



Terry Tamminen
Agency Secretary

Air Resources Board

Alan C. Lloyd, Ph.D.
Chairman

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Arnold Schwarzenegger
Governor

February 11, 2004

Mr. Wayne Nastri
Regional Administrator
Region 9
U.S. Environmental Protection Agency
75 Hawthorne Street
San Francisco, California 94105-3901

Dear Mr. Nastri:

We are transmitting our recommendations for area designations under the federal air quality standards for particulate matter 2.5 microns or less in diameter (PM_{2.5}). On behalf of the State of California, the Air Resources Board (ARB) is responding to your June 3, 2003 letter to the Governor requesting these recommendations by February 15, 2004.

Four PM_{2.5} Nonattainment Areas. We base our initial recommendations on ambient PM_{2.5} concentrations measured from 2000 through 2002 by 110 monitors located at 81 stations across California. Pending complete data for 2003, ARB's preliminary recommendation is that the U.S. Environmental Protection Agency (U.S. EPA) designate four areas as nonattainment for the PM_{2.5} standards:

- South Coast Air Basin,
- San Joaquin Valley Air Basin,
- San Diego County, and
- City of Calexico (on the California-Mexico border in Imperial County).

Eight areas should be designated attainment, where air quality data are sufficient to determine that they meet the federal standards. Finally, 22 areas should be deemed unclassifiable, where air quality data are insufficient to make a determination yet.

Updated Monitoring Data. We understand that U.S. EPA intends to promulgate PM_{2.5} area designations by December 2004, based on monitoring data from 2001 through 2003. Preliminary 2003 information indicates that Calexico and several of the currently unclassifiable areas may now attain the PM_{2.5} standards. Before your final action, ARB will transmit PM_{2.5} monitoring data for 2003 and any appropriate changes to our initial recommendations for area designations.

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

Mr. Wayne Nastri
February 11, 2004
Page 2

Nonattainment Area Boundaries. The geographic scope of the federal PM2.5 nonattainment areas for the South Coast, San Joaquin Valley, and San Diego County should be consistent with the air basin boundary for each region. These coincide with the existing federal one-hour ozone nonattainment areas and ARB's recommended eight-hour ozone nonattainment areas as well.

ARB staff believes that violation of the annual PM2.5 standard in Calexico in 2000-2002 results from emissions in the densely populated international Calexico/Mexicali border region. The level of urban activity and PM2.5 pollution in the Calexico/Mexicali area are distinct and not representative of the rest of Imperial County. As a result, if Calexico violates the federal PM2.5 standard after consideration of 2003 data, we recommend that the U.S. nonattainment area be limited to the City of Calexico.

Enclosures. We include the following materials in this package:

- Recommended nonattainment/attainment/unclassifiable areas (Enclosure 1).
- Information supporting recommendations for nonattainment areas (Enclosure 2).
- Legal descriptions for nonattainment area boundaries (Enclosure 3).
- 2000-2002 data for all of California's PM2.5 monitoring sites (Enclosure 4).

To facilitate public access, we have posted this transmittal and related materials on our website at: <http://www.arb.ca.gov/planning/sip/sip.htm>.

If you have any questions, please call Ms. Lynn Terry, Deputy Executive Officer, at (916) 322-2739, or have your staff contact Ms. Cynthia Marvin, Chief, Air Quality and Transportation Planning Branch, at (916) 322-7236.

Sincerely,

/s/

Catherine Witherspoon
Executive Officer

Enclosures

cc: See next page.

Mr. Wayne Nastri
February 11, 2004
Page 3

cc: (with Enclosure 1)

Air Pollution Control Officers

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Enclosure 1

State of California Initial Recommendations for Area Designations under the Federal PM_{2.5} Standard (based on 2000-2002 monitoring data)

Recommended PM _{2.5} Nonattainment Areas in California					
Nonattainment Area	24-Hour Design Value*	High Monitor ID and Location	Annual Average Design Value*	High Monitor ID and Location	Areas Included
1. South Coast Air Basin	73	ID#60658001 Rubidoux	28.9	ID#60658001 Rubidoux	Western Los Angeles (including Catalina and San Clemente Islands), Orange, Southwestern San Bernardino, and Western Riverside Counties
2. San Joaquin Valley Air Basin	90	ID#61072002 Visalia	23.2	ID#61072002 Visalia	San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare, and Western Kern Counties
3. San Diego County**	43	ID#60730001 Chula Vista	16.4	ID#60731002 Escondido	San Diego County
4. Calexico**	50	ID#60250005 Calexico	15.6	ID#60250005 Calexico	City of Calexico

*The federal 24-hour standard is 65 ug/m³. The federal annual average standard is 15.0 ug/m³.

