014*	0.065

Figure 21:
8-hour Ozone Design Values at Red Bluff-Oak Street



*The 2014 design value is only provided for informative purposes. The 2014 design value is preliminary because year 2014 is not yet complete. However, the 2014 ozone design value at Red Bluff-Oak Street is expected to be of similar concentrations as previous years at this site. Note that the portions of Tehama County outside of the Tuscan Buttes area is federally designated as unclassifiable/attainment for the 2008 8-hour ozone standard. This area designation is represented by ozone monitoring at the Red Bluff-Oak Street site.

Table 3:
$PM_{2.5}$ Design Values at Red Bluff-Main St.
(2010-2014)

Year	24-hr Design Value	Ann. Average Design Value
2010	--	--
2011	--	--
2012	25	10.2
2013	25	8.3
2014*	23	6

*The 2014 design value is only provided for informative purposes. The 2014 design value is preliminary because year 2014 is not yet complete. However, the 2014 design values at Red Bluff-Main Street are expected to be of similar concentrations as previous years.
Note: The $PM_{2.5}$ monitor was established at the Red Bluff-Main Street site in 2010.

Table 4:
Red Bluff Wind Speed and Wind Direction During the Daily Maximum 8-hour Ozone Exceedances

Red Bluff-Oak 8-hour Average Ozone Exceedance Date	Red Bluff Municipal Airport 2-minute Average Scalar winds (mph)During Red Bluff-Oak Ozone Federal Exceedance										
	Hour (PST)										
	7	8	9	10	11	12	13	14	15	16	17
7/10/2002		V/04.7	080/04.7	070/05.8	V/04.7	060/04.7	150/08.1	150/06.9	160/06.9		
7/11/2002				V/03.4	V/03.4	170/09.2	170/11.6	170/12.8	170/12.8	160/17.2	160/19.7
7/13/2002	030/05.8	320/03.4	040/03.4	V/06.9	V/04.7	150/10.3	140/13.9	160/11.6			
7/28/2002			V/03.4	030/09.2	350/08.1	030/06.9	M	170/11.6	170/09.2	160/15.0	
7/30/2002				V/04.7	V/04.7	130/06.9	150/10.3	160/17.2	170/15.0	160/12.8	180/15.0
8/11/2002			080/04.7	V/05.8	120/05.8	V/03.4	V/05.8	150/10.3	140/12.8	160/12.8	
8/12/2002			V/06.9	360/09.2	040/05.8	V/03.4	130/03.4	180/05.8	150/15.0	170/12.8	
8/13/2002	V/04.7	070/04.7	V/04.7	V/06.9	V/05.8	160/09.2	140/11.6	160/11.6			
7/19/2003		330/10.3	360/10.3	020/08.1	V/03.4	150/08.1	150/13.9	150/15.0	160/13.9		
7/21/2003			V/03.4	CALM	CALM	M	140/10.3	150/10.3	170/13.9	170/11.6	
7/22/2003		V/03.4	CALM	V/03.4	160/05.8	V/04.7	V/03.4	130/06.9	150/09.2		
7/28/2003			V/05.8	V/05.8	V/04.7	CALM	V/03.4	140/11.6	160/10.3	170/11.6	
7/29/2003				360/09.2	V/04.7	V/03.4	M	V/06.9	190/09.2	190/09.2	120/09.2
8/18/2003			V/03.4	V/04.7	170/08.1	V/05.8	140/11.6	140/16.1	150/13.9	160/13.9	
8/17/2004			070/04.7	V/04.7	V/04.7	130/06.9	V/05.8	150/08.1	140/10.3	170/10.3	
7/15/2005			360/08.1	360/08.1	CALM	120/06.9	M	140/13.9	M	150/13.9	
7/17/2005			040/05.8	V/03.4	040/08.1	V/03.4	V/03.4	V/03.4	V/03.4	090/06.9	
7/18/2005		CALM	CALM	120/04.7	210/09.2	120/11.6	150/10.3	150/10.3	160/12.8		
7/27/2005			V/04.7	160/04.7	140/08.1	170/09.2	150/13.9	150/17.2	180/13.9	140/11.6	
7/15/2006	020/04.7	V/03.4	V/04.7	V/04.7	CALM	170/04.7	150/05.8	130/08.1			
7/20/2006		M	M	M	M	M	M	M	M		
9/12/2006			V/03.4	CALM	130/04.7	060/05.8	110/05.8	V/04.7	150/10.3	140/10.3	
5/26/2007			CALM	CALM	200/05.8	160/10.3	160/08.1	190/09.2	150/15.0	170/11.4	
6/14/2008			V/04.7	V/06.9	V/06.9	170/09.2	180/13.9	170/13.9	160/10.3	160/09.2	
6/23/2008				CALM	CALM	V/03.4	160/03.4	140/10.3	130/08.1	160/09.2	180/11.4

