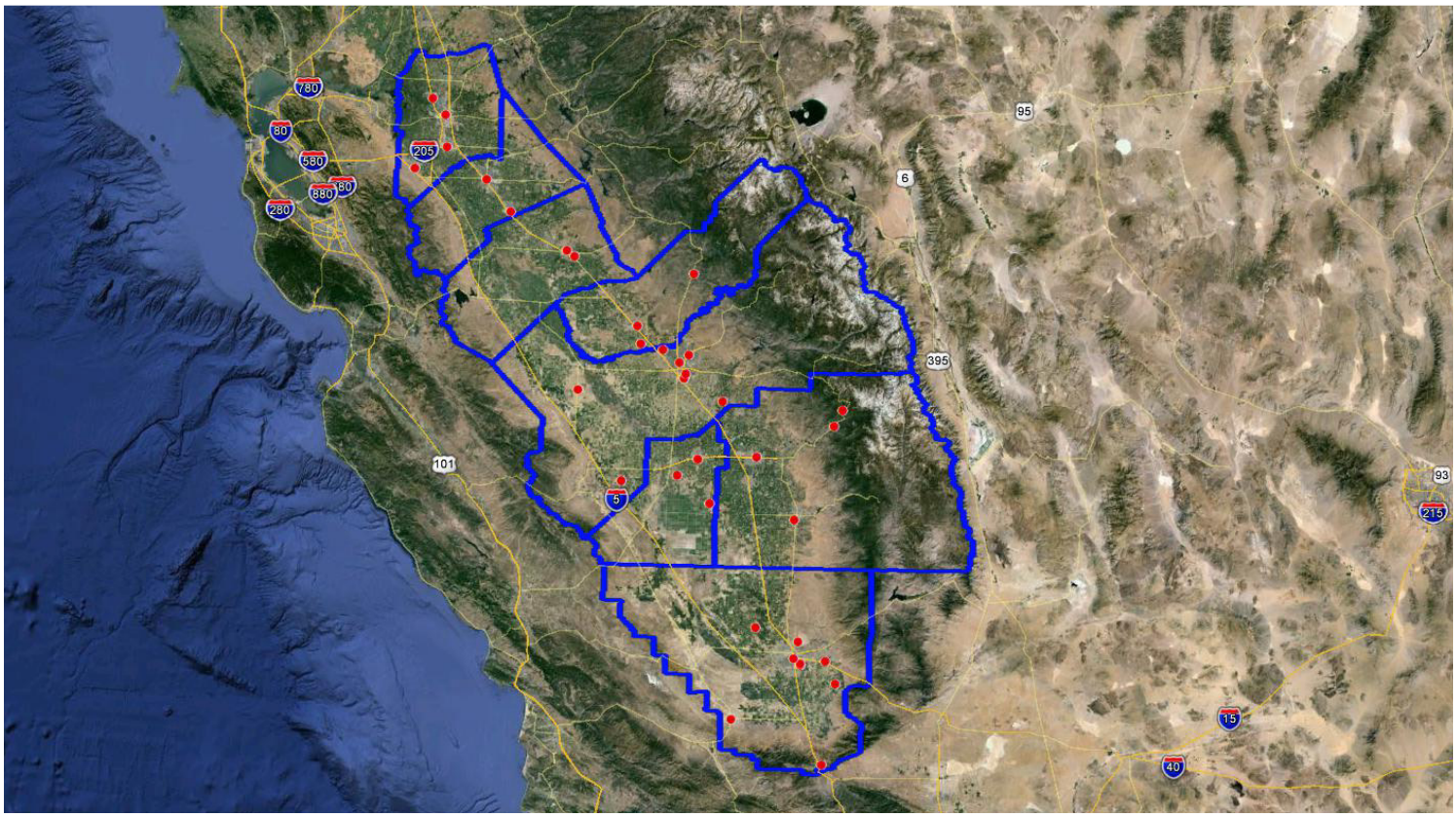
San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

2015 Air Monitoring Network Plan



San Joaquin Valley Air Pollution Control District

2015 Air Monitoring Network Plan

August 28, 2015

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The District's Core Values Exhibited in the Air Monitoring Network

* Protection of Public Health *

The District uses data collected from the air monitoring network to provide real-time air quality data to the public through the real-time air advisory network (RAAN), generate daily air quality forecasts, and when needed, issue health advisories. The District also uses data collected from the Valley's air monitoring network as the basis for long-term attainment strategies and to track progress towards meeting federal health-based air quality standards.

* Active and effective air pollution control efforts with minimal disruption to the Valley's economic prosperity *

The District uses air monitoring data to help establish strategies for reaching attainment of federal health-based air quality standards.

* Outstanding Customer Service *
* Accountability to the public *

The District's website provides easy public access to data from the Valley's real-time air monitors, and through the RAAN system, provides notifications to the public when air quality reaches unhealthy levels. The public can also access historical air quality information through the District's website.

* Open and transparent public processes *

In addition to making air quality data available in real-time, the District uses air quality data in a variety of publicly available documents and reports. The District also conducts a public review period for annual monitoring network plans.

* Respect for the opinions and interest of all Valley residents *

The District has actively made daily air quality information available to Valley residents in a variety of formats, including the District website, the RAAN system, the daily air quality forecast, and the media. The District considers public interests in establishing new air monitoring stations.

* Ingenuity and innovation *

The District strives to use new and improved air monitoring techniques and equipment as approved by the EPA. The District uses the latest science when considering locations for air monitoring stations, and in turn, the data collected from the air monitoring network contributes to ongoing scientific evaluations.

* Continuous improvement *

Through the annual air monitoring network plan, the District evaluates the air monitoring network for opportunities for better data collection and greater efficiency. Throughout the year, the District continually seeks out opportunities to improve the air monitoring network and its service to the public while meeting federal requirements.

* Recognition of the uniqueness of the San Joaquin Valley *

The San Joaquin Valley is an expansive and diverse area. The District strives to site its air monitoring stations in locations that represent each region of the Valley.

* Effective and efficient use of public funds *

The District makes the most of limited resources by structuring the air monitoring network in a way that optimizes personnel time and funding for instruments. The result is a robust air monitoring network that helps the Valley reach its air quality goals without unnecessary expenditures.

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Executive Summary

The San Joaquin Valley Air Pollution Control District (SJVAPCD or District) operates an extensive network of air quality monitors throughout the San Joaquin Valley (Valley) to support its mission of improving and protecting public health. District staff uses the hourly readings from real–time monitors to communicate the state of the air quality to Valley residents. Through programs and venues such as the Real–time Air Advisory Network (RAAN), the daily air quality forecast, the District website, and Valley media, Valley residents are able to obtain air quality information that can help them with their activity planning. The District also uses real–time air quality data to manage prescribed burning, agricultural burning, and residential wood combustion to ensure these activities do not result in adverse impacts to our air quality.

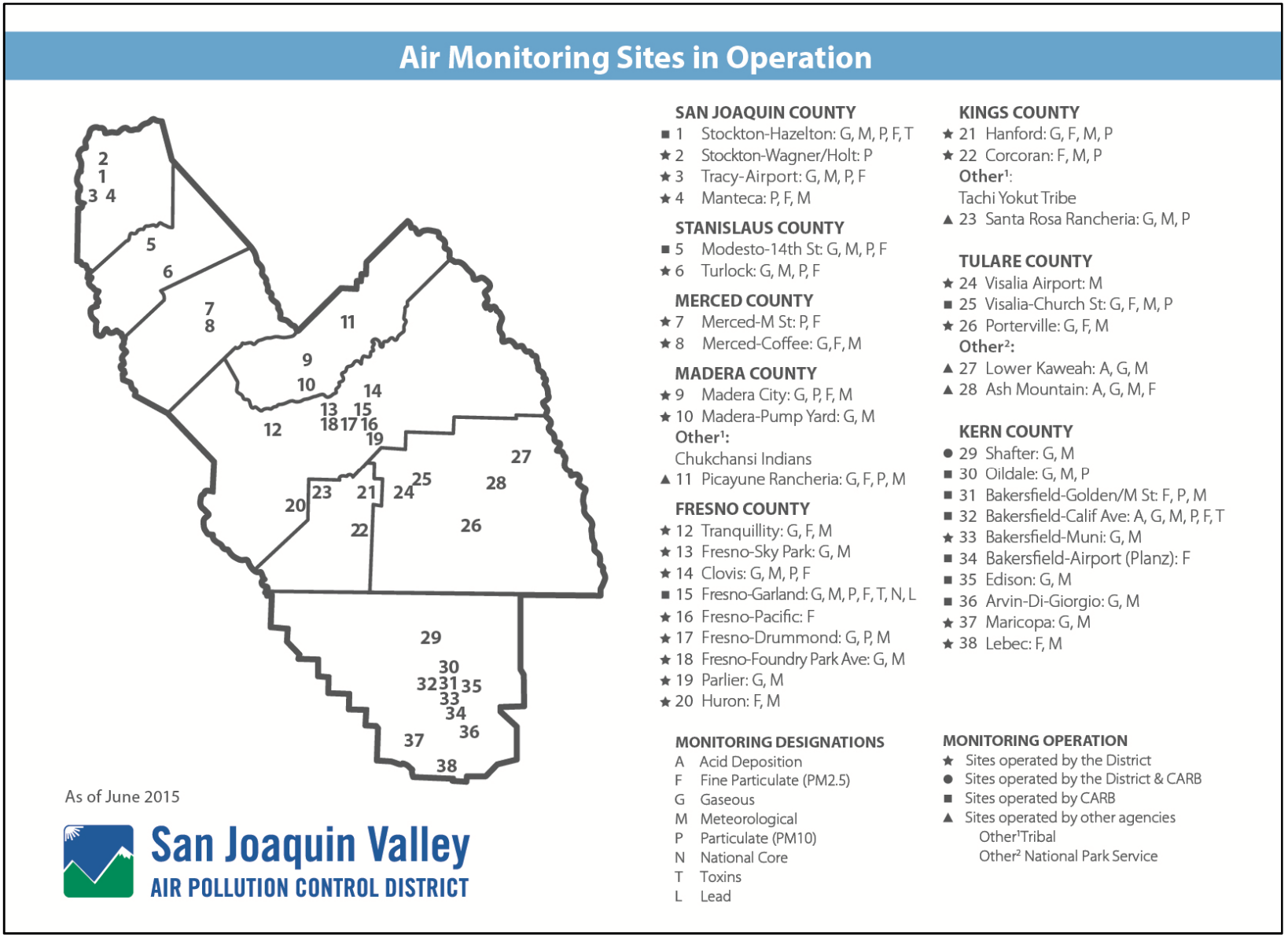
As part of the District's long–term efforts to improve public health, air monitors collect data that is rigorously analyzed by laboratory technicians and District staff. This monitoring data determines the Valley's air quality and is fundamental in the Valley's effort to improve air quality and achieve attainment of EPA's health–based ambient air quality standards as quickly as possible.

The San Joaquin Valley covers an area of 23,490 square miles, and is home to one of the most challenging air quality problems in the nation. The Valley is designated nonattainment for federal PM2.5 and ozone standards, and is in attainment of the federal standards for lead (Pb), Nitrogen dioxide (NO_2), Sulfur dioxide (SO_2), and Carbon monoxide (CO). In addition, the Valley is an attainment/maintenance area for PM10. The Valley is home to approximately 4 million residents, and includes several major metropolitan areas, vast expanses of agricultural land, industrial sources, highways, and schools. To address the air quality needs of this expansive and diverse region, the District maintains a robust air monitoring program that meets federal requirements while providing vital information to the public.

The air monitoring network in the Valley also includes air monitoring stations that are managed and operated by the California Air Resources Board (CARB), and the National Park Service. Additionally, there are two tribal air monitoring stations operating in the Valley. The Tachi Yokut Tribe operates a monitoring station at Santa Rosa Rancheria located in Kings County, and the Chukchansi Indians of California operate a monitoring station at the Picayune Rancheria located in Madera County. A map of the air monitoring stations in the San Joaquin Valley is shown in Figure 1.

The District follows federal monitoring requirements and guidelines to ensure an efficient and effective monitoring network. This monitoring network plan describes the District's approach for implementing federal air monitoring and quality control requirements. The plan also summarizes the current state of the network as well as upcoming changes that are planned for it. As specified in 40 CFR 58.10(a), this plan is made available for public inspection at least 30 days prior to submission to EPA.

Figure 1 Map of Air Monitoring Sites in the San Joaquin Valley



Air Monitoring Network Plan Requirements

As specified in 40 CFR (Code of Federal Regulations) 58.10, and as required as a part of the District's EPA 105 Grant, this air monitoring network plan describes the current state of the District's monitoring network and changes that are planned for the network. The annual monitoring network plan is updated and submitted to the EPA Regional Administrator each year, and is made available for public inspection for at least 30 days prior to submission to EPA. Air monitoring network plans provide the establishment and maintenance of air monitoring networks that may include the types of stations and monitors listed in Table 1.

Table 1: Types of Air Monitoring Stations and Monitors

Abbreviation	Full Name	Description
ARM	Approved Regional Method	A method that has been approved within a specific region for comparison to federal air quality standards. *Currently, there are no ARM monitors in the San Joaquin Valley.*
FEM	Federal Equivalent Method	These monitors are considered to be equivalent to FRM monitors for the purpose of determining compliance with EPA's health–based air quality standards.
FRM	Federal Reference Method	EPA defines how these monitors are to work, how they are to be engineered, and how they are to measure pollutants. These monitors are used to determine compliance with EPA's health–based air quality standards.
NCore	National Core	Multipollutant monitoring stations; in California, these are operated by CARB.
PAMS	Photochemical Assessment Monitoring Station	VOC (volatile organic compounds) speciation sites used in serious, severe, or extreme ozone nonattainment areas for precursor evaluation.
SLAMS	State and Local Air Monitoring Station	Monitoring sites that are used for determinations of compliance with federal air quality standards, though they may be used for other purposes as well.
SPM	Special Purpose Monitor	Not included when showing compliance with the minimum air monitoring requirements; an example might include a temporary monitoring station set up in an area to measure short term air quality impacts of a source. Data collected from an SPM can be used for Regulatory purposes if the monitor has been operational for two years and if the monitor is an ARM, FEM, or FRM.
STN	Speciated Trends Network	PM2.5 speciation stations that provide chemical speciation data of PM.

The monitoring network plan should include a statement of purpose for each monitor and evidence that siting and operation of each monitor meets the requirements of appendices A, C, D, and E of 40 CFR Part 58. The plan must contain the following information for each existing and proposed site (40 CFR 58.10 (b)):

- The MSA, CBSA, CSA, or other area represented by the monitor. MSA, CBSA, and CSA are statistical–based definitions for metropolitan areas provided by the Office of Management and Budget and the Census Bureau (see Table 2):
    - MSA: Metropolitan statistical area
    - CBSA: Core–based statistical area
    - CSA: Combined statistical area
- Air quality system (AQS) Aerometric Information Retrieval System (AIRS) Code site identification number (see Table 3).
- Locations: street address and geographical coordinates (see Appendix B).
- Sampling and analysis methods for each measured parameter (see Appendix B).
- Operating schedules for each monitor (see Appendix B).
- Monitoring objective and spatial scale of representativeness for each monitor (as defined in Appendix D to 40 CFR 58) (see Appendix B).
- Any proposals to remove or move a monitoring station within 18 months of a plan submittal. Any proposed additions and discontinuations of SLAMS monitors are subject to approval according to 40 CFR 58.14 (see planned changes section below).
- Each air monitor is sited to satisfy at least one of three specific criteria:
    - Population (see Table 4)
    - A specific geographic scale (see Appendix B)
    - Generally consistent pollution concentrations

There are several network plan requirements that pertain specifically to PM2.5 monitoring:

- The monitoring network plan must identify which sites are suitable and which are not suitable for comparison against the annual PM2.5 national ambient air quality standards (NAAQS) as described in 40 CFR 58.30 (see PM2.5 Monitors in the Valley section below).
- The plan must also document how the District provides for public review of changes to the PM2.5 monitoring network when the change impacts the location of a violating PM2.5 monitor, or the creation/change to a community monitoring zone.
- The District should submit any public comments received on PM2.5 monitoring changes in the submittal of the network plan.
- On March 18, 2013, EPA finalized the rule to revoke the term “population–oriented.” The final rule states that PM2.5 monitors at neighborhood scale or larger, or smaller scales that represent many locations in the same CBSA, are the only monitors representative of “area–wide” air quality that can be compared to the PM2.5 NAAQS.

Table 2: San Joaquin Valley Areas of Representation

TITLE	CODE
Metropolitan Statistical Area (MSA)	**Core–Based Statistical Area (CBSA) Code**
Stockton–Lodi	44700
Modesto	33700
Merced	32900
Madera	31460
Fresno	23420
Hanford–Corcoran	25260
Visalia–Porterville	47300
Bakersfield [1]	12540

[1] Monitors from both the District and the Eastern Kern County Air Pollution Control District can be counted when determining compliance with minimum monitoring requirements for the Bakersfield CBSA. However, only monitors located within the District's boundaries are included in this network plan.

Table 3: Site Identification and AQS AIRS Codes

MSA/CBSA: Stockton		
County: San Joaquin		
Site Name	**AIRS Code**	**Operating Agency**
Manteca	060772010	SJVAPCD
Stockton–Hazelton	060771002	CARB
Stockton–Wagner/Holt	060773010	SJVAPCD
Tracy–Airport	060773005	SJVAPCD
MSA/CBSA: Modesto		
County: Stanislaus		
Site Name	**AIRS Code**	**Operating Agency**
Modesto–14th St	060990005	CARB
Turlock	060990006	SJVAPCD
MSA/CBSA: Merced		
County: Merced		
Site Name	**AIRS Code**	**Operating Agency**
Merced–Coffee	060470003	SJVAPCD
Merced–M St	060472510	SJVAPCD
MSA/CBSA: Madera		
County: Madera		
Site Name	**AIRS Code**	**Operating Agency**
Madera–City	060392010	SJVAPCD
Madera–Pump Yard	060390004	SJVAPCD

Table 3: Site Identification and AQS AIRS Codes (Continued)

MSA/CBSA: Fresno		
County: Fresno		
Site Name	**AIRS Code**	**Operating Agency**
Clovis–Villa	060195001	SJVAPCD
Fresno–Drummond	060190007	SJVAPCD
Fresno–Garland	060190011	CARB
Fresno–Foundry[1]	060192015 (Proposed)	SJVAPCD
Fresno–Pacific	060195025	SJVAPCD
Fresno–Sky Park	060190242	SJVAPCD
Huron	060192008	SJVAPCD
Parlier	060194001	SJVAPCD
Tranquillity	060192009	SJVAPCD
MSA/CBSA: Hanford–Corcoran		
County: Kings		
Site Name	**AIRS Code**	**Operating Agency**
Corcoran–Patterson	060310004	SJVAPCD
Hanford–Irwin	060311004	SJVAPCD
MSA/CBSA: Visalia–Porterville		
County: Tulare		
Site Name	**AIRS Code**	**Operating Agency**
Porterville	061072010	SJVAPCD
Sequoia–Ash Mountain	061070009	National Park Service
Sequoia–Lower Kaweah	061070006	National Park Service
Visalia–Airport	061073000	SJVAPCD
Visalia–Church St	061072002	CARB
MSA/CBSA: Bakersfield		
County: Kern (Valley Portion)		
Site Name	**AIRS Code**	**Operating Agency**
Arvin–Di Giorgio	060295002	CARB
Bakersfield–Golden / M St	060290010	SJVAPCD
Bakersfield–California	060290014	CARB
Bakersfield–Muni	060292012	SJVAPCD
Bakersfield–Airport (Planz)	060290016	CARB
Edison	060290007	CARB
Lebec	060292009	SJVAPCD
Maricopa	060290008	SJVAPCD
Oildale	060290232	CARB
Shafter	060296001	Shared [2]

[1] Near-road NO_2 monitoring station
[2] Site operated by CARB and SJVAPCD.

Table 4: San Joaquin Valley 2014 Population

County	Total County Population	Major Urban Area Pop > 100,000	Urban Area Pop < 100,000 and > 50,000
San Joaquin	710,731	Stockton	Lodi, Manteca, Tracy
Stanislaus	526,042	Modesto	Turlock
Merced	264,922	—	Merced
Madera	153,897	—	Madera
Fresno	964,040	Fresno, Clovis	—
Kings	150,181	—	Hanford
Tulare	459,446	Visalia	Porterville, Tulare
Kern (Entire County)	873,092	Bakersfield	Delano
Kern (Valley Portion)	817,832 [1]	Bakersfield	Delano
San Joaquin Valley Total	**4,047,091**		

[1] Population estimate for Kern County (Valley Portion) was calculated using census tract data for the population living within the District's boundaries. The San Joaquin Valley Total includes the Kern (Valley Portion) population and not the Kern (Entire County) population. Data from California Department of Finance E–1 Population Estimates for Cities, Counties and the State, January 1, 2014.

Monitoring Objectives and Spatial Scales

Appendix D to 40 CFR Part 58 identifies three **basic monitoring objectives** that define the purpose of each analyzer:

- Provide air pollution data to the general public in a timely manner (**timely**/**public**).
- Support compliance with ambient air quality standards and emissions strategy development (**NAAQS comparison**).
- Support for air pollution research studies (**research support**).

Appendix D then identifies several general monitoring **site types** to meet the objectives that define what the monitor is measuring:

- Sites located to determine the **highest concentrations** in the area covered by the network.
- **Population exposure** sites to measure typical concentrations in areas of high population density.
- **Source impact** sites to determine the impact of significant sources or source categories on air quality.
- **General**/**background sites** determine background concentration levels.
- **Regional transport sites** located to determine the extent of regional pollutant transport among populated areas and in support of secondary standards
- Sites located to measure air pollution impacts on visibility, vegetation damage, or other welfare–related impacts.

Appendix D also identifies several scales of spatial representativeness, described in terms of physical dimensions of the air parcel or zone where air quality is expected to be reasonably consistent around the monitor. The monitor thus represents that area, not just the point of the monitor. The **spatial scales** are:

- **Microscale**: An area ranging from several meters up to about 100 meters.
- **Middle scale**: An area covering between about 100 meters to 0.5 kilometers.
- **Neighborhood scale**: Covering an area between 0.5 and 4.0 kilometers in range.
- **Urban scale**: Covering an area of city–like dimensions, from about 4 to 50 kilometers.
- **Regional scale**: Covering a rural area of reasonably homogeneous geography without large sources, extending from tens to hundreds of kilometers.
- **National and global scales**: Representing concentrations characterizing the nation and the globe as a whole.

New monitoring stations and new monitors that are intended to be compared to the NAAQS must meet EPA siting criteria. A particular site might be appropriate for one or more pollutants. Some sites may be appropriate for all air pollutant monitoring, while other sites are only appropriate for a particular pollutant. The District balances a wide range of pollutant siting criteria, spatial scales, monitoring objectives, and practical concerns as it plans and operates its monitoring network.

This Network Plan summarizes the state of the District's air monitoring network during 2013, and through May 2014. Additionally, changes that the District may initiate through December 2015 are described in the Summary of Planned Changes.

Pollutant Monitoring Requirements

Ozone

Ozone is formed when its precursors (oxides of nitrogen (NOx) and volatile organic compounds (VOC)) chemically react in the presence of heat and sunlight. The Valley's topography, high temperatures, subsidence inversions, and light winds are conducive to the formation of elevated ozone levels. Winds (at ground level or at higher altitudes) transport pollutants from other basins into the Valley, within the Valley to areas downwind, and from the Valley into other regions.

As specified in Table D–2 of Appendix D to Part 58, ozone monitoring site requirements are based on MSA and design values (see Table 5). Table 6 shows that the Valley's ozone monitoring network meets the requirements. Sites are intended to represent population exposures and maximum concentrations, and so most ozone monitors are representative of neighborhood and regional scales. The Valley's SLAMS ozone monitors are continuous analyzers that detect ozone

through ultraviolet absorption. As continuous devices, these monitors meet the "Timely/Public" objective, providing District staff with the data used in Air Quality Index (AQI) forecasting and reporting. The Valley's ozone monitoring sites, their spatial scales, site types, and basic monitoring objectives are shown in Tables 16, 17, 19, and 21 through 28.

Table 5: SLAMS Minimum Ozone Monitoring Requirements
(Table D–2 of Appendix D to Part 58)

MSA population, based on latest available census figures	Number of monitors required if:	
	Most recent 3–year design value concentrations ≥85% of any ozone NAAQS	Most recent 3–year design value concentrations <85% of any ozone NAAQS
> 10 million	4	2
4 – 10 million	3	1
350,000 – < 4 million	2	1
50,000 – < 350,000	1	0

Table 6: 8–Hour Ozone Requirements for the San Joaquin Valley

Metropolitan Statistical Area (MSA)	2014 Population	Highest 2014 Ozone Design Value in MSA (ppb)	≥85% of 2008 ozone NAAQS (75 ppb)	Number of SLAMS stations required	SLAMS stations in MSA
Stockton	710,731	79	Yes	2	2
Modesto	526,042	85	Yes	2	2
Merced	264,922	81	Yes	1	1
Madera	153,897	85	Yes	1	2
Fresno	964,040	95	Yes	2	5
Hanford–Corcoran	150,181	84	Yes	1	1
Visalia–Porterville	459,446	91	Yes	2	2
Bakersfield[1]	817,832	91	Yes	2	7

[1] Air monitors in the Eastern Kern County Air Pollution Control District would count towards the monitors required for the Bakersfield MSA. However, the "Number of active ozone monitors" listed here includes those in the Valley Portion of Kern County only.

Photochemical Assessment Monitoring Stations

The monitoring objective of Photochemical Assessment Monitoring Stations (PAMS) is research support. Federal regulations (Clean Air Act Section 182 and 40 CFR 58) require serious, severe, and extreme ozone nonattainment areas to have PAMS sites to take speciated measurements of ozone precursors and allow for better understanding of the effect of precursors, control measures, and photochemistry on ozone formation. PAMS sites measure ozone, NOx, total– and speciated–VOC for the PAMS program, CO, and meteorology concurrently. Although the Valley does not exceed federal or state standards for NO_2, NOx reductions contribute to air quality improvement for both ozone and PM.

There are four classifications of PAMS sites:

- Type 1: Background sites upwind of urban areas, where ozone concentrations are presumed not to be influenced by nearby urban emissions.
- Type 2: Maximum ozone precursor emissions sites, typically located in an urban center, where emissions strengths are the greatest.
- Type 3: Maximum ozone concentration sites, intended to show the highest ozone concentrations.
- Type 4: Downwind ozone monitoring sites intended to capture concentrations of transported ozone and precursor pollutants, and determine possible areas from which most of the transport may originate (Type 4 sites are currently not required for the San Joaquin Valley).

As shown in Table 7, the District has a total of six PAMS sites configured as two networks, one centered around Fresno and one around Bakersfield. The PAMS program operates from June 1 through August 31 every year on a 1 in 3 day sampling schedule with an hourly NMOC analyzer. At least four, three–hour integrated samples are collected each sampling day, referred to as a "Trend Day." However, additional samples are collected on "Episode Days," days that are forecasted to have high ozone concentrations. The goal is to sample on three to five multi–day episodes in an ozone season.

Table 7: San Joaquin Valley PAMS Sites

Fresno MSA	Madera–Pump Yard	Type 1: Upwind/Background site
	Clovis–Villa	Type 2: Maximum precursor emissions
	Parlier[1]	Type 3: Maximum ozone concentrations
Bakersfield MSA	Shafter	Type 1: Upwind/Background site
	Bakersfield–Muni	Type 2: Maximum precursor emissions
	Arvin[2]	Type 3: Maximum ozone concentrations

[1] The District is in the process of adding an NOy monitor to the site.
[2] PAMS equipment for the Type 3 site at the Arvin–Di Giorgio site will be installed when space becomes available.

Particulate Matter (PM)

Particulate matter (PM) can be emitted directly as primary PM, and it can form in the atmosphere through chemical reactions of precursors to form secondary PM. Primary PM can be emitted either naturally: windblown dust and wildfires; or from human (anthropogenic) activity: agricultural operations, industrial processes, combustion of wood and fossil fuels, construction and demolition activities, and entrainment of road dust. The resulting ambient PM mixture includes aerosols consisting of components of nitrates, sulfates, elemental carbons, organic carbon compounds, acid aerosols, trace metals, geological materials, etc. Under current regulations, particulate matter is differentiated by particle size as opposed to composition. Federal air quality standards differentiate two size fractions of PM: PM that is 10 microns or less in diameter (PM10) and the smaller subset that is 2.5 microns or less in diameter (PM2.5).

The mountain ranges that surround the Valley contribute to trapping pollutants, including PM, in the Valley. During the winter, weather systems bring rainfall to the Valley, but the atmospheric environment also becomes conducive to secondary PM formation. The Valley's frequent and strong winter temperature inversions prevent air from rising and particulates remain trapped near the surface. During winters with little rainfall or the Valley's hot, dry summers, the dry soils contribute to PM emissions when disturbed.

The California Regional Particulate Air Quality Study (CRPAQS) is the Valley's comprehensive particulate field study. CRPAQS monitoring occurred between December 1999 and February 2001 through the use of over 70 SPM PM10 sites and 50 SPM PM2.5 sites. Researchers have used CRPAQS measurements for database development, analysis, and modeling. Data collection for the study has been completed but the data analysis is still ongoing. In addition to CRPAQS, other studies assess particulate emissions from agricultural operations, unpaved and paved road particulate emissions, and particulate formation in fog episodes. The design of the Valley's current PM network is an outgrowth of the results and analysis from CRPAQS.

The Valley's PM monitoring network includes Federal Reference Method (FRM) monitors, Federal Equivalent Method (FEM) monitors, and Non–FRM/FEM monitors. FRM monitors for PM are manual filter–based monitors; samples are primarily collected on either a one–in–six day sampling schedule or a one–in–three day sampling schedule. FRM monitors meet the "Standards/Strategy" objective, helping agencies determine the Valley's attainment status and helping shape the strategies for reaching or maintaining PM attainment. FRM filters can also be analyzed for PM speciation, lending to their usage for "Research Support" objectives as well.

Beta Attenuation Monitors (BAM) and Tapered Element Oscillating Microbalance (TEOM) monitors are continuous, near real–time monitors that provide the hourly PM data used in AQI and Smoke Management System (SMS) burn allocations. Data from these monitors are also used in hazard reduction burning allocations and in residential

wood burning declarations. As such, these monitors help meet the "Timely/Public" objective.

Not all real–time monitors meet the "Standards/Strategy" objective because they do not meet the rigorous engineering design, quality assurance, and quality control standards necessary for comparison to the NAAQS. An FEM monitor is often a real–time monitor that has been designated by EPA as being equivalent to FRM monitors. FEMs satisfy both the "Standards/Strategy" objective and the "Timely/Public" objective. All of the Valley's TEOMs are FEMs, and some of the Valley's BAMs are FEMs.

Tables 16, 17, 18, and 20 through 28 show the Valley's PM10 and PM2.5 monitoring sites, their monitor types, spatial scales, site types, basic monitoring objectives, and current sampling frequencies.

PM10 Monitoring Requirements

The San Joaquin Valley has been redesignated to attainment for PM10, and the District's *2007 PM10 Maintenance Plan* and ongoing PM10 monitoring will assure continued compliance with the federal standard. Table 8 shows the minimum number of PM10 sites required per MSA and Table 9 shows the PM10 monitoring requirements for the San Joaquin Valley.

