VENTURA COUNTY AIR POLLUTION CONTROL DISTRICT

2010 AMBIENT AIR MONITORING NETWORK PLAN

July, 2010

Prepared by

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Definition of Terms

AQS: .....Air Quality System
BAM .....Beta Attenuation Monitor
CARB .....California Air Resources Board
CFR .....Code of Federal Regulations
CMSA .....Consolidated Metropolitan Statistical Area
CO .....Carbon Monoxide
DV .....Design Value
District: .....Ventura County Air Pollution Control District
EPA .....U. S. Environmental Protection Agency
FEM .....Federal Equivalent Method
FRM .....Federal Reference Method
NAAQS .....National Ambient Air Quality Standards
NMHC .....Non-Methane Hydrocarbons
NO2 .....Nitrogen Dioxide
O3 .....Ozone
PAMS .....Photochemical Assessment Monitoring Systems
PM.....Particulate Matter
$PM_{2.5}$ .....Particulates less than or equal to 2.5 microns in size
PM_{10} .....Particulates less than or equal to 10 microns in size
SIP .....State Implementation Plan
SLAMS: .....State and Local Air Monitoring Stations
SO2 .....Sulfur Dioxide
VCAPCD: .....Ventura County Air Pollution Control District

1.0 Introduction

The Ventura County Air Pollution Control District's 2010 Ambient Air Monitoring Network Plan is an examination and evaluation of the District's network of air pollution monitoring stations. This annual review of the District's air monitoring network is required by Title 40, Code of Federal Regulations, Part 58.10 (40 CFR 58.10). This report describes the network of ambient air quality monitors operated by the Ventura County Air Pollution Control District. It includes a review of actions taken during 2009 and plans for action in the year ahead.

Federal Regulations require specific detailed monitoring network information be included in this report along with a 30-day public review period prior to submittal of the report to the U.S. Environmental Protection Agency (USEPA or EPA). The regulations require that the report be submitted to USEPA by July 1 of each year.

2.0 Overview of Network Operation

The Ventura County Air Quality Control District operates six air monitoring sites and one upper air profiler within Ventura County. The District's monitoring network has been designed to provide ozone, $PM_{2.5}$ and PM_{10} monitoring coverage to the majority of the inhabited regions of the County. The District has conducted air monitoring for ozone or oxidants in Ventura County since 1963. The District's air monitoring network has been designed to provide air monitoring to the following regions of Ventura County:

Conejo Valley – an inland area, which includes the city of Thousand Oaks and the communities of Westlake Village and Newbury Park, covering 75 square miles and home to 138,000 people. The area is surrounded by foothills and low-lying mountains. The eastern edge of the Conejo Valley is the border between Ventura and Los Angeles Counties. There are no major stationary sources in its boundaries. The area is impacted primarily by mobile sources. This area is served by the District's monitoring station at Thousand Oaks High School, Moorpark Road, in Thousand Oaks.

Ojai Valley – an inland area including the City of Ojai and the communities of Oak View, and Meiners Oaks, which covers 102 square miles and is home to 30,000 people. The Ojai Valley is surrounded by mountain ranges. There is one major stationary source[1] on the southeastern edge of the region; however, it may be influenced by oil production activities occurring to the south, in the Ventura Coastal area. The area is impacted primarily by mobile sources. The Ojai Valley is served by the District's monitoring station at the County fire station, Ojai Avenue, in Ojai.

Oxnard Coastal Plain – a broad coastal area from the Pacific Ocean to several inland valleys, covering 286 square miles and has a population of 190,000 people. The Oxnard Coastal Plain area is a relatively flat plain area with foothills and mountains at its northern border. The Oxnard Coastal Plain is home to considerable agricultural activities. Emission sources within the area include several of the County's major stationary sources, including natural gas-fired cogeneration facilities, several oil and gas production and processing facilities, and a paper products manufacturer. Its air quality is influenced by emission sources in the Ventura Coastal area that include a deepwater port, two natural gas-fired electric generating units, two naval bases, and several natural gas-fired cogeneration facilities. The area is impacted by marine shipping operations occurring off of the County's coast and mobile sources. This area is served by the District's monitoring station at Rio Mesa High School, Central Avenue, in Oxnard.

Santa Clara River Valley – an inland area, covering 204 square miles and home to 49,000 people. The Valley is surrounded by foothills and low-lying mountains. The eastern edge of the Santa Clara River Valley is the border between Ventura and Los

[1] For the purpose of this report a major stationary source is considered to be a facility that has been issued a federal Part 70 operating permit (also referred to as a Title V permit).

Angeles Counties. The area is also home to considerable agricultural activities. There are oil production and processing activities occurring throughout the Valley. There are two major stationary sources in its boundaries. The area is impacted primarily by mobile sources. This area is served by the District's monitoring station on Pacific Avenue, in Piru.

Simi Valley – an inland area, which covers the cities of Simi Valley and Moorpark, is 142 square miles and is home to 148,000 people. The Valley is surrounded by foothills and low-lying mountains. The eastern edge of the Simi Valley is the border between Ventura and Los Angeles Counties. There are two major stationary sources in its boundaries. The area is impacted primarily by mobile sources. This area is served by the District's monitoring station at Simi Valley High School, on Cochran Street, in Simi Valley.

Ventura Coastal - a coastal area, which covers 119 square miles and has a population of 197,000 people. The Ventura Coastal monitoring area represents an area that borders the Pacific Ocean, with Santa Barbara County to the west. This area encompasses the city of Port Hueneme and portions of the cities of Ventura and Oxnard. Some agricultural activities occur in the Ventura Coastal area. Emission sources within the area include a deepwater port and a number of the County's major stationary sources, including two natural gas-fired electric generating units, two naval bases and several natural gas-fired cogeneration facilities. In addition to stationary sources, the area is impacted by mobile sources and marine shipping operations occurring off of the County's coast. This area is served by the District's monitoring station at the Emma Wood State Park group campground, west of Ventura.

2.1 Ventura County Air Pollution Control District Monitoring Sites

Figure 1 shows the locations of the monitoring sites. Table 1 lists the pollutants currently measured at each site and the assigned Air Quality System (AQS) identification number for each monitoring site.

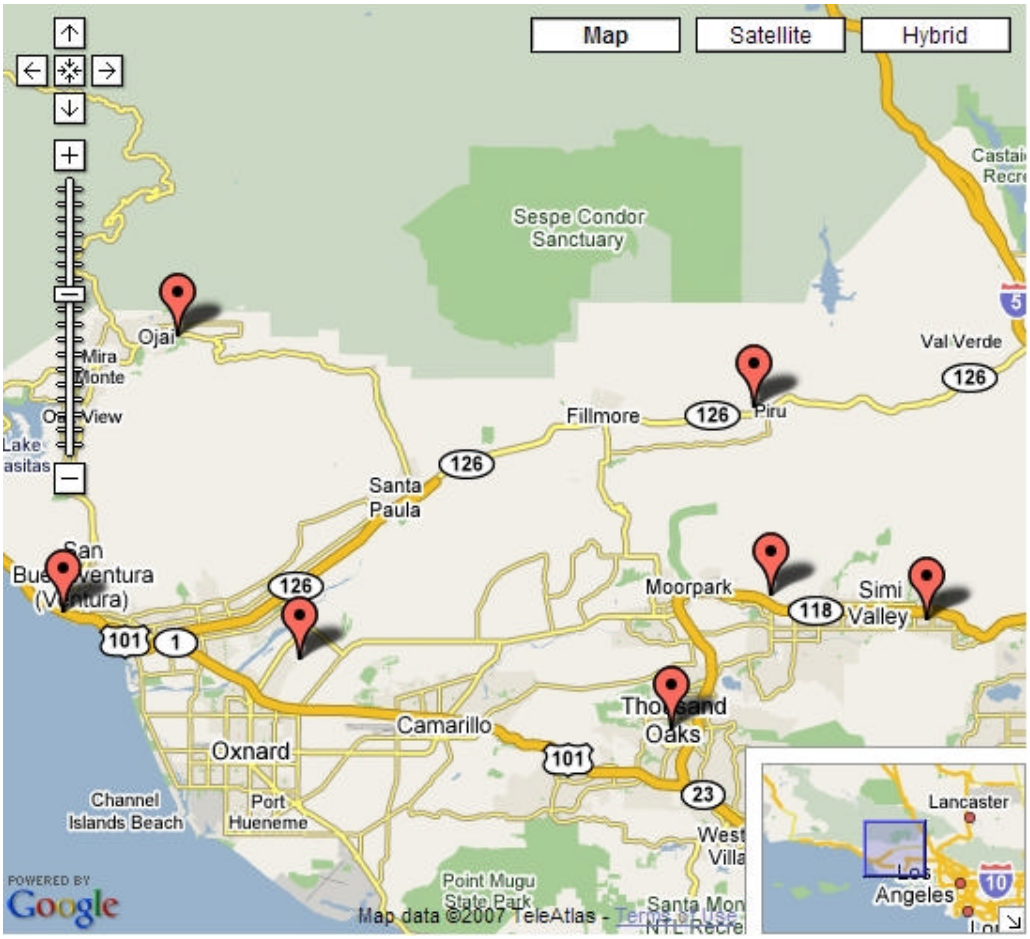


Figure 1
Map of Ventura County APCD Air Monitoring Stations

Table 1
Ventura County APCD Air Monitoring Stations

Site Name	AQS ID	Air Quality Monitoring Data
El Rio – Rio Mesa School #2	061113001	NO_2, Ozone, Total NMHC, PM_{10}, BAM $PM_{2.5,}$ FRM $PM_{2.5,}$ VOCs, Carbonyls, Meteorology
Ojai – Ojai Avenue	061111004	Ozone, BAM $PM_{2.5,}$ PM_{10}, Meteorology
Piru – Pacific Avenue	061110009	Ozone, BAM $PM_{2.5,}$ FRM $PM_{2.5}$, Meteorology
Simi Valley – Cochran Street	061112002	Ozone, NO_2, Total NMHC, PM_{10}, BAM $PM_{2.5}$, FRM $PM_{2.5}$, Speciated $PM_{2.5}$, Toxics (Cr^{6+}, total metals and aldehydes) VOCs, Meteorology
Simi Valley Upper Air Profiler	061110008	Meteorology only
Thousand Oaks – Moorpark Road	061110007	Ozone, BAM $PM_{2.5}$, FRM $PM_{2.5}$, Meteorology
Ventura – Emma Wood State Beach	061112003	Ozone, Meteorology

2.1.1 Monitoring Division Staffing

The Ventura County APCD's Air Monitoring Division includes the following staffing:

1. One supervising instrument technician and two instrument technicians whose primary functions are to operate the air monitoring network;
2. One supervising meteorologist and one meteorologist who are responsible for providing daily air quality forecasts, agricultural burn forecasts and providing assistance in maintaining and operating the District's five Beta Attenuation Monitors (BAM) $PM_{2.5}$ monitors and the District's upper air profiler. The meteorologists also assist the instrument technicians with PM monitor set up and recovery and air quality instrumentation tasks;
3. One supervising chemist and one chemist who are primarily responsible for operating, maintaining and conducting data analysis for the District's PAMS program;
4. One supervising air quality specialist and one air quality specialist who are responsible for operating the District's PM2.5 filter weighing program and data input into EPA's Air Quality System (AQS).