Table 4 (cont.)

Red Bluff-Oak 8-hour Average Ozone Exceedance Date	Red Bluff Municipal Airport 2-minute Average Scalar winds (mph) During Red Bluff-Oak Ozone Federal Exceedance Hour (PST)										
	7	8	9	10	11	12	13	14	15	16	17
7/18/2008			360/08.1	010/05.8	060/05.8	360/03.4	100/03.4	V/04.7	130/05.8	130/05.8	
7/19/2008			020/05.8	V/03.4	V/04.7	090/05.8	150/04.7	170/09.2	160/09.2	180/11.4	
7/23/2008			360/09.2	330/04.7	V/03.4	V/05.8	120/09.2	210/09.2	170/09.2	140/05.8	
7/24/2008			090/03.4	070/05.8	V/04.7	160/04.7	180/08.1	160/11.4	170/11.4	200/06.9	
7/25/2008			330/10.3	020/09.2	350/05.8	330/06.9	CALM	CALM	180/05.8	180/06.9	
7/26/2008				CALM	120/08.1	140/09.2	140/05.8	150/13.9	150/11.4	170/10.3	150/11.4
7/1/2009			080/03.4	CALM	V/06.9	140/06.9	180/05.8	120/08.1	150/10.3	130/06.9	
7/18/2009			020/06.9	CALM	230/04.7	160/08.1	V/03.4	170/10.3	160/11.4	150/09.2	
7/28/2009			110/06.9	130/05.8	V/04.7	150/08.1	160/11.4	180/10.3	150/13.9	170/15.0	
8/19/2009			CALM	170/05.8	V/03.4	110/04.7	160/08.1	V/05.8	150/10.3	160/13.9	
8/21/2009		V/04.7	360/05.8	V/05.8	100/04.7	140/08.1	190/06.9	160/12.8	160/12.8		
7/15/2010				360/08.1	CALM	CALM	250/04.7	V/03.4	V/06.9	140/06.9	170/05.8
7/22/2010		V/03.4	V/03.4	140/08.1	130/08.1	150/09.2	150/09.2	160/12.8	150/15.0		
7/23/2010		CALM	V/04.7	CALM	V/04.7	140/06.9	180/05.8	170/11.4	160/13.9		
7/24/2010		350/05.8	360/08.1	V/03.4	120/03.4	050/03.4	110/09.2	120/11.4	150/11.4		
8/7/2010			040/05.8	V/03.4	V/04.7	150/04.7	150/09.2	180/13.9	160/15.0	160/16.1	
7/10/2012			340/06.9	V/04.7	070/04.7	V/03.4	110/05.8	V/04.7	140/06.9	160/09.2	
7/12/2012			CALM	V/05.8	190/08.1	V/04.7	180/06.9	170/12.8	160/13.9	160/11.4	
8/3/2012				050/03.4	160/05.8	130/05.8	V/06.9	140/06.9	170/06.9	170/12.8	160/11.4

V=Variable
Light blue cell has wind components from the north
Yellow cell has wind components from the south
M=no wind data available