Table 8: Minimum PM10 Monitoring Requirements
(Table D–4 of Appendix D to Part 58)
(A range is presented, and the actual number of stations per area is jointly determined by EPA, the State, and the local agency)

Population category	High concentration: Ambient concentrations exceed the PM10 NAAQS by 20% or more (≥180 µg/m³)	Medium concentration: Ambient concentrations exceed 80% of the PM10 NAAQS (≥120 µg/m³)	Low concentration: Ambient concentrations less than 80% of the PM10 NAAQS (< 120 µg/m³), or no design value
> 1,000,000	6 – 10	4 – 8	2 – 4
500,000 – 1,000,000	4 – 8	2 – 4	1 – 2
250,000 – 500,000	3 – 4	1 – 2	0 – 1
100,000 – 250,000	1 – 2	0 – 1	0

Table 9: PM10 Monitoring requirements for the Valley

Metropolitan Statistical Area (MSA)	County	2014 Population	PM10		
			24–hour 2014 Highest concentration in MSA (µg/m³)[1]	Number of SLAMS stations required	SLAMS stations in MSA
Stockton	San Joaquin	710,731	110	1 - 2	2
Modesto	Stanislaus	526,042	120	2 - 4	2
Merced	Merced	264,922	90	0 – 1	1
Madera	Madera	153,897	90	0	1
Fresno	Fresno	964,040	120	2 - 4	2
Hanford–Corcoran	Kings	150,181	160	0 – 1	2
Visalia–Porterville	Tulare	459,446	100	0 – 1	1
Bakersfield	Kern	817,832	160	2 – 4	3

[1] Concentrations from pending exceptional events are not included.

PM2.5 Monitoring Requirements

The San Joaquin Valley is designated nonattainment for PM2.5. Table 10 shows the minimum number of PM2.5 sites required per MSA and Table 11 shows the PM2.5 monitoring requirements for the San Joaquin Valley.

Table 10: Minimum PM2.5 Monitoring Requirements

MSA population	**Most recent 3–year design value ≥85% of any PM2.5 NAAQS** (equivalent to an annual design value ≥ 10.2 µg/m³ or a 24–hour design value ≥ 29.8 µg/m³)	**Most recent 3–year design value <85% of any PM2.5 NAAQS** (equivalent to an annual design value < 10.2 µg/m³ or a 24–hour design value < 29.8 µg/m³), or no design value
> 1,000,000	3	2
500,000 – 1,000,000	2	1
50,000 – < 500,000	1	0

Table 11: PM2.5 Monitoring Requirements for the Valley

Metropolitan Statistical Area (MSA)	County	2014 Population	PM2.5[1]			
			24–hour 2012–2014 Design Value in MSA (µg/m³)	Annual 2012–2014 Design Value in MSA (µg/m³)	Number of SLAMS stations required	SLAMS stations in MSA
Stockton	San Joaquin	710,731	45	14.0	2	2
Modesto	Stanislaus	526,042	51	14.1	2	2
Merced	Merced	264,922	52	11.7	1	1
Madera	Madera	153,897	50	15.5	1	1
Fresno	Fresno	964,040	62	15.4	2	3
Hanford–Corcoran	Kings	150,181	66	16.8	1	1
Visalia–Porterville	Tulare	459,446	64	17.2	1	1
Bakersfield	Kern	817,832	71	19.7	2	3

[1] Air quality data may include data influenced by exceptional events and/or data completeness and substitution requirements.

PM Collocation Requirements

(40 CFR 58 Appendix A, Sections 3.2.5 and 3.2.6)

The District's Particulate Matter collocation requirements are met by the Primary Quality Assurance Organization (PQAO). CARB is the PQAO for the District as well as several other air districts. See CARB's Air Monitoring Network Plans for details on how collocation requirements are met by the PQAO. Table 20 shows the collocated PM monitors currently operating in the District's monitoring network.

Public Review of Changes to the PM2.5 Monitoring Network

Public input is required whenever the District proposes to move an existing violating PM2.5 monitor (40 CFR 58.10(c)). The District uses the annual Air Monitoring Network Plan to notify and seek public comment on any planned changes to the existing PM2.5 network. The public is provided 30 days to comment on the Air Monitoring Network Plan and any PM2.5 network changes. The plan is regularly posted on the District website, after which the public is notified of the availability of the document for the 30

day review. In the event of unanticipated changes to the PM2.5 network that occur outside the Air Monitoring Network Plan process, the District will post the required documentation on its website and seek public comment.

Carbon Monoxide

On August 12, 2011 EPA issued the decision to retain the existing NAAQS for CO. The primary standards are 9 parts per million (ppm) measured over 8 hours, and 35 ppm measured over 1 hour. Monitoring requirements for CO are specified in 40 CFR Part 58 as follows:

- CO monitors are required at all NCore sites. At least one NCore site is required in every state.
- One CO monitor is required to be placed at a near–road NO_2 monitoring station in a CBSA with population of 1 million or more. Moving an existing monitor to a new location is acceptable.
- EPA is providing authority to EPA Regional Administrators to require additional monitoring in case–by–case circumstances, such as in areas impacted by major stationary CO sources, in urban downtown areas, or urban street canyons, or in areas adversely impacted by meteorological and/or topographical influences.
- CO must be monitored at PAMS Type 2 sites with a trace level CO monitor.

Currently, the CBSAs within the District are comprised of less than 1 million people, thus the District is not required to place a CO monitor at a near–road NO_2 monitoring station. Monitoring has shown that the Valley's CO concentrations have not exceeded the NAAQS for over a decade. As noted in Section 4.2 of Appendix D of 40 CFR Part 58, there are no minimum requirements of the number of CO monitoring sites. The District and CARB continue CO monitoring to meet the requirement at its PAMS Type 2 sites and NCore site, and to supplement related meteorological and criteria pollutant data.

Nitrogen Dioxide

In 2010, EPA retained the annual average NO_2 standard of 53 parts per billion (ppb), and established a new 1–hour NO_2 standard at the level of 100 ppb. Recognizing that the current NO_2 network is not adequate for fully assessing compliance with the new NAAQS, EPA finalized a Three–Tier Network design that will represent NO_2 concentrations that occur near freeways, urban areas, and locations aimed at protecting susceptible and vulnerable communities. Per 40 CFR Part 58, the Three–Tier Network design is comprised of:

(1) One monitor that represents highest NO_2 exposure with a neighborhood scale or larger in CBSAs with more than 1,000,000 people.

Even though the District is not required to have an area–wide NO_2 monitor, the District operates an extensive NO_2 monitoring network. The District locates NO_2 analyzers as

required at PAMS sites and generally collocates NO_2 analyzers wherever an ozone monitor is required. Currently, these 16 monitors indicate that the District has low NO_2 levels that would be in compliance with both the NO_2 standards if the site met NAAQS siting criteria. Because these measurements are low and traffic volumes are also low when compared to other areas of the state, the District anticipates meeting the hourly standard once the near–road monitors are built and begin collecting data.

(2) Near–road monitoring at locations of expected maximum 1–hour NO_2 concentrations near heavily trafficked roads in urban areas.

Per Section 4 of Appendix D in 40 CFR Part 58, one microscale near-road monitor is required in each CBSA with a population of 500,000 and must be located adjacent to a road segment with a high annual average daily truck traffic (AADTT) count. An additional near-road monitor is required in CBSAs with populations of 2,500,000 or more; or in CBSAs with populations of 500,000 or more that have one or more road segments with 250,000 or more AADTT counts. The District is required to install one near-road NO_2 monitoring site in each of the Stockton, Modesto, Fresno, and Bakersfield CBSAs (four in total). Table 12 shows the requirements for and status of near-road NO_2 monitoring in the San Joaquin Valley. Locations have been selected in Fresno and Bakersfield and construction of the two sites is currently underway. The siting process for the Stockton and Modesto locations continues and will be presented to the public as required in a future network plan once siting is complete.

Table 12: Near-road NO_2 Monitoring in the San Joaquin Valley

Metropolitan Statistical Area (MSA)	2014 Population	Highest AADTT	Number of monitors required	SLAMS monitors in MSA
Stockton	710,731	40,128	1	Pending
Modesto	526,042	17,145	1	Pending
Fresno	964,040	14,945	1	Pending
Bakersfield	817,832	28,188	1	Pending

(3) A NO_2 network consisting of 40 monitors designed by the Regional Administrators to protect susceptible and vulnerable communities.

The third network, the Regional Administrator Required Monitoring Network (RA40) will consist of 40 NO_2 sites located throughout the United States and their locations will be determined by the Regional Administrators. These 40 sites would be in addition to the minimum NO_2 monitoring requirements. EPA Region 9 has asked the District to choose two sites for RA40 purposes. The sites are Arvin-Di Giorgio (once it is rebuilt and fully operational) and Parlier, which are located in towns with susceptible and vulnerable populations. In addition, the Arvin-Di Giorgio and Parlier sites are downwind from urban areas.

Lead

EPA revised the lead NAAQS and monitoring requirements in the Federal Register on November 12, 2008 (40 CFR 58.10). The rule became effective on January 26, 2011. EPA requires monitoring agencies to install non–source oriented lead monitors at NCore sites in CBSAs with populations of 500,000 or greater. The Fresno–Garland air monitoring site (an NCore site) is the only site within the District's network that meets these criteria. In December 2011, CARB began measuring lead at the Fresno-Garland site to satisfy this requirement. EPA also requires state monitoring agencies to use the emission threshold of 0.5 tons per year (tpy) when determining if a monitor should be placed near an industrial facility that emits lead. The emission threshold for airport sources is 1.0 tpy, except for airports that are included in special studies. The District has not identified any lead sources above the aforementioned thresholds, thus it is not required to monitor for that threshold at this time.

Reactive Nitrogen Compounds (NOy)

Reactive Nitrogen Compounds (NOy) are among the precursors to ozone and PM2.5. As part of the National Ambient Air Monitoring Strategy (NAAMS), EPA requires NOy monitoring at 75 locations across the United States in support of a number of objectives. NCore site requirements and the PAMS program include monitoring NOy in order to meet that requirement. Measuring NOy at NCore and PAMS sites is important for understanding ozone photochemistry.

Sulfur Dioxide

In 2010, EPA revised the SO_2 NAAQS and monitoring requirements in the Federal Register (40 CFR Part 58, Appendix D to Part 58 – Network Design Criteria of Ambient Air Quality Monitoring, Section 4.4). EPA established a new primary 1–hour standard of 75 ppb, and also revoked the previous 24–hour and annual primary standards. Under the revised SO_2 NAAQS, the monitoring requirements are determined by a Populations Weighted Emissions Index (PWEI) value in units of million persons–tons per year. The PWEI is calculated using each CBSA's updated census data and a combined total of the latest available county level SO_2 emissions data in the National Emissions Inventory for the counties in each CBSA. The population of a CBSA is multiplied with the total amount of SO_2 in tons per year emitted within a CBSA, and the resulting product is then divided by one million to produce the PWEI value. The Valley's PWEI values are shown in Table 13.

Table 13: San Joaquin Valley's Populations Weighted Emissions Index for 2011

County (CBSA)	Total County Population[1]	SO_2 Tons per Year [2]	PWEI
San Joaquin	710,731	1,198	851
Stanislaus	526,042	479	252
Merced	264,922	138	37
Madera	153,897	217	33
Fresno	964,040	655	631
Kings	150,181	98	15
Tulare	459,446	1,624	746
Kern	873,092	3,069	2,680

[1] Total County Population includes the entire county. Population data from California Department of Finance E–1 Population Estimates for Cities, Counties and the State, January 1, 2014.

[2] SO_2 Tons per Year includes the entire county. The SO_2 data is the most recent data for each county from the 2011 National Emission Inventory. The 2014 SO_2 emission inventory data is not yet available.

As per 40 CFR Part 58, Appendix D to Part 58 – Network Design Criteria of Ambient Air Quality Monitoring, Section 4.4, at least three SO_2 monitors are required in CBSAs with a PWEI value equal to or greater than 1,000,000. CBSAs with a PWEI value equal to or greater than 100,000, but less than 1,000,000, are required to have at least two SO_2 monitors. A minimum of one SO_2 is required in CBSAs with a PWEI value equal to or greater than 5,000, but less than 100,000.

As determined by the above Network Design Criteria PWEI, the highest PWEI value (Kern County) is only 2,680, far below the minimum of 5,000 that would require one monitor. Incidentally, the Distinct does not exceed the federal standard for SO2 and for CBSAs that do not exceed the federal SO_2 standard there is no required number of SO_2 monitors. As a result, there are no SO_2 monitoring requirements for the District. Despite not having any monitoring requirements, there is one SO_2 monitor operating within the District's network. This monitor is located at the Fresno–Garland AMS as part of the NCore Network.

Toxics

The airborne toxics program is run by CARB. Toxics measurements are collected at Stockton–Hazelton, Fresno–Garland, and Bakersfield–California. Periodic, 24–hour samples are analyzed for the following gases: benzene, Carbon tetrachloride, chloroform, ethylene dibromide, ethylene dichloride, methyl chloroform, methylene chloride, perchloroethylene, toluene, trichloroethylene, and m–, p–, and o–xylene. The samples are also analyzed for the following particulate metals: Arsenic and Hexavalent Chromium–6. CARB's Integrated NMHC (NMH) sampling program and the District's PAMS NMH sampling program also identify and quantify several toxic hydrocarbon species.

NCore

EPA's October 2006 ambient air monitoring amendments established a requirement for NCore multi–pollutant monitoring stations to be operational by January 1, 2011. The Fresno–First site, which was operated by CARB, was selected by EPA to be an NCore site. CARB submitted an NCore plan to EPA in November 2009. The Fresno—First site already met the NCore requirements for filter–based and continuous PM2.5, speciated PM2.5, ozone, and meteorology. In December 2010, CARB installed trace level CO, trace level SO_2, trace level NOy, and continuous PM–Coarse monitors at this site. A gas dilution calibrator, a zero air generator, and digital data loggers were also installed to support NCore monitoring. In December 2011, CARB installed a TSP–lead sampler which completed all the pollutant monitoring requirements for the NCore program. Additionally, CARB moved the Fresno–First site two blocks north to Garland Avenue. The Fresno–Garland site continues to serve as an NCore site.

Meteorology

A variety of meteorological parameters are measured for various District programs affected by weather. Such programs include air quality forecasting, PAMS, exceptional events, long–term planning, and pollutant trend assessment. These activities help protect public health and have made the public and media more aware of air quality and what can be done to reduce air pollution. See Table 29 for the meteorological parameters measured in the Valley.

Monitoring Site Information

Table 14 lists detailed information about all of the ambient air monitoring sites in the San Joaquin Valley Air Basin.

Table 14: Ambient Air Monitoring Sites in the San Joaquin Valley Air Basin

.MSA, County	Site Name	Address	Parameters Monitored
Stockton, San Joaquin	Stockton–Hazelton	1593 E. Hazelton St., Stockton, CA 95205	Ozone, PM10 FRM, PM2.5 BAM/FEM, CO, NO_2, toxics, wind speed, wind direction, outdoor temperature, relative humidity
	Stockton–Wagner/Holt	8778 Brattle Pl., Stockton, CA 95209	PM10 FRM
	Manteca	530 Fishback Rd., Manteca, CA 95337	PM2.5 BAM/FEM, PM10 TEOM/FEM, wind speed, wind direction, outdoor temperature, barometric pressure
	Tracy–Airport	5749 S. Tracy Blvd., Tracy, CA 95376	Ozone, PM10 TEOM/FEM, PM2.5 BAM non–regulatory, NO_2, wind speed, wind direction, outdoor temperature, barometric pressure, radio acoustic sounding system (RASS)
Modesto, Stanislaus	Modesto–14th St	814 14th Street, Modesto, CA 95354	Ozone, PM10 FRM, PM10 FEM, PM2.5 FRM, PM2.5 BAM/FEM, CO, wind speed, wind direction, outdoor temperature, barometric pressure
	Turlock	1034 S. Minaret St., Turlock, CA 95380	Ozone, PM10 FRM, PM2.5 BAM FEM, CO, NO2, wind speed, wind direction, outdoor temperature, barometric pressure
Merced, Merced	Merced–Coffee	385 S. Coffee St., Merced, CA 95340	Ozone, PM2.5 BAM/FEM, NO_2, wind speed, wind direction, outdoor temperature
	Merced–M St	2334 M Street, Merced, CA 95340	PM10 FRM, PM2.5 FRM
Madera, Madera	Madera–City	28261 Avenue 14, Madera, CA 93638	Ozone, PM10 TEOM/FEM, PM2.5 BAM/FEM, PM2.5 FRM, wind speed, wind direction, outdoor temperature, barometric pressure, relative humidity, solar radiation
	Madera–Pump Yard	Avenue 8 and Road 29 1/2, Madera, CA 93637	Ozone, NO_2, NMH, Total– and Speciated–VOC, wind speed, wind direction, outdoor temperature, relative humidity, barometric pressure, solar radiation for PAMS program

Table 14 Ambient Air Monitoring Sites in the San Joaquin Valley Air Basin (Continued)

MSA, County	Site Name	Address	Parameters Monitored
Fresno, Fresno	Clovis–Villa	908 N. Villa Ave., Clovis, CA 93612	Ozone, PM10 FRM, PM2.5 FRM, PM2.5 BAM/FEM, CO, NO_2, NMH, Total– and Speciated–VOC, wind speed, wind direction, outdoor temperature, relative humidity, barometric pressure, solar radiation for PAMS program
	Fresno–Drummond	4706 E. Drummond St., Fresno, CA 93725	Ozone, PM10 FRM, CO, NO_2, wind speed, wind direction, outdoor temperature, barometric pressure
	Fresno–Garland	3727 N. First St, Ste. 104, Fresno CA 93726	Ozone, NO_2, NOy, CO, SO_2, PM10 FEM ($PM_{10-2.5}$), PM2.5 FRM, PM2.5 FEM/BAM, PM2.5 BAM/Non–FEM non–regulatory, Lead, toxics, wind direction, outdoor temperature, relative humidity, barometric pressure
	Fresno–Foundry[1]	2482 Foundry Park Ave, Fresno, CA 93706	NO_2, outdoor temperature, wind speed, wind direction, barometric pressure, relative humidity
	Fresno–Pacific	1716 Winery, Fresno, CA 93726	PM2.5 FRM
	Fresno–Sky Park	4508 Chennault Ave, Fresno, CA 93722	Ozone, CO, NO_2, wind speed, wind direction, outdoor temperature
	Huron	16875 4th St., Huron, CA 93234	PM2.5 BAM/Non–FEM non–regulatory, barometric pressure
	Parlier	9240 S. Riverbend Ave., Parlier, CA 93648	Ozone, NO_2, NMH, Total– and Speciated–VOC, wind speed, wind direction, outdoor temperature, relative humidity, barometric pressure, solar radiation for PAMS program
	Tranquillity	32650 W. Adams, Tranquillity, CA 93668	Ozone, PM2.5 BAM/FEM, wind speed, wind direction, outdoor temperature, barometric pressure
Hanford–Corcoran, Kings	Corcoran–Patterson	1520 Patterson Ave, Corcoran, CA 93212	PM10 TEOM/FEM, PM2.5 FRM, wind speed, wind direction, outdoor temperature, barometric pressure
	Hanford–Irwin	807 S. Irwin St, Hanford, CA 93230	Ozone, PM10 FRM, PM10 TEOM/FEM, PM2.5 BAM/FEM, NO_2, wind speed, wind direction, outdoor temperature, barometric pressure

[1]Near-road NO_2 monitoring station

Table 14 Ambient Air Monitoring Sites in the San Joaquin Valley Air Basin (Continued)

MSA, County	Site Name	Address	Parameters Monitored
Visalia–Porterville, Tulare	Porterville	1839 S. Newcomb St., Porterville, CA 93257	Ozone, PM2.5 BAM non–regulatory, wind speed, wind direction, outdoor temperature, barometric pressure
	Sequoia–Ash Mountain	Ash Mountain, Sequoia National Park CA	Ozone, PM2.5 BAM non–regulatory, wind speed, wind direction, outdoor temperature, relative humidity, solar radiation
	Sequoia–Lower Kaweah	Lower Kaweah Campground, Sequoia National Park, CA	Ozone, wind speed, wind direction, outdoor temperature, relative humidity, solar radiation
	Visalia–Airport	9501 West Airport Drive, Visalia, CA 93277	Wind speed, wind direction, outdoor temperature, relative humidity, barometric pressure, solar radiation, radio acoustic sounding system (RASS)
	Visalia–Church St	310 N. Church St St., Visalia, CA 93291	Ozone, PM10 FRM, PM2.5 FRM, PM2.5 BAM non–regulatory, NO_2, wind speed, wind direction, outdoor temperature, barometric pressure
Bakersfield, Kern	Arvin–Di Giorgio	19405 Buena Vista Blvd, Arvin, CA 93203	Ozone, outdoor temperature, wind speed, wind direction
	Bakersfield–Airport (Planz)	401 E. Planz Rd., Bakersfield CA 93307	PM2.5 FRM
	Bakersfield–Muni	2000 South Union Ave., Bakersfield, CA 93307	Ozone, CO, NO_2, NMH, Total– and Speciated–VOC wind speed, wind direction, outdoor temperature, relative humidity, barometric pressure, solar radiation for PAMS program
	Bakersfield–California	5558 California Ave., Bakersfield, CA 93309	Ozone, PM10 FRM, PM2.5 FRM, PM2.5 BAM/Non–FEM non–regulatory, NO_2, toxics, wind speed, wind direction, outdoor temperature, relative humidity, barometric pressure, solar radiation

Table 14 Ambient Air Monitoring Sites in the San Joaquin Valley Air Basin (Continued)

MSA, County	Site Name	Address	Parameters Monitored
Bakersfield, Kern	Bakersfield–Golden / M St	2820 M St., Bakersfield, CA 93301	PM2.5 FRM, PM10 FRM
	Edison	Johnson Farm–Shed Rd, Edison, CA 93320	Ozone, NO_2, wind speed, wind direction, outdoor temperature
	Lebec	1277 Beartrap Road, Lebec, CA 93243	PM2.5 BAM non–regulatory, wind speed, wind direction, outdoor temperature, barometric pressure
	Maricopa	755 Stanislaus St., Maricopa, CA 93352	Ozone, wind speed, wind direction, outdoor temperature, barometric pressure
	Oildale	3311 Manor St, Oildale, CA 93308	Ozone, PM10 FRM, wind speed, wind direction, outdoor temperature
	Shafter	578 Walker St, Shafter, CA 93263	Ozone, NO_2, NMH, Total– and Speciated–VOC, wind speed, wind direction, outdoor temperature, relative humidity, barometric pressure, solar radiation for PAMS program

Table 15: Parameters Monitored

Site Name	Ozone	PM2.5	PM10	NO_2	CO	SO_2	NMH	NO_y	Lead	Toxics	Speciated VOC	Total VOC	RASS[1]	Meteorology
Stockton–Hazelton	✓	✓	✓	✓	✓					✓				✓
Stockton–Wagner/Holt			✓											
Manteca		✓	✓											✓
Tracy–Airport	✓	✓	✓	✓									✓	✓
Modesto–14th St	✓	✓	✓		✓									✓
Turlock	✓	✓	✓	✓	✓									✓
Merced–Coffee	✓	✓		✓										✓
Merced–M St		✓	✓											
Madera–City	✓	✓	✓											✓
Madera–Pump Yard	✓			✓			✓				✓	✓		✓
Tranquillity	✓	✓												✓
Fresno–Sky Park	✓			✓	✓									✓
Clovis–Villa	✓	✓	✓	✓	✓		✓				✓	✓		✓
Fresno–Garland	✓	✓	✓	✓	✓	✓		✓	✓	✓				✓
Fresno–Pacific		✓												
Fresno–Foundry[2]				✓										✓
Fresno–Drummond	✓		✓	✓	✓									✓
Parlier	✓			✓			✓				✓	✓		✓
Huron		✓												
Hanford–Irwin	✓	✓	✓	✓										✓
Corcoran–Patterson		✓	✓											✓
Visalia–Airport													✓	✓
Visalia–Church St	✓	✓	✓	✓										✓
Sequoia–Lower Kaweah	✓													✓
Sequoia–Ash Mountain	✓	✓												✓
Porterville	✓	✓												✓
Shafter	✓			✓			✓				✓	✓		✓
Oildale	✓		✓											✓
Bakersfield–Golden / M St		✓	✓											
Bakersfield–California	✓	✓	✓	✓						✓				✓
Edison	✓			✓										✓
Bakersfield–Muni	✓			✓	✓		✓				✓	✓		✓
Bakersfield–Airport (Planz)		✓												
Arvin–Di Giorgio	✓													✓
Maricopa	✓													✓
Lebec		✓												✓

[1] Radio acoustic sounding system (RASS)
[2] Near-road NO_2 monitoring station

Table 16: Fresno-Garland NCore Site

Pollutant	Site Type	Spatial Scale	Basic Monitoring Objective	Current Sampling Frequency	QA Collocated
Ozone	HC,PE	U	NC, RS	Hourly	
PM2.5 (manual)	HC	N	NC, RS	1:1	2 FRMs
PM2.5 (continuous)	HC	N	NC, RS	Hourly	
PM10 STP (continuous)	PE	N	NC, RS	Hourly	
PM10 (Lead TSP) (manual)	PE	N	NC, RS	1:6	
PM10 ($PM_{10-2.5}$) (continuous)	PE	N	NC, RS	Hourly	1 FEM
NO2	PE	U	NC, RS	Hourly	
CO	PE	U	NC, RS	Hourly	
SO2	PE	U	NC, RS	Hourly	
NOy	PE	U	NC, RS	Hourly	
Toxics	PE	N	RS, TP	Hourly	

PE – Population Exposure HC – Highest Concentration N – Neighborhood U – Urban RS – Research
NC – NAAQS Comparison TP = Timely/Public Hourly = One sample every hour 1:1 = One sample per day
1:6 = 1 in 6 day sampling

Table 17: Non–EPA Federal Monitors

Sequoia–Ash Mountain				
Parameter	**Site Type**	**Spatial Scale**	**Basic Monitoring Objective**	**Current Sampling Frequency**
Ozone	HC, RT	R	NC, RS, TP	Hourly
PM2.5 (continuous)	RT	R	NC, RS, TP	Hourly
Meteorology	GB	R	RS, TP	Hourly
Sequoia–Lower Kaweah				
Parameter	**Site Type**	**Spatial Scale**	**Basic Monitoring Objective**	**Current Sampling Frequency**
Ozone	RT	R	NC, RS, TP	Hourly
Meteorology	GB	R	RS, TP	Hourly

RT = Regional Transport GB – General Background R = Regional NC – NAAQS Comparison RS – Research
TP – Timely/Public Hourly = One sample every hour

Table 18: Other PM2.5 Monitors

Site Name	PM2.5 Speciation	PM2.5
Modesto–14th St	Supplemental Speciation	
Fresno–Garland	Supplemental Speciation	Trend; IMPROVE
Visalia–Church St	Supplemental Speciation	
Bakersfield–California	Supplemental Speciation	

Table 19: Gaseous Monitors

Site Name	Monitor Type					
	Ozone	NO_2	CO	NMH	Spec. VOC	Total VOC
Stockton–Hazelton	SLAMS	SLAMS	SLAMS			
Tracy–Airport	SLAMS	SLAMS				
Modesto–14th St	SLAMS		SLAMS			
Turlock	SLAMS	SLAMS	SLAMS			
Merced–Coffee	SLAMS	SLAMS				
Madera–City	SLAMS					
Madera–Pump Yard	PAMS/SLAMS	PAMS		PAMS	PAMS	PAMS
Tranquillity	SPM					
Fresno–Sky Park	SLAMS	SLAMS	SLAMS			
Clovis–Villa	SLAMS	PAMS	SLAMS	PAMS	PAMS	PAMS
Fresno–Foundry[1]		SLAMS				
Fresno–Drummond	SLAMS	SLAMS	SLAMS			
Parlier	PAMS/SLAMS	PAMS		PAMS	PAMS	PAMS
Hanford–Irwin	SLAMS	SLAMS				
Visalia–Church St	SLAMS	SLAMS				
Porterville	SLAMS					
Shafter	PAMS/SLAMS	PAMS		PAMS	PAMS	PAMS
Oildale	SLAMS					
Bakersfield–California	SLAMS	SLAMS				
Edison	SLAMS	SLAMS				
Bakersfield–Muni	PAMS/SLAMS	PAMS	SLAMS	PAMS	PAMS	PAMS
Arvin–Di Giorgio	SLAMS					
Maricopa	SLAMS					

[1] NO_2 near-road monitoring station

Table 20: PM Monitors

Site Name	Monitor Type				QA Collocated		
	PM2.5 (manual)	PM2.5 (cont.)	PM10 (manual)	PM10 (cont.)	PM2.5 (manual)	PM2.5 (cont.)	PM10 (manual)
Stockton–Hazelton		SLAMS	SLAMS				
Stockton–Wagner/Holt			SLAMS				
Manteca		SLAMS		SLAMS			
Tracy–Airport		SPM, Non–FEM		SPM			
Modesto–14th St	SLAMS	SLAMS	SLAMS			1 FEM	
Turlock		SLAMS	SLAMS				
Merced–Coffee		SPM					
Merced–M St	SLAMS		SLAMS				
Madera–City	SLAMS	SLAMS		SLAMS	1 FRM		
Tranquillity		SPM					
Clovis–Villa	SLAMS (primary)	SPM	SLAMS			1 FEM	
Fresno–Pacific	SLAMS						
Fresno–Drummond			SLAMS (primary)				1 FRM
Huron		SPM, Non–FEM					
Corcoran–Patterson	SLAMS			SLAMS			
Hanford–Irwin		SPM, Reg	SLAMS	SLAMS			
Visalia–Church St	SLAMS	SPM, Non-Reg, Non-FEM	SLAMS				
Porterville		SPM, Non-FEM					
Oildale			SLAMS				
Bakersfield–Golden / M St	SLAMS		SLAMS				
Bakersfield–California	SLAMS (primary)	SPM, Non–FEM, Non–Reg (primary)	SLAMS (primary)		1 FRM	1 SPM, Non–FEM, Non–Reg	1 FRM
Bakersfield–Airport (Planz)	SLAMS						
Lebec		SPM, Non–FEM					

cont. = Continuous Reg = Regulatory Non-Reg = Non--Regulatory

Table 21: SLAMS – Site Type

Site Name	Ozone	PM2.5 (manual)	PM2.5 (cont.)	PM10 (manual)	PM10 (cont.)	NO_2	CO	NMH
Stockton–Hazelton	PE		HC, PE	PE		PE	PE	
Stockton-Wagner/Holt				PE				
Manteca			PE		PE			
Tracy–Airport	HC, RT					PE		
Modesto–14th St	PE		PE	PE			PE	
Turlock	HC,PE		HC, PE	HC, PE		PE	PE	
Merced–Coffee	PE		HC			PE		
Merced–M St		HC, PE		HC, PE				
Madera–City	HC, PE	HC, PE	HC, PE		HC, PE			
Madera–Pump Yard	GB					PE		PE
Fresno–Sky Park	PE, RT					PE	PE	
Clovis–Villa	HC, PE	HC		PE		HC	PE	PE
Fresno–Pacific		PE						
Fresno–Foundry[1]						HC		
Fresno–Drummond	HC,PE, RT			HC, PE		HC	PE	
Parlier	RT					PE		PE
Corcoran–Patterson		HC			HC			
Hanford–Irwin	HC, PE			PE		PE		
Visalia–Church St	PE	HC, PE		HC, PE		PE		
Porterville	PE							
Shafter	GB					PE		PE
Oildale	RT			HC, PE				
Bakersfield–Golden / M St					HC			
Bakersfield–California	PE	HC, PE		PE	HC	PE		
Edison	RT					PE		
Bakersfield–Muni	HC					HC	PE	PE
Bakersfield–Airport (Planz)		HC, PE						
Arvin–Di Giorgio	HC, RT							
Maricopa	RT							

PE – Population Exposure HC – Highest Concentration RT – Regional Transport GB – General/Background
cont. = Continuous
[1] NO_2 near-road monitoring station