The primary purposes of the Ventura County Air Pollution Control District's air monitoring network are: (1) to determine the County's attainment status for the federal and California standards for ozone, $PM_{2.5}$ and PM_{10}; (2) to track the County's air quality trends; (3) to provide information to the public about the quality of the County's air quality (i.e., reporting of the Air Quality Index and ozone episode forecasting), and; (4) for data in air quality modeling efforts.

2.2 Monitoring Objectives and Spatial Scales

As listed by the USEPA, the monitoring objectives that the monitors in a monitoring network are to achieve include the following: (1) the highest pollutant concentrations; (2) the representative concentrations in areas of high population density; (3) the impact of major pollution emissions sources; (4) the general background concentration levels; (5) the extent of pollutant transport, and (6) impacts on visibility, vegetation, and other welfare-based impacts.

The physical siting of an air monitoring station must achieve a spatial scale of representativeness that is consistent with the monitoring objective of the monitor. The spatial scale results from the physical location of the site with respect to the pollutant sources. It estimates the size of the area surrounding the monitoring site that experiences uniform pollutant concentrations. Table 2, below, shows the different monitoring objectives and the appropriate spatial scale.

The categories of spatial scale are:

- Microscale - An area of uniform pollutant concentrations ranging from several meters up to 100 meters.
- Middle Scale - Uniform pollutant concentrations in an area of about 100 meters to 0.5 kilometer.
- Neighborhood Scale - An area with dimensions in the 0.5 to 4.0 kilometer range.
- Urban Scale - Citywide pollutant conditions with dimensions ranging from 4 to 50 kilometers.
- Regional Scale – A large area, usually rural, of the same general geography and without large sources that extends from tens to hundreds of kilometers.

Table 2
Monitoring Objectives and Associated Spatial Scales

Monitoring Objective	**Appropriate Spatial Scale**
Highest concentration	Micro, Middle, Neighborhood
Population oriented	Neighborhood or Urban
Source Impact	Micro, middle, neighborhood
General/background levels	Urban, regional
Regional transport	Urban, regional
Welfare-related impacts	Urban, regional

Table 3 shows each of the District's air monitoring stations and its criteria pollutant objective and spatial scales.

Table 3
Criteria Pollutant Objective and Spatial Scales

Monitoring Objective
HC – High concentrations
PO – Population exposure
IM – Source impact
BL – General/Background
WF – Welfare-based

Spatial Scale
MI - Microscale
MS – Middle Scale
NS – Neighborhood Scale
US – Urban Scale

Site Name	**O3**	**NO2**	**$PM_{2.5}$**	**PM_{10}**
El Rio – Rio Mesa School #2	PO/US	PO/US	PO/NS	PO/NS
Ojai – Ojai Avenue	PO/US	--	PO/NS	PO/US
Piru – Pacific Avenue	HC/US	--	PO/NS	--
Simi Valley – Cochran Street	HC/US	HC/US	--	HC/NS
Simi Valley Upper Air Profiler	N/A	N/A	N/A	N/A
Thousand Oaks – Moorpark Road	PO/US	--	PO/NS	--
Ventura – Emma Wood State Beach	BL/US	--		--

2.3 Minimum Monitoring Requirements

40 CFR 58.10, Appendix D specifies the minimum requirements for air monitoring networks. As shown in Tables 4, through 10, the Ventura County APCD air monitoring network meets or exceeds the minimum monitoring requirements for ozone, $PM_{2.5}$ and PM_{10} and PAMS. There are no minimum requirements for NO2, CO or SO2.

For ozone, the County-wide 8-hour design value is 0.088 ppm, a decline from 0.132 ppm in 1985[2]. In 2002 Ventura County attained the federal 1-hour ozone standard with a 1-hour ozone design value of 0.124 ppm.

For $PM_{2.5}$, the County-wide 2006 through 2008 annual design value is 10.9 µg/m^3 and the 24-hour design value is 28 micrograms per cubic meter[3]. No exceedances of the 24-hour or annual $PM_{2.5}$ standards have been recorded.

For PM_{10}, the County-wide maximum 24-hour average value in the years 2000 through 2008 is 246 µg/m^3 (10/21/2007). However, this value has been flagged as an exceptional event. Documentation has been submitted to the California Air Resources Board to justify that this exceedance was an exceptional event. The next highest value in the years 2000 through 2008 is 168 micrograms per cubic meter [4] (11/23/2003).

2.3.1 Ozone

The District operates ozone monitors at six air monitoring sites in the County. The County's historical ozone data for the federal 8-hour standard are shown below in Table 4 and Figure 2. Ozone comparisons shown in this report are based upon the federal 8-hour standard of 0.075 ppm; this standard was adopted by EPA on March 12, 2008. The federal ozone standard is the three year average of the fourth highest maximum 8-hour concentrations. Days exceeding the standard in previous Air Monitoring Network Plans were based upon the previous 8-hour standard of 0.08 ppm.

As shown in Table 5, the Ventura County APCD air monitoring network exceeds the minimum monitoring requirement set forth in 40 CFR Part 58.

[2] Draft Ventura County 2007 Air Quality Management Plan Revision
[3] http://www.epa.gov/airtrends/values.html
[4] EPA, Air Explorer - http://www.epa.gov/airexplorer/index.htm

Table 4
Historical Ozone Values
8-Hour Average
National Standard = 0.075 Parts per million

Air Monitoring Site	Days > 8-Hour Average Year				3 Year Average 4th High Year (National Design Value)			
	2006	2007	2008	2009	2006	2007	2008	2009
El Rio	0	0	0	1	.059	.061	.064	.062
Ojai	19	4	12	11	.094	.076	.081	.078
Piru	21	4	11	11	.085	.076	.081	.080
Simi Valley	30	19	27	24	.089	.086	.090	.087
Thousand Oaks	5	2	6	5	.076	.074	.077	.077
Ventura	0	0	0	0	.062	.065	.067	.064

Source: 2006 through 2008 data - U.S. EPA, http://www.epa.gov/air/data/index.html
2009 data - U.S. EPA, Air Quality System, Quick Look Report (AMP 450), April 29, 2010

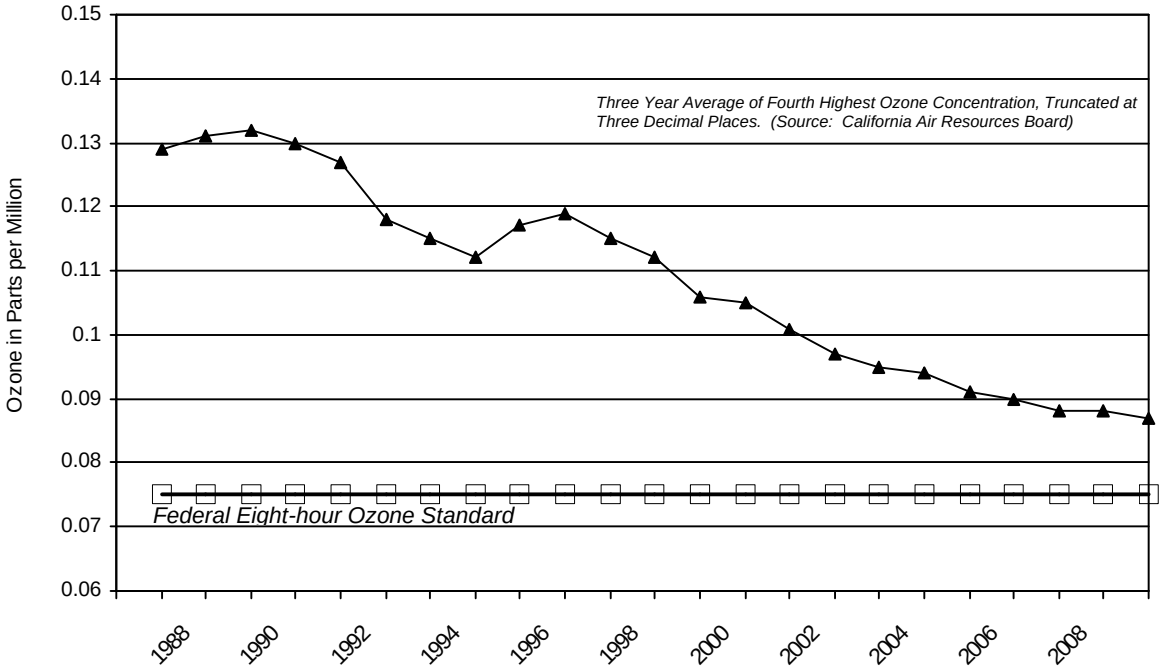


Figure 2
Historical Eight-Hour Ozone Trends
Three Year Average of Fourth Highest Concentration

Table 5
Minimum Monitoring Requirements for Ozone

MSA	Population (2000)	8-hour Design Value (2006)	Min. # Monitors Required	# Monitors Active	# Monitors Needed
Oxnard-Thousand Oaks-Ventura MSA	752,445[5]	0.095	2[6]	6	0

[5] 2000 Census
[6] 40 CFR Part 58, Appendix D, Section 4.1 and Table D-2

2.3.2 $PM_{2.5}$

The county's historical PM2.5 data for the federal 24-hour and annual arithmetic mean standards are shown below in Tables 6 and 7. The 24-hour PM2.5 standard is based on the 98th percentile 24-hour value, in µg/m3. This value of the standard is higher than 98 percent of the recorded 24-hour values for the year. The annual PM2.5 standard is based on the arithmetic mean of 24-hour values, in µg/m3. Table 8 shows that the Ventura County APCD air monitoring network exceeds the minimum monitoring requirements set forth in 40 CFR Part 58 for PM2.5.

Table 6
Historical $PM_{2.5}$ Values
24-Hour Standard
National Standard = 35 $\mu g/m^3$

Air Monitoring Site	98th Percentile 24-Hour Value Year			
	2006	2007	2008	2009
El Rio	23.5	27.5	17.3	18.9
Piru	21.4	22.3	17.0	18.8
Simi Valley	27.6	31.8	25.1	20.5
Thousand Oaks	23.4	26.0	29.7	21.1

Source: 2006 through 2008 data - U.S. EPA, http://www.epa.gov/air/data/index.html
2009 data - U.S. EPA, Air Quality System, Quick Look Report (AMP 450), April 29, 2010

Table 7
Historical $PM_{2.5}$ Values
Annual Arithmetic Mean
National Standard = 15 µg/m^3

Air Monitoring Site	Years > Annual Arithmetic Mean Year				Annual Arithmetic Mean Year			
	2006	2007	2008	2009	2006	2007	2008	2009
El Rio	0	0	0	0	9.8	10.6	9.9	10.2
Piru	0	0	0	0	9.3	10.2	10.5	9.5
Simi Valley	0	0	0	0	10.3	11.7	10.9	10.3
Thousand Oaks	0	0	0	0	10.1	10.6	11.0	10.8

Source: 2006 through 2008 data - U.S. EPA, http://www.epa.gov/air/data/index.html
2009 data - U.S. EPA, Air Quality System, Quick Look Report (AMP 450), April 29, 2010

Table 8
Minimum Monitoring Requirements for $PM_{2.5}$

MSA	Population (2000)	Ann. Design Value (2006)	Daily Design Value (2006)	# Monitors Required	# Monitors Active	# Monitors Needed
Oxnard-Thousand Oaks-Ventura MSA	752,445	10.3	28	1	4	0

2.3.3 PM_{10}

The County's historical PM_{10} data for the federal 24-hour standard is shown below in Table 9. As shown in Table 10, the Ventura County APCD air monitoring network exceeds the minimum monitoring requirements set forth in 40 CFR Part 58 for PM10. The federal 24-hour PM10 standard is the maximum recorded 24-hour value, in µg/m3. Note that in December 2006 EPA revoked the PM10 annual standard. The 2007 values noted as exceptional events occurred during a major wildfire in the County and have been submitted the CARB for review and submittal to EPA.