Table 5:
City of Red Bluff Average Daily Traffic

City of Red Bluff Traffic Counts						
TC#	Station	1991	1994	1997	2002	2007
1	Adobe Rd w/I-5	1444	1940	1591	1978	7252
5	Belle Mill e/ Center	8223	7152	5835	7660	7726
2	Breckenridge w/o Main	1259	1138	1119	1517	1948
3	Cedar w/o Main	2418	2425	2932	2760	2752
7	Diamond Ave. E/o S. Main	4591	5738	4391	4557	5344
18a	Kmbl e/S. Jackson (School in)	2270	2803	2614	2859	3243
18b	Kmbl e/S. Jackson (School out)	1610	1631	1825	2582	2382
12a	Kmbl w/Montg (School in)	2287	2623	2350	2749	3102
12b	Kmbl w/Montg (School out)	1691	2029	2005	2452	2663
20	Luther e/o S. Jackson	8250	8340	10306	10630	10667
23	Luther w/o S. Jackson	3596	5871	5990	6795	7199
10	Luther w/o south main	9338	9310	10820	10775	12711
6	Main s/o Reeds Creek Br	18034	21112	18439	20248	17391
21	Mill St. n/o Luther	1035	751	595	1104	1254
11	Montgomery Rd. n/o Hinkle	2744	3409	3218	3599	3575
24	Reeds Ave. E/o S. Jackson	2592	3177	3350	3686	3234
22	S. Jackson n/o Luther	9565	8557	8551	8885	7885
25	S. Jackson n/o Reeds	11812	12638	11348	11680	10078
17	S. Jackson n/o Vista	4215	4390	3559	4751	3921
19	S. Jackson s/o Luther	7379	7290	6807	7102	6772
15	S. Jackson s/o Spyglass	1249	1292	1381	1323	1259
13	S. Main n/o Sister M.C.	11906	13632	15532	17168	16580
8	S. Main s/o Diamond	17602	21416	17517	18316	19259
9	S. Main s/o Luther	14564	16561	16693	16798	18461
14	S. Main s/o Sister M.C.	9864	11470	12788	13262	12828
16	Vista w/o S. Jackson	1876	2248	1749	2275	1735
4	Walnut w/o Main	10188	12775	12254	10594	10656

Table 6:
CA Department of Transportation Annual Average Daily Trips

Interstate and Highway Traffic Counts by CA DOT 2013									
Dist	Route	Postmile	Description	Back Peak Hour	Back Peak Month	Back AADT	Ahead Peak Hour	Ahead Peak AADT	Ahead AADT
2	5	24.871	RED BLUFF, SOUTH MAIN STREET	2900	32000	27000	3150	35000	29500
2	5	24.942	RED BLUFF, DIAMOND AVENUE	3150	35000	29500	3450	38500	32500
2	5	26.525	RED BLUFF, JCT. RTE. 36	3450	38500	32500	3600	41000	36000
2	5	28.377	NORTH RED BLUFF	3350	37500	31500	3650	41500	36500
2	36	40.315	RED BLUFF, ADOBE ROAD	1100	12100	11300	1000	10000	9800
2	36	40.87	RED BLUFF, CRITTENDEN STREET	1000	10000	9800	960	9100	8700
2	36	41.15	RED BLUFF, WALNUT STREET	960	9100	8700	1250	12100	11622
2	36	41.29	RED BLUFF, OAK STREET	1250	12100	11622	1850	19700	19200
2	36	41.4	RED BLUFF, SACRAMENTO RIVER BRIDGE	1850	19700	19200	1850	19700	19200
2	36	41.67	RED BLUFF, GILMORE ROAD	1850	19700	19200	2400	22800	19200
2	36	41.847	RED BLUFF, JCT. RTE. 5	2400	22800	19200	2850	20400	19100
2	36	42.79	RED BLUFF, CHESTNUT AVENUE	2850	20400	19100	1500	16700	15400

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

DEC 09 2014

Mr. Alan Abbs
Air Pollution Control Officer
Tehama County Air Pollution Control District
P.O. Box 8069
Red Bluff, California 96080

Dear Mr. Abbs:

This letter provides EPA's review and approval for the Tehama County Air Pollution Control District's (APCD's) relocation of the PM_{10} and O_3 State/Local Air Monitoring Station (SLAMS) monitors at the Red Bluff Messer Drive (06-103-0002) and Red Bluff Oak Street (06-103-0005) sites, respectively, to the proposed site at the northwestern corner of a lot owned by the city of Tehama (40.170934°, -122.255547°). The relocation of the $PM_{2.5}$ monitor at the Red Bluff South Main Street site (06-103-0006) not does require approval as it is not a SLAMS monitor.