Table 22: SLAMS – Spatial Scale

Site	Ozone	PM2.5 (manual)	PM2.5 (cont.)	PM10 (manual)	PM10 (cont.)	NO_2	CO	NMH
Stockton–Hazelton	N		N	N		N	N	
Stockton-Wagner/Holt				N				
Manteca			N		N			
Tracy–Airport	U					U		
Modesto–14th St	N	N	N	N			N	
Turlock	N		N	N		N	N	
Merced–Coffee	N		N			N		
Merced–M St		N		N				
Madera–City	N	N	N		N			
Madera–Pump Yard	N					N		N
Fresno–Sky Park	N					N	N	
Clovis–Villa	N	N		N		N	N	N
Fresno–Pacific		N						
Fresno–Foundry[1]						MC		
Fresno–Drummond	N			N		N	N	
Parlier	N					N		N
Corcoran–Patterson		N			N			
Hanford–Irwin	N		N	N		N		
Visalia–Church St	N	N		N		N		
Porterville	N							
Shafter	N					N		N
Oildale	N			N				
Bakersfield–Golden / M St		N		N				
Bakersfield–California	N	N	N	N		N		
Edison	N					U		
Bakersfield–Muni	N					N	N	N
Bakersfield–Airport (Planz)		N						
Arvin–Di Giorgio	N							
Maricopa	N							

cont. = Continuous N = Neighborhood U = Urban MC = Microscale

[1] NO_2 near-road monitoring station

Table 23: SLAMS – Basic Monitoring Objective

Site	Ozone	PM2.5 (manual)	PM2.5 (cont.)	PM10 (manual)	PM10 (cont.)	NO_2	CO	NMH
Stockton–Hazelton	NC		NC	NC		NC	NC	
Stockton-Wagner/Holt				NC,RS				
Manteca			NC,RS,TP		NC,RS,TP			
Tracy–Airport	NC,RS,TP							
Modesto–14th St	NC	NC	NC	NC	NC		NC	
Turlock	NC,RS,TP		NC,RS,TP	NC,RS			NC	
Merced–Coffee	NC,RS,TP							
Merced–M St		NC,RS,TP		NC,RS				
Madera–City	NC,RS,TP	NC,RS,TP	NC,RS,TP		NC,RS,TP			
Madera–Pump Yard	NC,RS,TP							RS
Fresno–Sky Park	NC,RS,TP						NC	
Clovis–Villa	NC,RS,TP	NC,RS		NC,RS			NC	RS
Fresno–Pacific		NC,RS						
Fresno–Foundry[1]					NC,RS,TP			
Fresno–Drummond	NC,RS,TP			NC,RS			NC	
Parlier	NC,RS,TP							RS
Corcoran–Patterson		NC,RS			NC,RS			
Hanford–Irwin	NC,RS,TP			NC,RS		NC,RS,TP		
Visalia–Church St	NC	NC	RS, TP	NC		NC		
Porterville	NC,RS,TP							
Shafter	NC					NC		RS
Oildale	NC			NC				
Bakersfield–Golden / M St		NC		NC				
Bakersfield–California	NC	NC	RS, TP	NC		NC		
Edison	NC					NC		
Bakersfield–Muni	NC,RS,TP						NC	RS
Bakersfield–Airport (Planz)		NC						
Arvin–Di Giorgio	NC							
Maricopa	NC,RS,TP							

cont. = Continuous NC – NAAQS Comparison RS – Research TP – Timely/Public

[1] NO_2 near-road monitoring station

Table 24: SLAMS – Current Sampling Frequency

Site Name	Ozone	PM2.5 (manual)	PM2.5 (cont.)	PM10 (manual)	PM10 cont.)	NO_2	CO	NMH
Stockton–Hazelton	Hourly		Hourly	1:6		Hourly	Hourly	
Stockton-Wagner/Holt				1:6				
Manteca			Hourly		Hourly			
Tracy–Airport	Hourly					Hourly		
Modesto–14th St	Hourly	1:3	Hourly	1:6			Hourly	
Turlock	Hourly		Hourly	1:6		Hourly	Hourly	
Merced–Coffee	Hourly		Hourly			Hourly		
Merced–M St		1:3		1:6				
Madera–City	Hourly	1:3	Hourly		Hourly			
Madera–Pump Yard	Hourly					Hourly		Hourly
Fresno–Sky Park	Hourly					Hourly	Hourly	
Clovis–Villa	Hourly	1:3		1:6		Hourly	Hourly	Hourly
Fresno–Pacific		1:3						
Fresno–Foundry[1]						Hourly		
Fresno–Drummond	Hourly			1:6		Hourly	Hourly	
Parlier	Hourly					Hourly		Hourly
Corcoran–Patterson		1:3			Hourly			
Hanford–Irwin	Hourly		Hourly	1:6		Hourly		
Visalia–Church St	Hourly	1:3		1:6		Hourly		
Porterville	Hourly							
Shafter	Hourly					Hourly		Hourly
Oildale	Hourly			1:6				
Bakersfield–Golden / M St		1:3		1:6				
Bakersfield–California	Hourly	1:1	Hourly	1:6		Hourly		
Edison	Hourly					Hourly		
Bakersfield–Muni	Hourly					Hourly	Hourly	Hourly
Bakersfield–Airport (Planz)		1:3						
Arvin–Di Giorgio	Hourly							
Maricopa	Hourly							

Hourly = One sample every hour 1:1 = One sample per day 1:3 = 1 in 3 day sampling 1:6 = 1 in 6 day sampling
cont. = Continuous
[1] NO2 near-road monitoring station

Table 25: SPM – Site Type

Site Name	Ozone	PM2.5 (continuous)	PM10 (continuous)
Tracy–Airport		RT	RT
Clovis–Villa		PE	
Tranquillity	PE		
Huron		PE	
Hanford–Irwin			PE
Visalia–Church St		PE	
Porterville		PE	
Bakersfield–California		PE	
Lebec		PE	

PE – Population Exposure HC – Highest Concentration RT – Regional Transport

Table 26: SPM – Spatial Scale

Site Name	Ozone	PM2.5 (continuous)	PM10 (continuous)
Tracy–Airport		N	N
Clovis–Villa		N	
Tranquillity	U		
Huron		N	
Hanford–Irwin			N
Visalia–Church St		N	
Porterville		N	
Bakersfield–California		N	
Lebec		N	

N – Neighborhood U – Urban

Table 27: SPM – Basic Monitoring Objective

Site	Ozone	PM2.5 (continuous)	PM10 (continuous)
Tracy–Airport		RS, TP	NC, RS, TP
Clovis–Villa		TP	
Tranquillity	TP	NC, RS, TP	
Huron		RS, TP	
Hanford–Irwin			RS, TP
Visalia–Church St		RS, TP	
Porterville		RS, TP	
Bakersfield–California		RS, TP	
Lebec		RS, TP	

NC – NAAQS Comparison RS – Research TP – Timely/Public

Table 28: SPM – Current Sampling Frequency

Site	Ozone	PM2.5 (continuous)	PM10 (continuous)
Tracy–Airport		Hourly	Hourly
Clovis–Villa		Hourly	
Tranquillity	Hourly		
Huron		Hourly	
Hanford–Irwin			Hourly
Visalia–Church St		Hourly	
Porterville		Hourly	
Bakersfield–California		Hourly	
Lebec		Hourly	

Hourly = One sample every hour

Table 29: San Joaquin Valley Stations Monitoring Meteorology

Site Name	Wind Speed	Wind Direction	Outdoor Temperature	Relative Humidity	Barometric Pressure	Solar Radiation
Stockton–Hazelton	✓	✓	✓	✓		
Manteca	✓	✓	✓		✓	
Tracy–Airport	✓	✓	✓		✓	
Modesto–14th St	✓	✓	✓		✓	
Turlock	✓	✓	✓		✓	
Merced–Coffee	✓	✓	✓			
Madera–City	✓	✓	✓	✓	✓	✓
Madera–Pump Yard	✓	✓	✓	✓	✓	✓
Tranquillity	✓	✓	✓		✓	
Fresno–Sky Park	✓	✓	✓			
Clovis–Villa	✓	✓	✓	✓	✓	✓
Fresno–Garland	✓	✓	✓	✓	✓	
Fresno–Foundry[1]	✓	✓	✓	✓	✓	
Fresno–Drummond	✓	✓	✓		✓	
Parlier	✓	✓	✓	✓	✓	✓
Huron					✓	
Hanford–Irwin	✓	✓	✓		✓	
Corcoran–Patterson	✓	✓	✓		✓	
Visalia–Airport	✓	✓	✓	✓	✓	✓
Visalia–Church St	✓	✓	✓		✓	
Sequoia–Lower Kaweah	✓	✓	✓	✓		✓
Sequoia–Ash Mountain	✓	✓	✓	✓		✓
Porterville	✓	✓	✓		✓	
Shafter	✓	✓	✓	✓	✓	✓
Oildale	✓	✓	✓			
Bakersfield–California	✓	✓	✓	✓	✓	✓
Edison	✓	✓	✓			
Bakersfield–Muni	✓	✓	✓	✓	✓	✓
Arvin–Di Giorgio	✓	✓	✓			
Maricopa	✓	✓	✓		✓	
Lebec	✓	✓	✓		✓	

[1] NO2 near-road monitoring station

Improvements and Changes to the District's Air Monitoring Network

The Valley air monitoring network is continually being improved. MSA/CBSA-specific changes are generally described below. Before any action is taken on the planned changes noted in this section, the District will work with ARB and EPA, as appropriate, to address necessary requirements for documentation.

Network Changes during 2014/2015

As outlined in the Appendices of the District's *2014 Air Monitoring Network Plan*, the District committed to building several new sites and making other changes to the air monitoring network. As planned, the District has re-commenced operations at the Bakersfield-Golden/M Street site, and the Fresno-Foundry near-road NO_2 site should become operational later in 2015. In addition, construction of the Bakersfield-Westwind near-road NO_2 site is underway and should also be completed by the end of 2015. In the *2014 Air Monitoring Network Plan*, the District also outlined planned changes to the carbon monoxide network, the closure of the Stockton-Wagner/Holt site, and changing the classification of the PM10 analyzer at Manteca to SLAMS. It is anticipated that EPA will approve these network modifications and that these changes will be implemented by the end of 2015.

Another important change that occurred was the installation of a PM2.5 FRM at the Madera-City site. This monitor has been designated as a collocated monitor to meet EPA's quality control, accuracy, and precision requirements.

Planned Improvements and Other Changes Scheduled for 2015/2016

Near-Road NO_2 Air Monitoring Sites

The District is required to have four (4) near-road NO_2 air monitoring sites operating by January 1, 2017. These sites are located in the Stockton, Modesto, Fresno, and Bakersfield CBSAs. In addition to the progress on the near-road NO_2 sites in the Fresno and Bakersfield CBSAs, the location selection process and documentation efforts for the sites in the Stockton and Modesto CBSAs are continuing. The District plans to meet the public notification requirements outlined in 40 CFR 58.10 for the near-road NO2 sites planned for the Stockton and Modesto CBSAs in the *2016 Air Monitoring Network Plan* when their siting plans are finalized.

Termination of Carbon Monoxide Monitoring at Selected Sites

As recommended by EPA to reduce redundancy, increase efficiency and effectiveness, and minimize costs, in the *2014 Air Monitoring Network Plan* the District proposed to remove from operation the carbon monoxide (CO) monitors at the Turlock (06-099-0006), Fresno-Sierra Sky Park (06-019-0242), and Fresno-Drummond (06-019-0007) air monitoring sites. This action helps the District to "right-size" the air monitoring

network and reduces costs. The District and ARB will continue to operate the remaining CO monitors in the network. If this network modification is approved by EPA, this monitoring change is anticipated to occur before the end of 2015.

PAMS Type 3 Site

The District is required to have a PAMS Type 3 air monitoring station in the Bakersfield MSA, however the PAMS monitoring equipment that was located at the Arvin-Bear Mountain site is no longer operating since the time the site was closed years ago. When ARB establishes an EPA approved permanent replacement site in the Arvin area that is capable of housing the PAMS equipment, the District will install PAMS Type 3 equipment at that site and recommence monitoring.

Closure of Stockton-Wagner/Holt Site

Currently, the District and ARB operate four (4) PM10 monitors at different locations in the Stockton MSA. Two (2) of the monitors are part of the SLAMS network and the other two (2) monitors are SPMs. In Appendix F of the *2014 Air Monitoring Network Plan*, the District proposed a change in classification of the PM10 SPM at the Manteca site (06-077-2010) to SLAMS; and the closure of the Stockton-Wagner/Holt site (06-077-3010) which monitors PM10 only. These changes would leave the Stockton MSA with three (3) PM10 monitors. Since two (2) of the monitors would be SLAMS monitors, the minimum monitoring requirements for the MSA would still be met. If this network modification is approved by EPA, this monitoring change is anticipated to occur before the end of 2015.

Fresno-Sierra Sky Park Site

Vegetation to the south and southwest of the Fresno-Sky Park site (06-019-0242) has grown to the point of disrupting wind flow from the south, southwest and the southeast. In addition, the construction of new homes has encroached upon the perimeter of the site causing potential obstructions. Based on these conditions, the site is no longer meeting the EPA's siting requirements for SLAMS monitors. The District has made efforts to resolve the landscaping issues with adjacent landowners, but has been unsuccessful in gaining cooperation for the needed changes to the landscaping. In the short term, the District will continue to operate the site as is and apply in the EPA AQS database the qualifier flag 'SX' (which means 'Does not meet siting criteria') to all gaseous data going forward to let users of the data know there are siting issues and to use the data with caution. The District will continue to make efforts to resolve the siting issues with adjacent land owners and evaluate other potential options for this site.

Consolidation of Merced-M St Site into Merced-Coffee Site

As mentioned in previous air monitoring network plans, the District is planning to consolidate the Merced-M Street site (06-047-2510) and the Merced-Coffee site (06-047-0003) site into a single site. Currently, the Merced-M Street site monitors PM10 and PM2.5 using manual methods. The District proposes relocating the two FRMs to Merced-Coffee site where they would serve as SLAMS monitors. This would meet District and EPA goals of reducing redundancy, increasing efficiency and effectiveness, and minimizing cost of the air monitoring network. The full technical document for this proposed change is found in Appendix C, "Technical Justification for the Closure of the Merced-M Air Monitoring Site and the Relocation of the PM2.5 and PM10 FRM Monitors to the Merced-Coffee Air Monitoring Site."

Consolidation of the Madera-Pump Site into Madera-City Site

The Madera-Pump site (06-039-0004) currently serves as a PAMS Type 1 site for the Fresno MSA. The District recently established the Madera-City site (06-039-2010) as a multi-pollutant site in an area that would represent the maximum exposure of the people living in the City of Madera. Data comparisons show that the Madera-City monitor records higher ozone levels than Madera-Pump.

Additionally, the location of the Madera-City air monitoring site is more directly upwind of the Fresno/Clovis metropolitan area than is the Madera-Pump site. The District is proposing the relocation of the PAMS equipment (Ozone, NO_2, speciated VOC, etc.) to the Madera-City site and subsequently closing the Madera-Pump site. The full technical document for this change is found in Appendix D, "Technical Justification for the Closure of the Madera-Pump Air Monitoring Site and Relocation of the Madera-Pump PAMS Equipment to the Madera-City Air Monitoring Site."

Consolidation of Fresno-Pacific Site into the Fresno-Drummond Site

As mentioned in previous air monitoring network plans, the District is planning to consolidate the Fresno-Pacific College (06-019-5025) and the Fresno-Drummond site (06-019-0007) sites into a single site. Currently, the Fresno-Drummond site monitors PM10, Ozone, CO, NO_2, NO, NO_x and meteorology; and Fresno-Pacific monitors PM2.5 only. The District proposes relocating the Fresno-Pacific PM2.5 FRM to Fresno-Drummond where it would serve as a SLAMS monitor. This would meet District and EPA goals of reducing redundancy, increasing efficiency and effectiveness, and minimizing cost of the air monitoring network. The full technical document for this proposed change is found in Appendix E, "Justification for the Closure of the Fresno-Pacific Air Monitoring Site and the Relocation of the PM2.5 Monitor to the Fresno-Drummond Air Monitoring Site."

All Other Sites

No other changes are proposed at this time to any other sites in the District.

Table 30: Summary of Proposed Changes to the Air Monitoring Network

CBSA: Stockton	**County: San Joaquin**	
Site Name	**Operating Agency**	**Planned Changes**
Stockton–Hazelton	CARB	None
Stockton–Wagner/Holt	SJVAPCD	Close site
Manteca	SJVAPCD	Convert PM10 to SLAMS
Tracy–Airport	SJVAPCD	None
Stockton CBSA Near-road NO_2	SJVAPCD	Site selection/start construction, begin operating in 2016
CBSA: Modesto	**County: Stanislaus**	
Site Name	**Operating Agency**	**Planned Changes**
Modesto–14th St	CARB	None
Turlock	SJVAPCD	Shut down CO analyzer
Modesto CBSA Near-road NO_2	SJVAPCD	Site selection/start construction, begin operating in 2016
CBSA: Merced	**County: Merced**	
Site Name	**Operating Agency**	**Planned Changes**
Merced–Coffee	SJVAPCD	Add PM equipment from Merced-M pending EPA approval
Merced–M St	SJVAPCD	Close site pending EPA approval
CBSA: Madera	**County: Madera**	
Site Name	**Operating Agency**	**Planned Changes**
Madera–City	SJVAPCD	Add equipment from Madera-Pump pending EPA approval
Madera–Pump Yard	SJVAPCD	Close site pending EPA approval

Table 30: Summary of Proposed Changes to the Air Monitoring Network (continued)

CBSA: Fresno	**County: Fresno**	
Site Name	**Operating Agency**	**Planned Changes**
Tranquillity	SJVAPCD	None
Fresno–Sky Park	SJVAPCD	Shut down CO analyzer
Clovis–Villa	SJVAPCD	None
Fresno–Garland	CARB	None
Fresno–Drummond	SJVAPCD	Shut down CO analyzer, add PM2.5 from Fresno-Pacific pending EPA approval
Fresno–Pacific	SJVAPCD	Close site and move equipment to Fresno-Drummond pending EPA approval
Fresno-Foundry (near-road)	SJVAPCD	Under construction, begin operating in 2015
Parlier	SJVAPCD	None
Huron	SJVAPCD	None
CBSA: Hanford–Corcoran	**County: Kings**	
Site Name	**Operating Agency**	**Planned Changes**
Hanford–Irwin	SJVAPCD	None
Corcoran–Patterson	SJVAPCD	None
CBSA: Visalia–Porterville	**County: Tulare**	
Site Name	**Operating Agency**	**Planned Changes**
Visalia–Airport	SJVAPCD	None
Visalia–Church St	CARB	None
Sequoia–Lower Kaweah	NPS	None
Sequoia–Ash Mountain	NPS	None
Porterville	SJVAPCD	None
CBSA: Bakersfield	**County: Kern (Valley Portion Only)**	
Site Name	**Operating Agency**	**Planned Changes**
Shafter	Shared	None
Oildale	CARB	None
Arvin–Di Giorgio	CARB	None
Bakersfield–California	CARB	None
Bakersfield-Golden State/M St	SJVAPCD	None
Bakersfield-Westwind (near-road)	SJVAPCD	Under construction, begin operating in 2015
Bakersfield–Muni	SJVAPCD	None
Bakersfield–Airport (Planz)	CARB	None
Edison	CARB	None
Maricopa	SJVAPCD	None
Lebec	SJVAPCD	None

Data Submission Requirements

Air Quality and Precision data are required to be submitted to EPA 90 days after the end of the calendar quarter once all air quality assurance checks are completed. Accuracy data is submitted to EPA by CARB as part of their scheduled audits. CARB is responsible for certifying data from all CARB-operated air monitoring sites, as well as weighing and certifying filter-based measurements from District operated sites. The measurements are weighed at CARB's laboratory in Sacramento, CA. For information on CARB's data certification, see CARB's air monitoring network plan at http://www.arb.ca.gov/aqd/amnr/amnr.htm . The District is responsible for certifying data from all District-operated air monitoring sites. The District certified the 2014 data on July 8, 2015.

Acronyms and Abbreviations

AIRS: Aerometric Information Retrieval System
AQI: Air Quality Index
AQS: Air Quality System
CARB: California Air Resources Board
ARM: Approved Regional Method
BAM: Beta Attenuation Monitor
CAA: Clean Air Act
CBSA: Core–Based Statistical Area
CCOS: Central California Ozone Study
CFR: Code of Federal Regulations
CRPAQS: California Regional Particulate Air Quality Study
CO: Carbon Monoxide
CO_2: Carbon Dioxide
CSA: Combined statistical area
District: San Joaquin Valley Air Pollution Control District
EBAM: Environmental Beta Attenuation Monitor
EPA: U.S. Environmental Protection Agency
FEM: Federal Equivalent Method
FIPS: Federal information processing standard
FR: Federal Register
FRM: Federal Reference Method
GHG: Green House Gases
MSA: Metropolitan statistical area
NAAQS: National Ambient Air Quality Standard
NCore: National Core
NMOC: Non–Methane Organic Compounds
NO_2: Nitrogen Dioxide
NOAA: National Oceanic and Atmospheric Administration
NOx: Oxides of Nitrogen
NO_y: Reactive Nitrogen
NPS: National Park Service
O_3: Ozone
PAMS: Photochemical Assessment Monitoring Station
Pb: Lead
PM: Particulate Matter
PM2.5: Particulate Matter 2.5 microns or less in diameter
PM10: Particulate Matter 10 microns or less in diameter
SLAMS: State and Local Air Monitoring Station
SJV: San Joaquin Valley
SJVAPCD: San Joaquin Valley Air Pollution Control District
SMS: Smoke Management System
SO_2: Sulfur Dioxide
SPM: Special Purpose Monitor
STN: Speciated Trends Network
TEOM: Tapered Element Oscillating Microbalance
TSP: Total Suspended Particles
Valley: San Joaquin Valley
VOC: Volatile Organic Compounds

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APPENDIX A:

Air Monitoring Site Descriptions

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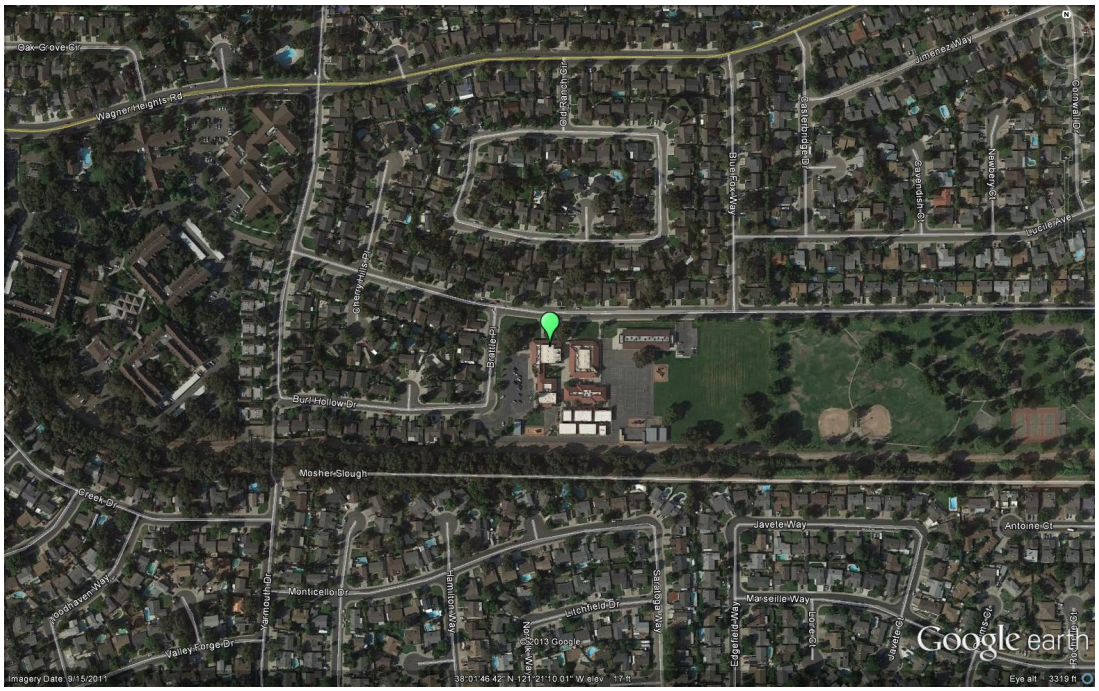
Stockton-Wagner/Holt

The Stockton-Wagner/Holt monitoring site is operated by SJVAPCD and is located in the Stockton, CA metropolitan area. It began operating in October 1996. The purpose of the site is to monitor representative concentrations of PM10 in an urban area.

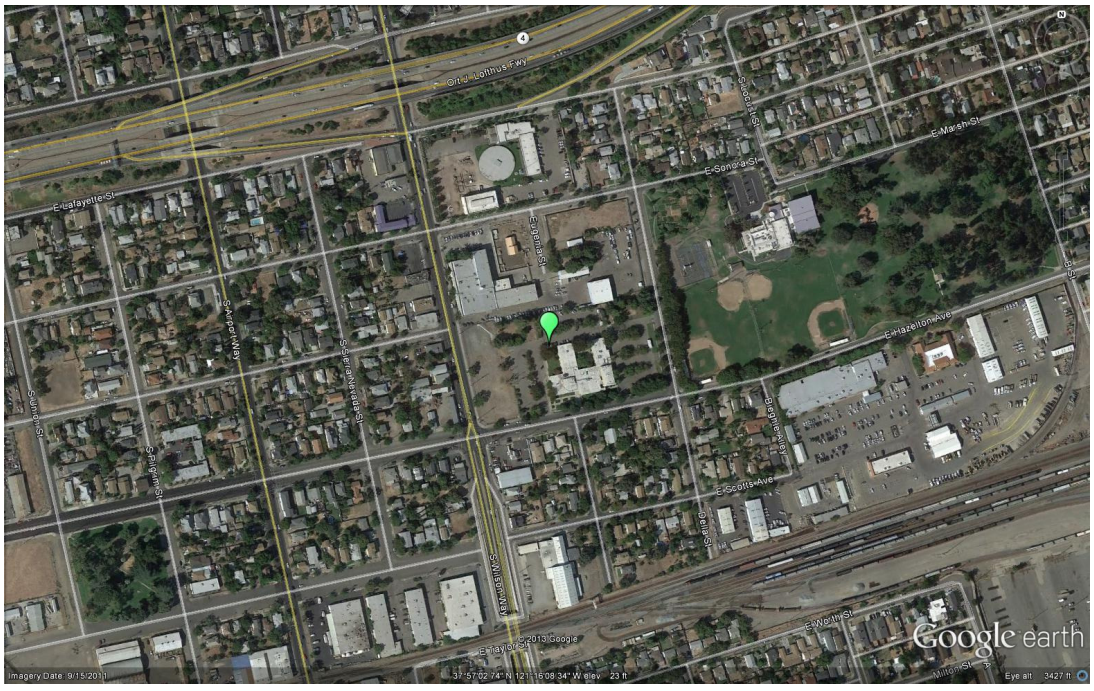
Site name:	Stockton-Wagner/Holt
AQS ID:	060773010
County:	San Joaquin
Street Address:	8778 Brattle Pl., Stockton CA 95209
Geographic Coordinates:	38.0297 N, -121.3530 W
Distance to road (meters):	30 m (north)
Traffic Count (AADT, Year):	500
Ground Cover:	Felt/rubber
Representative Statistical Area (CBSA):	Stockton



Stockton-Hazelton

The Stockton-Hazelton monitoring site is operated by CARB and is located in the Stockton, CA metropolitan area. It began operating in June 1976. The purpose of the site is to monitor representative concentrations of ozone, PM2.5, and PM10 in an urban area. The site also monitors CO, NO_2, toxics, and meteorology.

Site name:	Stockton–Hazelton
AQS ID:	060771002
County:	San Joaquin
Street Address:	1593 E. Hazelton St., Stockton CA 95205
Geographic Coordinates:	37.9507 N, -121.2689 W
Distance to road (meters):	62 m (north)
Traffic Count (AADT, Year):	1,000
Ground Cover:	Asphalt
Representative Statistical Area (CBSA):	Stockton



Manteca

The Manteca monitoring site is located in Manteca, CA and operated by SJVAPCD. It became operational in November 2010. The purpose of the site is to monitor transport and representative concentrations of PM2.5 and PM10 from upwind and nearby urban areas. The site also monitors meteorology.

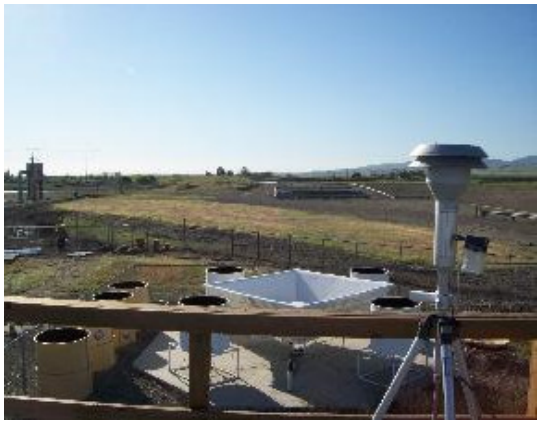
Site name:	Manteca
AQS ID:	060772010
County:	San Joaquin
Street Address:	530 Fishback Rd., Manteca CA 95337
Geographic Coordinates:	37.7933 N, -121.2477 W
Distance to road (meters):	12 m (west)
Traffic Count (AADT, Year):	1,050*, 2008
Ground Cover:	Sidewalk, dirt, grass
Representative Statistical Area (CBSA):	Stockton

* - Average Daily Traffic. Nearest cross street to the count: Tuscany Dr. Direction from the count to the cross street: South Distance to the nearest cross street: 0.05 miles.

Tracy-Airport

The Tracy-Airport monitoring site, located in Tracy, CA, was part of a settlement from a lawsuit between the District and CARB that took place in 1995. This air monitoring station was installed for the purpose of monitoring transport of air pollution from the Bay Area to the San Joaquin Valley. The site became operational in 1994 and was operated by CARB until June 1995. The District began operating the site in 1996. The site has been moved several times over the years and became operational at its current location in 2006. The site monitors transport of ozone, PM2.5, and PM10 from upwind and nearby urban areas and is not a NAAQS comparison site. The site also monitors NO_2 and meteorology.

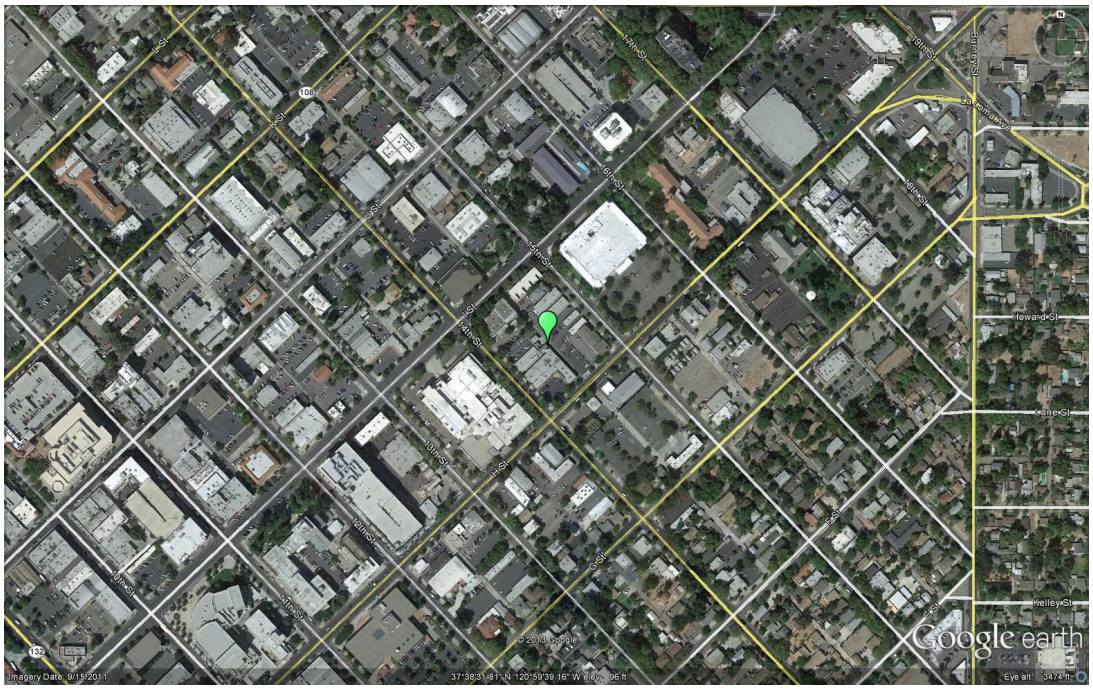
Site name:	Tracy–Airport
AQS ID:	060773005
County:	San Joaquin
Street Address:	5749 S. Tracy Blvd., Tracy CA 95376
Geographic Coordinates:	37.6826 N, -121.4423 W
Distance to road (meters):	700 m (east)
Traffic Count (AADT, Year):	868
Ground Cover:	Gravel
Representative Statistical Area (CBSA):	Stockton



Modesto-14th Street

The Modesto-14th Street monitoring site is operated by CARB and is located in the Modesto, CA metropolitan area. It began operating in January 1981. The purpose of the site is to monitor representative concentrations of hourly ozone, PM2.5, and PM10 in local and upwind urban areas. The site also monitors CO and meteorology.