Table 9
Historical PM_{10} Values
24-Hour Maximum
National Standard = 150 µg/m^3

Air Monitoring Site	Maximum 24-Hour Value Year			
	2006	2007	2008	2009
El Rio	119	246*	79	97
Ojai	46	99*	62	37
Simi Valley	57	119*	84	75

* Flagged as an "Exceptional Event"

Source: 2006 through 2008 data - U.S. EPA, http://www.epa.gov/air/data/index.html
2009 data - U.S. EPA, Air Quality System, Quick Look Report (AMP 450), April 29, 2010

Table 10
Minimum Monitoring Requirements for PM_{10}

MSA	Population (2000)	Min. # Monitors Required	# Monitors Active	# Monitors Needed
Oxnard-Thousand Oaks-Ventura MSA	752,445	1 - 2[7]	3	0

2.3.4 PAMS

The Photochemical Assessment Monitoring System (PAMS) program provides more comprehensive data on ozone air pollution in areas classified as serious, severe or extreme nonattainment for ozone than would otherwise be achieved through the NCore and SLAMS monitoring sites.

The PAMS program includes measurements for ozone, oxides of nitrogen, speciated VOCs, CO, NOy, continuous NMHC and meteorology. 40 CFR 58, Appendix D, Section 5 specifies the network design for the PAMS program. Ventura County is required to operate one each of a Type 1, 2 and 3 PAMS site. The District's PAMS monitoring

[7] 40 CFR Part 58, Appendix D, Section 4.6 and Table D-4

network is comprised of the Ventura (Type 1), El Rio (Type 2) and Simi Valley (Type 3) air monitoring stations.

The District operates its PAMS program according to the California Alternative Plan (CAP III). Under CAP III the District operates its PAMS program every third day during the months of July August and September. Additionally, the District operates its PAMS program on days that the maximum eight-hour average ozone concentration is predicted to exceed 0.075 ppm.

2.3.5 Carbon Monoxide

The District previously operated monitors to measure levels of CO at the El Rio and Simi Valley monitoring sites. Because of the low levels recorded, CO monitoring at these sites ceased in March and July 2004.

40 CFR 58, Appendix D, Section 4.2 states that there are no minimum requirements for the number of CO monitoring sites. There are no CO monitors required for SIP or Maintenance planning.

2.3.6 Nitrogen Dioxide

The District previously operated monitors to measure levels of NO2 at the Ojai, Ventura and Thousand Oaks monitoring sites. Because of the low levels recorded, NO2 monitoring at these sites ceased in July 2004. The District currently monitors for NO2 at El Rio and Simi Valley monitoring sites.

40 CFR 58, Appendix D, Section 4.3 states that there are no minimum requirements for the number of NO2 monitoring sites. There are no NO2 monitors required for SIP or Maintenance planning.

2.3.7 Sulfur Dioxide

The District previously operated a monitor to measure levels of SO2 at the El Rio monitoring site. Because of the low levels recorded, SO2 monitoring ceased in July 2004.

40 CFR 58, Appendix D, Section 4.4 states that there are no minimum requirements for the number of SO2 monitoring sites. There are no SO2 monitors required for SIP or Maintenance planning.

3.0 Recent or Proposed Modifications to Network

In order to make more effective use of APCD resources, consideration is being given to reducing some operations of the monitoring network in the coming year(s). Reductions in the monitoring network are partly the result of additional monitoring requirements adopted by EPA (trace CO, NOy and NO_2). EPA's proposed National Ambient Air Quality Standards for SO_2 may require the APCD to establish an additional air monitoring site.

As noted in previous sections, the APCD is operating a number of monitors in excess of the minimum monitoring requirements. Potential reductions in the APCD's monitoring network are discussed below. Potential reductions are being considered at monitoring sites that have not shown violations of ambient air quality standards, and are reporting data that are substantially lower that the air quality standards. The APCD understands that reductions in the monitoring network will need to be approved by EPA; no monitors will be removed from service until EPA has given approval. Additionally, the public will be given the opportunity to comment on any reductions in the APCD's monitoring network.

3.1 Potential Changes to $PM_{2.5}$ Monitoring Network

As shown in Section 2, the District operates five FRM $PM_{2.5}$ monitors at four monitoring sites (one monitor is collocated at the Thousand Oaks monitoring site). The El Rio FRM $PM_{2.5}$ monitor collects samples on a one in three day schedule and the Piru FRM $PM_{2.5}$ collects samples on a one in six day schedule. The El Rio and Piru $PM_{2.5}$ monitors have not exceeded the federal 24-hour or annual average standards. The APCD operates continuous BAM $PM_{2.5}$ monitors at both sites and will continue to do so. In order to better utilize APCD resources, operation of one or both of these FRM $PM_{2.5}$ monitors may be discontinued. The District may also consider changing some or all of its FRM $PM_{2.5}$ monitors to a Federal Equivalent Method (FEM) which utilizes a modified BAM continuous $PM_{2.5}$ monitor.

3.2 Potential Changes to PM_{10} Monitoring Network

As shown in Section 2, the District operates four FRM PM_{10} monitors at three monitoring sites (one monitor is collocated at the Simi Valley monitoring site). The El Rio FRM PM_{10} monitor collects samples on a one in six day schedule. The El Rio PM_{10} monitor exceeded the federal 24-hour standard on one day in 2007; however, this data has been flagged as an exceptional event due to a wildfire, and a request to designate this data as an exceptional event has been submitted to EPA. There is no federal annual standard for PM_{10}. In order to better utilize APCD resources, operation of the El Rio PM_{10} monitor may be discontinued.

3.3 Potential Changes to PAMS Network

40 CFR 58, Appendix D, Section 5 specifies the network design for the PAMS program. The regulation calls for addition of equipment at two of the District's PAMS sites. Equipment changes require installation of a NOy analyzer at the District's Type 3 site (the Simi Valley monitoring station) and installation of a trace level CO analyzer at the District's Type 2 site (the El Rio monitoring station). The District has purchased these instruments and is in the process of installing them.

As part of the District's PAMS network, the Ventura - Emma Wood monitoring site is a Type 1 site and has operated as such since 1996. During the period of July 1 through September 30 of each year the District operates this site according to established EPA protocols for PAMS monitoring and the CAP III protocol. Volatile organic compounds (VOCs) are collected on a set schedule and prior to and during expected ozone exceedances; the VOCs are analyzed by gas chromatography to determine the speciation of the organic compounds. The District may consider eliminating the operation of the PAMS equipment at this monitoring site. Federal regulations require that the District operate at a minimum one Type 2 and one Type 3 PAMS site. Discontinuing this monitoring site as a PAMS Type 1 site would allow better use of District resources.

3.4 Potential Changes to Speciation Trends Network (STN)

As part of the $PM_{2.5}$ monitoring network, the APCD operates a speciation monitor at the Simi Valley monitoring site. Samples collected from the speciation monitor are analyzed by EPA. The monitor collects samples on a one in three day schedule. Operation of the monitor has proved to be time consuming; therefore, the APCD may consider discontinuing operation of this monitor.

3.5 Potential Changes to the Ventura - Emma Wood Monitoring Site

In addition to the collecting VOC samples as part of the PAMS network, the Ventura - Emma Wood site monitors year-round for ozone. The APCD may consider discontinuing operation of this monitoring site. Since 2001 the site has not exceeded the current eight-hour federal ozone standard. Since 2001 the site has had infrequent hourly ozone readings in excess of 0.075 ppm. Ozone readings for the coastal area of the County are also monitored at the El Rio monitoring site.

3.6 Other Potential Changes

In 2008 EPA revised the NAAQS for lead from 1.5 $\mu g/m^3$ to 0.15 $\mu g/m^3$. The regulation requires that state and local agencies establish an ambient lead monitor by January 1, 2011. In December 2009 EPA proposed revisions to the regulation that revise "source oriented" monitoring requirements. As a result of EPA's proposed revisions, and EPA's recent acceptance of the District's lead emission inventory for airports, it appears that the District will not be subject to the lead monitoring requirements.

In 2010 EPA adopted a new federal standard for nitrogen dioxide (NO_2); counties with a population greater than 500,000 are required to establish an ambient NO_2 by January 1, 2013. As a result, the District must establish an ambient NO_2 monitoring site. The location of the monitor is yet to be determined.

In 2009 EPA proposed a new federal standard for sulfur dioxide (SO_2); counties with population- weighted SO_2 emissions greater than a threshold would be required to establish an ambient SO_2 monitoring program by January 1, 2013. At this point the APCD believes it may not be required to implement an SO_2 monitoring program due to the fact that the majority of the County's SO_2 emissions result from channel shipping, which occurs outside of the APCD's boundaries.

4.0 Data Submission Requirements

Precision reports are submitted to EPA's AQS on a monthly basis. Accuracy reports are submitted by the California Air Resources Board.

The District's annual data certification was submitted to EPA on May 4, 2010.

Appendix A

Detailed Site Information

Detailed Site Information
El Rio – Rio Mesa School #2

The is located 7 miles inland in the broad Oxnard Plain area, covering 286 square miles and home to 190,000 people (2000 Census data) – approximately 25 percent of the County's population. The District currently operates samplers to collect ambient data for ozone, PM_{10}, $PM_{2.5}$, continuous $PM_{2.5}$, nitrogen dioxide, non-methane hydrocarbons, volatile organic compounds (canisters), and carbonyls. The District also collects meteorological measurements at the site (wind speed, wind direction, temperature, rainfall, relative humidity, and solar radiation).

The District has conducted oxidant and ozone sampling in the Ventura/Oxnard Plain area since 1969. The District also has monitored for particulate matter in the Ventura/Oxnard Plain area since 1971.

Ozone[8]

Typically, this site records the lowest one- and eight-hour ozone levels in Ventura County. The site's maximum one-hour ozone value has been reduced from 0.190 ppm in 1989 to 0.076 ppm in 2005. In 2009 the site's fourth highest maximum 8-hour average concentration was 0.063 ppm. In 2009 the maximum eight-hour ozone value was 0.077 ppm, exceeding the federal standard. However, the site still attains the federal ozone standard which is based upon a three year average.

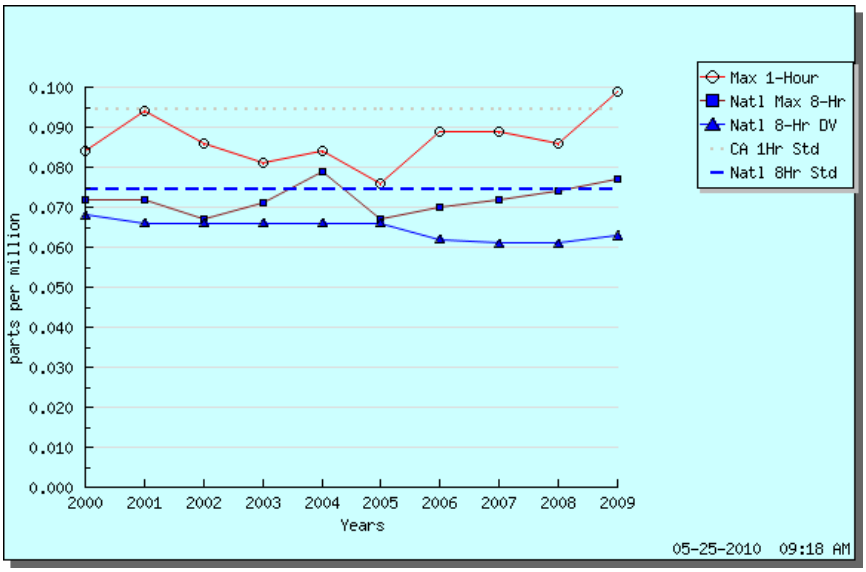


Figure 3
Ozone Trends Summary: El Rio-Rio Mesa School #2

[8] The federal ozone standard is the three year average of the fourth highest maximum 8-hour concentrations, in parts per million.