**Recommended nonattainment for the annual average standard only.

Recommended PM2.5 Attainment Areas in California

Attainment Area	24-Hour Design Value	High Monitor ID and Location	Annual Average Design Value	High Monitor ID and Location	Areas Included
North Coast Air Basin	28	ID#60450006 Ukiah	8.8	ID#60231002 Eureka	Del Norte, Humboldt, Trinity, Mendocino, and Northern Sonoma Counties
Shasta County	34	ID#60890004 Redding	9.7	ID#60890004 Redding	Shasta County
Butte County	60	ID#60070002 Chico	14.6	ID#60070002 Chico	Butte County
Colusa County	37	ID#60111002 Colusa	10.4	ID#60111002 Colusa	Colusa County
Calaveras County	26	ID#60090001 San Andreas	9.0	ID#60090001 San Andreas	Calaveras County
North Central Coast Air Basin	22	ID#60531003 Salinas	8.6	ID#60531003 Salinas	Monterey, San Benito, and Santa Cruz Counties
San Luis Obispo County	39	ID#60798001 Atascadero	10.0	ID#60792002 San Luis Obispo	San Luis Obispo County
Coachella Valley	26	ID#60652002 Indio	11.8	ID#60652002 Indio	Portion of Riverside County

Recommended PM2.5 Unclassifiable Areas in California

Northeast Plateau Air Basin (includes Siskiyou, Modoc, and Lassen Counties)

Tehama County

Sierra County

Plumas County

Glenn County

Lake County

Sutter County

Yuba County

Nevada County

Placer County

El Dorado County

Sacramento County

Yolo County

San Francisco Bay Area (includes Marin, Southern Sonoma, Napa, Western Solano, Contra Costa, Alameda, Santa Clara, San Francisco, and San Mateo Counties)

Amador County

Tuolumne County

Mariposa County

Santa Barbara County

Great Basin Valleys Air Basin (includes Alpine, Mono, and Inyo Counties)

Ventura County

Mojave Desert Air Basin (includes Eastern Kern County, Antelope Valley and Riverside County, excluding recommended Coachella Valley attainment area)

Imperial County (excluding the recommended Calexico nonattainment area)

Enclosure 2

State of California Information to Support Recommendations for Federal PM2.5 Nonattainment Area Boundaries

This document discusses our rationale for the recommended boundaries for each of the four preliminary fine particulate matter (PM2.5) nonattainment areas in California. The U.S. Environmental Protection Agency's (U.S. EPA) guidance memorandum (*April 1, 2003, Designations for the Fine Particle National Ambient Air Quality Standards, Memorandum from Jeffrey R. Holmstead, Assistant Administrator, Office of Air and Radiation to Regional Administrators, Regions I-X*) sets out criteria for determining appropriate nonattainment area boundaries. In short, the memorandum indicates that nonattainment areas must be large enough to capture the entire area violating the standard as well as sources contributing to violations.

The guidance goes on to describe the association of higher PM2.5 levels with greater levels of urban activity and states that the presumptive boundaries for urbanized areas violating the PM2.5 standards is the Metropolitan Statistical Area (or Consolidated Metropolitan Statistical Area where appropriate.) U.S. EPA's guidance also suggests consideration of eight-hour nonattainment boundaries to support coordination of control strategies for ozone and PM2.5. For U.S. EPA to consider an alternative boundary, the memorandum calls on states to evaluate the following criteria to support its recommendations for the geographic extent of a nonattainment area.