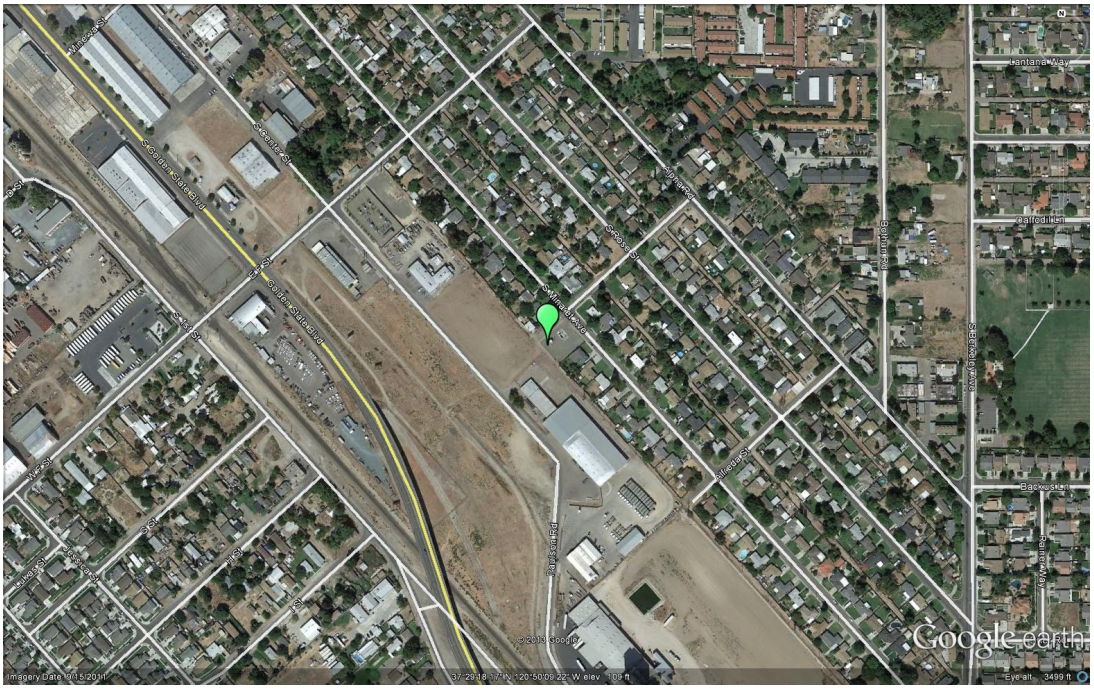
Site name:	Modesto–14th Street
AQS ID:	060990005
County:	Stanislaus
Street Address:	814 14th Street, Modesto CA 95354
Geographic Coordinates:	37.6421 N, -120.9942 W
Distance to road (meters):	50 m (southwest)
Traffic Count (AADT, Year):	10,000
Ground Cover:	Asphalt
Representative Statistical Area (CBSA):	Modesto



Turlock

The Turlock monitoring site is operated by SJVAPCD and is located in Turlock, CA. It began operating in April 1992. The purpose of the site is to monitor representative concentrations of hourly ozone, PM2.5, and PM10 from upwind urban areas. The site also monitors CO, NO_2, and meteorology.

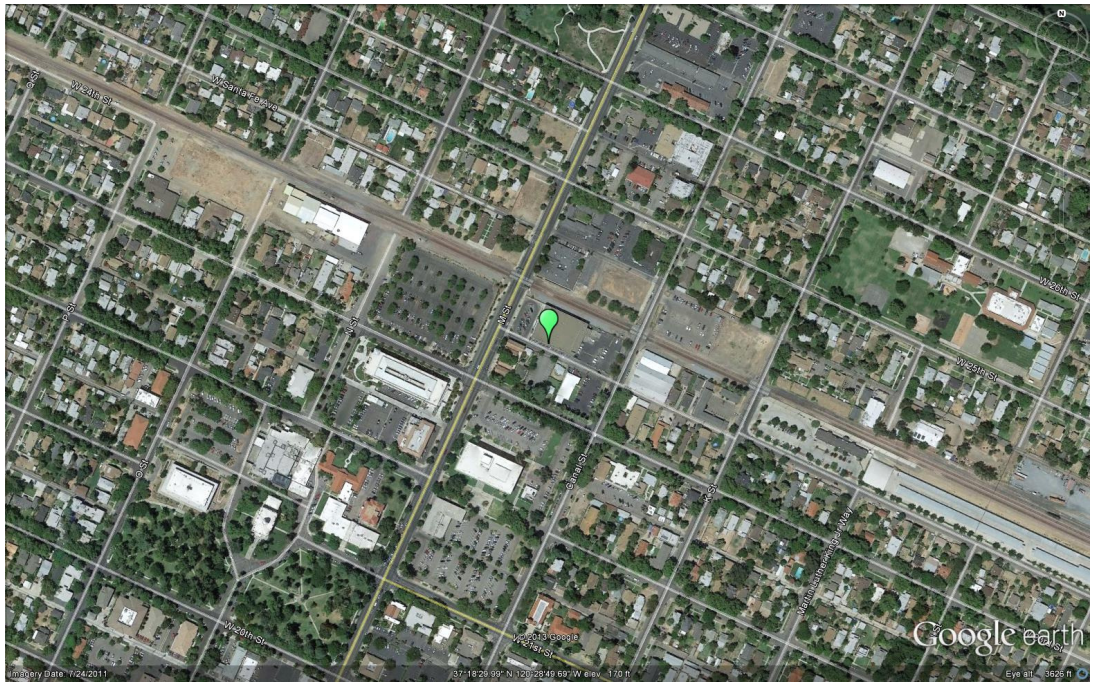
Site name:	Turlock
AQS ID:	060990006
County:	Stanislaus
Street Address:	1034 S. Minaret St., Turlock CA 95380
Geographic Coordinates:	37.4880 N, -120.8360 W
Distance to road (meters):	40 m (northeast)
Traffic Count (AADT, Year):	670
Ground Cover:	Gravel
Representative Statistical Area (CBSA):	Modesto



Merced-M Street

The Merced-M Street monitoring site is operated by SJVAPCD and is located in Merced, CA. It began operating in April 1999. The purpose of the site is to monitor representative concentrations of PM2.5 and PM10 responses from upwind urban areas.

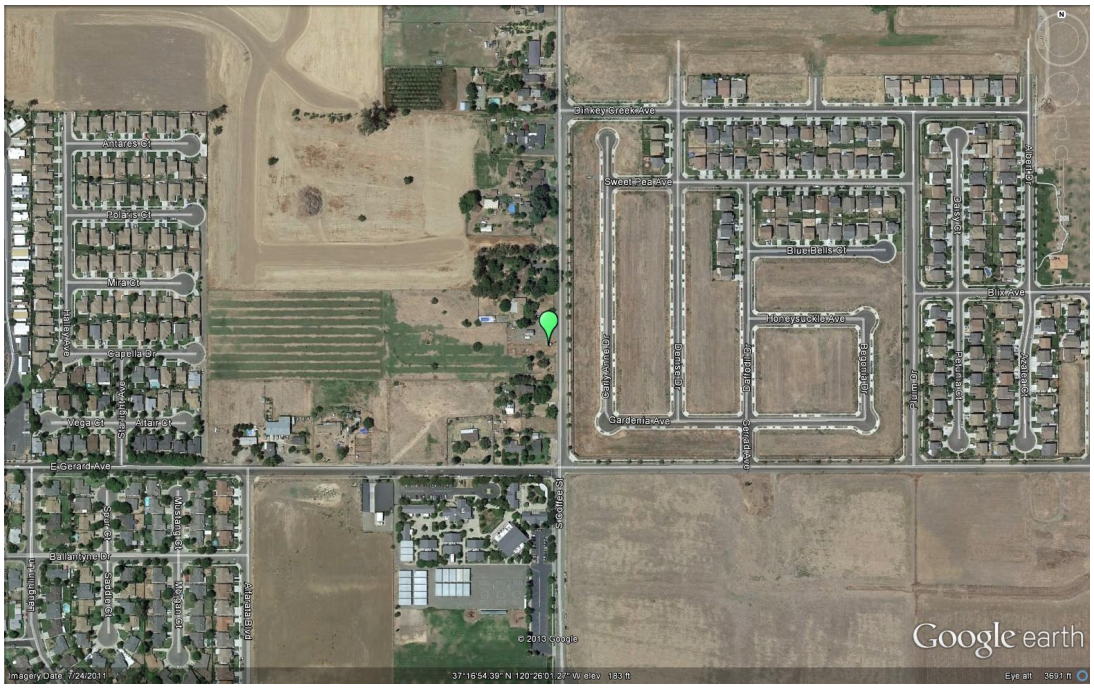
Site name:	Merced—M Street
AQS ID:	060472510
County:	Merced
Street Address:	2334 M Street, Merced CA 95340
Geographic Coordinates:	37.3086 N, -120.4800 W
Distance to road (meters):	55 m (northwest)
Traffic Count (AADT, Year):	22,400
Ground Cover:	Gravel
Representative Statistical Area (CBSA):	Merced



Merced-Coffee

The Merced-Coffee monitoring site is operated by SJVAPCD and is located in the Merced, CA. It began operating in October 1991. The purpose of the site is to monitor representative concentrations of hourly ozone responses from upwind urban areas. The site also monitors PM2.5, NO_2, and meteorology.

Site name:	Merced–Coffee
AQS ID:	060470003
County:	Merced
Street Address:	385 S. Coffee St., Merced CA 95340
Geographic Coordinates:	37.2816 N, -120.4340 W
Distance to road (meters):	15 m (east)
Traffic Count (AADT, Year):	300
Ground Cover:	Dirt, vegetated
Representative Statistical Area (CBSA):	Merced

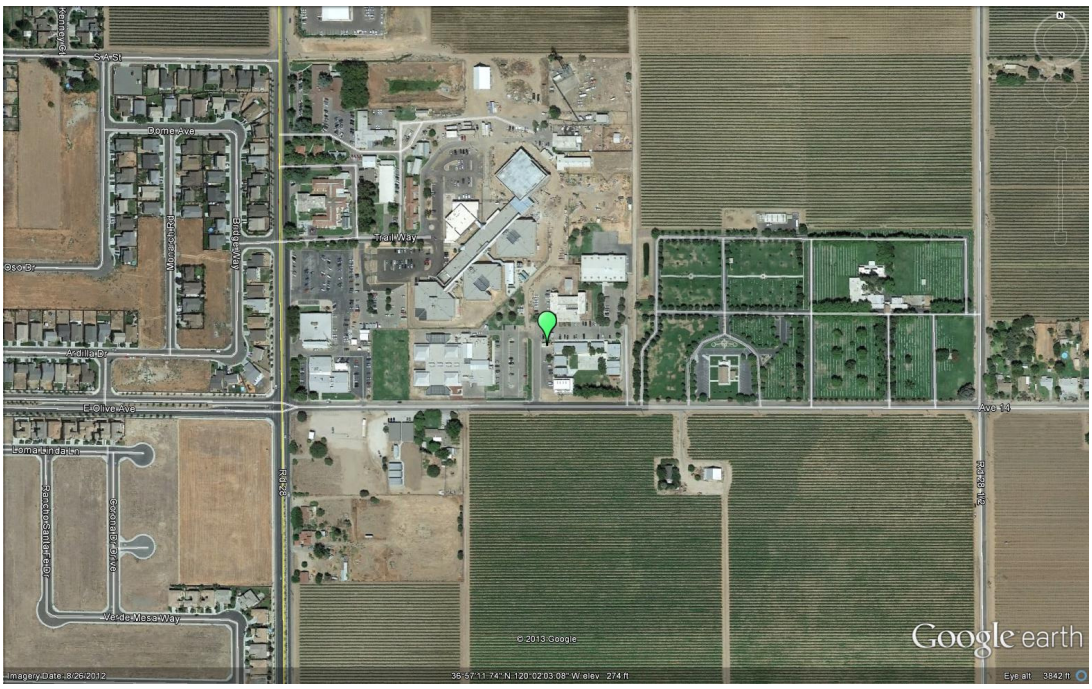


Madera-City

The Madera-City monitoring site is operated by the SJVAPCD and is located in the city of Madera. It began operating in June 2010. The purpose of the site is to monitor ozone, PM2.5, PM10, and meteorology.

Site name:	Madera–City
AQS ID:	060392010
County:	Madera
Street Address:	28261 Avenue 14, Madera CA 93638
Geographic Coordinates:	36.9532 N, -120.0342 W
Distance to road (meters):	70 m (south)
Traffic Count (AADT, Year):	1,004*, 2012
Ground Cover:	Asphalt
Representative Statistical Area (CBSA):	Madera

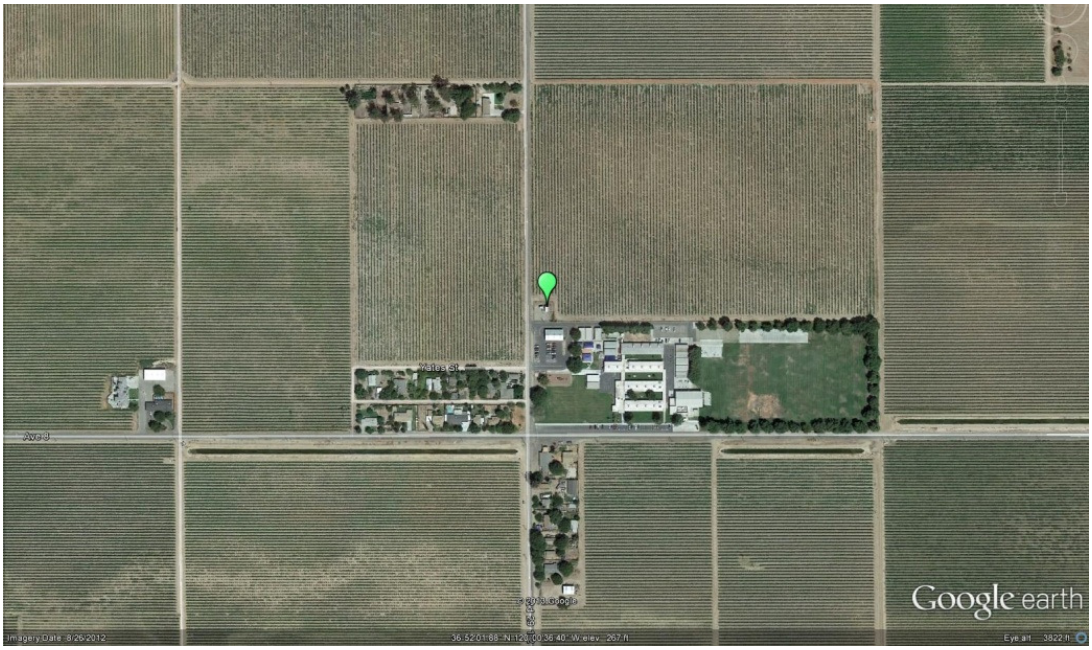
*** -** Current Year Estimate. Nearest cross street to the count: Rd 28. Direction from the count to the cross street: West. Distance to the nearest cross street: 0.04 miles.



Madera-Pump Yard

The Madera-Pump Yard Street monitoring site is operated by SJVAPCD and is located in southern Madera County. It began operating in August 1997. This site was established as a PAMS Type 1 site, located in an area upwind of Fresno and not to be influenced by upwind or local ozone precursor emissions. In addition to ozone, this site also monitors CO, total- and speciated-VOC, and meteorology for the PAMS program.

Site name:	Madera–Pump Yard
AQS ID:	060390004
County:	Madera
Street Address:	Ave. 8 and Road 29 1/2, Madera CA 93637
Geographic Coordinates:	36.8672 N, -120.0100 W
Distance to road (meters):	20 m (west)
Traffic Count (AADT, Year):	100
Ground Cover:	Dirt, paved
Representative Statistical Area (CBSA):	Madera



Fresno-Sky Park

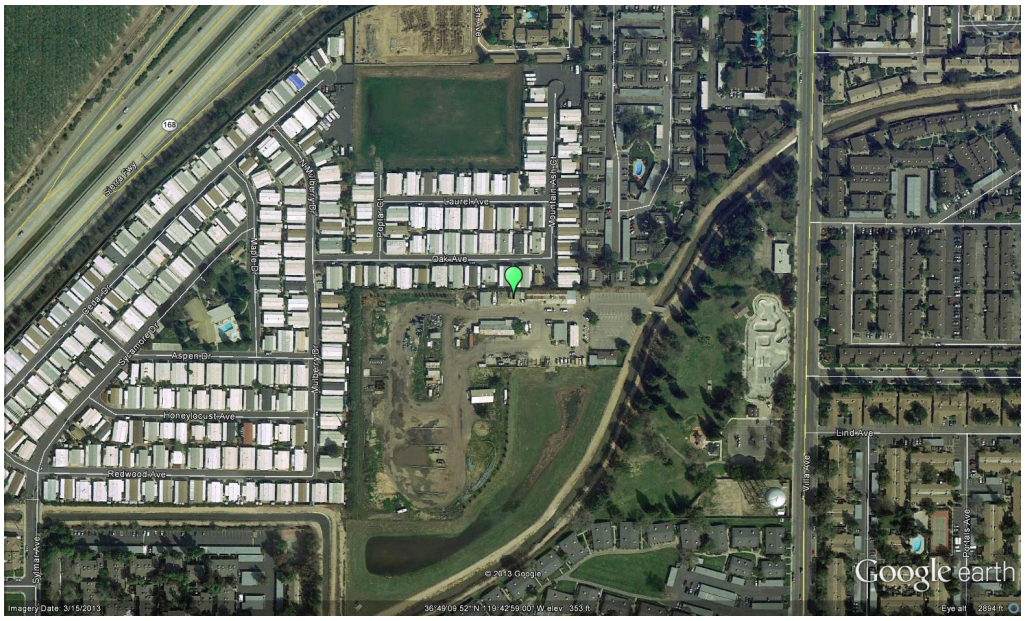
The Fresno-Sky Park monitoring site is operated by SJVAPCD and is located in the Fresno, CA metropolitan area. It began operating in July 1986. The purpose of the site is to monitor representative concentrations of hourly ozone responses in an urban area. In addition to ozone, the site also monitors CO, NO_2, and meteorology.

Site name:	Fresno–Sky Park
AQS ID:	060190242
County:	Fresno
Street Address:	4508 Chennault Ave, Fresno CA 93722
Geographic Coordinates:	36.8405 N, -119.8740 W
Distance to road (meters):	12 m (west)
Traffic Count (AADT, Year):	100
Ground Cover:	Gravel
Representative Statistical Area (CBSA):	Fresno

Clovis-Villa

The Clovis-Villa monitoring site is operated by SJVAPCD and is located in the northeastern portion of the Fresno, CA metropolitan area. It began operating in September 1990. This site is a PAMS Type 2 site, a site intended to measure maximum ozone precursor emissions. In addition to ozone, the site also monitors PM2.5, PM10, PM2.5, CO, NO_2, total- and speciated-VOC, and meteorology for the PAMS program.

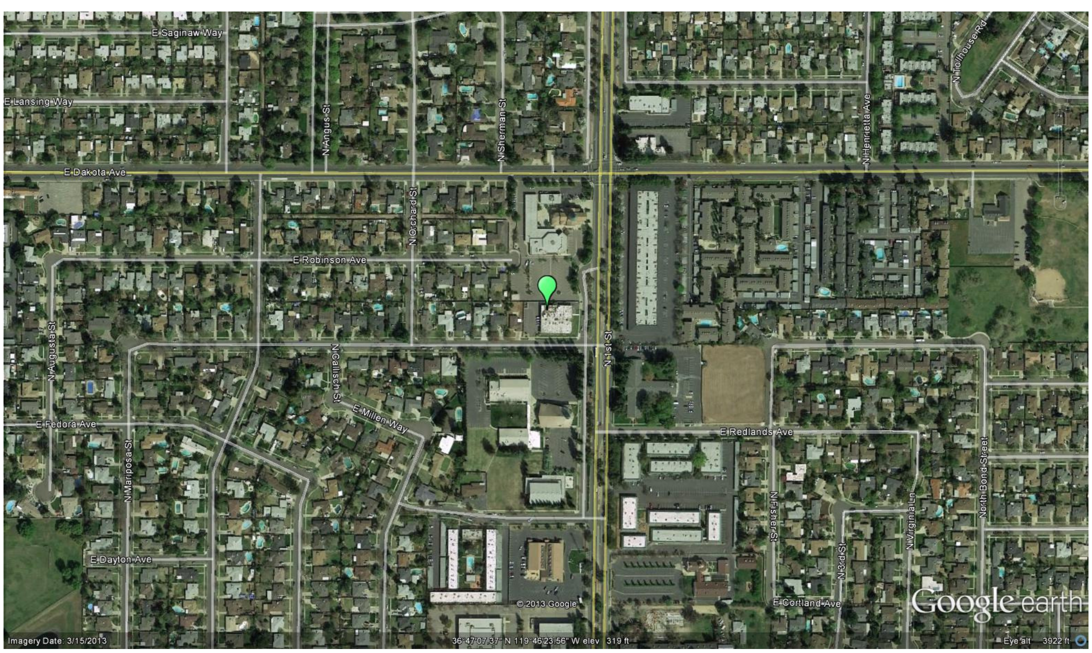
Site name:	Clovis–Villa
AQS ID:	060195001
County:	Fresno
Street Address:	908 N. Villa Ave., Clovis CA 93612
Geographic Coordinates:	36.8194 N, -119.7160 W
Distance to road (meters):	260 m (east)
Traffic Count (AADT, Year):	4,876
Ground Cover:	Paved
Representative Statistical Area (CBSA):	Fresno



Fresno-Garland

The Fresno-Garland monitoring site is a National Core (NCore) site operated by CARB and is located in the Fresno, CA metropolitan area. The purpose of the site is to monitor representative concentrations of hourly ozone, PM2.5, and PM10 in an urban area. The site also monitors CO, NO_2, NOy, SO_2, Lead, NMH, toxics, and meteorology.

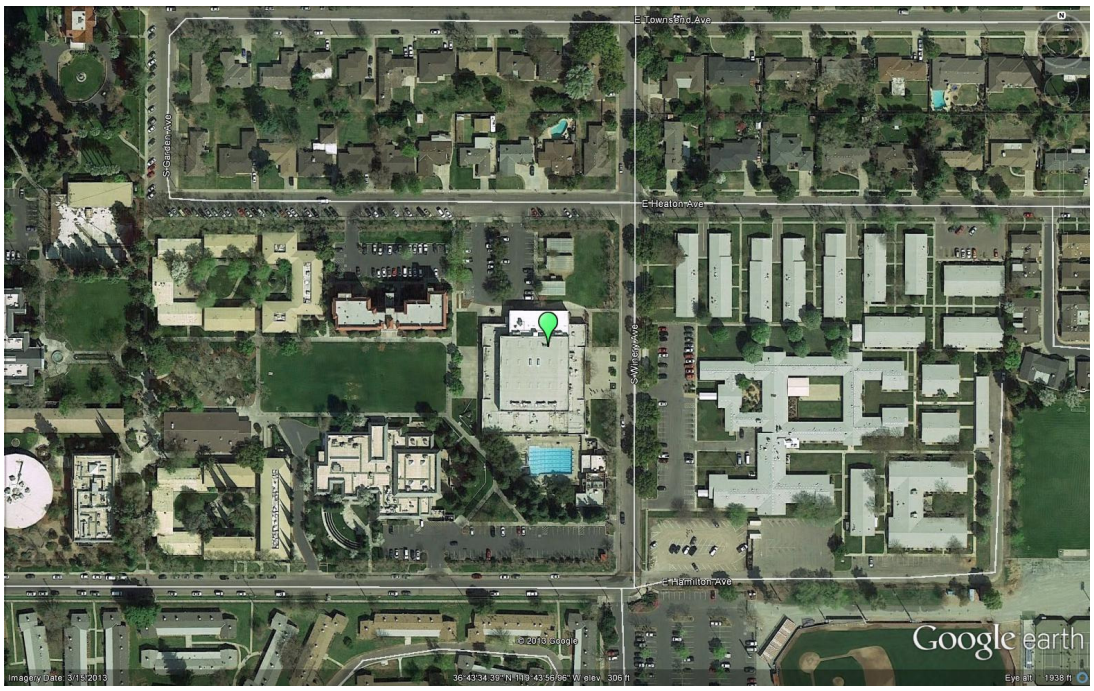
Site name:	Fresno–Garland
AQS ID:	060190011
County:	Fresno
Street Address:	3727 N. First St., Ste.104, Fresno CA 93726
Geographic Coordinates:	36.7853 N, -119.7732 W
Distance to road (meters):	30 m (south)
Traffic Count (AADT, Year):	3,000
Ground Cover:	Gravel covered tar paper with wooden deck walkways
Representative Statistical Area (CBSA):	Fresno



Fresno-Pacific

The Fresno-Pacific monitoring site is operated by SJVAPCD and is located in the Fresno, CA metropolitan area. It began operating in January 2000. The purpose of the site is to monitor representative PM2.5 concentrations in an urban area.

Site name:	Fresno–Pacific
AQS ID:	060195025
County:	Fresno
Street Address:	1716 Winery, Fresno CA 93726
Geographic Coordinates:	36.7263 N, -119.7330 W
Distance to road (meters):	40 m (east)
Traffic Count (AADT, Year):	2,539
Ground Cover:	Roof material
Representative Statistical Area (CBSA):	Fresno



Fresno-Foundry

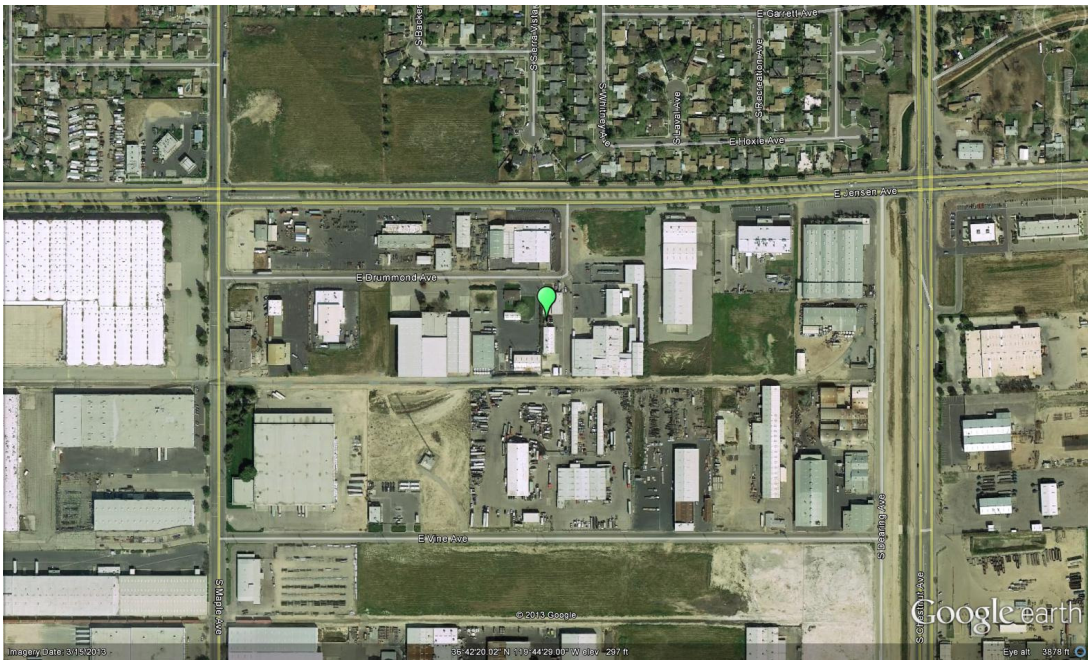
The Fresno-Foundry near-road NO_2 monitoring site is operated by SJVAPCD and is located adjacent to Highway 99 in the Fresno, CA metropolitan area. The District anticipates that this site will become operational in 2015. The purpose of the site is to monitor representative maximum 1–hour NO_2 concentrations near a highly trafficked roadway in an urban area. In addition to NO_2, the site also monitors meteorology.

Site name:	Fresno–Foundry
AQS ID:	060192015 (Proposed)
County:	Fresno
Street Address:	2482 Foundry Park Ave, Fresno, CA 93706
Geographic Coordinates:	N 36.10901, W -119.777403
Distance to road (meters):	16 to 19 meters
Traffic Count (AADT, Year):	93,000 (FE AADT is 227,505)
Ground Cover:	Rubberized plastic membrane roof; asphalt paving and landscaping beyond the roof
Representative Statistical Area (CBSA):	Fresno

Fresno-Drummond

The Fresno-Drummond monitoring site is operated by SJVAPCD and is located in the Fresno, CA metropolitan area. It began operating in July 1984. The purpose of the site is to monitor representative concentrations of hourly ozone responses in an urban area. In addition to ozone, the site also monitors PM10, CO, NO_2, and meteorology.

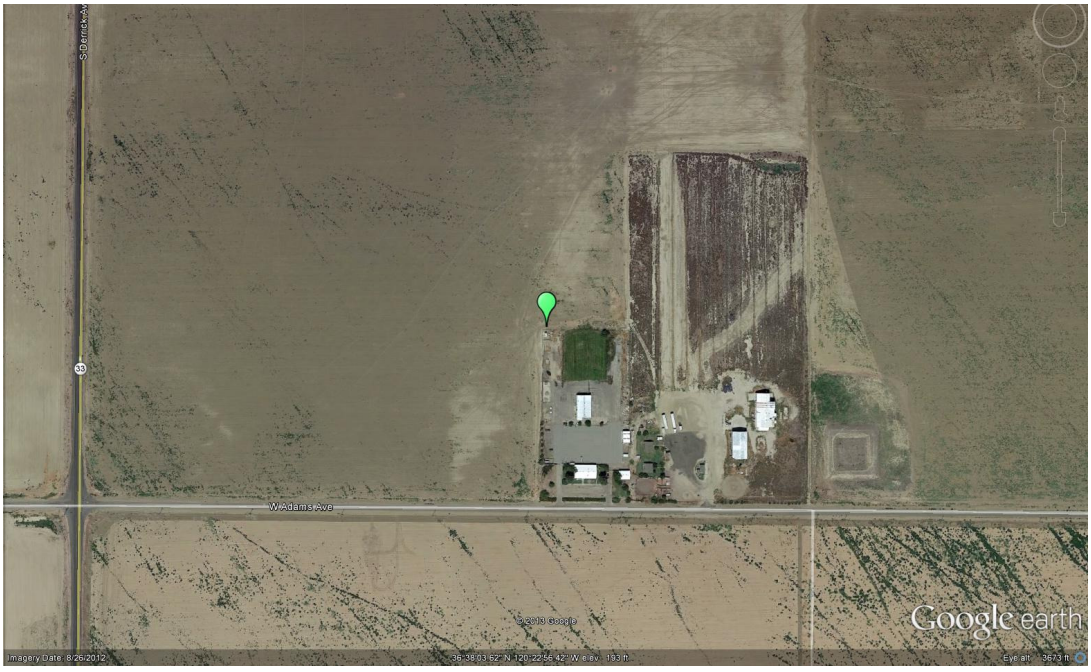
Site name:	Fresno–Drummond
AQS ID:	060190007
County:	Fresno
Street Address:	4706 E. Drummond Street, Fresno CA 93725
Geographic Coordinates:	36.7055 N, -119.7410 W
Distance to road (meters):	50 m (north)
Traffic Count (AADT, Year):	600
Ground Cover:	Paved
Representative Statistical Area (CBSA):	Fresno



Tranquillity

The Tranquillity monitoring site is located in western Fresno County. It began operating in November 2009 and is operated by the SVAPCD. The site monitors representative background and rural pollutant concentrations of ozone and PM2.5 for research purposes and is not a NAAQS comparison site. The site also monitors meteorology.