$PM_{2.5}$

This site has not exceeded the federal 24-hour[9] standard or the annual[10] standard for $PM_{2.5}$. In 2009 the site's 98th percentile 24-hour value was 18.9 µg/m^3 and the annual arithmetic mean was 10.2 µg/m^3.

98th Percentile 24-Hour Value Year				Annual Arithmetic Mean Year			
2006	**2007**	**2008**	**2009**	**2006**	**2007**	**2008**	**2009**
23.5	27.5	17.3	18.9	9.8	10.6	9.9	10.2

PM_{10}

In 2007 this site exceeded the federal 24-hour PM_{10} standard[11] with a value of 246 µg/m^3. This value occurred during a major wildfire in the County and has been flagged as an exceptional event. The District has submitted this information to U.S. EPA, through ARB, to have this value excluded. In 2009 the site's maximum 24-hour value was 97 µg/m^3. Note that in December 2006 EPA revoked the PM_{10} annual standard.

Maximum 24-Hour Value Year			
2006	**2007**	**2008**	**2009**
119	246*	79	97

PAMS

The El Rio monitoring site is a Type 2 PAMS site and has operated since 1994. During the period of July 1 through September 30 of each year the District operates this site according to established EPA protocols for PAMS monitoring and the CAP III protocol.

Federal regulations (40 CFR 58, Appendix D) specify that Type 2 PAMS sites install and operate a trace level CO analyzer. The District has purchased a trace level CO analyzer and is in the process of installing for this site.

[9] The federal 24-hour PM2.5 standard is based on the 98th percentile 24-hour value, in micrograms per cubic meter. This value is higher than 98 percent of 24-hour values for the year.

[10] The federal annual PM2.5 standard is based on the arithmetic mean of 24-hour values, in micrograms per cubic meter.

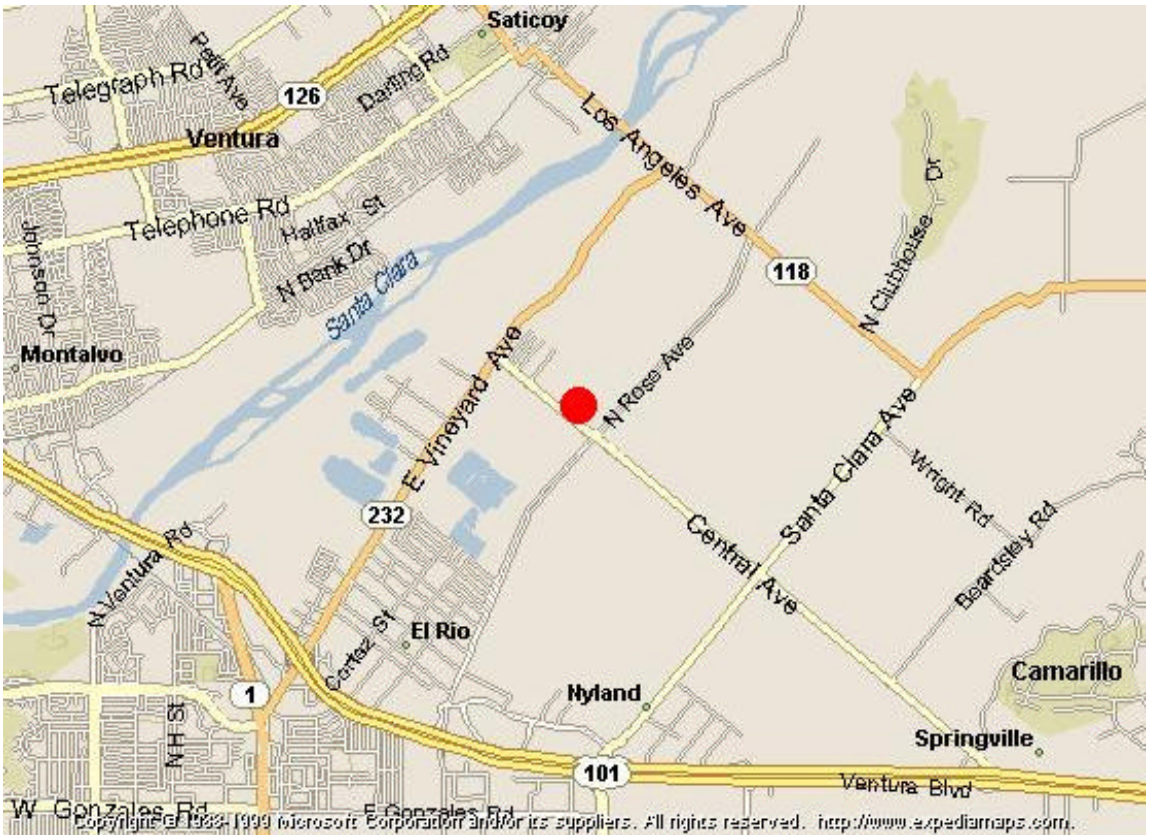
[11] The federal 24-hour PM10 standard is the maximum recorded 24-hour value, in µg/m3.

Site Name	**El Rio – Rio Mesa School #2**		
AQS ID	061113001		
Grid Coordinates	Latitude: 34° 15' 8" Longitude:119° 8' 35"		
Location	On school grounds		
Address	545 Central Ave, El Rio CA 93030		
County	Ventura County		
Location Type	Suburban		
Dist. to road	75 meters		
Traffic count	5,000 vehicles/day		
Groundcover	Paved/asphalt		
PEP audit	November 2005		
Flow audit	June 2008 (ARB) October 2008 (EPA Contractor)		
Representative Area	Oxnard Coastal Plain		
Pollutant	**Ozone**	**BAM-$PM_{2.5}$**	**PM_{10}-SSI**
Monitor Designation	PAMS/ SLAMS		SLAMS
Monitor objective	Population exposure	Population exposure	Population exposure
Spatial scale	Urban Scale	Neighborhood	Urban Scale
Sampling method	API/Teledyne 400	Met One 1020 BAM	Anderson SA1200
Analysis method	Ultraviolet Absorption	Beta Attenuation	Size selective inlet
Start date	01/01/1979	01/01/2005	04/03/1988
Operation schedule	Continuous	Continuous	1-in-6 days
Sampling season	Year-round	Year-round	Year-round
Probe height	4.3 meters	4.7 meters	5.5 meters
Distance from supporting structure	1.2 meters	1.7 meters	1.9 meters
Distance from obstructions on roof	None	None	None
Distance from obstructions not on roof	None	None	None
Distance from trees	15 meters	15 meters	15 meters
Distance between collocated monitors	N/A	N/A	N/A
Unrestricted airflow	360 degrees	360 degrees	360 degrees
Probe material	Borosilicate glass & FEP Teflon	N/A	N/A
Residence time	7.5 seconds	N/A	N/A
Will there be changes within the next 18 months?	No	No	See footnote[12]
Is it suitable for comparison against the annual $PM_{2.5}$?	N/A	N/A	N/A

[12] The District may discontinue monitoring for PM_{10} at this site.

Pollutant	FRM PM $_{2.5}$	Nitrogen Dioxide	VOCs
Monitor Designation	SLAMS	PAMS/SLAMS	Type 2 PAMS/SLAMS
Monitor objective	Population exposure	Population exposure	High concentration
Spatial scale	Neighborhood	Urban Scale	
Sampling method	Partisol-Plus Model 2025 Sequential Air Samplers	API 200A	Xontech 910PC Integrated grab sampling
Analysis method	Size selective inlet	Chemiluminescent	Laboratory gas chromatography
Start date	01/01/1999	01/01/1980	1994
Operation schedule	1-in-3 days	Continuous	1-in-3 days and days in which ozone is predicted to exceed 0.075 ppm
Sampling season	Year-round	Year-round	July 1 through September 30
Probe height	5.5 meters	4.3 meters	4.3 meters
Distance from supporting structure	1.9 meters	1.2 meters	1.2 meters
Distance from obstructions on roof	None	None	None
Distance from obstructions not on roof	None	None	None
Distance from trees			
Distance between collocated monitors	N/A	N/A	N/A
Unrestricted airflow	360 degrees	360 degrees	360 degrees
Probe material	N/A	Borosilicate glass & FEP Teflon	
Residence time	N/A	9 seconds	
Will there be changes within the next 18 months?	See footnote[13]	No	No
Is it suitable for comparison against the annual $PM_{2.5}$?	Yes	N/A	N/A

[13] The District may discontinue monitoring for $PM_{2.5}$ at this site.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Telephone Rd
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N Clubhouse Dr
E Vineyard Ave
N Rose Ave
Santa Clara Ave
Wright Rd
Beardsley Rd
232
Central Ave
N Ventura Rd
Cortez St
El Rio
Nyland
Camarillo
1
N H St
Springville
101
Ventura Blvd
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E Gonzales Rd
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Detailed Site Information
Ojai –Ojai Avenue

The Ojai air monitoring site is located 14 miles from the coast in the Ojai Valley area, which covers 102 square miles and is home to 30,000 people – approximately 4 percent of the County's population. The District currently operates samplers to collect ambient ozone, continuous $PM_{2.5}$ and PM_{10} data. The District also collects meteorological measurements (wind speed, wind direction, temperature, relative humidity, solar radiation, and precipitation) at the site.

The District has operated oxidant and ozone monitors in the Ojai Valley since 1970. (Oxidant sampling was also conducted in the Ojai Valley for a one-year period during the mid-1960s.) The District also has monitored for particulate matter in the Ojai Valley since 1973.

Ozone

This site records some of the highest one- and eight-hour ozone levels in Ventura County. The site's maximum one-hour ozone value has been reduced from 0.135 ppm in 1996 to 0.093 ppm in 2007 and 2008. In 2009 the site's fourth highest maximum 8-hour average concentration was 0.078 ppm and the maximum eight-hour ozone value was 0.095 ppm. During 2009, ozone concentrations at the Ojai monitoring site exceeded the federal eight-hour ozone standard on 11 days.