- Emissions
- Population density
- Expected growth
- Geography/topography
- Level of emission control
- Air quality
- Traffic and commuting patterns
- Meteorology
- Jurisdictional boundaries

In California, the primary considerations for air quality planning are air basin and air district boundaries if the pollution problem is regional in nature. Under State law, air basins are based on a rigorous scientific assessment of geography and meteorology, with consideration of political jurisdictions. Basin boundaries are formally adopted by ARB in regulation. Air districts were established by State statute. ARB typically uses a combination of air basin and air district lines to set boundaries for areas that violate California air quality standards, with exceptions when a single city or community has a unique air pollution problem distinct from the region.

We evaluated the specific criteria in U.S. EPA guidance, as well as State conventions, to identify the most appropriate and effective boundary for each PM2.5 nonattainment area. We recommend the air basin boundaries for South Coast, San Joaquin Valley, and San Diego to reflect the regional nature of PM2.5 pollution in these areas. We

recommend a focused nonattainment area for the City of Calexico to reflect the localized nature of the PM2.5 problem there.

South Coast Air Basin

The federal PM2.5 standards are exceeded broadly across the basin. Consideration of U.S. EPA's factors, especially population and emission densities within the basin, which indicate broad regional contribution to elevated PM2.5 levels, support use of the air basin boundary.

The recommended South Coast Air Basin PM2.5 nonattainment area includes Western Los Angeles (including Catalina and San Clemente Islands), Orange, Southwestern San Bernardino, and Western Riverside Counties. This area is under the jurisdiction of the South Coast Air Quality Management District. The recommended boundary corresponds to the recently modified federal one-hour ozone nonattainment boundary and the proposed eight-hour ozone boundary.

San Joaquin Valley Air Basin

The federal PM2.5 standards are exceeded broadly across the basin. Consideration of U.S. EPA's factors, especially population and emission densities within the basin, which indicate broad regional contribution to elevated PM2.5 levels, support use of the air basin boundary.

The recommended San Joaquin Valley PM2.5 nonattainment area consists of San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare and Western Kern Counties. The area is under the jurisdiction of the San Joaquin Valley Unified Air Pollution Control District. The recommended boundary for this area coincides with the existing federal one-hour ozone nonattainment boundary and ARB's proposed eight-hour ozone boundary.

San Diego County

The federal annual PM2.5 standard is exceeded broadly across the basin. Consideration of U.S. EPA's factors, especially population and emission densities within the basin, which indicate broad regional contribution to elevated PM2.5 levels, support use of the County boundary, which is the same as the air basin boundary.

The proposed PM2.5 nonattainment area would include all of San Diego County, under the jurisdiction of the San Diego Air Pollution Control District. This corresponds to the existing federal one-hour ozone maintenance area boundary and the proposed eight-hour ozone boundary.

City of Calexico

The City of Calexico is on the U.S-Mexico border, at the southern end of Imperial County. The County is under the jurisdiction of the Imperial County Air Pollution Control District and is part of the Salton Sea Air Basin (which also includes a portion of Riverside County). Imperial County is generally rural with relatively small incorporated regions -- only El Centro is included in a Metropolitan Statistical Area.

Imperial County is a federal PM10 nonattainment area, with peak PM10 levels occurring in Calexico and occasional PM10 exceedances elsewhere in the County (exacerbated by transport from Mexico). Within Imperial County, Calexico is just over the annual PM2.5 standard for 2000-2002, while monitors in the Brawley and El Centro record levels significantly below this standard. None of the Imperial County monitors have recorded violations of the 24-hour PM2.5 standards. Data from the portion of Riverside County in the basin show attainment of both PM2.5 standards.

Based on the available information, we believe that violations of the PM2.5 standard are localized in Calexico and the much larger adjacent city of Mexicali, Mexico. As a result, the federal PM2.5 nonattainment area should be limited to the part of this urban area on the U.S. side of the border – the City of Calexico.

We discuss this recommendation in the context of U.S. EPA's boundary criteria below, specifically the basis for recommending a nonattainment area smaller than the full Imperial County. The Calexico/Mexicali urban area is easily distinguished from the rest of Imperial County. Since current emission statistics for Mexicali are not readily available, we relied on a 1999 report *Program to Improve Air Quality in Mexicali 2000-2005* that was developed by the Mexican government and posted on U.S. EPA's website. We then compared data for the appropriate corresponding year in Calexico and Imperial County.