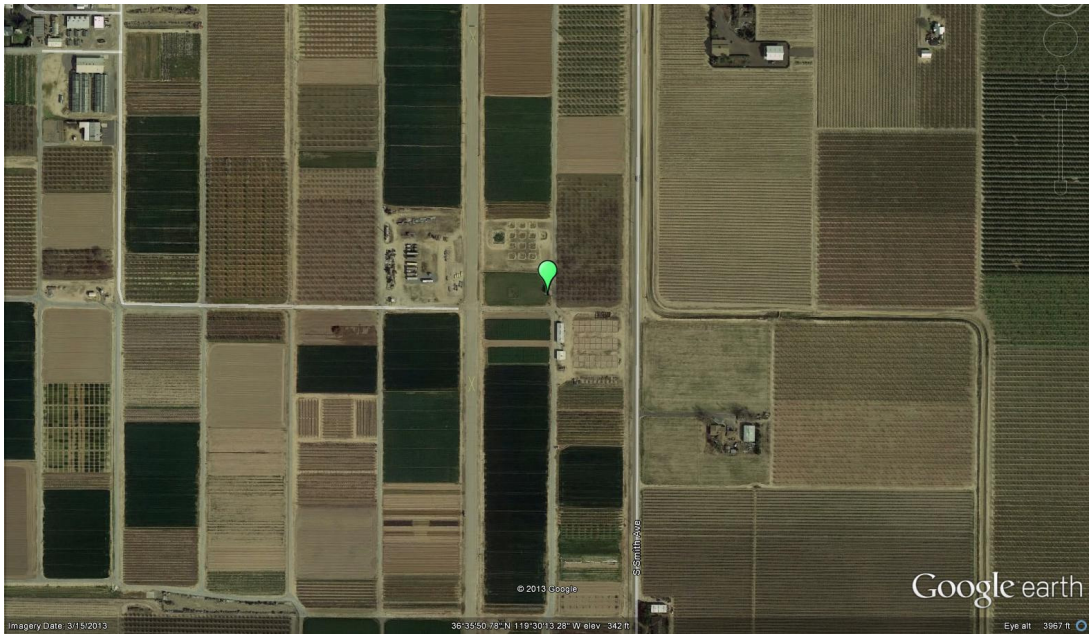
Site name:	Tranquillity
AQS ID:	060192009
County:	Fresno
Street Address:	32650 W. Adams, Tranquillity CA 93668
Geographic Coordinates:	36.6008 N, -120.3822 W
Distance to road (meters):	200 m (south)
Traffic Count (AADT, Year):	100
Ground Cover:	Gravel/vegetation
Representative Statistical Area (CBSA):	Fresno



Parlier

The Parlier monitoring site is operated by SJVAPCD and is located 20 miles southeast of the Fresno, CA metropolitan area. It began operating in March 1983. The purpose of the site, as a PAMS Type 3 site, is to monitor maximum ozone concentrations and ozone responses from upwind urban areas. The site also monitors NO_2, total- and speciated-VOC, and meteorology for the PAMS program.

Site name:	Parlier
AQS ID:	060194001
County:	Fresno
Street Address:	9240 S. Riverbend Ave., Parlier CA 93648
Geographic Coordinates:	36.5972 N, -119.5040 W
Distance to road (meters):	100 m (east)
Traffic Count (AADT, Year):	8,700
Ground Cover:	Dirt/vegetated
Representative Statistical Area (CBSA):	Fresno



Huron

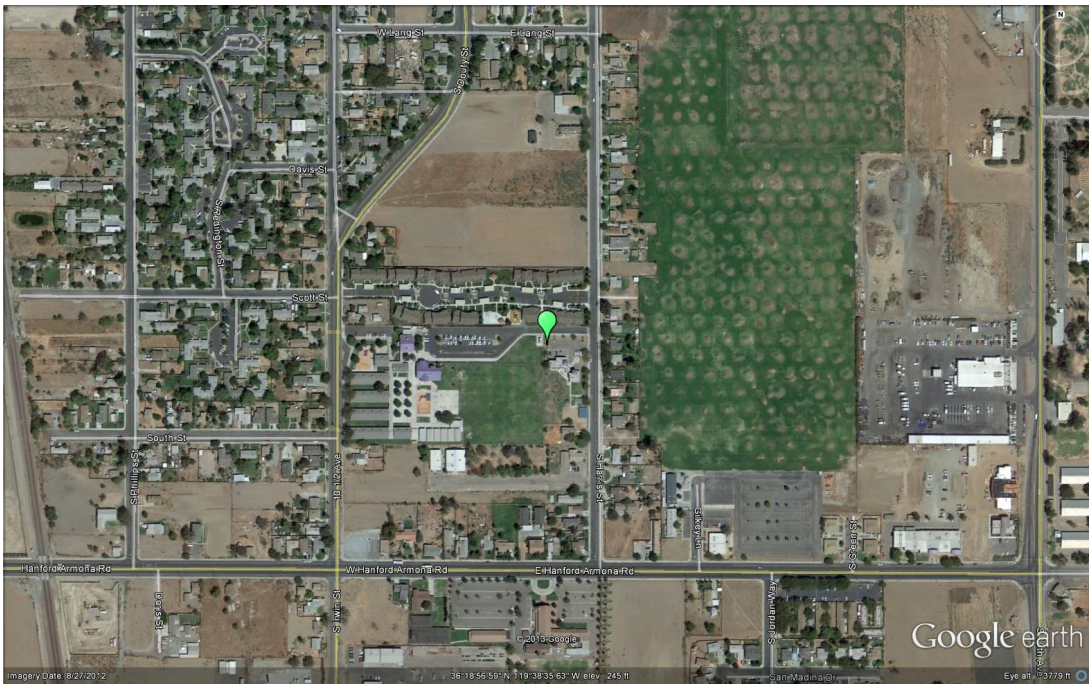
Huron, CA is located in southwestern Fresno County, and is about 40 miles southwest of Fresno, CA, with the coastal mountain range just to the west. North-south air flow is virtually unobstructed. This monitoring site was established in January 2007 in order to comply with Assembly Bill (AB) 841. Currently, this site monitors PM2.5 (Non-FEM, SPM non-regulatory), as required by AB 841, and also monitors meteorology.

Site name:	Huron
AQS ID:	060192008
County:	Fresno
Street Address:	16875 4th St., Huron, CA 93234
Geographic Coordinates:	36.2363 N, -119.7656 W
Distance to road (meters):	100 m (north)
Traffic Count (AADT, Year):	1,205
Ground Cover:	Paved/vegetated
Representative Statistical Area (CBSA):	Fresno

Hanford-Irwin

The Hanford-Irwin monitoring site is operated by SJVAPCD and is located 51 miles south of the Fresno, CA metropolitan area. The site began operating in October 1993. The purpose of the site is to monitor representative concentrations of hourly ozone, PM2.5, PM10, and NO_2 responses from upwind and nearby urban areas. The site also monitors meteorology.

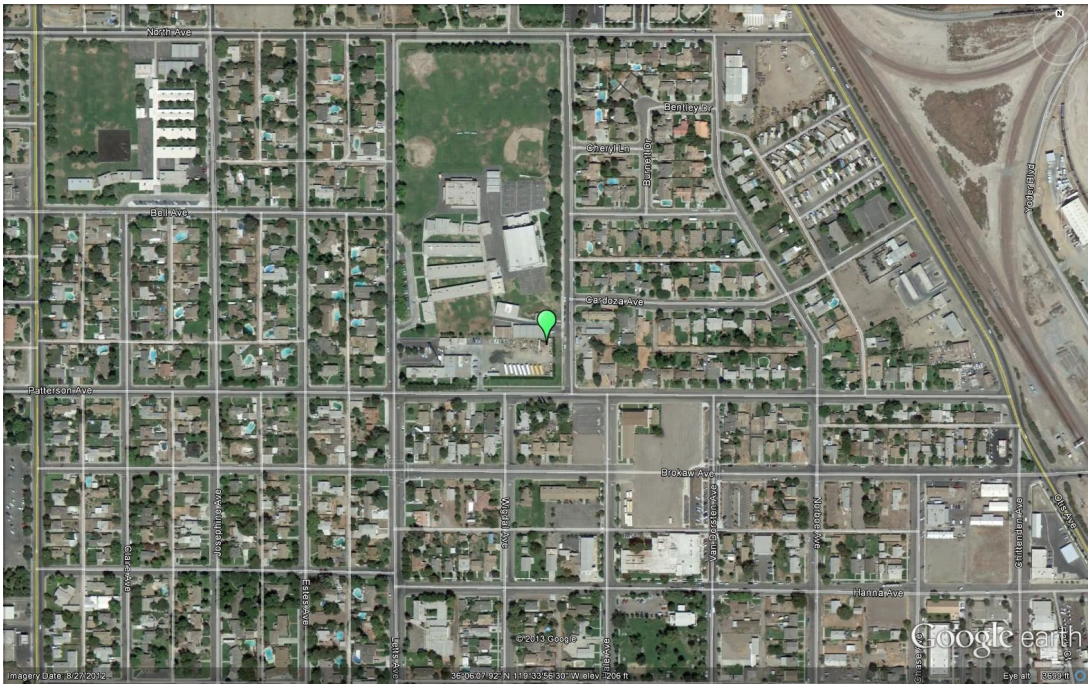
Site name:	Hanford–Irwin
AQS ID:	060311004
County:	Kings
Street Address:	807 S Irwin St, Hanford CA 93230
Geographic Coordinates:	36.3147 N, -119.6440 W
Distance to road (meters):	60 m (east)
Traffic Count (AADT, Year):	5,000
Ground Cover:	Rubber/plastic roof material
Representative Statistical Area (CBSA):	Hanford – Corcoran



Corcoran-Patterson

The Corcoran-Patterson monitoring site is operated by SJVAPCD and is located 67 miles south of the Fresno, CA metropolitan area. It began operating in October 1996. The site measures representative concentrations of PM10 and PM2.5. This site also monitors meteorology.

Site name:	Corcoran–Patterson
AQS ID:	060310004
County:	Kings
Street Address:	1520 Patterson Ave, Corcoran CA 93212
Geographic Coordinates:	36.1022 N, -119.5660 W
Distance to road (meters):	30 m (east)
Traffic Count (AADT, Year):	1,035
Ground Cover:	Gravel
Representative Statistical Area (CBSA):	Hanford – Corcoran



Sequoia-Lower Kaweah

The Lower Kaweah monitoring station is operated by Sequoia National Forest and is located at the southern entrance of Sequoia National Park at a 6,200-foot elevation. It began operating in April 1987. The site demonstrates the hourly ozone concentrations in a rural area. The site also monitors meteorology.

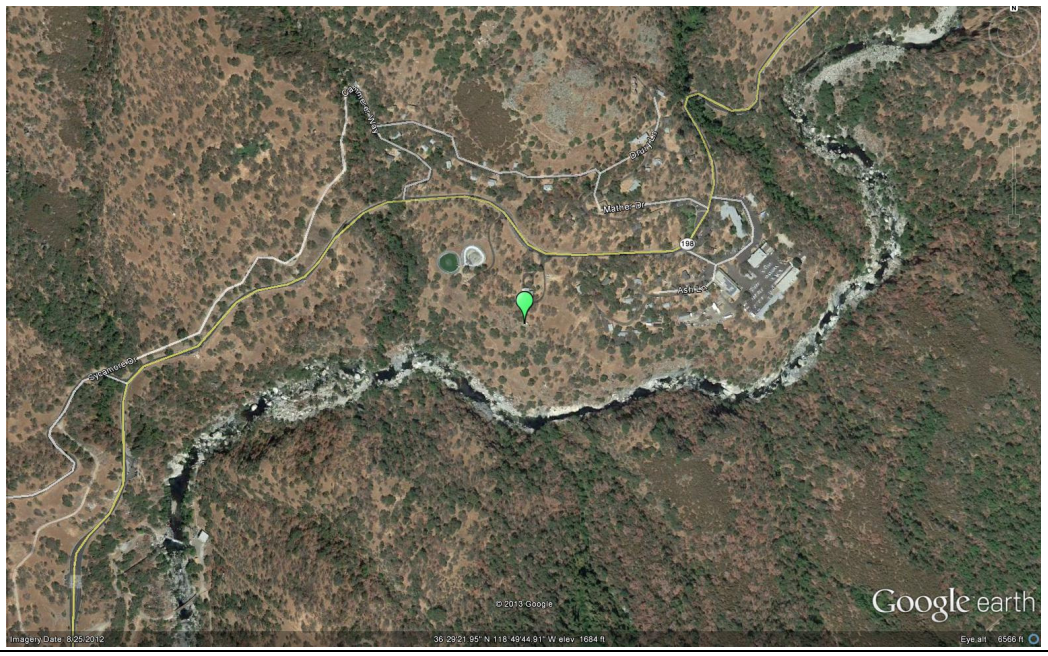
Site name:	Sequoia–Lower Kaweah
AQS ID:	061070006
County:	Tulare
Street Address:	Giant Forest, Sequoia National Park, 47050 Generals Highway, Three Rivers, CA 93271
Geographic Coordinates:	36.5661 N, -118.7776 W
Distance to road (meters):	380 m (southeast)
Traffic Count (AADT, Year):	1,358*, 2012
Ground Cover:	Dirt
Representative Statistical Area (CBSA):	Visalia – Porterville

* - Closest to Sequoia–Lower Kaweah site. Traffic Counts Sierra Dr /165 (36.480039°, -118.838407°) 46000 Sierra Dr, Three Rivers, CA 93271. Nearest cross street to the count: Generals Hwy Direction from the count to the cross street: North Distance to the nearest cross street: 0.3 miles.

Sequoia-Ash Mountain

The Ash Mountain monitoring station is operated by Sequoia National Forest and is located at the southern entrance of Sequoia National Park at a 1,500-foot elevation. It originally began operating in 1985, though the site has been relocated several times over the years. The site demonstrates the hourly ozone concentrations in the foothills. The site also monitors PM2.5 and meteorology.

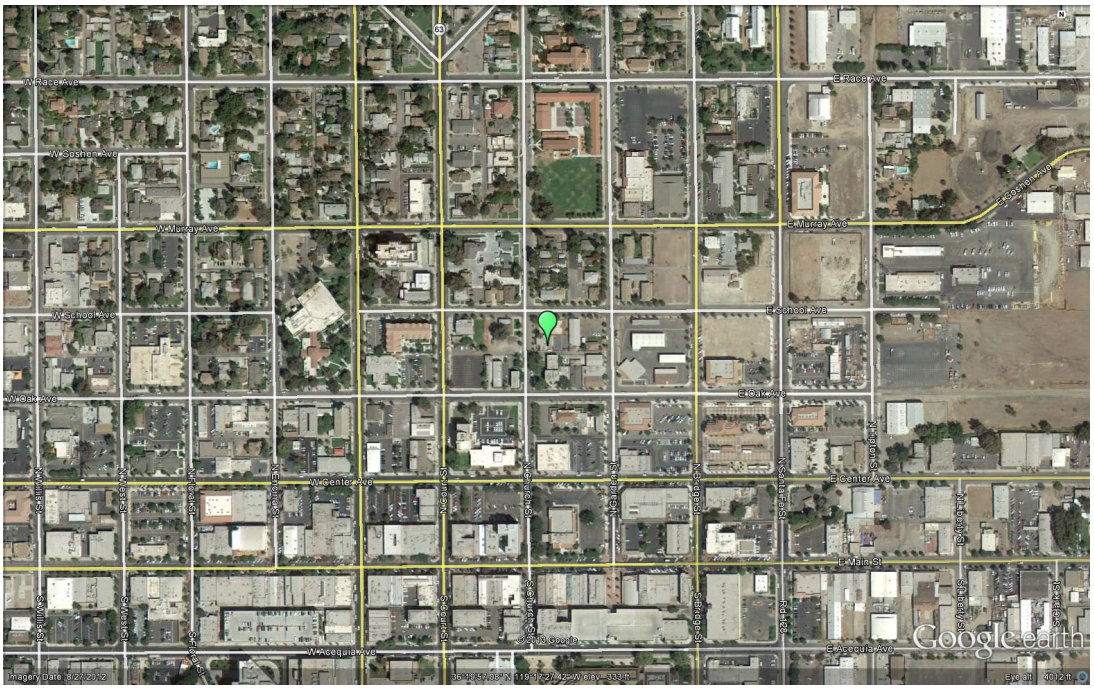
Site name:	Sequoia–Ash Mountain
AQS ID:	061070009
County:	Tulare
Street Address:	Ash Mountain, Sequoia National Park 47050 Generals Hwy, Three Rivers, CA 93271
Geographic Coordinates:	36.4894 N, -118.8290 W
Distance to road (meters):	120 m (north)
Traffic Count (AADT, Year):	1,000
Ground Cover:	Dirt
Representative Statistical Area (CBSA):	Visalia – Porterville



Visalia-Church

The Visalia-Church monitoring site is operated by CARB. It began operating in July 1979. The purpose of the site is to monitor representative concentrations of hourly ozone, PM2.5, and PM10 from upwind and nearby urban areas. The site also monitors NO_2 and meteorology.

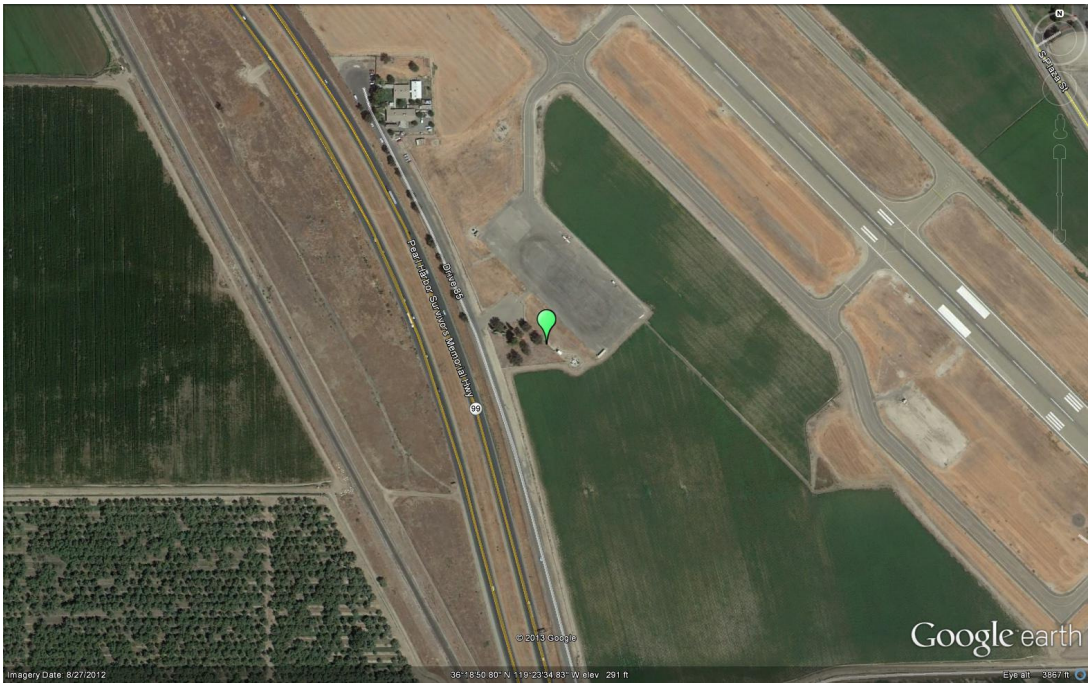
Site name:	Visalia—Church
AQS ID:	061072002
County:	Tulare
Street Address:	310 N. Church St., Visalia CA 93291
Geographic Coordinates:	36.3325 N, -119.2909 W
Distance to road (meters):	25 m (west)
Traffic Count (AADT, Year):	10,000
Ground Cover:	Asphalt
Representative Statistical Area (CBSA):	Visalia – Porterville



Visalia-Airport

The Visalia-Airport monitoring site is operated by SJVAPCD and serves as a meteorological site monitoring air temperature, and relative humidity at the surface. It began reporting official meteorological data in January 2001. A lower atmosphere profiler also operates at the site measuring wind speed and wind direction.

Site name:	Visalia–Airport
AQS ID:	061073000
County:	Tulare
Street Address:	9501 West Airport Drive, Visalia, CA 93277
Geographic Coordinates:	39.3266 N, -119.3984 W
Distance to road (meters):	100 m (west)
Traffic Count (AADT, Year):	32,000
Ground Cover:	Vegetated
Representative Statistical Area (CBSA):	Visalia – Porterville

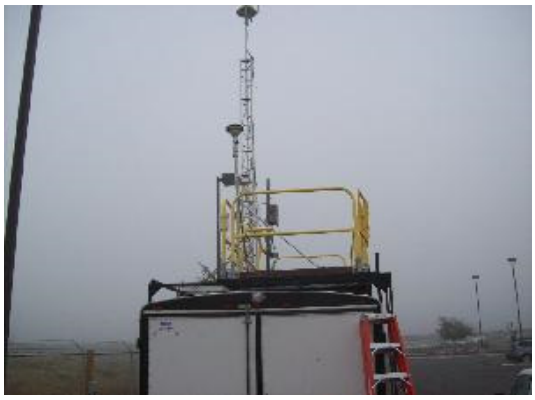


Porterville

The Porterville air monitoring site became operational in March 2010 and is operated by the SJVAPCD. The purpose of this site is to monitor ozone, PM2.5, and meteorology, and represent air quality levels present near the foothills of the southeastern portion of the Valley.

Site name:	Porterville
AQS ID:	061072010
County:	Tulare
Street Address:	1839 S. Newcomb St., Porterville CA 93257
Geographic Coordinates:	36.0310 N, -119.0550 W
Distance to road (meters):	100 m (south)
Traffic Count (AADT, Year):	1,010*, 2007
Ground Cover:	Paved
Representative Statistical Area (CBSA):	Visalia-Porterville

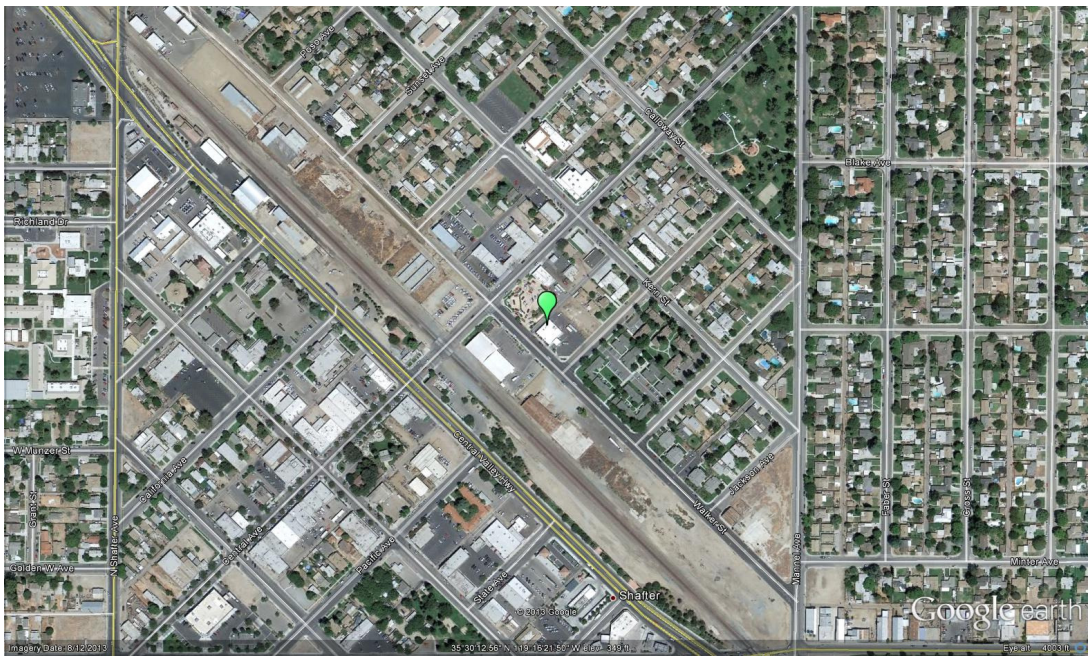
* - Closest to Porterville site. Traffic Counts Ave 136 (36.036714°, -119.042117°). Nearest cross street to the count: S 236 Prospect Rd. Direction from the count to the cross street: West Distance to the nearest cross street: 0.12 miles.



Shafter

The Shafter monitoring site is a shared site operated by CARB and the SJVAPCD and is located 18 miles northwest of the Bakersfield, CA metropolitan area. It began operating in January 1989. This site was established as a PAMS Type 1 site, located in an area upwind of Bakersfield and not to be influenced by upwind or local ozone precursor emissions. In addition to ozone, the site also monitors NO_2, total- and speciated-VOC and meteorology for the PAMS program.

Site name:	Shafter
AQS ID:	060296001
County:	Kern
Street Address:	578 Walker St, Shafter CA 93263
Geographic Coordinates:	35.5034 N, -119.2726 W
Distance to road (meters):	10 m (southwest)
Traffic Count (AADT, Year):	1,200
Ground Cover:	Asphalt
Representative Statistical Area (CBSA):	Bakersfield



Oildale

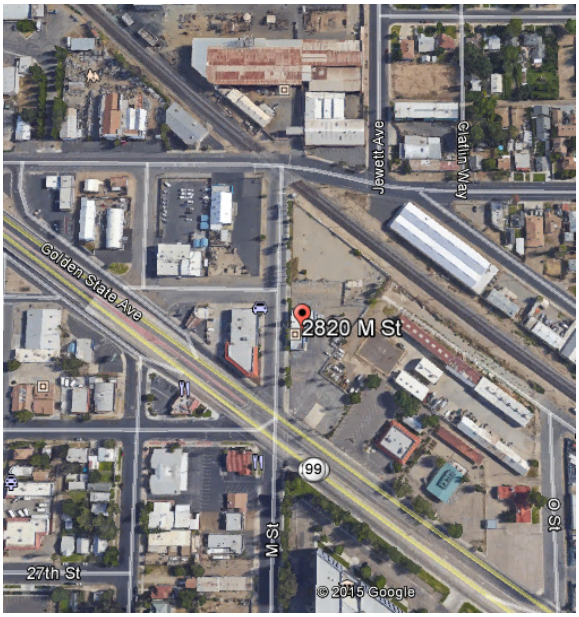
The Oildale monitoring site is operated by CARB and is located 6 miles north of Bakersfield, CA within the metropolitan area. It began operating in January 1980. The purpose of the site is to monitor representative concentrations of hourly ozone concentrations, and PM10 every 6 days in an urban area. The site also monitors meteorology.

Site name:	Oildale
AQS ID:	060290232
County:	Kern
Street Address:	3311 Manor St, Oildale CA 93308
Geographic Coordinates:	35.4380 N, -119.0167 W
Distance to road (meters):	150 m (northwest)
Traffic Count (AADT, Year):	10,000
Ground Cover:	Dirt
Representative Statistical Area (CBSA):	Bakersfield

Bakersfield-Golden / M St

The Bakersfield–Golden / M St monitoring site is operated by District and is located in the Bakersfield, CA metropolitan area. It began operating in July 2014. The purpose of the site is to monitor representative concentrations of PM10 and PM2.5 in an urban area.

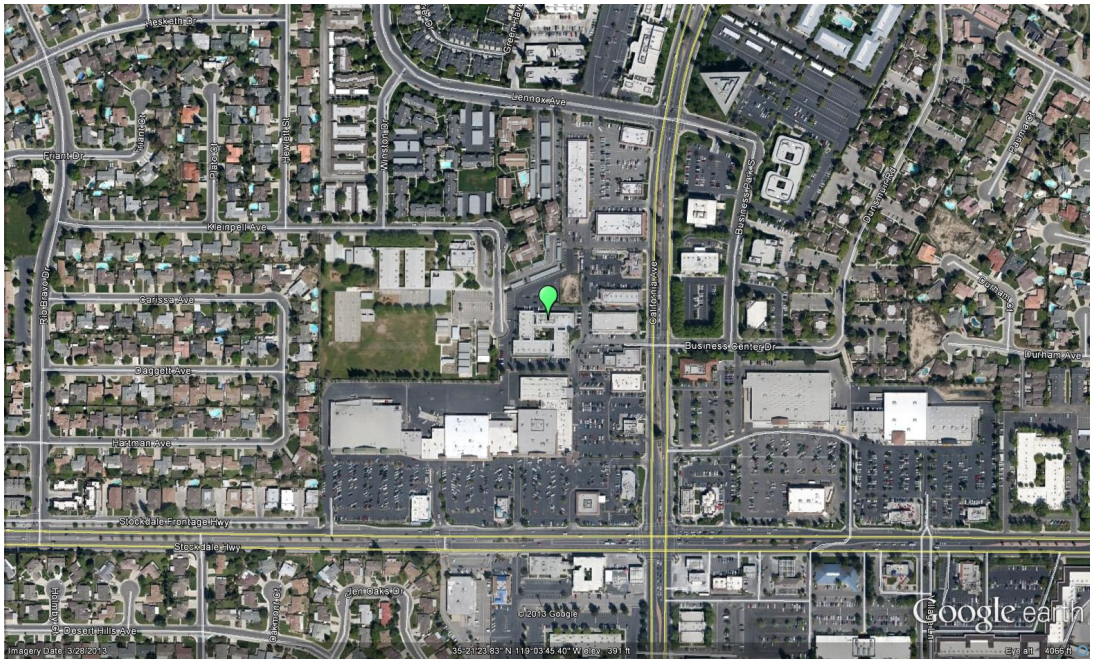
Site name:	Bakersfield–Golden / M St
AQS ID:	060290010
County:	Kern
Street Address:	2820 M St., Bakersfield, CA 93301
Geographic Coordinates:	35.385574 N, -119.015009 W
Distance to road (meters):	To be determined
Traffic Count (AADT, Year):	16,539, 2012 (Golden State Ave)
Ground Cover:	Asphalt
Representative Statistical Area (CBSA):	Bakersfield



Bakersfield-California

The Bakersfield-California monitoring site is operated by CARB and is located in the Bakersfield, CA metropolitan area. It began operating in March 1994. The purpose of the site is to monitor representative concentrations of hourly and daily ozone, PM10, and PM2.5 in an urban area. The Bakersfield-California site also monitors NO_2, toxics, and meteorology.

Site name:	Bakersfield–California
AQS ID:	060290014
County:	Kern
Street Address:	5558 California Ave., Bakersfield CA 93309
Geographic Coordinates:	35.3566 N, -119.0626 W
Distance to road (meters):	300 m (south)
Traffic Count (AADT, Year):	10,000
Ground Cover:	Asphalt
Representative Statistical Area (CBSA):	Bakersfield



Bakersfield-Muni

The Bakersfield-Muni site is located in the Bakersfield, CA metropolitan area and is operated by the SJVAPCD. It became operational in 2012. The site serves as a PAMS Type 2 site, and its purpose is to measure maximum ozone precursor emissions. The site monitors ozone, CO, NO_2, total- and speciated-VOC, and meteorology for the PAMS program.