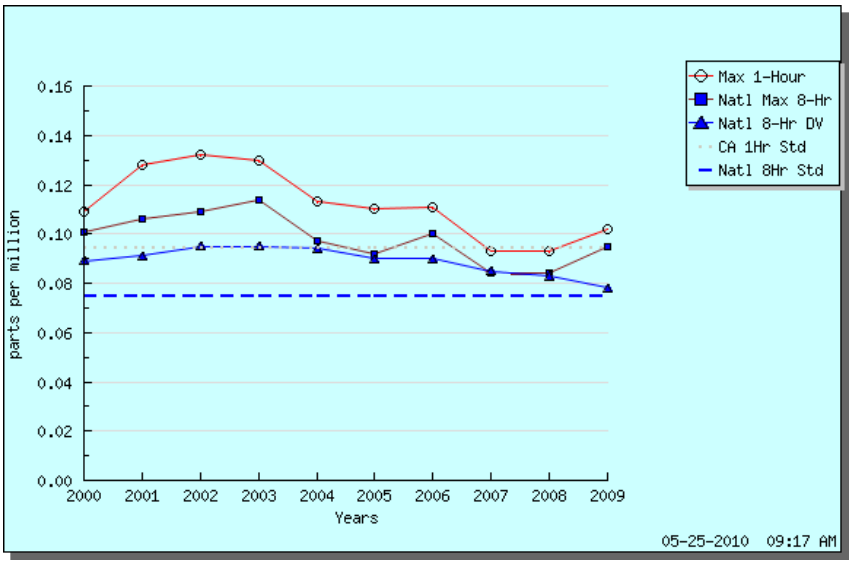


Figure 4
Ozone Trends Summary: Ojai-Ojai Avenue

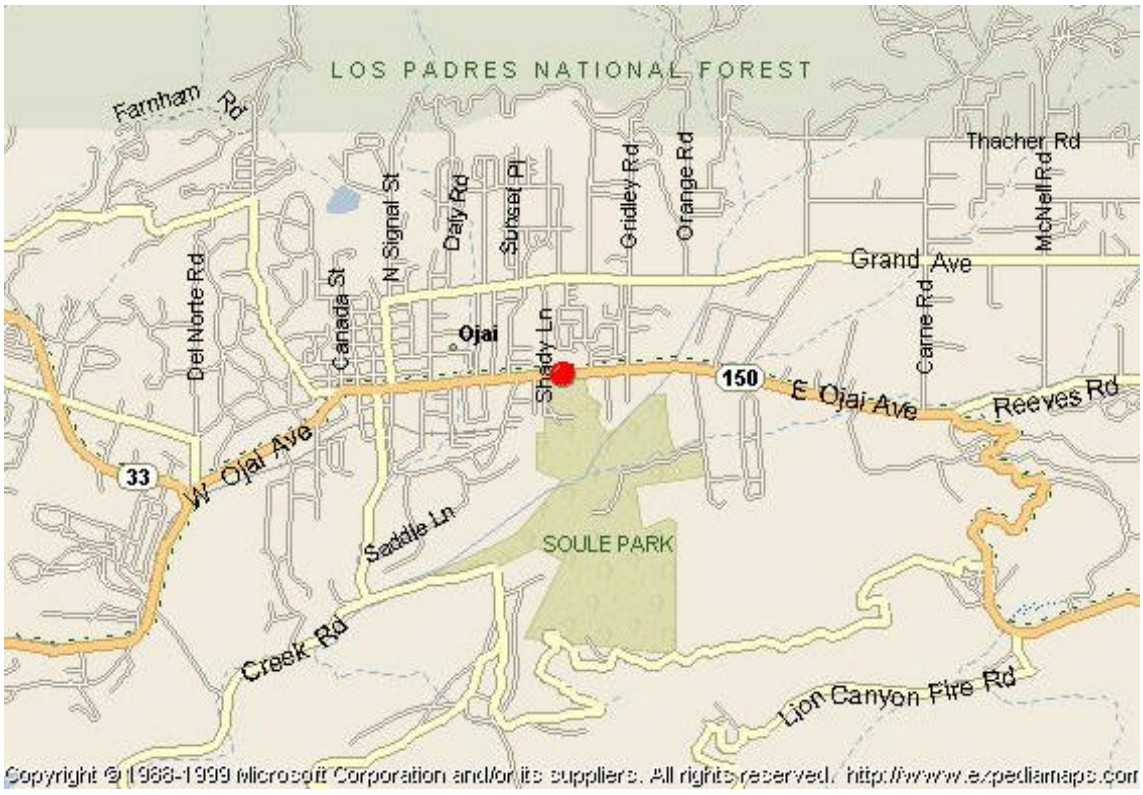
PM_{10}

This site has not exceeded the federal 24-hour PM_{10} standard. In 2009 the site's maximum 24-hour value was 37 µg/m^3. Note that in December 2006 EPA revoked the PM_{10} annual standard.

Maximum 24-Hour Value Year			
2006	**2007**	**2008**	**2009**
46	99*	62	37

Site Name	**Ojai - Ojai Avenue**
AQS ID	061111004
Grid Coordinates	Latitude: 34° 26' 53" Longitude: 119° 13' 53"
Location	In shed, on school, etc.
Address	1201 Ojai Ave., Ojai CA 93023
County	Ventura County
Location Type	Suburban
Dist. to road	250 meters
Traffic count	7,700 vehicles/day
Groundcover	Paved
PEP audit	N/A
Flow audit	June 2008 (ARB), October 2008 (EPA Contractor)
Representative Area	Ojai Valley

Pollutant	**Ozone**	**BAM $PM_{2.5}$**	**PM_{10}-SSI**
Monitor designation	SLAMS		SLAMS
Monitor objective	Population exposure	Population exposure	Population exposure
Spatial scale	Urban	Neighborhood	Urban
Sampling method	API Teledyne 400	Met One 1020 BAM	Anderson SA1200
Analysis method	Ultraviolet absorption	Beta Attenuation	Size Selective Inlet
Start date	04/01/1996	05/17/2006	04/01/1996
Operation schedule	Continuous	Continuous	1-in-6 days
Sampling season	Year-round	Year-round	Year-round
Probe height	4.0 meters	4.1 meters	4.1 meters
Distance from supporting structure	1.0 meters	1.5 meters	1.5 meters
Distance from obstructions on roof	None	None	None
Distance from obstructions not on roof	None	None	None
Distance from trees	10.5 meters	10.5 meters	10.5 meters
Distance between collocated monitors	N/A	N/A	N/A
Unrestricted airflow	360 degrees	360 degrees	360 degrees
Probe material	Borosilicate glass & FEP Teflon	N/A	N/A
Residence time	7.8 seconds	N/A	N/A
Will there be changes within the next 18 months?	No	No	No
Is it suitable for comparison against the annual $PM_{2.5}$?	N/A	N/A	N/A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McNell Rd
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Del Norte Rd
Canada St
N Signal St
Daly Rd
Sunset Pl
Gridley Rd
Orange Rd
Carne Rd
Ojai
Shady Ln
150
E Ojai Ave
Reeves Rd
33
W Ojai Ave
Saddle Ln
SOULE PARK
Creek Rd
Lion Canyon Fire Rd
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Detailed Site Information
Piru – Pacific Avenue

This site is located 28 miles from the coast in the Santa Clara River Valley, covering 204 square miles and home to 49,000 people – approximately 15.4 percent of the County's population. The District currently operates samplers to collect ambient ozone and continuous $PM_{2.5}$ data. The District also collects meteorological measurements at the site (wind speed, wind direction, temperature, relative humidity, solar radiation, and precipitation).

The District has conducted oxidant and ozone sampling in the Santa Clara River Valley since 1972. The District also has monitored for particulate matter in the Santa Clara River Valley since 1973, with limited sampling for a one-year period during the mid-1960s.

Ozone

The site's maximum one-hour ozone value has been reduced from 0.123 ppm in 2002 to 0.096 ppm in 2007. In 2009 the site's fourth highest 8-hour average concentration was 0.080 ppm and the maximum eight-hour ozone value was 0.093 ppm. During 2009, ozone concentrations at the Piru monitoring site exceeded the federal eight-hour ozone standard on 11 days.

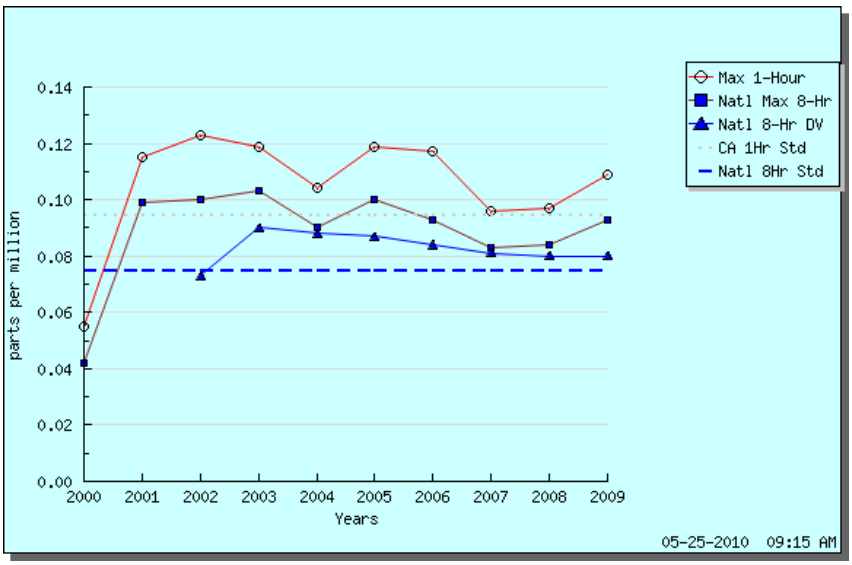


Figure 5
Ozone Trends Summary: Piru-3301 Pacific Avenue

$PM_{2.5}$

This site has not exceeded the federal 24-hour standard or the annual standard for $PM_{2.5}$. In 2009 the site's 98th percentile 24-hour value was 18.8 µg/m^3 and the annual arithmetic mean was 9.5 µg/m^3.

98th Percentile 24-Hour Value Year				Annual Arithmetic Mean Year			
2006	**2007**	**2008**	**2009**	**2006**	**2007**	**2008**	**2009**
21.4	22.3	17.0	18.8	9.3	10.2	10.5	9.5

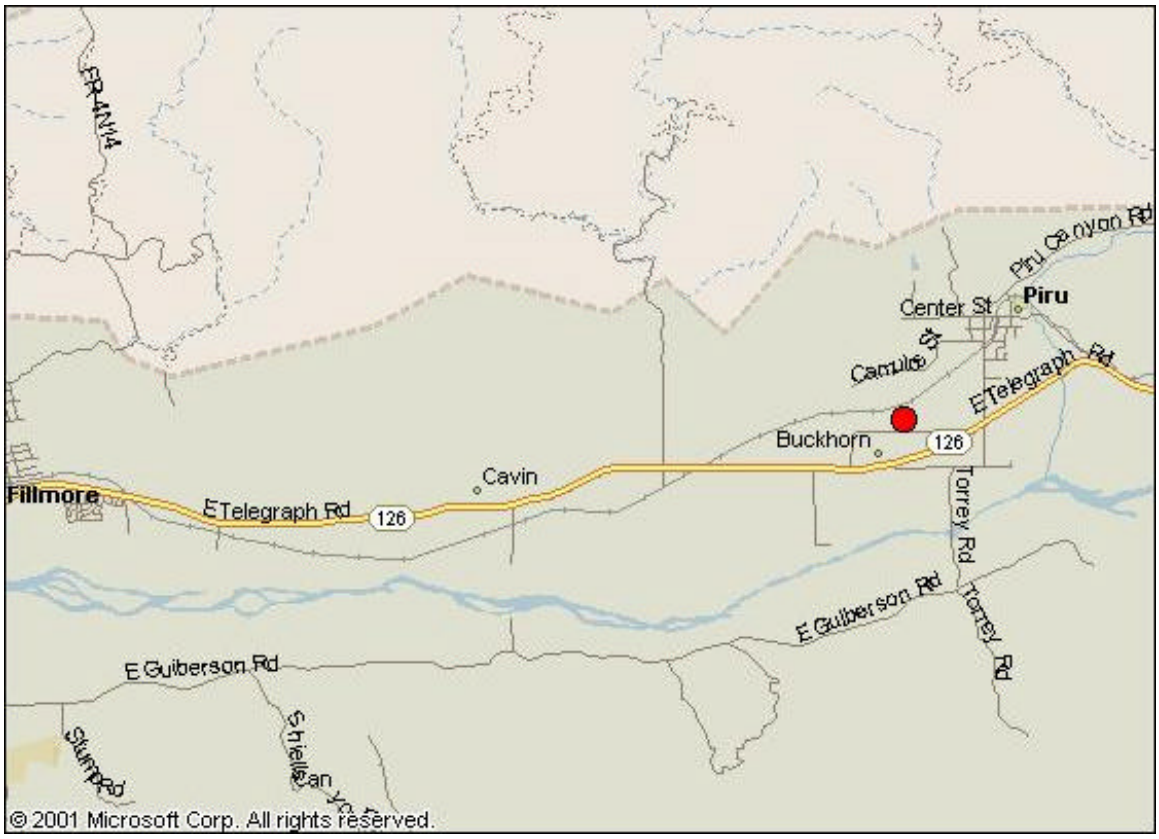
PM_{10}

Monitoring for PM_{10} at this site was discontinued in July 2004.