Population Density From an air quality perspective, Calexico and Mexicali, Mexico form one urbanized region divided by an international border. According to 2000 U.S. Census data, Calexico's population is approximately 27,000. The official 2000 Mexican Census placed Mexicali's population at 760,000, with 3 percent annual growth expected. In 2000, the entire Imperial County population was 142,000. Considering the geographic size of the two areas as well, the Mexicali population density is two and a half times the density for all of Imperial County.

Air Quality We calculate that the high PM10 site in Mexicali exceeded the level of the U.S. federal PM10 standard on 258 days in 2001. During the same year in Imperial County, there were 18 calculated exceedances at the Calexico high monitor, zero days at Brawley, and 6-7 days at El Centro, Niland, and Westmorland.

Chemical mass balance speciated data indicate Calexico PM2.5 is dominated by organic carbon particles. They are a significant contributor to elevated PM2.5 levels throughout the year, peaking during the winter months. On an annual basis, these

carbon particles make up approximately 60 percent of total PM2.5 mass. Organic carbon sources in urban areas include burning, cooking, and motor vehicle exhaust. Geologic material (dust) is a smaller portion of total PM2.5 in Calexico, making up less than 20 percent of total PM2.5 mass on an annual average basis.

Emissions Calexico (and Mexicali) are distinct from the rest of Imperial County based on the distribution and nature of emission sources. Imperial County is largely rural with widespread agricultural activity and the associated emissions profile. Urban activities and their associated emissions are found only in the few developed areas: Calexico (and Mexicali), El Centro, City of Imperial, and Brawley. The Mexicali inventory for oxides of nitrogen (NOx) is about 30 percent greater than all of Imperial County's. The Mexicali hydrocarbon (HC) inventory is about 60 percent greater than all of Imperial County's. Finally, the urban Mexicali direct PM10 inventory is nearly the same as Imperial County's.

Traffic and Commuting Patterns Calexico/Mexicali is home to a busy U.S.-Mexico border crossing. In 1996, the border crossing handled almost 7 million vehicles. Mexicali has over three times as many motor vehicles as all of Imperial County.

Level of Control Imperial County has motor vehicle emission controls that are consistent with the rest of California. Vehicles must meet California standards; both cars and heavy trucks are subject to in-use inspection programs. The Imperial County District administers a smoke management program for open burning, consistent with the ARB's statewide regulation. Vehicles in Mexicali are typically older California vehicles and there is no in-use inspection program. Finally, Mexicali open burning is widespread and uncontrolled. This is particularly significant given the large organic fraction found in Calexico PM2.5.

The table below summarizes how all of Imperial County compares to Mexicali.

Imperial County/Mexicali Statistical Comparison

	Imperial County (entire county)	Mexicali (city only)
2000-Population	142,000	760,000
Population Density*	20 inhabitants/km ²	50 inhabitants/km ²
2001-days of PM10 over 150 ug/m3 at high monitor	18 days @ Calexico Ethel	258 days at Mexicali Progreso
1996 NOx Emissions*	35 tons per day	51 tons per day
1996 HC Emissions*	54 tons per day	140 tons per day
1996 PM10 Emissions*	220 tons per day	195 tons per day
Vehicle Population*	71,000	241,000

*Source: *Program to Improve Air Quality in Mexicali 2000-2005*

Based on all of these factors, ARB staff has concluded that Calexico exceedances of the federal PM2.5 standards are the result of urban activity associated with the densely populated international Calexico/Mexicali border region. Within Imperial County, the level of urban activity is unique to the area and is not representative of the air quality of the rest of Imperial County or the Salton Sea Air Basin.

Enclosure 3

State of California Boundary Descriptions for Recommended Nonattainment Areas under the Federal PM2.5 Standards