Site name:	Bakersfield-Muni
AQS ID:	060292012
County:	Kern
Street Address:	2000 South Union Ave., Bakersfield, CA 93307
Geographic Coordinates:	35.3313 N, -119.0000 W
Distance to road (meters):	280 m (west)
Traffic Count (AADT, Year):	1,000
Ground Cover:	Paved
Representative Statistical Area (CBSA):	Bakersfield

Bakersfield-Airport (Planz)

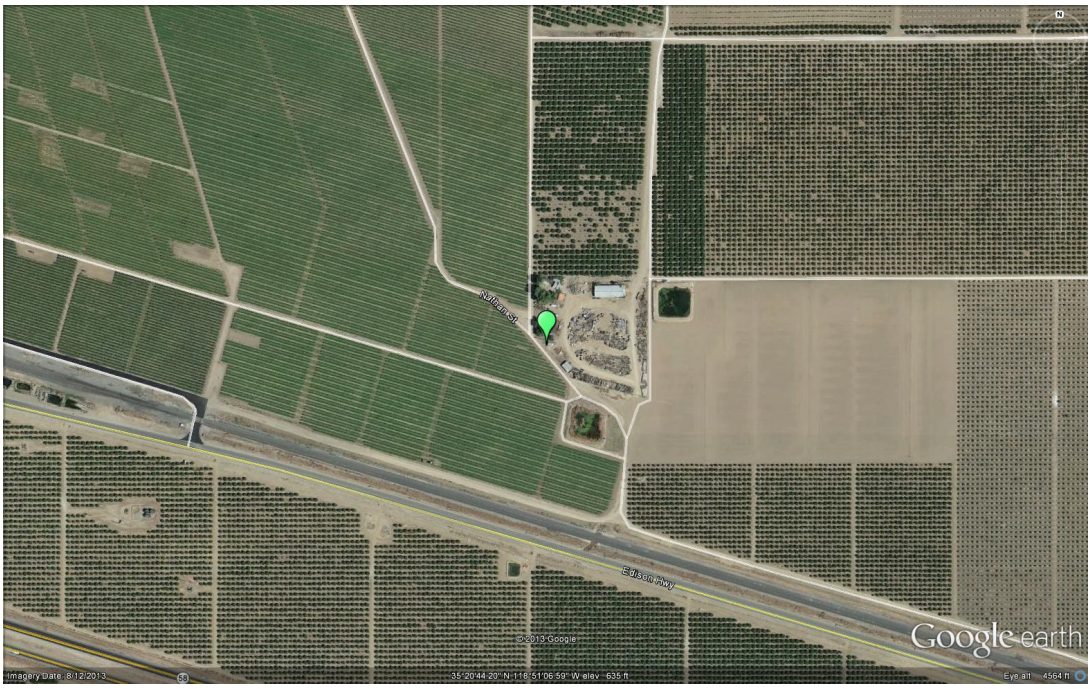
The Bakersfield-Planz monitoring site is located in the Bakersfield, CA metropolitan area and is operated by CARB. It began operating in September 2000. The purpose of the site is to monitor representative concentrations of PM2.5 from upwind and nearby urban areas.

Site name:	Bakersfield–Airport (Planz)
AQS ID:	060290016
County:	Kern
Street Address:	401 E. Planz Rd., Bakersfield CA 93307
Geographic Coordinates:	35.3246 N, -118.9976 W
Distance to road (meters):	500 m (west)
Traffic Count (AADT, Year):	1,000
Ground Cover:	Asphalt
Representative Statistical Area (CBSA):	Bakersfield

Edison

The Edison monitoring site is operated by CARB and is located 9 miles east of the Bakersfield, CA metropolitan area. It began operating in January 1980. The purpose of the site is to monitor representative concentrations of hourly ozone from upwind and nearby urban areas. The site also monitors NO_2 and meteorology.

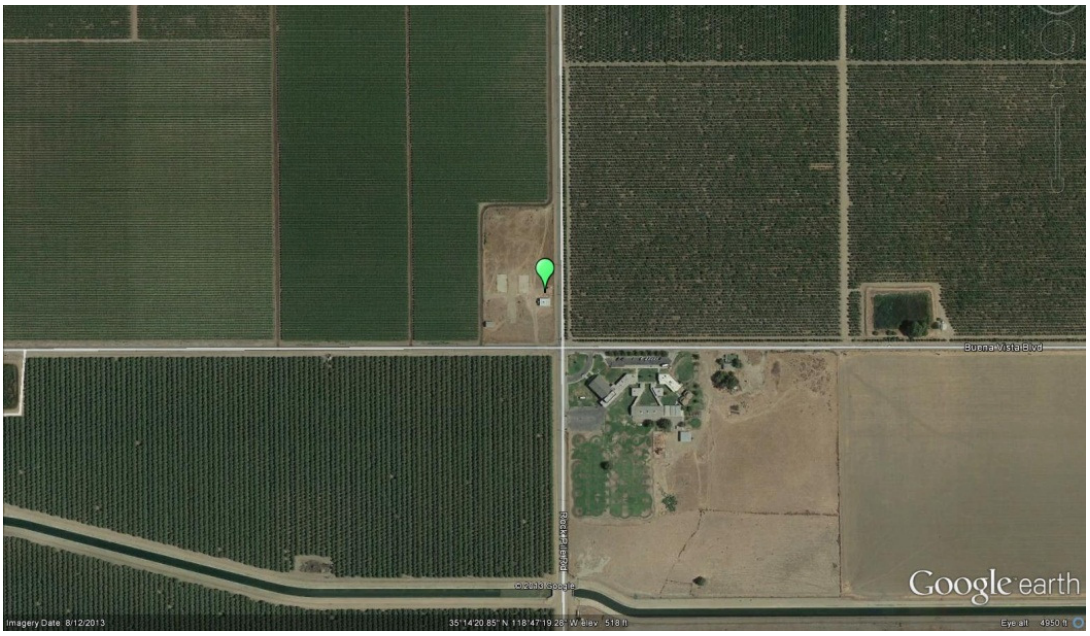
Site name:	Edison
AQS ID:	060290007
County:	Kern
Street Address:	Johnson Farm-Shed Rd, Edison CA 93320
Geographic Coordinates:	35.3456 N, -118.8518 W
Distance to road (meters):	450 m (south)
Traffic Count (AADT, Year):	50,000
Ground Cover:	Dirt
Representative Statistical Area (CBSA):	Bakersfield



Arvin-Di Giorgio

The Di Giorgio site is located 18 miles southeast of the Bakersfield, CA metropolitan area. The purpose of this site will be to serve as a PAMS Type 3 site which will monitor maximum ozone concentrations and transport from upwind urban areas. PAMS equipment for the Type 3 site at the new Arvin–Di Giorgio site will be installed when space becomes available. The site currently monitors ozone and meteorology.

Site name:	Arvin–Di Giorgio
AQS ID:	060295002
County:	Kern
Street Address:	19405 Buena Vista Blvd, Arvin CA 93203
Geographic Coordinates:	35.2391 N, -118.7886 W
Distance to road (meters):	10 m (east)
Traffic Count (AADT, Year):	500
Ground Cover:	Dirt
Representative Statistical Area (CBSA):	Bakersfield

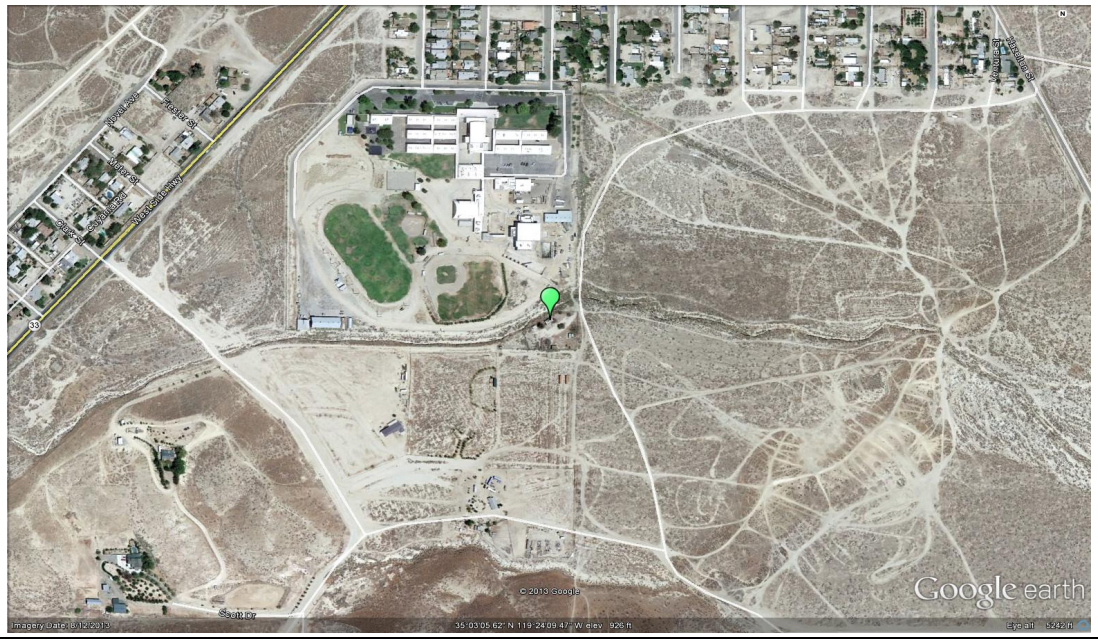


Maricopa

The Maricopa monitoring site is operated by the SJVAPCD and is located 45 miles southwest of the Bakersfield, CA metropolitan area. It began operating in July 1987. The purpose of the site is to monitor representative concentrations of hourly ozone in a rural area. The site also monitors meteorology.

Site name:	Maricopa
AQS ID:	060290008
County:	Kern
Street Address:	755 Stanislaus St., Maricopa CA 93352
Geographic Coordinates:	35.0515 N, -119.4026 W
Distance to road (meters):	500 m (northwest)
Traffic Count (AADT, Year):	3,977*, 2012
Ground Cover:	Dirt
Representative Statistical Area (CBSA):	Bakersfield

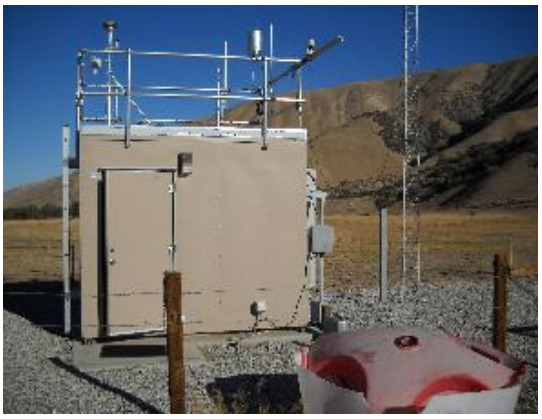
* - No data for 755 Stanislaus St., Maricopa CA 93352. The closest street with data is Route 166/33. Traffic Counts Klipstein St (Route 166/33). Nearest cross street to the count: Alameda St. Direction from the count to the cross street: Northeast. Distance to the nearest cross street: 0.03 miles.

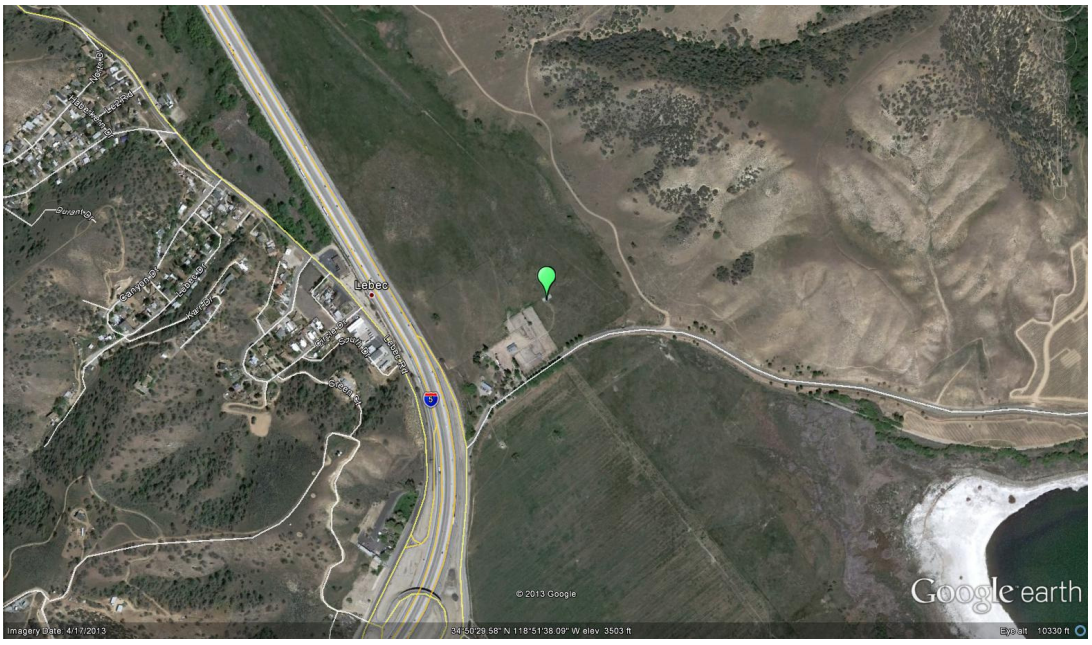


Lebec

The Lebec monitoring station was initiated by the Tejon Ranch in 2004, and the District assumed responsibility for this site as of January 2009. This site allows the District to better understand pollution impacts in the southern San Emigdio Mountains. The site measures PM2.5 and meteorological parameters. This site is used for general residential wood-burning declarations for the Greater Frazier Park Area.

Site name:	Lebec
AQS ID:	060292009
County:	Kern
Street Address:	1277 Beartrap Road, Lebec, CA 93243
Geographic Coordinates:	34.8415 N, -118.8610 W
Distance to road (meters):	300 m (west)
Traffic Count (AADT, Year):	69,000
Ground Cover:	Dirt, vegetated
Representative Statistical Area (CBSA):	Bakersfield





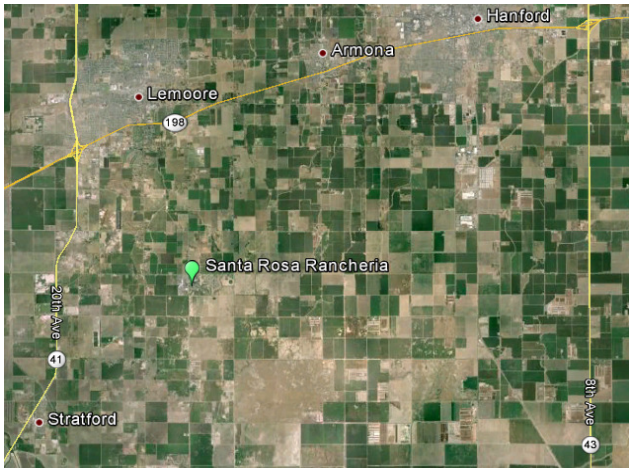
Tribal Sites

Santa Rosa Rancheria

The Santa Rosa Rancheria monitoring site is located on Tribal land in Lemoore, CA in Kings County and is operated by the Tachi-Yokut tribe. The site began operating in August 2006. The purpose of the site is to monitor representative concentrations of hourly ozone and PM10 responses from upwind and nearby urban areas. The site also monitors meteorology.

Site name:	Santa Rosa Rancheria
AQS ID:	060310500
County:	Kings
Street Address:	17225 Jersey Avenue, Lemoore, CA 93245
Geographic Coordinates:	36.2332 N, -119.7662 W
Distance to road (meters):	40 m (south)
Traffic Count (AADT, Year):	2,666*, 2000
Ground Cover:	Dirt, asphalt
Representative Statistical Area (CBSA):	Hanford-Corcoran

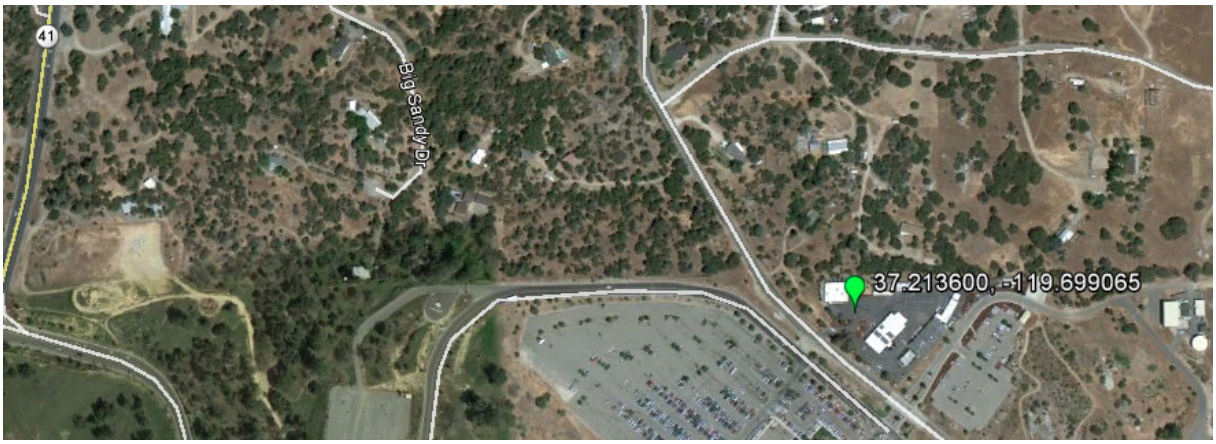
* - Closest to Santa Rosa Rancheria site Traffic Counts 17th Ave (36.238429°, -119.762784°). Nearest cross street to the count: Jersey Ave. Direction from the count to the cross street: North Distance to the nearest cross street: 0.11 miles.



Picayune Rancheria

The Picayune Rancheria monitoring site is located on Tribal land in Coarsegold, CA in Madera County and is operated by the Chukchansi Indians. The site began operating in August 2011. The purpose of the site is to monitor representative concentrations of ozone, PM10, and PM2.5 on the reservation. The site also monitors meteorology.

Site name:	Picayune Rancheria
AQS ID:	060390500
County:	Madera
Street Address:	46575 Road 417, Coarsegold, CA 93614
Geographic Coordinates:	37.2136 N, -119.6990 W
Distance to road (meters):	50 m (west)
Traffic Count (AADT, Year):	12,600, 2012
Ground Cover:	Dirt, asphalt
Representative Statistical Area (CBSA):	Madera



APPENDIX B:

Detailed Air Monitoring Site Information

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Appendix B: Detailed Air Monitoring Site Information

Sites organized by County, alphabetical therein:

[1] NO_2 Near-road monitoring station

Site name	Clovis–Villa			
AIRS #	060195001			
County	Fresno			
Collecting (Operating) Agency	All equipment operated by SJVAPCD			
Reporting Agency	Data reported by SJVAPCD: PM2.5 FEM, CO, NO_2, NMHC, Speciated VOC, Meteorology	Data reported by CARB: PM10 FRM	Data reported by CARB: PM2.5 FRM	Data reported by AAC: Speciated VOC
Site Start Date	9/1/1990			
Pollutant Parameters	Ozone, PM10 FRM, PM2.5 FEM, PM2.5 FRM, CO, NO_2, NMHC, Speciated VOC			
Meteorological Parameters	Wind speed, wind direction, outdoor temperature, relative humidity, barometric pressure, solar radiation			
Address	908 N. Villa Ave., Clovis CA 93612			
Latitude	36.8194 N			
Longitude	-119.7160 W			
Elevation (m)	86			
Location	Portable building in lot			
Distance to road	260 m (east)			
Traffic Count	4,876			
Ground Cover	Paved			

Clovis–Villa (1 of 3)				
Pollutant	**Ozone**	**PM10 FRM**	**PM2.5 FEM**	**PM2.5 FRM**
Parameter Code	44201	81102	88101	88101
Spatial scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Site type	Population	Population	Population	High concentration
Monitor objective	Timely/public, standards/strategy, research support	Standards/strategy, research support	Timely/public	Standards/strategy, research support
Monitor type	SLAMS	SLAMS	SLAMS (Secondary)	SLAMS (Primary)
POC (or primary monitor for PM2.5 and PM10)	1	1	3	1
Method code	087	063	170	145
Sampling method (List Instrument)	Teledyne 400 E	Sierra Andersen SSI	Met One BAM 1020	Thermo Partisol 2025i
Analysis method	UV	Gravimetric	Beta attenuation	Gravimetric
Start date	1/1/1990	1/1/1990	11/25/2008	9/6/2012
Operation schedule (e.g. Hourly, 1:3)	Hourly	1:6	Hourly	1:3
Sampling season	ALL YEAR	ALL YEAR	ALL YEAR	ALL YEAR
Probe height (meters)	7.5 m	7.0 m	7.0 m	5.3 m
Distance from supporting structure (meters)	4.5 m	0.25 m	4.0 m	
Distance from obstructions on roof	____	_____	_____	
Distance from obstructions not on roof (meters)	32.0 m	31.5 m	31.0 m	
Distance from trees (meters)	24.5 m	27.5 m	25.0 m	
Distance to furnace or incinerator flue (meters)	16.0 m	15.5 m	17.0 m	
Distance between collocated monitors (meters)	_____	3.7 m	2.5 m	
Unrestricted airflow (degrees)	355	355	355	360
Probe material (Teflon, etc.)	TEFLON	_____	ALUMINUM	
Residence time (seconds)	9.3	_____	_____	
Frequency of flow rate verification for manual PM samplers audit	_____	Quarterly	_____	
Frequency of flow rate verification for automated PM analyzers audit	_____	_____	Bi-weekly	MONTHLY

Clovis–Villa (1 of 3) continued				
Pollutant	**Ozone**	**PM10 FRM**	**PM2.5 FEM**	**PM2.5 FRM**
Frequency of one-point QC check (gaseous)	Daily	_____	_____	
Last Annual Performance Evaluation (gaseous)	10/23/13	_____	_____	
Last two semi-annual flow rate audits for PM monitors	_____	4/23/14	10/23/13	
Changes planned within the next 18 months (Y/N))	N	N	N	N

Clovis–Villa (2 of 3)

Pollutant	**CO**	**NO_2**	**Speciated VOC (PAMS)**	**NMHC (PAMS)**
Parameter code	42101	42602	Many	43102
Spatial scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Site type	Population	High concentration	Population	Population
Monitor objective	Standards/strategy	Standards/strategy, research	Research	Research
Monitor type	SLAMS	PAMS	PAMS	PAMS
POC	1	1	1	1
Sampling method (List Instrument)	Themo 48i	Thermo 42i	Xontech 910A Xontech 925	Synpec Alpha 115
Method code	054	074	164	177
Analysis method	IR	CL	GC	GC
Start date	1/1/1990	1/1/1990	1/1/1990	1/1/1990
Operation schedule (e.g. Hourly, 1:3)	Hourly	Hourly	1:3	Hourly
Sampling season	ALL YEAR	ALL YEAR	JUN-JUL-AUG	ALL YEAR
Probe height (meters)	7.5 m	7.5 m	6.5 m	7.5 m
Distance from supporting structure (meters)	4.5 m	4.5 m	0.25 m	4.5 m
Distance from obstructions on roof	____	____	____	____
Distance from obstructions not on roof (meters)	32.0 m	32.0 m	33.5 m	32.0 m
Distance from trees (meters)	24.5 m	24.5 m	28.0 m	24.5 m

Clovis–Villa (2 of 3) continued				
Pollutant	**CO**	**NO_2**	**Speciated VOC (PAMS)**	**NMHC (PAMS)**
Distance to furnace or incinerator flue (meters)	16.0 m	16.0 m	13.5 m	16.0 m
Distance between collocated monitors (meters)	_____	_____	____	____
Unrestricted airflow (degrees)	355	355	350	355
Probe material (Teflon, etc.)	TEFLON	TEFLON	S. STEEL	TEFLON
Residence time (seconds)	8.8	9.5	_____	_____
Frequency of flow rate verification for manual PM samplers audit	_____	_____	_____	_____
Frequency of flow rate verification for automated PM analyzers audit	_____	_____	_____	_____
Frequency of one-point QC check (gaseous)	Daily	Daily	_____	Daily
Last Annual Performance Evaluation (gaseous)	10/23/13	10/23/13	5/10/2010	_____
Last two semi-annual flow rate audits for PM monitors	_____	_____	_____	_____
Changes planned within the next 18 months (Y/N))	N	N	N	N

Clovis–Villa (3 of 3)	
Pollutant	**Met Parameters**
Parameter code	Many
Spatial scale	Regional
Site type	General
Monitor objective	Research, Timely/public
Monitor type	PAMS
POC	1
Method code	Many
Sampling method (List Instrument)	ITP- HY-CAL BA 512-A-A-3-B, OT- Met-One 060A-2, BP- Met-One 092, RH- VAISALA HMP45D, SRD- EPPLY Mod.8-48, WD- Met-One 020C, WS- Met One 010C, BP- Met One 092
Analysis method	_____
Start date	1/1/1990

Clovis–Villa (3 of 3) continued	
Pollutant	**Met Parameters**
Operation schedule (e.g. Hourly, 1:3)	Hourly
Sampling season	ALL YEAR
Probe height (meters)	9.6 m
Distance from supporting structure (meters)	2.7 m
Distance from obstructions on roof	_____
Distance from obstructions not on roof (meters)	29.5 m
Distance from trees (meters)	25.5 m
Distance to furnace or incinerator flue (meters)	_____
Distance between collocated monitors (meters)	_____
Unrestricted airflow (degrees)	360
Probe material (Teflon, etc.)	_____
Residence time (seconds)	_____
Frequency of flow rate verification for manual PM samplers audit	_____
Frequency of flow rate verification for automated PM analyzers audit	_____
Frequency of one-point QC check (gaseous)	_____
Last Annual Performance Evaluation (gaseous)	_____
Last two semi-annual flow rate audits for PM monitors	_____
Changes planned within the next 18 months (Y/N))	N

Site name	Fresno – Foundry
AIRS #	060192015 (Proposed)
County	Fresno
Collecting (Operating) Agency	All equipment operated by SJVAPCD
Reporting Agency	SJVAPCD
Site Start Date	2015 (Date to be determined)
Pollutant Parameters	NO_2
Meteorological Parameters	Wind speed, wind direction, outdoor temperature, barometric pressure
Address	2482 Foundry Park Ave, Fresno, CA 93706
Latitude	36.10901 N
Longitude	-119.777403 W
Elevation (m)	86
Location	Equipment/communications shelter
Distance to road	16 to 19 meters (Pending)
Traffic Count	93,000 (FE AADT is 227,505)
Ground Cover	Rubberized plastic membrane roof; asphalt paving and landscaping beyond the roof

Fresno – Foundry		
Pollutant	**NO_2**	**Met Parameters**
Parameter code	42602	Many
Spatial scale	Micro	Neighborhood
Site type	High Concentration	Population
Monitor objective	Timely/public, standards/strategy, research support	Timely/public, Standards/strategy, research support
Monitor type	SLAMS	Many
POC	1	Many
Method code	074	Many
Sampling method (List Instrument)	Teledyne 200 E	ITP- Hy-Cal 512AA3B, OT- Met One 060A-2, BP- Met One 092, WD- Met One 020C, WS-Met One 010C
Analysis method	CL	Many
Start date	2015 (Date to be determined)	2015 (Date to be determined)
Operation schedule (e.g. 1:1, 1-Hour)	Hourly	Hourly
Sampling season	ALL YEAR	ALL YEAR
Probe height (meters)	4 to 6 m (likely 5.5 m)	4 to 6 m (5.5 m most likely)
Distance from supporting structure (meters)	N/A	N/A
Distance from obstructions on roof	None	None
Distance from obstructions not on roof (meters)	0 (Bushes will be removed prior to start date)	0
Distance from trees (meters)	0 (Bushes will be removed prior to start date)	0
Distance to furnace or incinerator flue (meters)	None	None
Distance between collocated monitors (meters)	None	None
Unrestricted airflow (degrees)	360	360
Probe material (Teflon, etc.)	TEFLON	N/A
Residence time (seconds)	Less than 20 seconds (likely 14.5)	N/A
Frequency of flow rate verification for manual PM samplers audit	N/A	N/A
Frequency of flow rate verification for automated PM analyzers audit	N/A	N/A
Frequency of one-point QC check (gaseous)	Daily	N/A
Last Annual Performance Evaluation (gaseous)	Will be scheduled when site is built	Will be scheduled when site is built
Last two semi-annual flow rate audits for PM monitors	N/A	N/A
Changes planned within the next 18 months (Y/N)	N	N

Site name	Fresno–Drummond	
AIRS #	060190007	
County	Fresno	
Collecting (Operating) Agency	All equipment operated by SJVAPCD	
Reporting Agency	Data reported by SJVAPCD: Ozone, CO, NO_2, PM2.5	Data reported by CARB: PM10 FRM
Site Start Date	7/1/84	
Pollutant Parameters	Ozone, PM10 FRM, CO, NO_2	
Meteorological Parameters	Wind speed, wind direction, outdoor temperature, barometric pressure	
Address	4706 E. Drummond Street, Fresno CA 93725	
Latitude	36.7055 N	
Longitude	-119.7410 W	
Elevation (m)	89	
Location	Portable building in parking lot	
Distance to road	50 m (north)	
Traffic Count	600	
Ground Cover	Paved	

Fresno–Drummond (1 of 2)					
Pollutant	**Ozone**	**PM10 FRM**	**PM10 FRM**	**CO**	**NO_2**
Parameter code	44201	81102	81102	42101	42602
Spatial scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Site type	Population, High Concentration , Regional transport	Population	Population, Quality Assurance	Population	High concentration
Monitor objective	Timely/public, standards/strategy, research support	Standards/strategy, research support		Standards/strategy	Standards/strategy
Monitor type	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS
POC	1	1	2 (QA Collocated)	1	1
Method code	087	063	063	054	074
Sampling method (List Instrument)	Teledyne 400 E	Sierra Andersen SSI	Sierra Andersen SSI	Themo 48	Thermo 42Ci
Analysis method	UV	Gravimetric	Gravimetric	IR	CL
Start date	7/1/1984	7/1/1989	10/6/2012	7/1/1984	7/1/1984
Operation schedule (e.g. Hourly, 1:3)	Hourly	1:6	1:6	Hourly	Hourly
Sampling season	ALL YEAR	ALL YEAR	ALL YEAR	ALL YEAR	ALL YEAR
Probe height (meters)	8.5 m	6 m	6 m	8.5 m	8.5 m
Distance from supporting structure (meters)	3.6 m	10.5 m	10.5 m	3.6 m	3.6 m
Distance from obstructions on roof	_____	0.5 m from safety barrier	0.5 m from safety barrier	_____	_____
Distance from obstructions not on roof (meters)	_____	5 m	5 m	_____	_____
Distance from trees (meters)	25 m	24 m	24 m	25 m	25 m

Fresno–Drummond (1 of 2) continued					
Pollutant	**Ozone**	**PM10 FRM**	**PM10 FRM**	**CO**	**NO_2**
Distance to furnace or incinerator flue (meters)	23.5 m	23 m	23 m	23.5 m	23.5 m
Distance between collocated monitors (meters)	_____	4.6 m	4.6 m	_____	_____
Unrestricted airflow (degrees)	360	360	360	360	360
Probe material (Teflon, etc.)	TEFLON	_____	_____	TEFLON	TEFLON
Residence time (seconds)	9.03	_____	_____	10.88	9.59
Frequency of flow rate verification for manual PM samplers audit	_____	Quarterly	Quarterly	_____	_____
Frequency of flow rate verification for automated PM analyzers audit	_____	Semi-annual	Semi-annual	_____	_____
Frequency of one-point QC check (gaseous)	Daily	_____	_____	Daily	Daily
Last Annual Performance Evaluation (gaseous)	03/04/2014	_____	_____	03/04/2014	03/04/2014
Last two semi-annual flow rate audits for PM monitors	_____	01/31/2014, 11/27/2013	01/31/2014, 11/27/2013	_____	_____
Changes planned within the next 18 months (Y/N)	No	No	No	Yes	No