Site Name	**Piru – Pacific Avenue**
AQS ID	061110009
Grid Coordinates	Latitude: 34° 24’ 16” Longitude: 118° 48’ 36”
Location	In shed, on school, etc.
Address	Pacific Ave., Piru CA
County	Ventura County
Location Type	Rural
Dist. to road	100 meters
Traffic count	22,000 vehicles/day
Groundcover	Gravel
PEP audit	March 2006, November 2008
Flow audit	June 2008 (ARB), November 2008 (EPA Contractor)
Representative Area	Santa Clara River Valley

Pollutant	**Ozone**	**BAM $PM_{2.5}$**	**FRM $PM_{2.5}$**
Monitor designation	SLAMS		SLAMS
Monitor objective	High concentration	Population exposure	Population exposure
Spatial scale	Urban scale	Neighborhood	Neighborhood
Sampling method	API Teledyne 400	Met One 1020 BAM	Partisol-Plus Model 2025 Sequential Air Samplers
Analysis method	Ultraviolet absorption	Beta Attenuation	Size Selective Inlet
Start date	11/03/2000	05/26/2006	11/01/2000
Operation schedule	Continuous	Continuous	1-in-6 days
Sampling season	Year-round	Year-round	Year-round
Probe height	3.8 meters	4.0 meters	4.0 meters
Distance from supporting structure	1.4 meters	1.5 meters	1.5 meters
Distance from obstructions on roof	None	None	None
Distance from obstructions not on roof	None	None	None
Distance from trees	28 meters	28 meters	28 meters
Distance between collocated monitors	N/A	N/A	N/A
Unrestricted airflow	360 degrees	360 degrees	360 degrees
Probe material	Borosilicate glass & FEP Teflon	N/A	N/A
Residence time	9.9 seconds	N/A	N/A
Will there be changes within the next 18 months?	No	No	See footnote[14]
Is it suitable for comparison against the annual $PM_{2.5}$?	N/A	N/A	Yes

[14] The District may discontinue monitoring for $PM_{2.5}$ at this site.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Detailed Site Information
Simi Valley – Cochran Street

Simi Valley. The Simi Valley air monitoring site is located 34 miles from the coast in the Simi Valley area, which covers 142 square miles and is home to 148,000 people – approximately 20 percent of the County's population. The site covers the cities of Simi Valley and Moorpark. The District currently operates samplers to collect ambient data for ozone, PM_{10}, $PM_{2.5}$, continuous $PM_{2.5}$, speciated $PM_{2.5}$, nitrogen dioxide, non-methane hydrocarbons, volatile organic compounds (canisters), and air toxics.

In addition to sampling for gaseous and particulate air pollutants, the District collects meteorological measurements (wind speed, wind direction, temperature, relative humidity, solar radiation, and visibility) at the site. At the Simi Valley Upper Air Site, seven miles to the west, the District operates an atmospheric profiler, which collects wind and temperature data from 60 meters to 2,000 meters above the surface. At the surface, we collect additional meteorological data (wind speed, wind direction, temperature, relative humidity, solar radiation, precipitation, ultraviolet radiation, and atmospheric pressure).

The District has continuously operated ozone monitors at the same location in Simi Valley since 1973. The District also has monitored for particulate matter at the same location since 1973, and has operated a Type 3 PAMS (Photochemical Assessment Monitoring Station) site since 1995. In addition, the site is designated a national fine particle speciation trends network site.

Ozone

This site typically records the highest one- and eight-hour ozone levels in Ventura County. The Simi Valley air monitoring site's maximum one-hour ozone value has been reduced from 0.20 ppm in 1989 to 0.113 ppm in 2007. In 2009 the site's fourth highest 8-hour average concentration was 0.087 ppm and the site's maximum eight-hour ozone value was 0.092 ppm – the lowest value recorded at this site. The site's 2009 eight-hour ozone design value of 0.087 ppm is the highest ozone design value of all monitoring sites in Ventura County. During 2009, ozone concentrations at the Simi Valley monitoring site exceeded the federal eight-hour ozone standard on 24 days.

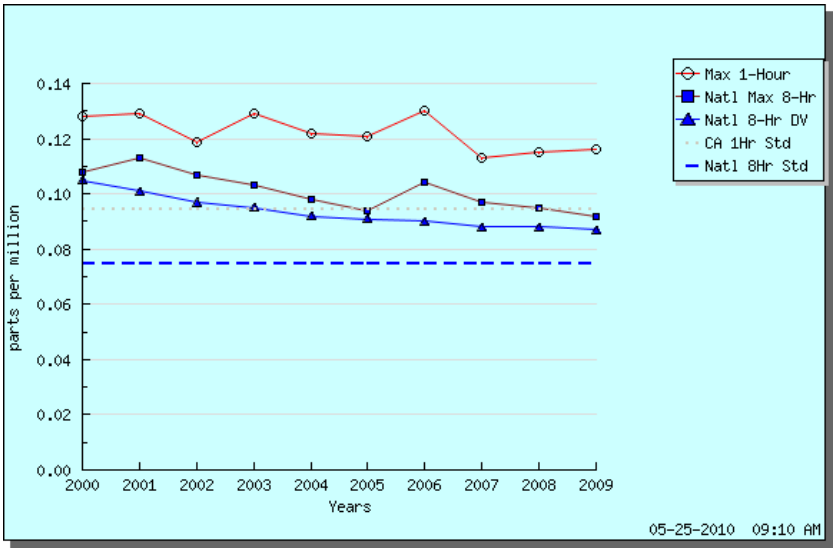


Figure 6
Ozone Trends Summary: Simi Valley-Cochran Street

PM$_{2.5}$

This site has not exceeded the federal 24-hour standard or the annual standard for PM$_{2.5}$. In 2009 the site's 98th percentile 24-hour value was 20.5 µg/m^3 and the annual arithmetic mean was 10.3 µg/m^3.

98th Percentile 24-Hour Value Year				Annual Arithmetic Mean Year			
2006	**2007**	**2008**	**2009**	**2006**	**2007**	**2008**	**2009**
27.6	31.8	25.1	20.5	10.3	11.7	10.9	10.3

PM$_{10}$

This site has not exceeded the federal 24-hour PM$_{10}$ standard. The Simi Valley monitoring site has two federal reference monitors for PM$_{10}$. In 2009 the site's maximum 24-hour value was 75 µg/m^3.

Maximum 24-Hour Value Year			
2006	**2007**	**2008**	**2009**
57	119	84	75

PAMS

The Simi Valley monitoring site is a Type 3 PAMS site and has operated as such since 1994. During the period of July 1 through September 30 of each year the District operates this site according to established EPA protocols for PAMS monitoring and the CAP III protocol.

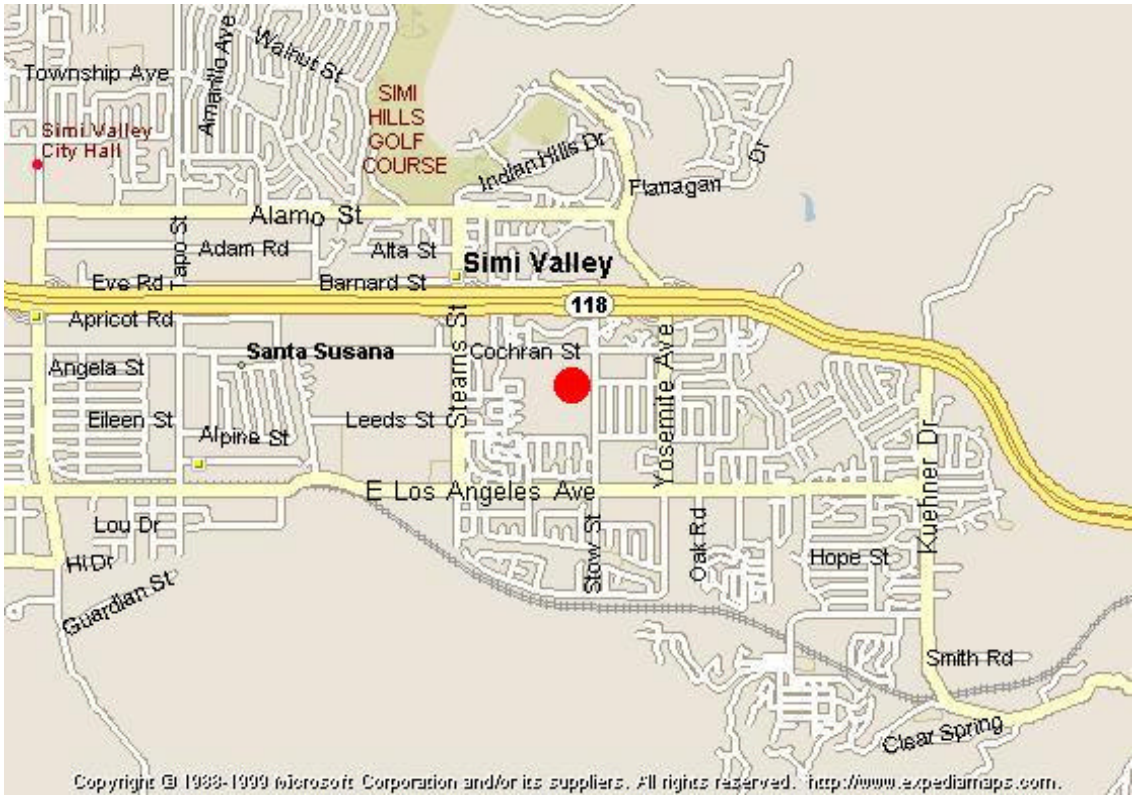
Federal regulations (40 CFR 58, Appendix D) specify that Type 3 PAMS sites install and operate a NOy analyzer. The District has purchased an NOy analyzer for this site and is planning its installation.