1. South Coast Air Basin

Los Angeles County (part) - that portion of Los Angeles County which lies south and west of a line described as follows: Beginning at the Los Angeles – San Bernardino County boundary and running west along the Township line common to Township 3 North and Township 2 North, San Bernardino Base and Meridian; then north along the range line common to Range 8 West and Range 9 West; then west along the Township line common to Township 4 North and Township 3 North; then north along the range line common to Range 12 West and Range 13 West to the southeast corner of Section 12, Township 5 North and Range 13 West; then west along the south boundaries of Sections 12, 11, 10, 9, 8, and 7, Township 5 North and Range 13 West to the boundary of the Angeles National Forest which is collinear with the range line common to Range 13 West and Range 14 West; then north and west along the Angeles National Forest boundary to the point of intersection with the Township line common to Township 7 North and Township 6 North (point is at the northwest corner of Section 4 in Township 6 North and Range 14 West); then west along the Township line common to Township 7 North and Township 6 North; then north along the range line common to Range 15 West and Range 16 West to the southeast corner of Section 13, Township 7 North and Range 16 West; then along the south boundaries of Sections 13, 14, 15, 16, 17, and 18, Township 7 North and Range 16 West; then north along the range line common to Range 16 West and Range 17 West to the north boundary of the Angeles National Forest (collinear with the Township line common to Township 8 North and Township 7 North); then west and north along the Angeles National Forest boundary to the point of intersection with the south boundary of the Rancho La Liebre Land Grant; then west and north along this land grant boundary to the Los Angeles-Kern County boundary.

Orange County

Riverside County (part) - that portion of Riverside County which lies to the west of a line described as follows: Beginning at the Riverside - San Diego County boundary and running north along the range line common to Range 4 East and Range 3 East, San Bernardino Base and Meridian; then east along the Township line common to Township 8 South and Township 7 South; then north along the range line common to Range 5 East and Range 4 East; then west along the Township line common to Township 6 South and Township 7 South to the southwest corner of Section 34, Township 6 South, Range 4 East; then north along the west boundaries of Sections 34, 27, 22, 15, 10, and 3, Township 6 South, Range 4 East; then west along the Township line common to Township 5 South and Township 6 South; then north along the range line common to Range 4 East and Range 3 East; then west along the south boundaries of Sections 13, 14, 15, 16, 17, and 18, Township 5 South,

Range 3 East; then north along the range line common to Range 2 East and Range 3 East; to the Riverside – San Bernardino County line.

San Bernardino County (part) - that portion of San Bernardino County which lies south and west of a line described as follows: Beginning at the San Bernardino - Riverside County boundary and running north along the range line common to Range 3 East and Range 2 East, San Bernardino Base and Meridian; then west along the Township line common to Township 3 North and Township 2 North to the San Bernardino - Los Angeles County boundary.

2. San Joaquin Valley

San Joaquin County

Stanislaus County

Merced County

Madera County

Fresno County

Kings County

Tulare County

Kern County (part) - That portion of Kern County which lies west and north of a line described as follows: Beginning at the Kern-Los Angeles County boundary and running north and east along the northwest boundary of the Rancho La Libre Land Grant to the point of intersection with the range line common to R. 16 W. and R. 17 W., San Bernardino Base and Meridian; north along the range line to the point of intersection with the Rancho El Tejon Land Grant boundary; then southeast, northeast, and northwest along the boundary of the Rancho El Tejon Land Grant to the northwest corner of S. 3, T. 11 N., R. 17 W.; then west 1.2 miles; then north to the Rancho El Tejon Land Grant boundary; then northwest along the Rancho El Tejon line to the southeast corner of S. 34, T. 32 S., R. 30 E., Mount Diablo Base and Meridian; then north to the northwest corner of S. 35, T. 31 S., R. 30 E.; then northeast along the boundary of the Rancho El Tejon Land Grant to the southwest corner of S. 18, T. 31 S., R. 31 E.; then east to the southeast corner of S. 13, T. 31 S., R. 31 E.; then north along the range line common to R. 31 E. and R. 32 E., Mount Diablo Base and Meridian, to the northwest corner of S. 6, T. 29 S., R. 32 E.; then east to the southwest corner of S. 31, T. 28 S., R. 32 E.; then north along the range line common to R. 31 E. and R. 32 E. to the northwest corner of S. 6, T. 28 S., R. 32 E., then west to the southeast corner of S. 36, T. 27 S., R. 31 E., then north along the range line common to R. 31 E. and R. 32 E. to the Kern-Tulare County boundary.

3. San Diego County

4. City of Calexico

ARB is developing the cartographic description of this boundary and will transmit it to Region 9 staff under separate cover.