On October 9, 2014, Tehama County APCD sent a letter to the U.S. Environmental Protection Agency (EPA) with a description of this network change. Per 40 CFR 58.14, monitoring agencies are required to obtain EPA approval for the relocation of SLAMS monitors. These monitor relocations were specifically reviewed by EPA against criteria contained in 40 CFR 58.14(b). The impetus for this relocation is to reduce monitor and staff downtime required for travel and maintenance, as well as to eliminate issues associated with site access and temperature/humidity control of the housing room for O_3 by relocating to a consolidated, new district-owned building.

According to the letter submitted by Tehama County, the particle size separator used in the Met One BAM 1020 is a Sharp Cut Cyclone. This configuration of a MetOne BAM 1020 is a non-FEM (Federal Equivalent Method) and therefore does not qualify as a SLAMS monitor and does not require approval for relocation. However, this monitor has been reported incorrectly to EPA's Air Quality System (AQS) as an FEM with a parameter code of 88101. Data for this non-regulatory, Special Purpose Monitor (SPM) must be re-entered correctly under parameter code 88502.

According to certified data submitted to AQS, the Red Bluff Messer Drive PM_{10} site began operation in 1988 and was in attainment of the PM_{10} annual NAAQS from 2002-2013. The land uses around the Red Bluff Messer Drive site are residential, commercial with paved roads, parking lots, and agricultural. The main sources of PM_{10} impacting the site are unpaved dust, farming operations, managed burning and disposal, and fugitive dust. The proposed location of the new PM_{10} monitor is 1.9 miles northwest of the Red Bluff Messer Drive monitor and is

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characterized by the same land uses and sources for PM_{10}, fulfilling the requirement that the replacement site is at a nearby location with the same scale of representation.

According to certified data submitted to EPA's Air Quality System (AQS), the Red Bluff Oak Street O_3 site began operation in 1996 and was in attainment of the 2006 O_3 8-hour NAAQS from 2011-2013. Since O_3 concentrations at this site have led to exceedances of the standard in the past, ARB staff conducted an assessment of wind patterns on exceedance days from 2002-2012. The results of this analysis concluded that the exceedance days were characterized by calm, light and variable winds, or northerly moderate winds during the first half of the day, followed by stronger southeasterly to southerly winds in the latter half of the day. This wind analysis concludes that both the old and new O_3 site will receive the transported Sacramento Valley emissions as well as local emissions from the south and the north. Therefore, the sources of O_3 are anticipated to be comparable. The land uses around the Red Bluff Oak Street site are commercial/retail, residential, and open vegetated land. The main sources of O_3 impacting the site on road motor vehicles, farm equipment, petroleum production, and other stationary sources. The proposed location of the new O_3 monitor is 1 mile southwest of the Red Bluff Oak Street monitor and is characterized by the same land uses and sources for O_3, fulfilling the requirement that the replacement site is at a nearby location with the same scale of representation.

Based on this, EPA approves Tehama County's relocation of the Red Bluff Messer Drive PM_{10} and Red Bluff Oak Street O_3 SLAMS monitors to the proposed site at the northwestern corner of a lot owned by the city of Tehama (40.170934°, -122.255547°). As this is a relocation, the data from the old and new sites will be combined to form one continuous data record for design value calculations. Please note this in the AQS comment field for both the old sites and the new AQS site. The Red Bluff South Main Street $PM_{2.5}$ monitor requires the AQS changes described above and does not require approval for relocation.

If there are any questions regarding this letter, please feel free to contact me at (415) 947-4534 or Jennifer Williams of my staff at (415) 972-3938.