Site Name	**Simi Valley – Cochran Street**
AQS ID	061112002
Grid Coordinates	Latitude: 34° 16’ 34” Longitude: 118° 41’ 1”
Location	On school grounds
Address	5400 Cochran St., Simi Valley CA 93063
County	Ventura County
Location Type	Suburban
Dist. to road	140 meters
Traffic count	10,000 vehicles/day
Groundcover	Gravel
PEP audit	
Flow audit	June 2008 (ARB), October 2008 (EPA Contractor)
Representative Area	Simi Valley

Pollutant	**Ozone**	**Nitrogen Dioxide**	**PM_{10}-SSI (Primary)**
Monitor designation	PAMS/SLAMS	PAMS/SLAMS	SLAMS
Monitor objective	High concentrations	High concentrations	High concentrations
Spatial scale	Urban	Urban	Neighborhood
Sampling method	API Teledyne 400	API 200A	Tisch PM_{10}
Analysis method	Ultraviolet Absorption	Chemiluminescent	Size Selective Inlet
Start date	06/01/1985	06/01/1985	11/04/1986
Operation schedule	Continuous	Continuous	1-in-6 days
Sampling season	Year-round	Year-round	Year-round
Probe height	3.9 meters	3.9 meters	4.8 meters
Distance from supporting structure	1.3 meters	1.3 meters	1.5 meters
Distance from obstructions on roof	None	None	None
Distance from obstructions not on roof	None	None	None
Distance from trees	61 meters	61 meters	73 meters
Distance between collocated monitors	N/A	N/A	3.5 meters
Unrestricted airflow	360 degrees	360 degrees	360 degrees
Probe material	Borosilicate glass & FEP Teflon	Borosilicate glass & FEP Teflon	N/A
Residence time	7.9 seconds	8.3 seconds	N/A
Will there be changes within the next 18 months?	No	No	No
Is it suitable for comparison against the annual $PM_{2.5}$?	N/A	N/A	N/A

Pollutant	PM_{10}-SSI (Collocated)	FRM $PM_{2.5}$	BAM $PM_{2.5}$
Monitor designation	SLAMS	SLAMS	
Monitor objective	High concentrations	High concentration	Population exposure
Spatial scale	Neighborhood	Neighborhood	Neighborhood
Sampling method	Tisch PM_{10}	Partisol-Plus Model 2025 Sequential Air Samplers	Met One 1020 BAM
Analysis method	Size Selective Inlet	Size Selective Inlet	Beta Attenuation
Start date	11/04/1986	01/01/1999	01/01/2004
Operation schedule	1-in-6 days	1-in-3 days	Continuous
Sampling season	Year-round	Year-round	Year-round
Probe height	4.8 meters	4.7 meters	4.7 meters
Distance from supporting structure	1.5 meters	1.4 meters	1.4 meters
Distance from obstructions on roof	None	None	None
Distance from obstructions not on roof	None	None	None
Distance from trees	73 meters	73 meters	61 meters
Distance between collocated monitors	3.5 meters	N/A	N/A
Unrestricted airflow	360 degrees	360 degrees	360 degrees
Probe material	N/A	N/A	N/A
Residence time	N/A	N/A	N/A
Will there be changes within the next 18 months?	No	No	No
Is it suitable for comparison against the annual $PM_{2.5}$?	N/A	Yes	N/A

Pollutant	**$PM_{2.5}$ Speciation**		**VOCs**
Monitor designation	Speciation Trends	Speciation Trends	Type 3 PAMS
Monitor objective	$PM_{2.5}$ Speciation	$PM_{2.5}$ Speciation	High concentration
Spatial scale			
Sampling method	Met One Super SASS	URG 3000N (carbon channel only)	Xontech 910PC Integrated grab sampling
Analysis method			Laboratory gas chromatography
Start date		April 1, 2009	
Operation schedule	1-in-3 days	1-in-3 days	1-in-3 days and days in which ozone is predicted to exceed 0.075 ppm
Sampling season	Year-round	Year-round	July 1 through September 30
Probe height	4.7 meters	4.7 meters	5.0 meters
Distance from supporting structure	1.4 meters	1.4 meters	1.5 meters
Distance from obstructions on roof	None	None	None
Distance from obstructions not on roof	None	None	None
Distance from trees	73 meters	73 meters	
Distance between collocated monitors	N/A	N/A	N/A
Unrestricted airflow	360 degrees	360 degrees	360 degrees
Probe material	N/A	N/A	
Residence time	N/A	N/A	
Will there be changes within the next 18 months?	No	No	No
Is it suitable for comparison against the annual $PM_{2.5}$?	No	No	N/A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Simi Valley City Hall
Indian Hills Dr
Flanagan Dr
Alamo St
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Adam Rd
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Simi Valley
Eve Rd
Barnard St
118
Apricot Rd
Santa Susana
Stearns St
Cochran St
Yosemite Ave
Angela St
Eileen St
Alpine St
Leeds St
E Los Angeles Ave
Kuehner Dr
Lou Dr
Hi Dr
Guardian St
Stow St
Oak Rd
Hope St
Smith Rd
Clear Spring
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Detailed Site Information
Thousand Oaks – Moorpark Road

This site is located 21 miles inland in the Conejo Valley, covering 75 square miles and home to 138,000 people – approximately 18.3 percent of the County's population. The District currently operates samplers to collect ambient ozone and continuous $PM_{2.5}$ data. The District also collects meteorological measurements at the site (wind speed, wind direction, temperature, relative humidity, solar radiation, and precipitation).

The District has conducted ozone sampling in the Conejo Valley since 1973. The District also has monitored for particulate matter in the Conejo Valley since 1979, with limited sampling prior to that.

Ozone

The Thousand Oaks monitoring site's maximum one-hour ozone value has been reduced from 0.148 ppm in 1995 to 0.096 ppm in 2006. In 2009 the site's peak one-hour value was 0.109 ppm. In 2008 the site's fourth highest maximum 8-hour average concentration was 0.077 ppm and the maximum eight-hour ozone value was 0.086 ppm. During 2009, ozone concentrations at the Thousand Oaks monitoring site exceeded the federal eight-hour standard on five days.

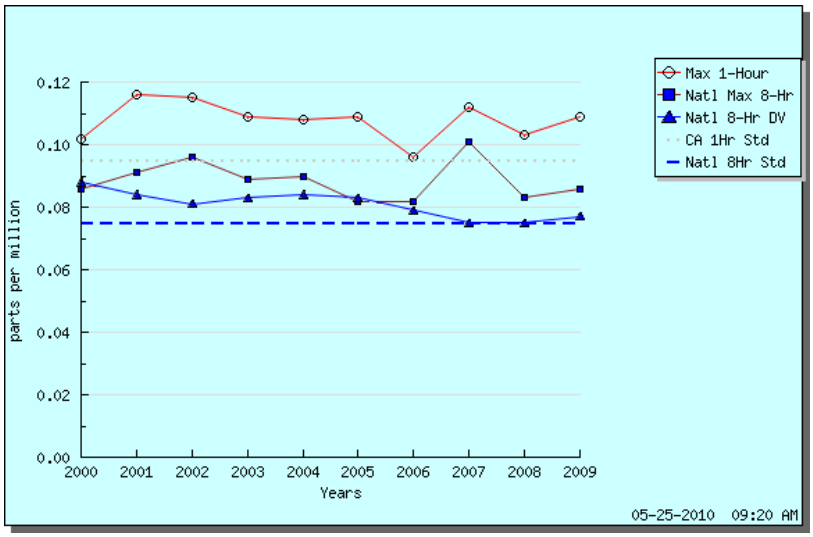


Figure 7
Ozone Trends Summary: Thousand Oaks-Moorpark Road

$PM_{2.5}$

This site has not exceeded the 24-hour or the annual standards for $PM_{2.5}$. The Thousand Oaks monitoring site has two federal reference monitors for $PM_{2.5}$. In 2009 the site's maximum 98th percentile 24-hour value was 21.1 µg/m^3 and the annual arithmetic mean was 10.8 µg/m^3.

98th Percentile 24-Hour Value Year				Annual Arithmetic Mean Year			
2006	**2007**	**2008**	**2009**	**2006**	**2007**	**2008**	**2009**
23.4	26.0	29.7	21.1	10.1	10.6	11.0	10.8

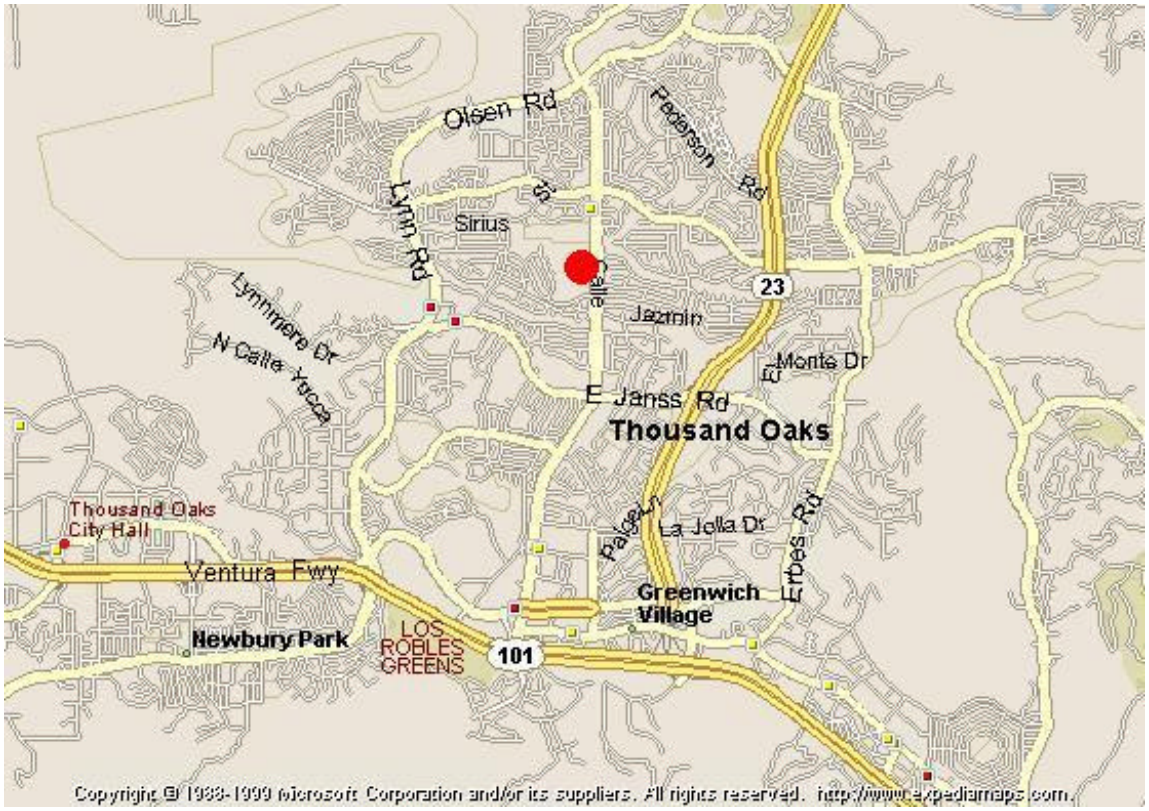
PM_{10}

Monitoring for PM_{10} at this site was discontinued in July 2004.