Enclosure 4

**State of California
PM2.5 Monitoring Data Summary**
(based on 2000-2002 monitoring data)

Basin	County	Site	PM2.5 Annual Average (ug/m3)			3-Year Annual Average	PM2.5 98th Percentile 24-hour (ug/m3)			3-Year Average 24-Hour 98th	Data Complete/ Substitution*
			2000	2001	2002		2000	2001	2002		
Great Valley Basin	Inyo	Keeler-Cerro Gordo Road	9.6	5.5	8.4	7.8	67.0	23.0	62.0	51	No/No
	Mono	Mammoth Lakes-Gateway HC	18.0	10.3			31.0	41.0		36	No/No
Lake County	Lake	Lakeport-Lakeport Blvd.	4.0	4.2	6.4	4.9	9.4	11.3	46.3	22	No/No
Lake Tahoe	El Dorado	Echo Summit	3.8	3.8	1.0	2.8	9.0	11.0	1.0	7	No/No
		South Lake Tahoe-Sandy Way	7.8	8.2	7.7	7.9	21.0	26.0	22.0	23	No/No
Mountain Counties	Calaveras	San Andreas-Gold Strike Road	9.0	8.1	9.9	9.0	30.0	18.0	30.0	26	Yes
	Nevada	Grass Valley-Litton Building	6.2	5.7	6.3	6.1	27.0	25.0	23.0	25	No/No
		Truckee-Fire Station	8.8	9.4	7.5	8.5	22.0	26.0	16.0	21	Yes
	Plumas	Portola-161 Nevada Street	10.6	15.6	16.4	14.2	44.0	43.0	38.0	42	No/No
Quincy-N Church Street		9.4	11.5	10.9	10.6	34.0	43.0	25.0	34	No/No	
Mohave Desert	Kern	Mojave-923 Poole Street	7.5	6.1	7.9	7.1	26.4	13.9	27.3	23	No/No
		Ridgecrest-Las Flores Avenue	7.8	6.5	8.2	7.5	25.4	14.6	28.0	23	No/No
	Los Angeles	Lancaster-43301 Division Street		8.8	10.4			29.0	20.0	25	No/No
		Lancaster-W Pondera Street	10.5	10.5			21.0	23.0		22	No/No
	San Bernardino	Victorville-Armagosa Road	12.0	11.5	13.9	12.5	23.0	21.0	30.0	25	Yes
North Coast	Humbolt	Eureka-Health Dept 6th and I Street	9.1	9.4	7.9	8.8	21.5	29.0	22.6	24	Yes
	Mendocino	Ukiah-County Library	7.8	8.0	9.1	8.3	18.7	27.0	39.7	28	No/Yes
North Central Coast	Monterey	Salinas #3	7.9	8.6	9.1	8.6	21.5	21.7	22.8	22	Yes
	Santa Cruz	Santa Cruz-2544 Soquel Avenue	8.0	9.1	8.6	8.6	17.9	23.1	22.0	21	Yes
Northeast Plateau	Modoc	Alturas-W 4th Street	8.5	7.6	5.0	7.0	37.0	35.0	5.0	26	No/No