Sincerely,

Meredith Kurpius
Manager, Air Quality Analysis Office

cc (via email): Joe Tona, Tehama County APCD
Webster Tasat, ARB
Gayle Sweigert, ARB
Mike Miguel, ARB
Ken Stroud, ARB
Michael Werst, ARB

APPENDIX E

Lake County Request and ARB Approval Letter for PM_{10} Conversion

LAKE COUNTY AIR QUALITY
MANAGEMENT DISTRICT
885 Lakeport Boulevard
Lakeport, CA 95453
Phone (707) 263-7000 Fax (707) 263-0421

Douglas G. Gearhart
Air Pollution Control Officer
dougg@lcaqmd.net

September 9, 2014

Jennifer Williams
Air Quality Analysis Office
U.S. Environmental Protection Agency Region 9
75 Hawthorne Street, AIR-7
San Francisco, CA 94105-3901

Subject: Approval Request for Network Modifications in Lake County AQMD

Dear Ms. Williams:

The Lake County Air Quality Management District (District) proposes to move the Lakeport SLAMS station located at 885 & 905 Lakeport Blvd., Lakeport, which includes the following air quality monitors: Ozone, PM 10, PM 2.5, BScat, COH, and Meteorological station, from their existing location in the City of Lakeport to the new District facility. The new site will be 1.0 mile South of the current SLAMS location. Relocation is necessary as a result of incompatible uses installed on the County property south of the SLAMS station which has resulted in interference in the Ozone monitoring and PM monitoring as well as staff safety issues.

Maintaining a consolidated monitoring site at a District-owned building will reduce monitor downtime and reduce staff time required for travel and maintenance. The relocation will also eliminate current issues associated with Siting Criteria and incompatible uses on County owned property.

The current SLAMS monitoring station is located at the Lake County Ag Building, with air monitor intakes on the roof, and PM monitors on a separate tower (see Map 1). The area immediately surrounding the monitor is composed mostly of commercial and vacant properties. Major roads include State Hwy 29 and Lakeport Blvd. The Lakeport SLAMS data is currently being used to support a finding that Lake County is in Attainment of all State and National Ambient Air Quality Standards (NAAQS) since 1990. Therefore having continuous data is very important to the District.

The proposed new monitoring site is located at 2617 S. Main St., Lakeport (approximately 39° 1'25.52"N, 122°54'16.91"W) (see Map 1). The new site will be free of obstructions with no trees within the immediate area that could impact the site in the future. The surrounding areas to the south/southeast the area is suburban with commercial and residential use, to the west is State Hwy 29, a community college, and rural residential and commercial uses, to the North is commercial and residential uses, and to the east is light commercial with rural residential and agricultural uses.

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The last ten years of data showed that pollutant concentrations for ozone has remained stable below the State and National AAQS (see Table 1 and Figure 1). PM 2.5 and PM 10 levels have maintained well below State and National AAQS (with the exception of major wildfire impacts), with Lake County receiving the 'Cleanest County in the Nation for PM2.5' rating from the American Lung Association for two consecutive years.

Similarly, PM10 concentrations have decreased in the last ten years in the City of Lakeport. Twenty-four hour PM10 maximum concentrations in 2011, 2012 and 2013 were 24, 19 and 17 ug/m3, respectively, about one sixth the National 24-hour PM10 standard and one half the State 24-hour standard (see Table 2 and Figure 2).

The PM2.5 monitor is also located in the City of Lakeport. From 2001 to 2013, the 24-hour design values for PM2.5 in Lakeport were less than half the State and National Standards (see Table 3 and Figure 3).

The District believes that relocating the monitors to the proposed new location would not jeopardize data integrity or siting requirements, but would in fact reduce the potential for problems. In making this request the District wants to ensure that the relocation of the SLAMS will not affect the attainment designations for Lake County. The District requests CARB and EPA approval of the relocation and concurrence that CARB and EPA will continue to utilize the current SLAMS data with the new SLAMS location to show continuing attainment with all AAQS.

Please let us know if there is any additional information needed or any further evaluation or monitoring requirements.

If you have any questions, please contact Elizabeth Knight or myself at 707-263-7000.

Sincerely,

Douglas Gearhart
Air Pollution Control Officer

CC: Gayle Sweigert, Manager
California Air Resources Board
Air Quality Analysis Section
P.O. Box 2815
Sacramento, CA 95812

Webster Tasat, Manager
California Air Resources Board

Central Valley Air Quality Planning Section
P.O. Box 2815
Sacramento, CA 95812

Mike Miguel, Chief
California Air Resources Board
Quality Management Branch
P.O. Box 2815
Sacramento, CA 95812

Map 1

401
11th St
High St
Lakeport
406
Current LCAQMD SLAMS
Potential New LCAQMD Location
502
Soda Bay Rd
Hopland Rd
175
29

Table 1
8-hour Ozone Design Values at Lakeport, CA
(2003 – 2014)

Year	8-hr Design Value (ppm)
2003	0.064
2004	0.065
2005	0.061
2006	0.061
2007	0.060
2008	0.062
2009	0.062
2010	0.061
2011	0.057
2012	0.058
2013	0.060
2014*	0.057

*The 2014 design value is only provided for informative purposes. The 2014 design value is preliminary because year 2014 is not yet complete.