Site Name	**Thousand Oaks – Moorpark Road**
AQS ID	061110007
Grid Coordinates	Latitude: 34° 12’ 37” Longitude: 118° 52’ 14”
Location	On school grounds
Address	2323 Moorpark Rd., Thousand Oaks CA
County	Ventura County
Location Type	Suburban
Dist. to road	175 meters
Traffic count	7,000 vehicles/day
Groundcover	Asphalt
PEP audit	November 2008 ($PM_{2.5}$ FRM Primary)
Flow audit	June 2008 (ARB), November 2008 (EPA Contractor)
Representative Area	Conejo Valley

Pollutant	**Ozone**	**BAM $PM_{2.5}$**	**FRM $PM_{2.5}$ (Primary)**
Monitor designation	SLAMS		SLAMS
Monitor objective	Population exposure	Population exposure	Population exposure
Spatial scale	Urban	Neighborhood	Neighborhood
Sampling method	API Teledyne 400	Met One 1020 BAM	Partisol-Plus Model 2025 Sequential Air Samplers
Analysis method	Ultraviolet Absorption	Beta Attenuation	Size Selective Inlet
Start date	03/01/1992	May 2007	01/01/1999
Operation schedule	Continuous	Continuous	1-in-6 days
Sampling season	Year-round	Year-round	Year-round
Probe height	5.0 meters	5.0 meters	5.0 meters
Distance from supporting structure	1.5 meters		1.5 meters
Distance from obstructions on roof	None	None	None
Distance from obstructions not on roof	None	None	None
Distance from trees	N/A	N/A	N/A
Distance between collocated monitors	N/A	N/A	2.0 meters
Unrestricted airflow	360 degrees	360 degrees	360 degrees
Probe material	Borosilicate glass & FEP Teflon	N/A	N/A
Residence time	11.4 seconds	N/A	N/A
Will there be changes within the next 18 months?	No	No	No
Is it suitable for comparison against the annual $PM_{2.5}$?	N/A	N/A	Yes

Pollutant	**FRM $PM_{2.5}$ (Collocated)**
Monitor designation	SLAMS
Monitor objective	Population exposure
Spatial scale	Neighborhood
Sampling method	Partisol-Plus Model 2025 Sequential Air Samplers
Analysis method	Size Selective Inlet
Start date	01/01/1999
Operation schedule	1-in-6 days
Sampling season	Year-round
Probe height	5.0 meters
Distance from supporting structure	1.5 meters
Distance from obstructions on roof	None
Distance from obstructions not on roof	None
Distance from trees	N/A
Distance between collocated monitors	2.0 meters
Unrestricted airflow	360 degrees
Probe material	N/A
Residence time	N/A
Will there be changes within the next 18 months?	No
Is it suitable for comparison against the annual $PM_{2.5}$?	Yes


Olsen Rd
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Lynnmere Dr
N Calle Yucca
E Monte Dr
E Janss Rd
Thousand Oaks
Thousand Oaks City Hall
Ventura Fwy
Rajer
La Jolla Dr
Erbes Rd
Greenwich Village
Newbury Park
LOS ROBLES GREENS
101
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Detailed Site Information
Ventura - Emma Wood State Beach

The Ventura monitoring site is located along the coast at Emma Wood State Beach, and represents a coastal area covering 119 square miles and home to 197,000 people – approximately 26 percent of the County's population. The District operates samplers to collect ambient data for ozone, and volatile organic compounds (canisters). The District also collects meteorological measurements (wind speed, wind direction, temperature, relative humidity, and solar radiation).

The District has conducted oxidant and ozone sampling in the coastal area since 1972 at locations ranging from Point Mugu to La Conchita. Most of the monitoring, however, has occurred at sites in the Ventura area. In addition, limited sampling for oxidants was conducted in the area during the mid- and late-1960s and early 1970s.

The District has conducted ozone sampling at the Ventura - Emma Wood site since 1984. This site has also operated as a Type 1 PAMS site since 1996.

Ozone

Typically, Ventura - Emma Wood monitoring site records the lowest to second lowest one- and eight-hour ozone levels in Ventura County. The site's maximum one-hour ozone value has been reduced from 0.23 ppm in 1989 to 0.078 ppm in 2002. In 2009 the site's peak one-hour value was 0.080 ppm. In 2009 the site's fourth highest maximum 8-hour average concentration was 0.064 ppm and the maximum eight-hour ozone value was 0.071 ppm. The Ventura - Emma Wood monitoring site did not exceed the federal eight-hour ozone standard in 2009.

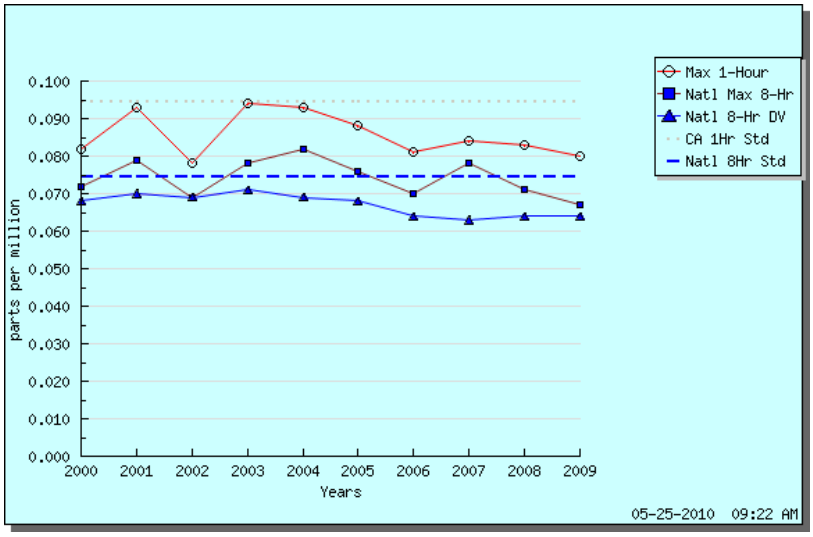
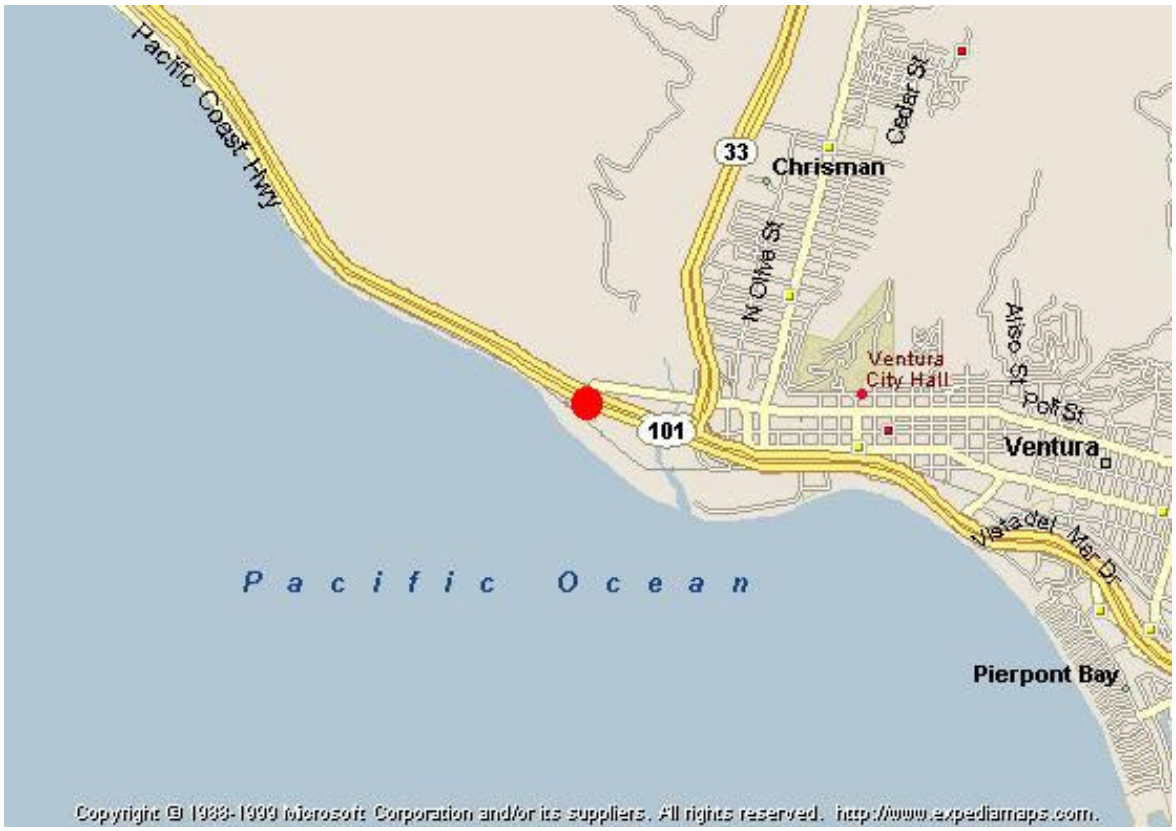


Figure 8
Ozone Trends Summary: Ventura-Emma Wood State Beach

PAMS

The Ventura - Emma Wood monitoring site is a Type 1 PAMS site and has operated as such since 1996. During the period of July 1 through September 30 of each year the District operates this site according to established EPA protocols for PAMS monitoring and the CAP III protocol. See Section 3.3 for a discussion of potential changes to the PAMS monitoring program at this site.

Site Name	**Ventura - Emma Wood State Beach**	
AQS ID	061112003	
Grid Coordinates	Latitude: 34° 16' 50" Longitude: 119° 18' 55"	
Location	State Park	
Address	Emma Wood State Beach, Ventura CA	
County	Ventura County	
Location Type	Suburban	
Dist. to road	90 meters	
Traffic count	175,000 vehicles/day	
Groundcover	Grass and vegetation	
PEP audit	N/A	
Flow audit	N/A	
Representative Area	Ventura Coastal	
Pollutant	**Ozone**	**VOCs**
Monitor designation	PAMS/SLAMS	Type 1 PAMS
Monitor objective	General/Background	High concentration
Spatial scale	Neighborhood	
Sampling method	API/Teledyne 400	Xontech 910A/912 Integrated grab sampling
Analysis method	Ultraviolet Absorption	Laboratory gas chromatography
Start date	03/01/1984	1996
Operation schedule	Continuous	1-in-3 days and days in which ozone is predicted to exceed 0.075 ppm
Sampling season	Year-round	July 1 through September 30
Probe height	4.0 meters	4.0 meters
Distance from supporting structure	1.0 meters	1.0 meters
Distance from obstructions on roof	None	None
Distance from obstructions not on roof	None	None
Distance from trees	N/A	N/A
Distance between collocated monitors	N/A	N/A
Unrestricted airflow	360 degrees	360 degrees
Probe material	Borosilicate glass & FEP Teflon	Borosilicate glass & FEP Teflon
Residence time	10.5 seconds	
Will there be changes within the next 18 months?	None	None


Pacific Coast Hwy
33
Chrisman
Cedar St
N Olive St
Ventura
City Hall
Anacapa St
Poli St
101
Ventura
Via Real del Mar Dr
Pacific Ocean
Pierpont Bay
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Detailed Site Information
Simi Valley – Upper Air Monitoring Station

Site Name	**Simi Valley – Upper Air Monitoring Station**
AQS ID	061110008
Grid Coordinates	Latitude: 34° 17' 28" Longitude: 118° 47' 51"
Location	At Simi Valley Landfill
Address	2801 Madera Rd., Simi Valley CA
County	Ventura County