Basin	County	Site	PM2.5 Annual Average (ug/m3)			3-Year Annual Average	PM2.5 98th Percentile 24-hour (ug/m3)			3-Year Average 24-Hour 98th	Data Complete/ Substitution*	
			2000	2001	2002		2000	2001	2002			
South Coast	Los Angeles	Azusa	20.2	21.7	20.7	20.8	61.6	61.4	51.0	58	Yes	
		Burbank-W Palm Avenue	21.2	24.8	24.0	23.3	83.0	69.4	55.2	69	No/No	
		Los Angeles-North Main Street	21.9	22.8	22.0	22.2	72.8	58.1	55.3	62	Yes	
		Lynwood	23.0	24.5	23.3	23.6	62.8	66.0	52.5	60	Yes	
		North Long Beach	19.7	21.2	19.5	20.1	64.3	49.2	47.1	54	No/No	
		Pasadena-S Wilson Avenue	19.4	20.9	20.3	20.2	54.0	55.3	49.1	53	Yes	
		Pico Rivera	24.1	25.2	24.0	24.4	70.8	66.6	57.9	65	Yes	
		Reseda	18.1	18.4	18.9	18.4	50.0	56.9	45.4	51	Yes	
	Orange	Anaheim-Harbor Blvd.	20.3	22.0	18.6	20.3	66.3	58.5	48.1	58	No/No	
		Mission Viejo-26081 Via Pera	14.7	15.8	15.5	15.4	36.5	45.6	45.8	43	Yes	
	Riverside	Riverside-Magnolia	25.3	28.2	27.1	26.9	66.8	65.8	63.7	65	Yes	
		Riverside-Rubidoux	28.3	31.0	27.4	28.9	77.1	74.3	66.3	73	Yes	
	San Bernardino	Big Bear City-501 W Valley Blvd	Fontana-Arrow Highway	24.5	25.0	24.3	24.6	64.7	69.5	56.5	64	Yes
			Ontario-1408 Francis Street	24.1	26.5	25.4	25.3	64.5	64.5	57.4	62	Yes
San Bernardino-4th Street			25.9	26.1	25.8	25.9	70.3	68.4	66.3	68	Yes	
10.2			11.2	11.5	10.9	26.7	30.2	32.1	30	No/No		
South Central Coast	San Luis Obispo	Atascadero-Lewis Avenue	10.3	10.1	9.3	9.9	41.0	50.7	25.7	39	Yes	
		San Luis Obispo-Marsh Street	9.3	10.1	10.7	10.0	22.6	25.5	28.2	25	No/Yes	
	Santa Barbara	Santa Barbara-W Carillo Street	13.1				24.2				No/No	
		Santa Maria-Broadway	9.8	10.4	9.6	9.9	19.3	23.4	19.4	21	Yes	
	Ventura	Thousand Oaks-Moorpark Road	El Rio-Rio Mesa School #2	13.0	13.1	13.0	13.1	31.8	32.4	27.9	31	No/No
			Piru-Pacific Avenue	10.7	13.0	12.1	11.9	37.6	32.6	28.9	33	No/No
			Simi Valley-Cochran Street	14.8	14.9	14.6	14.8	42.4	40.0	35.2	39	No/No
			13.3	14.4	12.6	13.5	42.4	45.1	28.8	39	No/No	
	San Diego County	San Diego	Chula Vista	13.1	15.5	13.9	14.2	32.5	31.0	36.0	33	Yes
			El Cajon-Redwood Avenue	15.7	17.7	15.4	16.2	44.6	39.5	33.6	39	No/No
Escondido-E Valley Parkway			15.8	17.5	16.0	16.4	48.2	40.8	39.3	43	Yes	
San Diego-12th Avenue			15.6	16.6	15.5	15.9	48.7	40.0	35.6	41	No/No	
San Diego-Overland Avenue			12.4	13.5	13.0	13.0	25.1	28.8	31.6	29	No/No	