Figure 1
8-hour Ozone Design Values at Lakeport, CA
(2003-2014)

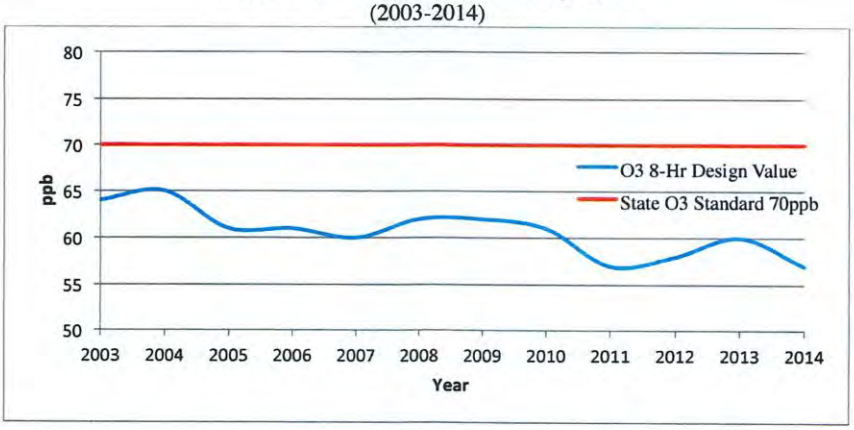


Table 2
24-hour PM10 Maximum Concentrations at Lakeport, CA
(2003 – 2014)

Year	24-hour Maximum Concentrations (ug/m3)
2003	32.0
2004	22.4
2005	20.0
2006*	32.8
2007	18.2
2008*	111.0
2009	17.6
2010	17.9
2011	18.8
2012*	24.0
2013*	31.3
2014* **	24.5

*PM10 concentrations were influenced by wildfires.

** The 2014 PM10 maximum concentration is only provided for informative purposes. The 2014 maximum concentration is preliminary because year 2014 is not yet complete.

Figure 2
24-hour PM10 Maximum Concentrations at Lakeport, CA
(2003 – 2014)