Fresno–Drummond (2 of 2)	
Pollutant	**Met Parameters**
Parameter code	Many
Spatial scale	Regional
Site type	General
Monitor objective	Research, Timely/public
Monitor type	SLAMS
POC	1
Method code	Many
Sampling method (List Instrument)	ITP- HY-CAL BAAA3B, OT- Met One 060A-2, BP- Met One 092, WD- Met One 020C, WS- Met One 010C
Analysis method	_____
Start date	10/7/2004
Operation schedule (e.g. Hourly, 1:3)	Hourly
Sampling season	ALL YEAR
Probe height (meters)	10 m
Distance from supporting structure (meters)	_____
Distance from obstructions on roof	_____
Distance from obstructions not on roof (meters)	_____
Distance from trees (meters)	25 m
Distance to furnace or incinerator flue (meters)	23 m
Distance between collocated monitors (meters)	_____
Unrestricted airflow (degrees)	360
Probe material (Teflon, etc.)	_____
Residence time (seconds)	_____
Frequency of flow rate verification for manual PM samplers audit	_____
Frequency of flow rate verification for automated PM analyzers audit	_____
Frequency of one-point QC check (gaseous)	_____
Last Annual Performance Evaluation (gaseous)	03/04/2014
Last two semi-annual flow rate audits for PM monitors	_____
Changes planned within the next 18 months (Y/N)	N

Site name	Fresno–Garland
AIRS #	060190011
County	Fresno
Collecting (Operating) Agency	All equipment operated by CARB
Reporting Agency	Data reported by CARB: Ozone, PM10 FRM, PM10 STP FEM, PM2.5 FRM (2), PM2.5FEM, CO, NO_2, Toxics
Site Start Date	12/31/2011
Pollutant Parameters	Ozone, PM10 STP FEM, PM10 FRM, PM10 FEM ($PM_{10-2.5}$), PM2.5 FRM, PM2.5 FEM, CO, NO_2, NOy, SO_2, Lead, Toxics
Meteorological Parameters	Wind speed, wind direction, outdoor temperature, barometric pressure
Address	3727 N. First St., Ste.104, Fresno CA 93726
Latitude	36.7853 N
Longitude	-119.7732 W
Elevation (m)	97
Location	
Distance to road	30 m (south)
Traffic Count	20000, 1990
Ground Cover	Gravel covered tar paper with wooden deck walkways

Fresno–Garland (1 of 3)					
Pollutant	**Ozone**	**PM10 STP FEM**	**PM10 FEM ($PM_{10-2.5}$)**	**PM2.5 FRM**	**PM2.5 FRM**
Parameter code	44201	81102	86101	88101	88101
Spatial scale	Urban	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Site type	Population Exposure	Population Exposure	Population Exposure, Quality Assurance	High concentration	High concentration, Population Exposure, Quality Assurance
Basic monitoring objective(s)	NC, RS	NC, RS	NC, RS	NC, RS	NC, RS
Monitor type	NCore	NCore	NCore	NCore	NCore
POC	1	3	3 (QA Collocated serving as Primary)	1 (Primary)	2 (QA Collocated)
Method code	087	122	185	118	118
Sampling method (List Instrument)	API/Teledyne 400	Instrument Met One 4 Models	Met One BAM 1020	R&P 2025	R&P 2025
Analysis method	UV	Beta Attenuation	Beta Attenuation	Sequential	Sequential
Start date	12/23/2011	1/1/2012	10/14/2013	1/1/2012	1/25/2012
Operation schedule (e.g. Hourly, 1:3)	Continuous	Continuous	Continuous	1:1	1:6
Sampling season	ALL YEAR	ALL YEAR	ALL YEAR	ALL YEAR	ALL YEAR
Probe/Inlet height above ground (meters)	7.0	6.2	6.3	5.9	5.9
Distance from supporting structure (meters)	None	N/A	None	None	None
Distance from obstructions on roof	None	None	None	None	None
Distance from obstructions not on roof (meters)	None	None	None	None	None
Distance from trees (meters)	None	None	None	None	None
Distance to furnace or incinerator flue (meters)	None	None	None	None	None
Distance between collocated monitors (meters)	--	1.0	--	2.0	2.0
Unrestricted airflow (degrees)	360	360	360	360	360

Fresno–Garland (1 of 3)					
Pollutant	**Ozone**	**PM10 STP FEM**	**PM10 FEM ($PM_{10-2.5}$)**	**PM2.5 FRM**	**PM2.5 FRM**
Probe material (Teflon, etc.)	Teflon	Aluminum	--	--	--
Residence time (seconds)	2.5	N/A	--	--	--
Frequency of flow rate verification for manual PM samplers audit	--	Twice a month	--	Once a Month	Once a Month
Frequency of flow rate verification for automated PM analyzers audit	--	--	Once a month	--	--
Frequency of one-point QC check (gaseous)	Twice a month	N/A	--	--	
Last Annual Performance Evaluation (gaseous)	10/22/2013	N/A	--	--	
Last two semi-annual flow rate audits for PM monitors	--	3/17/2015, 10/21/2014	4/10/2014 10/22/2013	4/10/2014 10/22/2013	4/10/2014 10/22/2013
Changes planned within the next 18 months (Y/N)	N	N	N	N	N

Fresno–Garland (2 of 3)				
Pollutant	**PM2.5 FEM**	**CO**	**NO_2**	**SO_2**
Parameter code	88101	42101	42602	42401
Spatial scale	Neighborhood	Urban	Neighborhood	Urban
Site type	High concentration	Population Exposure	Max Precursor Emissions Impact	Population Exposure
Basic monitoring objective(s)	NC, RS	NC, RS	NC, RS	NC, RS
Monitor type	NCore	NCore	NCore	NCore
POC	3	3	1	1
Method code	170	731	074	009
Sampling method (List Instrument)	MetOne 1020	API 300 EU	API 200E	Thermo 43
Analysis method				
Start date	1/1/2012	1/18/2012	2/1/2012	1/18/2012
Operation schedule (e.g. 1:3, Hourly, etc.)	Continuous	Continuous	Continuous	Continuous
Sampling season	ALL YEAR	ALL YEAR	ALL YEAR	ALL YEAR
Probe/Inlet height above ground (meters)	6.4	7.0	7.0	
Distance from supporting structure (meters)	None	None	None	

Fresno–Garland (2 of 3)				
Pollutant	**PM2.5 FEM**	**CO**	**NO2**	**SO_2**
Distance from obstructions on roof	None	None	None	
Distance from obstructions not on roof (meters)	None	None	None	
Distance from trees (meters)	None	None	None	None
Distance to furnace or incinerator flue (meters)	None	None	None	None
Distance between collocated monitors (meters)	N/A	--	--	360
Unrestricted airflow (degrees)	360	360	360	--
Probe material (Teflon, etc.)	N/A	Teflon	Teflon	Teflon
Residence time (seconds)			2.6	5.9
Frequency of flow rate verification for manual PM samplers audit	Once a Month	--	--	--
Frequency of flow rate verification for automated PM analyzers audit		--	--	--
Frequency of one-point QC check (gaseous)		Twice a month	Twice a month	Twice a month
Last Annual Performance Evaluation (gaseous)		10/22/2013	10/22/2013	4/11/2012
Last two semi-annual flow rate audits for PM monitors	4/10/2014 10/22/2013	--	--	N
Changes planned within the next 18 months (Y/N)	N	N	N	N

Fresno–Garland (3 of 3)					
Pollutant	**Lead TSP (LC)**	**Lead TSP (STP)**	**NOy**	**Toxics**	**Met Parameters**
Parameter code	14129	12128	42600	Many	Many
Spatial scale	Urban	Neighborhood	Urban	Neighborhood	Regional
Site type	Population Exposure	Population Exposure	Population Exposure	Population Exposure	General
Monitor objective	NC, RS, TP	NC	NC, RS	RS, TP	RS, TP
FRM/FEM/ARM/Other	NCore	SLAMS	NCore	NCore	NCore
POC, Primary/Secondary/Collocated	1	1	3	Many	Many
Method code	803	803	699	Many	Many
Instrument manufacturer and model	Tisch Environmental TE-5170-D	Hi-Vol Xontech	Instrumental	Xontech 924	

Start date	2/1/2012	2/1/2012	1/18/2012		
Fresno–Garland (3 of 3)					
Pollutant	**Lead TSP (LC)**	**Lead TSP (STP)**	**NOy**	**Toxics**	**Met Parameters**
Current Sampling Frequency	1:6	1:6	Continuous	Continuous	Continuous
Calculated sampling frequency [1] (e.g. 1:3/1:1)	1:6		Continuous		
Sampling season	ALL YEAR	ALL YEAR	ALL YEAR	ALL YEAR	ALL YEAR
Probe height (meters)	1.35	5.9	6.2		
Distance from supporting structure (meters)	N/A	2.1	N/A		
Distance from obstructions on roof	N/A	None	None		
Distance from obstructions not on roof (meters)	N/A	None	None	None	None
Distance from trees (meters)	N/A	None	None	None	None
Distance to furnace or incinerator flue (meters)	N/A	2.4	None	None	None
Distance between collocated monitors (meters)	N/A	NA	N/A	--	--
Unrestricted airflow (degrees)	360	360	360	360	360
Probe material (Teflon, etc.)	N/A	Teflon	Teflon	Teflon	Teflon
Residence time (seconds)	N/A	N/A	< 20 seconds		
Frequency of flow rate verification for manual PM samplers audit	Monthly	N/A	N/A	--	--
Frequency of flow rate verification for automated PM analyzers audit	N/A	N/A	N/A	--	--
Frequency of one-point QC check (gaseous)	N/A	N/A	Once a day	Twice a month	--
Last Annual Performance Evaluation (gaseous)	N/A	N/A	None	09/23/2010	--
Last two semi-annual flow rate audits for PM monitors	03-17-15	Audited annual: 4/17/2013	N/A	--	--
Changes planned within the next 18 months (Y/N)	N	Y	Y	N	N

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Site name	Fresno–Pacific
AIRS #	060195025
County	Fresno
Collecting (Operating) Agency	All equipment operated by SJVAPCD
Reporting Agency	All data reported by CARB
Site Start Date	1/1/00
Pollutant Parameters	PM2.5 FRM
Meteorological Parameters	None
Address	1716 Winery, Fresno CA 93726
Latitude	36.7263 N
Longitude	-119.7330 W
Elevation (m)	100
Location	On school roof
Distance to road	40 m (east)
Traffic Count	2539
Ground Cover	Roof material

Fresno–Pacific	
Pollutant	**PM2.5 FRM**
Parameter code	88101
Spatial scale	Neighborhood
Site type	Population
Monitor objective	Standards/strategy, research support
Monitor type	SLAMS
POC	1
Method code	120
Sampling method (List Instrument)	Thermo Partisol 2025
Analysis method	GRAVI-METRIC
Start date	1/1/2000
Operation schedule (e.g. Hourly, 1:3)	1:3
Sampling season	ALL YEAR
Probe height (meters)	8.0 m
Distance from supporting structure (meters)	6.0 m
Distance from obstructions on roof	54.5 m
Distance from obstructions not on roof (meters)	_____
Distance from trees (meters)	76.0 m
Distance to furnace or incinerator flue (meters)	_____
Distance between collocated monitors (meters)	_____
Unrestricted airflow (degrees)	360
Probe material (Teflon, etc.)	_____
Residence time (seconds)	_____
Frequency of flow rate verification for manual PM samplers audit	Bi-weekly
Frequency of flow rate verification for automated PM analyzers audit	_____
Frequency of one-point QC check (gaseous)	_____
Last Annual Performance Evaluation (gaseous)	_____
Last two semi-annual flow rate audits for PM monitors	03/04/2014, 09/23/2013
Changes planned within the next 18 months (Y/N)	No

Site name	Fresno–Sky Park
AIRS #	060190242
County	Fresno
Collecting (Operating) Agency	All equipment operated by SJVAPCD
Reporting Agency	All data reported by SJVAPCD
Site Start Date	7/1/86
Pollutant Parameters	Ozone, CO, NO_2
Meteorological Parameters	Wind speed, wind direction, outdoor temperature
Address	4508 Chennault Ave, Fresno CA 93722
Latitude	36.8405 N
Longitude	-119.8740 W
Elevation (m)	65
Location	Portable building
Distance to road	12 m (west)
Traffic Count	100
Ground Cover	Gravel

Fresno–Sky Park				
Pollutant	**Ozone**	**CO**	**NO_2**	**Met Parameters**
Parameter code	44201	42101	42602	Many
Spatial scale	Neighborhood	Neighborhood	Neighborhood	Regional
Site type	Population, regional transport	Population	Population	General
Monitor objective	Timely/public, standards/strategy, research support	Standards/ strategy	Standards/ strategy	Research, Timely/public
Monitor type	SLAMS	SLAMS	SLAMS	SLAMS
POC	1	1	1	1
Method code	087	054	074	Many
Sampling method (List Instrument)	Teledyne 400E	Thermo 48	Thermo 42I	ITP- BA-512-A-A-3-B, OT- Met One 060A-2, WD- Met One 020C, WS- Met One 010C
Analysis method	UV	IR	CL	____
Start date	7/1/1986	7/1/1986	7/1/1986	7/1/1986
Operation schedule (e.g. Hourly, 1:3)	Hourly	Hourly	Hourly	Hourly
Sampling season	ALL YEAR	ALL YEAR	ALL YEAR	ALL YEAR
Probe height (meters)	4 m	4 m	4 m	5 m
Distance from supporting structure (meters)	____	____	____	____
Distance from obstructions on roof	____	____	____	____
Distance from obstructions not on roof (meters)	5 m / 16 m	5 m / 16 m	5 m / 16 m	5 m / 16 m
Distance from trees (meters)	4 m	4 m	4 m	3 m
Distance to furnace or incinerator flue (meters)	____	____	____	____
Distance between collocated monitors (meters)	____	____	____	____
Unrestricted airflow (degrees)	280	280	280	280
Probe material (Teflon, etc.)	TEFLON	TEFLON	TEFLON	____
Residence time (seconds)	7.39	6.50	8.39	____
Frequency of flow rate verification for manual PM samplers audit	____	____	____	____
Frequency of flow rate verification for automated PM analyzers audit	____	____	____	____
Frequency of one-point QC check (gaseous)	Daily	Daily	Daily	____

Fresno–Sky Park (continued)				
Pollutant	**Ozone**	**CO**	**NO_2**	**Met Parameters**
Last Annual Performance Evaluation (gaseous)	03/05/2014	03/05/2014	03/05/2014	03/05/2014
Last two semi-annual flow rate audits for PM monitors	____	____	____	____
Changes planned within the next 18 months (Y/N)	N	Y	N	N

Site name	Huron
AIRS #	060192008
County	Fresno
Collecting (Operating) Agency	All equipment operated by SJVAPCD
Reporting Agency	All data reported by SJVAPCD
Site Start Date	10/12/09
Pollutant Parameters	PM2.5 Non-FEM
Meteorological Parameters	Barometric pressure
Address	16875 4th St., Huron, CA 93234
Latitude	36.2363 N
Longitude	-119.7656 W
Elevation (m)	112
Location	In school room
Distance to road	100 m (north)
Traffic Count	1205
Ground Cover	Paved/vegetated

Huron		
Pollutant	**PM2.5 Non-FEM**	**Met Parameters**
Parameter code	88502	64101
Spatial scale	Neighborhood	Neighborhood
Site type	Population	Population
Monitor objective	Timely/public	Timely/public
Monitor type	SPM	-
POC	3	1
Method code	731	
Sampling method (List Instrument)	Met One BAM 1020	ITP- Hy-Cal BA-512-A-A-3-B, BP- Met One 092
Analysis method	BETA-ATTENUATION	
Start date	9/2/2009	2/1/2010
Operation schedule (e.g. Hourly, 1:3, Hourly)	Hourly	Hourly
Sampling season	ALL YEAR	ALL YEAR
Probe height (meters)	4.5 m	
Distance from supporting structure (meters)	1.5 m	
Distance from obstructions on roof	_____	
Distance from obstructions not on roof (meters)	_____	
Distance from trees (meters)	41.5 m	
Distance to furnace or incinerator flue (meters)	_____	
Distance between collocated monitors (meters)	_____	
Unrestricted airflow (degrees)	270	
Probe material (Teflon, etc.)	ALUMINUM	
Residence time (seconds)	N/A	
Frequency of flow rate verification for manual PM samplers audit	_____	
Frequency of flow rate verification for automated PM analyzers audit	BI-WEEKLY	
Frequency of one-point QC check (gaseous)	_____	
Last Annual Performance Evaluation (gaseous)	--	
Last two semi-annual flow rate audits for PM monitors	11/28/2011, 5/8/2012	
Changes planned within the next 18 months (Y/N)	N	N

Site name	Parlier
AIRS #	060194001
County	Fresno
Collecting (Operating) Agency	All equipment operated by SJVAPCD
Reporting Agency	All data reported by SJVAPCD
Site Start Date	6/1/1983
Pollutant Parameters	Ozone, NO_2, Speciated VOC, NMHC
Meteorological Parameters	Wind speed, wind direction, outdoor temperature, relative humidity, barometric pressure, solar radiation
Address	9240 S. Riverbend Ave., Parlier CA 93648
Latitude	36.5972 N
Longitude	-119.5040 W
Elevation (m)	78
Location	Portable building in university field
Distance to road	100 m (east)
Traffic Count	8700
Ground Cover	Dirt/vegetated

Parlier (1 of 2)				
Pollutant	**Ozone**	**NO_2**	**Speciated VOC**	**NMHC**
Parameter code	44201	42602	Many	43102
Spatial scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Site type	High concentration, regional transport	Population	Population	Population
Monitor objective	Timely/public, standards/strategy, research support	Standards/strategy, research	Research	Research
Monitor type	PAMS	PAMS	PAMS	PAMS
POC	1	1	1	1
Method code	087	074	Multiple	164
Sampling method (List Instrument)	Teledyne 400 E	Teledyne 200E	Xontech 910A	Baseline 8900
Analysis method	UV	CL	GC	GC
Start date	1/1/1984	4/1/1994	6/7/1995	12/1/1997
Operation schedule (e.g. Hourly, 1:3)	Hourly	Hourly	1:3	Hourly
Sampling season	ALL YEAR	ALL YEAR	JUN-JUL-AUG	ALL YEAR
Probe height (meters)	7.0 m	7.0 m	7.0 m	7.0 m
Distance from supporting structure (meters)	_____	_____	_____	_____
Distance from obstructions on roof	_____	_____	_____	_____
Distance from obstructions not on roof (meters)	_____	_____	_____	_____
Distance from trees (meters)	11 m	11 m	11 m	11 m
Distance to furnace or incinerator flue (meters)	_____	_____	_____	_____
Distance between collocated monitors (meters)	_____	_____	_____	_____
Unrestricted airflow (degrees)	360	360	360	360
Probe material (Teflon, etc.)	TEFLON	TEFLON	S. STEEL	TEFLON
Residence time (seconds)	7.24	11.0	_____	12.9
Frequency of flow rate verification for manual PM samplers audit	_____	_____	_____	_____
Frequency of flow rate verification for automated PM analyzers audit	_____	_____	_____	_____
Frequency of one-point QC check (gaseous)	Daily	Daily	_____	Daily
Last Annual Performance Evaluation (gaseous)	04/30/2014	04/30/2014		_____

Parlier (1 of 2) continued				
Pollutant	**Ozone**	**NO_2**	**Speciated VOC**	**NMHC**
Last 2 semi-annual flow rate audits, PM monitors	_____	_____	_____	_____
Changes planned within the next 18 months (Y/N)	N	N	N	Y

Parlier (2 of 2)	
Pollutant	**Met Parameters**
Parameter code	Many
Spatial scale	Regional
Site type	General
Monitor objective	Research, Timely/public
Monitor type	PAMS
POC	1
Method code	Many
Sampling method (List Instrument)	ITP- Hy-Cal 512AA3B, OT- Met One 060A-2, BP- Met One 092, RH- Vaisala HMP45D, SRD- Epply Mod.8-48, WD- Met One 020C, WS- Met One 010C
Analysis method	_____
Start date	7/21/1987
Operation schedule (e.g. Hourly, 1:3)	Hourly
Sampling season	ALL YEAR
Probe height (meters)	9.5 m
Distance from supporting structure (meters)	_____
Distance from obstructions on roof	_____
Distance from obstructions not on roof (meters)	_____
Distance from trees (meters)	_____
Distance to furnace or incinerator flue (meters)	_____
Distance between collocated monitors (meters)	_____
Unrestricted airflow (degrees)	360
Probe material (Teflon, etc.)	_____
Residence time (seconds)	_____
Frequency of flow rate verification for manual PM samplers audit	_____
Frequency of flow rate verification for automated PM analyzers audit	_____

Parlier (2 of 2) continued	
Pollutant	**Met Parameters**
Frequency of one-point QC check (gaseous)	monthly
Last Annual Performance Evaluation (gaseous)	04/30/2014
Last two semi-annual flow rate audits for PM monitors	_____
Changes planned within the next 18 months (Y/N)	N

Site name	Tranquillity
AIRS #	060192009
County	Fresno
Collecting (Operating) Agency	All equipment operated by SJVAPCD
Reporting Agency	All data reported by SJVAPCD
Site Start Date	11/9/2009
Pollutant Parameters	Ozone, PM2.5 FEM
Meteorological Parameters	Wind speed, wind direction, outdoor temperature, barometric pressure
Address	32650 W. Adams, Tranquillity CA 93668
Latitude	36.6008 N
Longitude	-120.3822 W
Elevation (m)	59
Location	Portable shed
Distance to road	200 m (south)
Traffic Count	100
Ground Cover	Gravel/vegetation

Tranquillity			
Pollutant	**Ozone**	**PM2.5 FEM**	**Met Parameters**
Parameter code	44201	88101	Many
Spatial scale	Urban	Urban	Urban
Site type	Population	Population	Population
Monitor objective	Timely/public	Timely/public	Timely/public
Monitor type	SPM	SPM	
POC	1	3	1
Method code	087	170	Many
Sampling method (List Instrument)	Teledyne 400 E(IZS)	Met One BAM 1020	ITP- Hy-Cal 512AA3B, OT- Met One 060A-2, BP- Met One 092, WD- Met One 020C, WS- Met One 010C
Analysis method	UV	BETA-ATTENUATION	
Start date	10/30/2009	10/30/2009	10/30/2009
Operation schedule (e.g. Hourly, 1:3)	Hourly	Hourly	Hourly
Sampling season	ALL YEAR	ALL YEAR	ALL YEAR
Probe height (meters)	4 m	4 m	10 m
Distance from supporting structure (meters)			
Distance from obstructions on roof			
Distance from obstructions not on roof (meters)			
Distance from trees (meters)	101 m	101 m	101 m
Distance to furnace or incinerator flue (meters)	97.5 m	97.5 m	97.5 m
Distance between collocated monitors (meters)			
Unrestricted airflow (degrees)	360	360	360
Probe material (Teflon, etc.)	TEFLON	ALUMINUM	
Residence time (seconds)	6.0	N/A	
Frequency of flow rate verification for manual PM samplers audit			
Frequency of flow rate verification for automated PM analyzers audit		Semi-annual	
Frequency of one-point QC check (gaseous)	Daily		
Last Annual Performance Evaluation (gaseous)	5/8/2012		
Last 2 semi-annual flow rate audits, PM monitors		11/30/2011, 5/8/2012	
Changes planned within the next 18 months (Y/N)	No	No	No

Site name	Arvin–Di Giorgio
AIRS #	060295002
County	Kern
Collecting (Operating) Agency	All equipment operated by CARB
Reporting Agency	All data reported by CARB
Site Start Date	11/16/2009
Pollutant Parameters	Ozone
Meteorological Parameters	Outdoor temperature
Address	19405 Buena Vista Blvd, Arvin CA 93203
Latitude	35.2391 N
Longitude	-118.7886 W
Elevation (m)	158
Location	
Distance to road	10 m (east)
Traffic Count	500
Ground Cover	Dirt

Arvin–Di Giorgio		
Pollutant	**Ozone**	**Met Parameters**
Parameter code	44201	Many
Spatial scale	Neighborhood	Regional
Site type	Maximum concentration, Population Exposure	General
Monitor objective	Standards/strategy	Research, Timely/public
Monitor type	SLAMS	Other
POC	1	1
Method code	087	Many
Sampling method (List Instrument)		
Analysis method	UV	
Start date	11/16/2009	11/16/2009
Operation schedule (e.g. Hourly, 1:3)	Hourly	Hourly
Sampling season	ALL YEAR	ALL YEAR
Probe height (meters)	4.5	
Distance from supporting structure (meters)	None	
Distance from obstructions on roof	None	
Distance from obstructions not on roof (meters)	None	None
Distance from trees (meters)	None	18.5
Distance to furnace or incinerator flue (meters)	None	None
Distance between collocated monitors (meters)	None	--
Unrestricted airflow (degrees)	360	360
Probe material (Teflon, etc.)	TEFLON	Teflon
Residence time (seconds)	7.9	--
Frequency of flow rate verification for manual PM samplers audit	N/A	--
Frequency of flow rate verification for automated PM analyzers audit	N/A	--
Frequency of one-point QC check (gaseous)	Twice a month	--
Last Annual Performance Evaluation (gaseous)	10/9/2013	--
Last two semi-annual flow rate audits for PM monitors	N/A	--
Changes planned within the next 18 months (Y/N)	N	N

Site name	Bakersfield–Airport (Planz)
AIRS #	060290016
County	Kern
Collecting (Operating) Agency	All equipment operated by CARB
Reporting Agency	CARB
Site Start Date	9/19/00
Pollutant Parameters	PM2.5 FRM
Meteorological Parameters	None
Address	401 E. Planz Rd., Bakersfield CA 93307
Latitude	35.3246 N
Longitude	-118.9976 W
Elevation (m)	115
Location	
Distance to road	500 m (west)
Traffic Count	1000
Ground Cover	Asphalt

Bakersfield–Airport (Planz)	
Pollutant	**PM2.5 FRM**
Parameter code	88101
Spatial scale	Neighborhood
Site type	Population Exposure, High Concentration
Basic monitoring objective(s)	Standards/strategy
Monitor type	SLAMS
POC	1
Method code	120
Sampling method (List Instrument)	R&P 2025
Analysis method	Gravimetric
Start date	9/19/00
Operation schedule (e.g. Hourly, 1:3)	1:3
Sampling season	ALL YEAR
Probe Inlet height above ground (meters)	2.0
Distance from supporting structure (meters)	None
Distance from obstructions on roof	None
Distance from obstructions not on roof (meters)	None
Distance from trees (meters)	None
Distance to furnace or incinerator flue (meters)	None
Distance between collocated monitors (meters)	None
Unrestricted airflow (degrees)	360
Probe material (Teflon, etc.)	N/A
Residence time (seconds)	N/A
Frequency of flow rate verification for manual PM samplers audit	Once a month
Frequency of flow rate verification for automated PM analyzers audit	--
Frequency of one-point QC check (gaseous)	--
Last Annual Performance Evaluation (gaseous)	--
Last two semi-annual flow rate audits for PM monitors	4/15/2014, 9/24/2013
Changes planned within the next 18 months (Y/N)	N

Site name	Bakersfield–California
AIRS #	060290014
County	Kern
Collecting (Operating) Agency	All equipment operated by CARB
Reporting Agency	Data reported by CARB: PM10 FRM, PM2.5 FRM, NO_2, Ozone, Toxics, Meteorology
Site Start Date	3/1/94
Pollutant Parameters	Ozone, PM10 FRM, PM2.5 FRM, PM2.5 Non-FEM, NO_2, Toxics
Meteorological Parameters	Wind speed, wind direction, outdoor temperature, barometric pressure
Address	5558 California Ave., Bakersfield CA 93309
Latitude	35.3566 N
Longitude	-119.0626 W
Elevation (m)	119
Location	
Distance to road	300 m (south)
Traffic Count	10000
Ground Cover	Asphalt

Bakersfield–California (1 of 2)					
Pollutant	**Ozone**	**PM10 FRM**	**PM10 FRM**	**PM2.5 FRM**	**PM2.5 FRM**
Parameter code	44201	81102	81102	88101	88101
Spatial scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Site type	General/Background	Population	Population Exposure, Quality Assurance	Population Exposure, High Concentration	Population, High Concentration, Quality Assurance
Basic monitoring objective(s)	Standards/strategy	Standards/strategy	Standards/strategy	Standards/strategy	Standards/strategy
Monitor type	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS
POC	1	1	2 (QA Collocated)	1	2 (QA Collocated)
Method code	087	063	063	118	118
Sampling method (List Instrument)	API/Teledyne 400	SA/GMW 1200	SA/GMW 1200	R&P 2025	R&P 2025
Analysis method	UV	Gravimetric	Gravimetric	Sequential	Sequential
Start date	3/1/1994	4/1/1994	1/3/2003	1/1/1999	1/1/1999
Operation schedule (e.g. 1:6, Daily, etc.)	Hourly	1:6	1:6	1:6	1:6
Sampling season	ALL YEAR	ALL YEAR	ALL YEAR	ALL YEAR	ALL YEAR
Probe/Inlet height above ground (meters)	6.9	6.1	6.1	6.0	6.0
Distance from supporting structure (meters)	None	None	None	None	None
Distance from obstructions on roof	None	None	None	None	None
Distance from obstructions not on roof (meters)	None	None	None	None	None
Distance from trees (meters)	None	None	None	None	None
Distance to furnace or incinerator flue (meters)	None	None	None	None	None
Distance between collocated monitors (meters)	N/A	2.3	2.3	2.3	2.3
Unrestricted airflow (degrees)	360	360	360	360	360
Probe material (Teflon, etc.)	Teflon	N/A	N/A	N/A	N/A
Residence time (seconds)	10.0	N/A	N/A	N/A	N/A

Bakersfield–California (1 of 2) continued					
Pollutant	**Ozone**	**PM10 FRM**	**PM10 FRM**	**PM2.5 FRM**	**PM2.5 FRM**
Frequency of flow rate verification for manual PM samplers audit	N/A	Once per month	Once per month	Once per month	Once per month
Frequency of flow rate verification for automated PM analyzers audit	N/A	N/A	N/A	N/A	N/A
Frequency of one-point QC check (gaseous)	Twice per month	N/A	N/A	N/A	N/A
Last Annual Performance Evaluation (gaseous)	4/17/2013	N/A	N/A	N/A	N/A
Last two semi-annual flow rate audits for PM monitors	N/A	9/24/2013, 4/17/2013	9/24/2013, 4/17/2013	9/24/2013, 4/17/2013	9/24/2013, 4/17/2013
Changes planned within the next 18 months (Y/N)	N	N	N	N	N

Bakersfield–California (2 of 2)					
Pollutant	**PM2.5 Non-FEM**	**PM2.5 Non-FEM**	**NO_2**	**Toxics**	**Met Parameters**
Parameter code	88501	88501	42602	Many	Many
Spatial scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood	Regional
Site type	Population	Population, Quality Assurance	Population	Population	General
Basic monitoring objective(s)	Research, Timely/public	Research, Timely/public	Standards/ strategy	Research, Timely/public	Research, Timely/public
Monitor type	SPM Non-Regulatory	SPM Non-Regulatory	SLAMS	Many	Many
POC	3 (Primary)	4 (QA Collocated)	1	Many	Many
Method code	731	731	074	Many	Many
Sampling method (List Instrument)	Met One BAM 1020	Met One BAM 1020	API 200A	Xontech 924	
Analysis method	PM2.5 SCC Beta	PM2.5 SCC Beta	CL		
Start date	12/1/2001	12/1/2001	4/1/1994	1/1/2007	4/1/1994
Operation schedule (e.g. Hourly, Hourly)	Hourly	Hourly	Hourly	Hourly	Hourly
Sampling season	ALL YEAR	ALL YEAR	ALL YEAR	ALL YEAR	ALL YEAR
Probe/Inlet height above ground (meters)	6.0	6.0	6.9	5.9	13.8
Distance from supporting structure (meters)	None	None	None	None	None