Basin	County	Site	PM2.5 Annual Average (ug/m3)			3-Year Annual Average	PM2.5 98th Percentile 24-hour (ug/m3)			3-Year Average 24-Hour 98th	Data Complete/ Substitution*
			2000	2001	2002		2000	2001	2002		
San Francisco Bay Area	Alameda	Fremont-Chapel Way	10.6	12.2	12.5	11.7	36.3	47.0	41.5	42	Yes
		Livermore-793 Rincon Avenue	11.2	11.9	13.8	12.3	38.3	54.4	50.5	48	Yes
	Contra Costa	Concord-2975 Treat Blvd	10.9	10.2	12.7	11.3	42.6	38.4	49.0	43	Yes
	San Francisco	San Francisco-Arkansas Street	11.4	11.5	13.1	12.0	35.3	51.3	57.5	48	No/No
	San Mateo	Redwood_City	10.9	11.3	11.5	11.2	36.9	46.1	36.3	40	Yes
	Santa Clara	San Jose-4th Street	13.6	12.4	12.4	12.8	55.3	55.4	33.8	48	No/No
		San Jose-Jackson Street			17.5				57.6	58	No/No
		San Jose-Tully Road	12.2	11.2	12.0	11.8	54.5	45.8	37.3	46	No/No
	Solano	Vallejo-304 Tuolumne Street	11.6	12.5	13.6	12.6	44.0	56.0	54.0	51	Yes
	Sonoma	Santa Rosa-5th Street	10.3	10.8	10.5	10.5	36.8	41.4	42.4	40	Yes
San Joaquin Valley	Fresno	Clovis-N Villa Avenue	16.3	18.0	16.2	16.9	72.5	71.5	53.2	66	No/No
		Fresno-1st Street	25.5	19.8	21.6	22.3	108.0	75.0	75.0	86	No/No
		Fresno-Hamilton & Winery	18.4	18.6	21.3	19.4	64.8	61.5	71.9	66	Yes
	Kern	Bakersfield-5558 California Ave	22.0	21.2	22.8	22.0	88.8	94.9	73.0	86	Yes
		Bakersfield-1120 Golden State Highway	22.6	21.8	24.1	22.9	93.9	95.9	80.4	90	Yes
		Bakersfield-410 E Planz Road	20.3	20.8	23.6	21.6	76.5	90.6	66.8	78	Yes
	Kings	Corcoran-Patterson Avenue	16.4	19.2	21.5	19.0	55.1	89.5	65.1	70	No/No
	Merced	Merced-M Street	16.7	14.5	18.8	16.6	60.0	49.3	55.1	55	No/No
	San Joaquin	Stockton-Hazelton Street	15.5	13.9	16.7	15.3	55.0	58.0	50.0	54	Yes
	Stanislaus	Modesto-814 14th Street	18.7	15.6	18.7	17.7	71.0	69.0	69.0	70	Yes
Tulare	Visalia-N Church Street	23.9	22.5	23.2	23.2	103.0	96.0	70.0	90	Yes	
Salton Sea	Imperial	Brawley-Main Street	12.3	11.1	10.2	11.2	41.5	30.2	22.3	31	No/No
		Calexico-Ethel Street	16.9	14.9	15.1	15.6	56.0	50.4	44.1	50	Yes
		El Centro-9th Street	10.4	8.7	9.3	9.5	39.3	17.6	23.4	27	No/No
	Riverside	Indio-Jackson Street	11.2	12.2	11.9	11.8	26.2	29.8	22.2	26	Yes
		Palm Springs-Fire Station	9.6	10.7	10.0	10.1	22.6	33.0	23.3	26	Yes

Basin	County	Site	PM2.5 Annual Average (ug/m3)			3-Year Annual Average	PM2.5 98th Percentile 24-hour (ug/m3)			3-Year Average 24-Hour 98th	Data Complete/Substitution*	
			2000	2001	2002		2000	2001	2002			
Sacramento Valley	Butte	Chico-Manzanita Avenue	15.8	13.0	15.1	14.6	70.0	56.0	53.0	60	Yes	
	Colusa	Colusa-Sunrise Blvd.	8.0	9.6	13.6	10.4	26.0	31.0	54.0	37	No/Yes	
	Placer	Roseville-N Sunrise Blvd	12.2	11.9	13.2	12.4	43.0	49.0	40.0	44	Yes	
	Sacramento	Sacramento-Del Paso Manor		8.9	12.1			36.0	62.0		49	No/No
		Sacramento-Health Dept Stockton Blvd	10.4	8.6	11.3	10.1	50.0	28.0	60.0		46	No/No
		Sacramento-T Street	12.3	11.6	14.3	12.7	49.0	53.0	63.0		55	No/No
	Shasta	Redding-Health Dept Roof	9.5	9.2	10.5	9.7	35.0	29.0	38.0		34	No/Yes
	Sutter	Yuba City-Almond Street	10.6	11.9	15.8	12.7	38.0	54.0	34.0		42	No/Yes
	Yolo	Woodland-Gibson Road	10.3	10.4	10.7	10.5	38.0	35.0	31.0		35	No/No

*For some sites, ARB staff were able to apply U.S. EPA's data substitution policy to demonstrate that the area attains the standards even though the data were not complete. Yearly data is deemed complete when at least 75 percent of the scheduled samples are available for each quarter for all three years. For monitors not deemed complete, data substitution is allowed if at least 50 percent of the scheduled samples are available. For each monitor eligible for data substitution, ARB staff selected the maximum data value across all three years for the quarter and substituted this value for all missing data in that quarter. Using the substituted data, ARB staff then recalculated the quarterly average, annual average, three-year annual average, 24-hour 98th percentile, and 3-year average 24-hour 98th percentile.