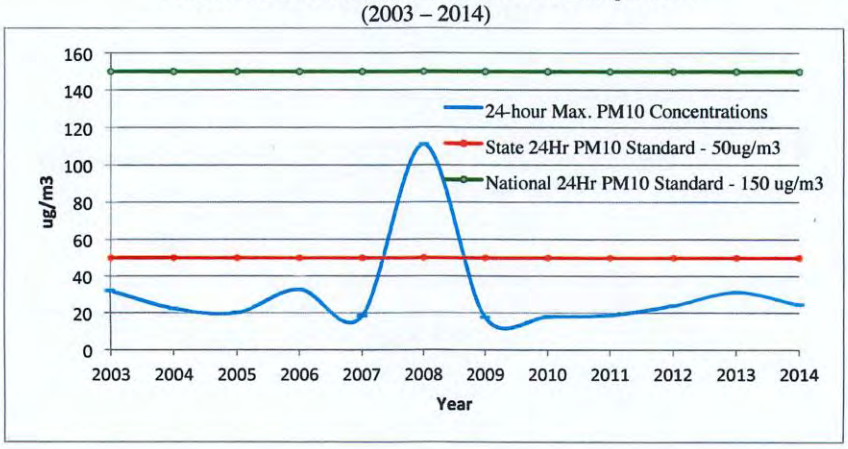


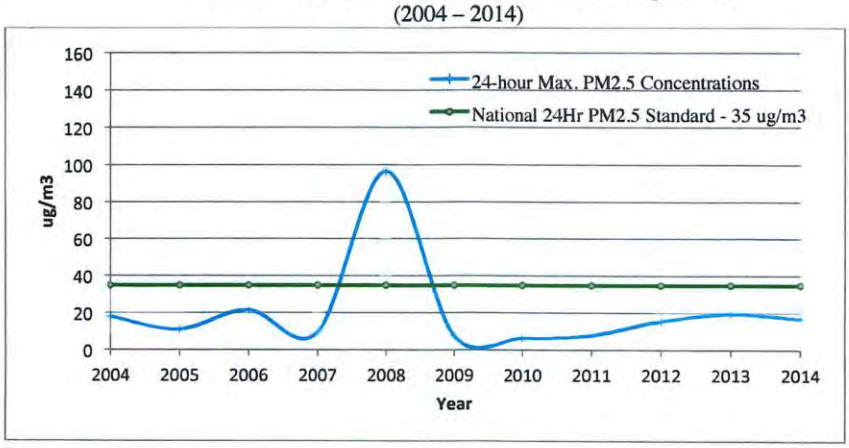
Table 3
PM2.5 Design Values and Maximum Concentrations at Lakeport, CA
(2004 – 2014)

Year	24-hr Design Value	Ann. Average Design Value	24-Hr Maximum Concentration (ug/M3)
2004	23	5.1	18.1
2005	12	4.6	11.3
2006*	14	4.8	21.6
2007	14	4.5	9.5
2008*	30	5.3	96.6
2009	25	4.7	7.8
2010	24	4.6	6.4
2011	7	3.3	8.0
2012*	9	3.2	15.7
2013*	10	3.8	19.6
2014 * **	10	3.4	17.1

*PM2.5 concentrations were influenced by wildfires.

**The 2014 design value is only provided for informative purposes. The 2014 design value is preliminary because year 2014 is not yet complete.

Figure 3
24-hour PM2.5 Maximum Concentrations at Lakeport, CA
(2004 – 2014)



Air Resources Board

Mary D. Nichols, Chairman
1001 I Street • P.O. Box 2815
Sacramento, California 95812 • www.arb.ca.gov

Matthew Rodriquez
Secretary for
Environmental Protection

Edmund G. Brown Jr.
Governor

MAILED
10.10.14 AM

October 9, 2014

Mr. Douglas Gearhart
Lake County Air Quality Management District
885 Lakeport Boulevard
Lakeport, California 95453

Dear Mr. Gearhart:

This letter is to inform you that the Air Resources Board (ARB) has reviewed your District's proposal to relocate the State and Local Air Monitoring Stations (SLAMS) monitoring station in Lakeport, California, from the existing location at 885 Lakeport Boulevard, to a site one mile south of the current location. ARB is fully supportive of the proposal to relocate the SLAMS station. We recommend, but do not require, parallel monitoring for ozone during May through October (or as much of the ozone season as possible) to provide information on the comparability of the two sites. If it is logistically possible to begin the monitoring at the new site at the start of the calendar year, calculating design values and other statistics would be more straightforward. However, these calculations can be made regardless.

ARB also recommends that you contact the Quality Assurance Section to schedule a closing audit of the pollutant monitors at the existing site as well as an opening audit of the new location. If you are relocating your PM2.5 and PM10 laboratory, we encourage closing and opening audits for the laboratory as well.

If you have any questions, please contact the ARB liaison for your District, Ms. Carissa Ganapathy at (916) 322-7105 or carissa.ganapathy@arb.ca.gov, or myself at (916) 322-0960 or michael.miguel@arb.ca.gov.

Sincerely,

Michael Miguel, Chief
Quality Management Branch
Monitoring and Laboratory Division

cc: See next page.

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our website: http://www.arb.ca.gov.

California Environmental Protection Agency

Printed on Recycled Paper

cc. Elizabeth Knight
Air Quality Program Coordinator
Lake County Air Quality Management District
885 Lakeport Boulevard
Lakeport, California 95453

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Carissa Ganapathy
Monitoring and Laboratory Division

APPENDIX F

U.S. EPA Approval of Recent Changes to PAMS Program

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
RESEARCH TRIANGLE PARK, NC 27711

OFFICE OF
AIR QUALITY PLANNING
AND STANDARDS

January 28, 2015

Mr. Mallory Ham
Manager, Air Quality Monitoring
Ventura County APCD
669 County Square Drive
Ventura, CA 93003

Dear Mr. Ham:

This letter transmits our formal approval of Ventura County's requested changes to the agencies Photochemical Assessment Monitoring Stations (PAMS) network. Specifically, the EPA is approving the elimination of continuous total hydrocarbon monitoring (THC) and carbonyl sampling at the El Rio (AQS ID 06-111-3001) and Semi Valley (AQS ID 06-111-2002) sites.

Please be aware that the EPA has proposed significant changes to the PAMS requirements. These changes were published in the Federal Register on December 17, 2014. The comment period on the proposed changes will close on March 17, 2015, and any final changes will likely be promulgated on October 1, 2015. Currently, the proposed changes do not include requirements for THC monitoring, but do include requirements for carbonyl sampling. These proposed changes (if finalized) would replace the current PAMS requirements (including the PAMS California Alternative Plan) and any other alternative approvals including the approvals provided in this letter.

Thank you for your program's efforts on the PAMS program. If you have any questions regarding this approval or the proposed changes to the PAMS program, please contact Kevin Cavender of my staff at 919-541-2364 (cavender.kevin@epa.gov).

Sincerely,

Richard A. Wayland
Director
Air Quality Assessment Division

cc: Michael Villegas, Ventura County APCD
Gayle Sweigert, California Air Resources Board
Maria Salomon, California Air Resources Board
Pheng Lee, California Air Resources Board
Gwen Yoshimura, EPA
Dena Vallano, EPA
Michael Flagg, EPA
Lewis Weinstock, EPA
Kevin Cavender, EPA

APPENDIX G

Proposal to Discontinue Lead (Pb) Monitoring at Calexico

ARB is requesting U.S. EPA approval to discontinue lead monitoring at the Calexico monitoring site. This monitor is not required under federal regulations and has demonstrated concentrations significantly below the federal standard. Federal regulations specify that a lead monitor can be terminated if:

- It had demonstrated attainment for the most recent five years and,
- Has an probability of 10% or less of exceeding 80% of the federal lead standard and,
- Is not required in a SIP or Maintenance plan.

As shown in the table below, concentrations at Calexico demonstrate attainment of the current federal lead standard. In addition, the data for the last five years demonstrate that the monitor has a probability of 10% or less of exceeding 80% of the federal lead standard. This demonstration is provided using the specified spreadsheet provided by Region 9. Finally, the lead monitor is not required to meet minimum monitoring requirements, or under any State Implementation Plan or Maintenance Plan. Furthermore, the ARB does not have the resources to collocate this monitor and perform the necessary laboratory services.

Lead NAAQS												
Site	Year 1 Design Conc. (µg/m^3) 2010	Year 2 Design Conc. (µg/m^3) 2011	Year 3 Design Conc. (µg/m^3) 2012	Year 4 Design Conc. (µg/m^3) 2013	Year 5 Design Conc. (µg/m^3) 2014	Average Design Conc. (µg/m^3) 2010-2014	Std. Dev. *s*	Student's *t* value (90% confidence)	Number of Data Values (*n*)	90% Upper CI (µg/m^3)	80% NAAQS (µg/m^3)	Test
Calexico - Ethel St. (060250005)	0.02	0.02	0.03	0.03	0.03	*0.03*	*0.01*	*2.13*	5	*0.03*	0.12	*PASS*

APPENDIX H

List of Abbreviations and Acronyms

APCD	Air Pollution Control District
AQMD	Air Quality Management District
AQS	Air Quality System
ARB	Air Resources Board
CFR	Code of Federal Regulations
CBSA	Core-Based Statistical Area
FEM	Federal equivalent method
FRM	Federal reference method
MSA	Metropolitan Statistical Area
NAAQS	National Ambient Air Quality Standard
NO_2	Nitrogen dioxide
Pb	Lead
PM_{10}	Particulate matter (0 to 10 microns aerodynamic diameter)
$PM_{2.5}$	Particulate matter (0 to 2.5 microns aerodynamic diameter)
PQAO	Primary quality assurance organization
SIP	State Implementation Plan
SLAMS	State and Local Air Monitoring Stations
SO_2	Sulfur dioxide
U.S. EPA	United States Environmental Protection Agency