Bakersfield–California (2 of 2) continued					
Pollutant	**PM2.5 Non-FEM**	**PM2.5 Non-FEM**	**NO_2**	**Toxics**	**Met Parameters**
Distance from obstructions not on roof (meters)	None	None	None	None	None
Distance from trees (meters)	None	None	None	None	None
Distance to furnace or incinerator flue (meters)	None	None	None	None	None
Distance between collocated monitors (meters)	2.1	2.1	N/A	N/A	N/A
Unrestricted airflow (degrees)	360	360	360	360	360
Probe material (Teflon, etc.)	N/A	N/A	Teflon	N/A	N/A
Residence time (seconds)	N/A	N/A	14.7	N/A	N/A
Frequency of flow rate verification for manual PM samplers audit	N/A	N/A	N/A	N/A	N/A
Frequency of flow rate verification for automated PM analyzers audit	Twice per month	Twice per month	N/A	N/A	N/A
Frequency of one-point QC check (gaseous)	N/A	N/A	Twice per month	Twice per month	N/A
Last Annual Performance Evaluation (gaseous)	N/A	N/A	4/17/2013	4/17/2013	N/A
Last two semi-annual flow rate audits for PM monitors	9/24/2013, 4/17/2013	9/24/2013, 4/17/2013	N/A	N/A	N/A
Changes planned within the next 18 months (Y/N)	N	N	N	N	N

Site name	**Bakersfield–Golden / M St**
AIRS #	060290010
County	Kern
Collecting (Operating) Agency	All equipment operated by SJVAPCD
Reporting Agency	PM10 data and PM2.5 data reported by CARB
Site Start Date	6/10/2014
Pollutant Parameters	PM10 FRM and PM2.5 FRM
Meteorological Parameters	None
Address	2820 M St., Bakersfield, CA 93301
Latitude	35.385574 N
Longitude	-119.015009 W
Elevation (m)	126
Location	Equipment/communications shelter
Distance to road	To be determined
Traffic Count	16,539, 2012 (Golden State Ave)
Ground Cover	Rubberized plastic membrane roof; asphalt paving and landscaping beyond the roof

Bakersfield–Golden / M St		
Pollutant	**PM2.5 FRM**	**PM10 FRM**
Parameter Code	88101	81102
Spatial scale	Neighborhood	Neighborhood
Site type	High concentration	High concentration
Monitor objective	Standards/strategy	Standards/strategy
Monitor type	SLAMS	SLAMS
POC (or primary monitor for PM2.5 and PM10)	1	1
Method code	118	162
Sampling method (List Instrument)	R & P Model 2025	Hi Vol SSI Ecotech Model 3000
Analysis method	Gravimetric	Gravimetric
Start date	6/10/2014	4/1/2015
Operation schedule (e.g. Hourly, 1:3)	1:3	1:3
Sampling season	ALL YEAR	ALL YEAR
Probe height (meters)	5.7	
Distance from supporting structure (meters)	TBD	TBD
Distance from obstructions on roof	TBD	TBD
Distance from obstructions not on roof (meters)	TBD	TBD
Distance from trees (meters)	TBD	TBD
Distance to furnace or incinerator flue (meters)	TBD	TBD
Distance between collocated monitors (meters)	TBD	TBD
Unrestricted airflow (degrees)	TBD	TBD
Probe material (Teflon, etc.)	TBD	TBD
Residence time (seconds)	--	--
Frequency of flow rate verification for manual PM samplers audit	TBD	TBD
Frequency of flow rate verification for automated PM analyzers audit	TBD	TBD
Frequency of one-point QC check (gaseous)	--	--
Last Annual Performance Evaluation (gaseous)	--	--
Last two semi-annual flow rate audits for PM monitors	TBD	TBD
Changes planned within the next 18 months (Y/N))	N	N

Site name	Bakersfield-Muni
AIRS #	060292012
County	Kern
Collecting (Operating) Agency	All equipment operated by SJVAPCD
Reporting Agency	All data reported by SJVAPCD
Site Start Date	Speciated VOC PAMS equipment 6/2012; Met Parameters 7/2012; NMHC PAMS 10/2012
Pollutant Parameters	Ozone, CO, NO_2, Speciated-VOC for PAMS program, NMHC (PAMS)
Meteorological Parameters	Wind speed, wind direction, outdoor temperature, relative humidity, barometric pressure, solar radiation
Address	2000 South Union Ave., Bakersfield, CA 93307
Latitude	35.3313 N
Longitude	-119.0000 W
Elevation (m)	116 m
Location	Portable building in lot
Distance to road	280 m (west)
Traffic Count	1000
Ground Cover	Paved

Bakersfield-Muni (1 of 2)					
Pollutant	**Ozone**	**CO**	**NO_2**	**Speciated-VOC (PAMS)**	**NMHC (PAMS)**
Parameter code	44201	42101	42602	Many	43102
Spatial scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Site type	High Concentration	Population	High concentration	High Concentration	Population
Monitor objective	Standards/Strategy, Research Support, Timely/public	Standards/strategy	Standards/strategy, research	Research	Research
Monitor type	SLAMS	SLAMS	PAMS	PAMS	PAMS
POC	1	1	1	1	1
Sampling method (List Instrument)	087	Thermo 48i TLE	Teledyne 200E	Xontech 910 Xontech 925	Thermo 48i TLE
Method code	Teledyne 400 E	054	074	011	164
Analysis method					
Start date	6/2012	7/2012	7/2012	6/2012	Scheduled for 10/2012
Operation schedule (e.g. Hourly, 1:3)	Hourly	Hourly	Hourly	1:3	Hourly
Sampling season	ALL YEAR	ALL YEAR	ALL YEAR	JUN-JUL-AUG	ALL YEAR
Probe/Inlet height above ground (meters)	6.0 m	6.0 m	6.0 m	6.0 m	6.0 m
Distance from supporting structure (meters)					
Distance from obstructions on roof					
Distance from obstructions not on roof (meters)					
Distance from trees (meters)					
Distance to furnace or incinerator flue (meters)					
Unrestricted airflow (degrees)					
Probe material (Teflon, etc.)					
Residence time (seconds)	11.4	12.6	13.0	_____	_____

Bakersfield-Muni (1 of 2)					
Pollutant	**Ozone**	**CO**	**NO_2**	**Speciated-VOC (PAMS)**	**NMHC (PAMS)**
Frequency of flow rate verification for manual PM samplers audit	_____	_____	_____	_____	_____
Frequency of flow rate verification for automated PM analyzers audit	_____	_____	_____	_____	_____
Frequency of one-point QC check (gaseous)	Daily	Daily	Daily		Daily
Last Annual Performance Evaluation (gaseous)	6/6/13, 7/29/14	6/6/13, 7/8/14	6/6/13, 7/30/14		
Last two semi-annual flow rate audits for PM monitors	_____				
Changes planned within the next 18 months (Y/N)	N	N	N	N	N

Bakersfield-Muni (2 of 2)	
Pollutant	**Met Parameters**
Parameter code	Many
Spatial scale	Regional
Site type	General
Monitor objective	Research, Timely/public
Monitor type	PAMS
POC	1
Method code	Many
Sampling method (List Instrument)	
Analysis method	
Start date	7/2012
Operation schedule (e.g. Hourly, 1:3)	Hourly
Sampling season	ALL YEAR
Probe/Inlet height above ground (meters)	10 m
Distance from supporting structure (meters)	
Distance from obstructions on roof	
Distance from obstructions not on roof (meters)	
Distance from trees (meters)	
Distance to furnace or incinerator flue (meters)	
Distance between collocated monitors (meters)	
Unrestricted airflow (degrees)	
Probe material (Teflon, etc.)	
Residence time (seconds)	
Frequency of flow rate verification for manual PM samplers audit	
Frequency of flow rate verification for automated PM analyzers audit	
Frequency of one-point QC check (gaseous)	
Last Annual Performance Evaluation (gaseous)	
Last two semi-annual flow rate audits for PM monitors	
Changes planned within the next 18 months (Y/N)	N

Site name	Edison
AIRS #	060290007
County	Kern
Collecting (Operating) Agency	All equipment operated by CARB
Reporting Agency	All data reported by CARB
Site Start Date	1/1/80
Pollutant Parameters	Ozone, NO_2
Meteorological Parameters	Wind speed, wind direction, outdoor temperature
Address	Johnson Farm-Shed Rd, Edison CA 93320
Latitude	35.3456 N
Longitude	-118.8518 W
Elevation (m)	194
Location	
Distance to road	450 m (south)
Traffic Count	50000
Ground Cover	Dirt

Edison			
Pollutant	**Ozone**	**NO_2**	**Met Parameters**
Parameter code	44201	42602	Many
Spatial scale	Neighborhood	Neighborhood	Regional
Site type	High concentration, regional transport	Population	General
Basic monitoring objective(s)	Standards/strategy	Standards/strategy	Research, Timely/public
Monitor type	SLAMS	SLAMS	Other
POC	1	1	1
Method code	087	074	Many
Sampling method (List Instrument)	API/Teledyne 400	API 200 A	
Analysis method	UV	CL	
Start date	1/1/1983	1/1/1980	1/1/1995
Operation schedule (e.g. Hourly, 1:3)	1 Hour	1 Hour	Hourly
Sampling season	ALL YEAR	ALL YEAR	ALL YEAR
Probe/Inlet height above ground (meters)	5.9 m	5.9 m	10 m (OT 2.1 m)
Distance from supporting structure (meters)	None	None	None
Distance from obstructions on roof	None	None	None
Distance from obstructions not on roof (meters)	None	None	None
Distance from trees (meters)	16.1 m (11.0 m to dripline)	16.1 m (11.0 m to dripline)	18.5
Distance to furnace or incinerator flue (meters)	None	None	None
Distance between collocated monitors (meters)	N/A	N/A	N/A
Unrestricted airflow (degrees)	360	360	360
Probe material (Teflon, etc.)	Teflon	Teflon	N/A
Residence time (seconds)	9.7	11.2	N/A
Frequency of flow rate verification for manual PM samplers audit	N/A	N/A	N/A
Frequency of flow rate verification for automated PM analyzers audit	N/A	N/A	N/A
Frequency of one-point QC check (gaseous)	Twice a month	Twice a month	--
Last Annual Performance Evaluation (gaseous)	10/9/2013	10/9/2013	10/9/2013
Last two semi-annual flow rate audits for PM monitors	N/A	N/A	N/A
Changes planned within the next 18 months (Y/N)	N	N	N

Site name	Lebec
AIRS #	060292009
County	Kern
Collecting (Operating) Agency	All equipment operated by SJVAPCD
Reporting Agency	All data reported by SJVAPCD
Site Start Date	1/20/2009
Pollutant Parameters	PM2.5 Non-FEM
Meteorological Parameters	Wind speed, wind direction, outdoor temperature, barometric pressure
Address	1277 Beartrap Road, Lebec, CA 93243
Latitude	34.8415 N
Longitude	-118.8610 W
Elevation (m)	1063
Location	
Distance to road	300 m (west)
Traffic Count	69000
Ground Cover	Dirt, vegetated

Lebec			
Pollutant	**PM2.5 Non-FEM**	**Met Parameters**	
Parameter code	88502	Many	
Spatial scale	Neighborhood	Regional	
Site type	Population	General	
Monitor objective	Timely/public	Research, Timely/public	
Monitor type	SPM	SPM	
POC	3	1	
Method code	731	Many	
Sampling method (List Instrument)	Met One BAM 1020	ITP- Hy-Cal 512AA3B, OT- Met One 060A-2, BP-Met One 092, WD- Met One 020C, WS-Met One 010C	
Analysis method	BETA-ATTENUATION		
Start date	1/27/2009	Outdoor temperature, wind speed, wind direction 12/9/2009	Barometric pressure 1/28/2010
Operation schedule (e.g. Hourly, Hourly)	Hourly	Hourly	
Sampling season	ALL YEAR	ALL YEAR	
Probe height (meters)	5.5 m	9.6 m	
Distance from supporting structure (meters)			
Distance from obstructions on roof			
Distance from obstructions not on roof (meters)			
Distance from trees (meters)			
Distance to furnace or incinerator flue (meters)			
Distance between collocated monitors (meters)			
Unrestricted airflow (degrees)	360	360	
Probe material (Teflon, etc.)	ALUMINUM		
Residence time (seconds)	N/A		
Frequency of flow rate verification for manual PM samplers audit			
Frequency of flow rate verification for automated PM analyzers audit	BI-WEEKLY		
Frequency of one-point QC check (gaseous)	--		
Last Annual Performance Evaluation (gaseous)	10/25/2011, 4/10/2012		
Last two semi-annual flow rate audits for PM monitors			
Changes planned within the next 18 months (Y/N))	N		

Site name	**Maricopa**	
AIRS #	060290008	
County	Kern	
Collecting (Operating) Agency	Met equipment operated by SJVAPCD	Ozone equipment operated by CARB.
Reporting Agency	All data reported by SJVAPCD	
Site Start Date	7/1/87	
Pollutant Parameters	Ozone	
Meteorological Parameters	Wind speed, wind direction, outdoor temperature, barometric pressure	
Address	755 Stanislaus St., Maricopa CA 93352	
Latitude	35.0515 N	
Longitude	-119.4026 W	
Elevation (m)	282	
Location	In old school building	
Distance to road	500 (northwest)	
Traffic Count	3,977*, 2012 * - No data for 755 Stanislaus St., Maricopa CA 93352. The closest street with data is Route 166/33. Traffic Counts Klipstein St (Route 166/33). Nearest cross street to the count: Alameda St. Direction from the count to the cross street: Northeast. Distance to the nearest cross street: 0.03 miles.	
Ground Cover	Gravel	

Maricopa		
Pollutant	**Ozone**	**Met Parameters**
Parameter code	44201	Many
Spatial scale	Neighborhood	Neighborhood
Site type	Regional transport	General
Basic monitoring objective(s)	Standards/strategy, Research, Timely/Public	Research, Timely/Public
Monitor type	SLAMS	SLAMS
POC	1	1
Method code	087	Many
Sampling method (List Instrument)	Teledyne 400 E	ITP- Hy-Cal 512AA3B, OT- Met One 060A-2, BP- Met One 092, WD- Met One 020C, WS-Met One 010C
Analysis method	UV	--
Start date	7/1/1987	7/1/1987
Operation schedule (e.g. Hourly, 1:3)	1 hour	Hourly
Sampling season	ALL YEAR	ALL YEAR
Probe/Inlet height above ground (meters)	4.1	10.0
Distance from supporting structure (meters)	None	None
Distance from obstructions on roof	None	None
Distance from obstructions not on roof (meters)	None	None
Distance from trees (meters)	None	None
Distance to furnace or incinerator flue (meters)	None	None
Distance between collocated monitors (meters)	None	None
Unrestricted airflow (degrees)	360	360 (WD,WS, BP), 270 (OT)
Probe material (Teflon, etc.)	TEFLON	N/A
Residence time (seconds)	7.9	N/A
Frequency of flow rate verification for manual PM samplers audit	N/A	N/A
Frequency of flow rate verification for automated PM analyzers audit	N/A	N/A
Frequency of one-point QC check (gaseous)	Twice a month	N/A
Last Annual Performance Evaluation (gaseous)	6/3/13,5/20/14, 7/15/14	N/A
Last two semi-annual flow rate audits for PM monitors	N/A	N/A
Changes planned within the next 18 months (Y/N)	N	N

Site name	Oildale
AIRS #	060290232
County	Kern
Collecting (Operating) Agency	All equipment operated by CARB
Reporting Agency	All data reported by CARB
Site Start Date	1/1/80
Pollutant Parameters	Ozone, PM10 FRM
Meteorological Parameters	Wind speed, wind direction, outdoor temperature
Address	3311 Manor St, Oildale CA 93308
Latitude	35.4380 N
Longitude	-119.0167 W
Elevation (m)	181
Location	
Distance to road	150 m (northwest)
Traffic Count	10000
Ground Cover	Dirt

Oildale		
Pollutant	**Ozone**	**PM10 FRM**
Parameter code	44201	81102
Spatial scale	Urban	Middle
Site type	Regional transport, Highest Concentration	Source Oriented
Basic monitoring objective(s)	Standards/strategy	Standards/strategy
Monitor type	SLAMS	SLAMS
POC	1	2
Method code	087	063
Sampling method (List Instrument)	API/Teledyne 400	Sierra Anderson 1200
Analysis method	UV	Gravimetric
Start date	1/1/1984	1/1/1987
Operation schedule (e.g. Hourly, 1:3)	1 Hour	1:6
Sampling season	ALL YEAR	ALL YEAR
Probe/Inlet height above ground (meters)	6.7 m	2.2 m
Distance from supporting structure (meters)	None	None
Distance from obstructions on roof	None`	None
Distance from obstructions not on roof (meters)	None	None
Distance from trees (meters)	10.1 to dripline	None
Distance to furnace or incinerator flue (meters)	None	None
Distance between collocated monitors (meters)	N/A	N/A
Unrestricted airflow (degrees)	360	360
Probe material (Teflon, etc.)	Teflon	N/A
Residence time (seconds)	10.1	N/A
Frequency of flow rate verification for manual PM samplers audit	N/A	Once a month
Frequency of flow rate verification for automated PM analyzers audit	N/A	N/A
Frequency of one-point QC check (gaseous)	Twice a month	N/A
Last Annual Performance Evaluation (gaseous)	4/17/2014	N/A
Last two semi-annual flow rate audits for PM monitors	N/A	4/17/2014, 9/24/2013
Changes planned within the next 18 months (Y/N)	N	Y

Site name	Shafter	
AIRS #	060296001	
County	Kern	
Collecting (Operating) Agency	Equipment operated by CARB: Ozone, NO_2	Equipment operated by SJVAPCD: Meteorology, Speciated VOC, NMHC
Reporting Agency	Data reported by CARB: Ozone, NO_2	Data reported by SJVAPCD: Speciated VOC, NMHC, Meteorology
Site Start Date	1/1/89	
Pollutant Parameters	Ozone, NO_2, Speciated VOC, NMHC	
Meteorological Parameters	Wind speed, wind direction, outdoor temperature, solar radiation	
Address	578 Walker St, Shafter CA 93263	
Latitude	35.5034 N	
Longitude	-119.2726 W	
Elevation (m)	106	
Location	DMV building	
Distance to road	10 m (southwest)	
Traffic Count	1200	
Ground Cover	Asphalt	

Shafter (1 of 2)				
Pollutant	**Ozone**	**NO_2**	**Total Speciated VOC**	**NMHC**
Parameter code	44201	42602	43102	Many
Spatial scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Site type	General/background, Population Exposure	Population Exposure	Population	Population
Basic monitoring objective(s)	Standards/strategy	Standards/strategy	Research	Research
Monitor type	SLAMS	SLAMS	PAMS	PAMS
POC	1	1	1	1
Method code	087	074	164	177
Sampling method (List Instrument)	Teledyne 400E (ARB)	API 200E	Xontech 910A	Thermo TECO 55C
Analysis method	UV	CL	GC	GC
Start date	1/1/1989	1/1/1989	7/1/1994	7/1/1994
Operation schedule (e.g. Hourly, 1:3)	Hourly	Hourly	1:3	Hourly
Sampling season	ALL YEAR	ALL YEAR	JUN-JUL-AUG	ALL YEAR
Probe/Inlet height above ground (meters)	7.3	7.3	7.0	7.0
Distance from supporting structure (meters)	None	None	None	None
Distance from obstructions on roof	None	None	None	None
Distance from obstructions not on roof (meters)	None	None	None	None
Distance from trees (meters)	None	None	None	None
Distance to furnace or incinerator flue (meters)	None	None	10.5 m	11.0 m
Distance between collocated monitors (meters)	None	None	None	None
Unrestricted airflow (degrees)	360	360	360	360
Probe material (Teflon, etc.)	TEFLON	TEFLON	S. STEEL	TEFLON
Residence time (seconds)	7.1	10.2	N/A	9.6
Frequency of flow rate verification for manual PM samplers audit	N/A	N/A	N/A	N/A
Frequency of flow rate verification for automated PM analyzers audit	N/A	N/A	N/A	N/A
Frequency of one-point QC check (gaseous)	Twice a month	Twice a month	N/A	Twice a month
Last Annual Performance Evaluation (gaseous)	10/8/2013	10/8/2013	5/10/2010	Not audited
Last two semi-annual flow rate audits for PM monitors	N/A	N/A	N/A	N/A
Changes planned within the next 18 months (Y/N)	N	N	N	N

Shafter (2 of 2)	
Pollutant	**Met Parameters**
Parameter code	Many
Spatial scale	Regional
Site type	General
Basic monitoring objective(s)	Research, Timely/public
Monitor type	Other
POC	1
Method code	Many
Sampling method (List Instrument)	ITP- Hy-Cal BA512AA3BB, OT- Met One 060A-2, SRD- Epply Mod. 8-48, WD- Met One 020B, WS- Met One 010C, BP- Met One 092
Analysis method	N/A
Start date	1/1/1989
Operation schedule (e.g. Hourly, 1:3)	Hourly
Sampling season	ALL YEAR
Probe height (meters)	10.0 m
Distance from supporting structure (meters)	None
Distance from obstructions on roof	None
Distance from obstructions not on roof (meters)	None
Distance from trees (meters)	None
Distance to furnace or incinerator flue (meters)	None
Distance between collocated monitors (meters)	None
Unrestricted airflow (degrees)	360
Probe material (Teflon, etc.)	None
Residence time (seconds)	None
Frequency of flow rate verification for manual PM samplers audit	None
Frequency of flow rate verification for automated PM analyzers audit	None
Frequency of one-point QC check (gaseous)	None
Last Annual Performance Evaluation (gaseous)	None
Last two semi-annual flow rate audits for PM monitors	None
Changes planned within the next 18 months (Y/N)	N

Site name	Corcoran–Patterson	
AIRS #	060310004	
County	Kings	
Collecting (Operating) Agency	All equipment operated by SJVAPCD	
Reporting Agency	Data reported by SJVAPCD: PM2.5 FEM, PM10 FEM, Meteorology	Data reported by CARB: PM2.5 FRM
Site Start Date	10/1/96	
Pollutant Parameters	PM10 FEM, PM2.5 FRM	
Meteorological Parameters	Wind speed, wind direction, outdoor temperature, barometric pressure	
Address	1520 Patterson Ave, Corcoran CA 93212	
Latitude	36.1022 N	
Longitude	-119.5660 W	
Elevation (m)	62	
Location	Portable building	
Distance to road	30 m (east)	
Traffic Count	1035	
Ground Cover	Gravel	

Corcoran–Patterson (1 of 2)		
Pollutant	**PM10 FEM**	**PM2.5 FRM**
Parameter code	81102	88101
Spatial scale	Neighborhood	Neighborhood
Site type	High concentration	High concentration
Monitor objective	Timely/public	Standards/strategy, research support
Monitor type	SLAMS	SLAMS
POC	7	1
Method code	079	145
Sampling method (List Instrument)	Thermo TEOM 1400	Thermo Partisol 2025i
Analysis method	TAPERED ELEMENT	Gravimetric
Start date	10/1/2006	10/1/2012
Operation schedule (e.g. Hourly, 1:3, Hourly)	Hourly	1:3
Sampling season	ALL YEAR	ALL YEAR
Probe height (meters)	6 m	6 m
Distance from supporting structure (meters)	_____	_____
Distance from obstructions on roof	_____	_____
Distance from obstructions not on roof (meters)	_____	_____
Distance from trees (meters)	48.0 m	50.0 m
Distance to furnace or incinerator flue (meters)	_____	_____
Distance between collocated monitors (meters)		
Unrestricted airflow (degrees)	360	360
Probe material (Teflon, etc.)	_____	Aluminum
Residence time (seconds)	_____	_____
Frequency of flow rate verification for manual PM samplers audit	_____	
Frequency of flow rate verification for automated PM analyzers audit	BI-WEEKLY	_____
Frequency of one-point QC check (gaseous)	_____	_____
Last Annual Performance Evaluation (gaseous)	_____	_____
Last two semi-annual flow rate audits for PM monitors	12/02/2013, 05/20/2013	12/02/2013, 05/20/2013
Changes planned within the next 18 months (Y/N)	N	N

Corcoran–Patterson (2 of 2)	
Pollutant	**Met Parameters**
Parameter code	Many
Spatial scale	Regional
Site type	General
Monitor objective	Research, Timely/public
Monitor type	Many
POC	Many
Method code	Many
Sampling method (List Instrument)	ITP- Hy-Cal 512AA3B, OT- Met One 060A-2, BP- Met One 090D2, WD- Met One 020C, WS-Met One 010C ITP - 110-50HV, OT-06A-2, BP-090D, WD-020C, WS-010B
Analysis method	_____
Start date	10/1/1996
Operation schedule (e.g. Hourly, Hourly)	Hourly
Sampling season	ALL YEAR
Probe height (meters)	9.6 m
Distance from supporting structure (meters)	_____
Distance from obstructions on roof	_____
Distance from obstructions not on roof (meters)	_____
Distance from trees (meters)	51.5 m
Distance to furnace or incinerator flue (meters)	_____
Distance between collocated monitors (meters)	_____
Unrestricted airflow (degrees)	360
Probe material (Teflon, etc.)	_____
Residence time (seconds)	_____
Frequency of flow rate verification for manual PM samplers audit	_____
Frequency of flow rate verification for automated PM analyzers audit	_____
Frequency of one-point QC check (gaseous)	_____
Last Annual Performance Evaluation (gaseous)	_____
Last two semi-annual flow rate audits for PM monitors	_____
Changes planned within the next 18 months (Y/N)	N

Site name	Hanford–Irwin	
AIRS #	060311004	
County	Kings	
Collecting (Operating) Agency	All equipment operated by SJVAPCD	
Reporting Agency	Data reported by SJVAPCD: Ozone, PM10 FEM, PM2.5 FEM, NO_2, Meteorology	Data reported by CARB: PM10 FRM
Site Start Date	10/11/93	
Pollutant Parameters	Ozone, PM10 FRM, PM10 FEM, PM2.5 FEM, NO_2	
Meteorological Parameters	Wind speed, wind direction, outdoor temperature, barometric pressure	
Address	807 S Irwin St, Hanford CA 93230	
Latitude	36.3147 N	
Longitude	-119.6440 W	
Elevation (m)	82	
Location	School roof	
Distance to road	60 m (east)	
Traffic Count	5000	
Ground Cover	Rubber/plastic roof material	

Hanford–Irwin (1 of 2)			
Pollutant	**Ozone**	**PM10 FRM**	**PM10 FEM**
Parameter code	44201	81102	81102
Spatial scale	Neighborhood	Neighborhood	Neighborhood
Site type	Population	Population	Population
Monitor objective	Timely/public, standards/strategy, research support	Standards/strategy, research support	Standards/strategy, research support
Monitor type	SLAMS	SLAMS	SLAMS
POC	1	1	3
Method code	087	063	079
Sampling method (List Instrument)	Teledyne 400 E	Sierra Andersen SSI	Thermo TEOM 1400
Analysis method	UV	Gravimetric	Tapered Element
Start date	2/25/2010	10/11/1993	7/14/2010
Operation schedule (e.g. Hourly, 1:3, Hourly)	Hourly	1:6	Hourly
Sampling season	ALL YEAR	ALL YEAR	ALL YEAR
Probe height (meters)	5.5 m	5.5 m	5.5 m
Distance from supporting structure (meters)			
Distance from obstructions on roof			
Distance from obstructions not on roof (meters)			
Distance from trees (meters)	26 m	28 m	21.5 m
Distance to furnace or incinerator flue (meters)			
Distance between collocated monitors (meters)			
Unrestricted airflow (degrees)	360	360	360
Probe material (Teflon, etc.)	TEFLON	ALUMINUM	
Residence time (seconds)	13.13		
Frequency of flow rate verification for manual PM samplers audit		QUARTERLY	
Frequency of flow rate verification for automated PM analyzers audit			BI-WEEKLY
Frequency of one-point QC check (gaseous)	Daily		
Last Annual Performance Evaluation (gaseous)	10/30/2013		
Last two semi-annual flow rate audits for PM monitors		10/30/2013, 4/23/2014	10/30/2013, 4/23/2014
Changes planned within the next 18 months (Y/N)	N	N	N

Hanford–Irwin (2 of 2)			
Pollutant	**PM2.5 FEM (Regulatory)**	**NO_2**	**Met Parameters**
Parameter code	88101	42602	Many
Spatial scale	Neighborhood	Neighborhood	Neighborhood
Site type	Population	Population	Population
Monitor objective	Research Support Timely/public	Timely/public, standards/strategy, research support	Timely/public, Sandards/strategy, research support
Monitor type	SPM	SLAMS	Many
POC	3	1	Many
Method code	170	074	Many
Sampling method (List Instrument)	Met One BAM 1020	Teledyne 200 E	ITP- Hy-Cal 512AA3B, OT- Met One 060A-2, BP- Met One 092, WD- Met One 020C, WS-Met One 010C
Analysis method	BETA	CL	
Start date	2/25/2010	2/25/2010	2/25/2010
Operation schedule (e.g. Hourly, Hourly)	Hourly	Hourly	Hourly
Sampling season	ALL YEAR	ALL YEAR	ALL YEAR
Probe height (meters)	5.5 m	5.5 m	9.6 m
Distance from supporting structure (meters)			
Distance from obstructions on roof			
Distance from obstructions not on roof (meters)			
Distance from trees (meters)	20 m	26 m	28 m
Distance to furnace or incinerator flue (meters)			
Distance between collocated monitors (meters)			
Unrestricted airflow (degrees)	360	360	360
Probe material (Teflon, etc.)	ALUMINUM	TEFLON	
Residence time (seconds)		14.44	
Frequency of flow rate verification for manual PM samplers audit			
Frequency of flow rate verification for automated PM analyzers audit	BI-WEEKLY		
Frequency of one-point QC check (gaseous)		Daily	

Hanford–Irwin (2 of 2) continued			
Pollutant	**PM2.5 FEM (Regulatory)**	**NO_2**	**Met Parameters**
Last Annual Performance Evaluation (gaseous)		10/30/2013	
Last two semi-annual flow rate audits for PM monitors	10/30/2013 4/23/2014		
Changes planned within the next 18 months (Y/N)	N	N	N

Site name	Madera–City
AIRS #	060392010
County	Madera
Collecting (Operating) Agency	All equipment operated by SJVAPCD
Reporting Agency	All data reported by SJVAPCD
Site Start Date	6/1/2010
Pollutant Parameters	Ozone, PM10 FEM, PM2.5 FEM, PM2.5 FRM
Meteorological Parameters	Wind speed, wind direction, outdoor temperature, relative humidity, barometric pressure, solar radiation
Address	28261 Avenue 14, Madera CA 93638
Latitude	36.9532 N
Longitude	-120.0342 W
Elevation (m)	84
Location	Portable building
Distance to road	70 m (south)
Traffic Count	1,004*, 2012 (* **-** Current Year Estimate. Nearest cross street to the count: Rd 28. Direction from the count to the cross street: West. Distance to the nearest cross street: 0.04 miles.)
Ground Cover	Asphalt

Madera–City					
Pollutant	**Ozone**	**PM10 FEM**	**PM2.5 FEM**	**PM2.5 FRM**	**Met Parameters**
Parameter code	44201	81102	88101	88101	Many
Spatial scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Site type	General/background	Population	Population, High Concentration	Population, High Concentration	General/background
Monitor objective	Timely/public, standards/strategy, research support	Timely/public	Timely/public, standards/strategy, research support	Timely/public, standards/strategy, research support	Timely/public, standards/strategy, research support
Monitor type	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS
POC	1	3	3	1, QA Collocated	1
Method code	087	079	170	145	Many
Sampling method (List Instrument)	Teledyne 400 E (IZS)	Thermo TEOM 1400	Met One BAM 1020	R & P Model 2025	ITP- Hy-Cal 512AA3B, OT- Met One 060A-2, BP- Met One 092, WD- Met One 020C, WS-Met One 010C
Analysis method	UV	TAPERED ELEMENT	BETA	Gravimetric	
Start date	6/1/2010	6/1/2010	6/1/2010	2/17/2014	6/1/2010
Operation schedule (e.g. Hourly, Hourly)	Hourly	Hourly	Hourly	1:3	Hourly
Sampling season	ALL YEAR	ALL YEAR	ALL YEAR		ALL YEAR
Probe height (meters)	5.5 m	5.5 m	5.5 m		10m
Distance from supporting structure (meters)	0.1 m	0.5 m	0.5 m		
Distance from obstructions on roof					
Distance from obstructions not on roof (meters)					
Distance from trees (meters)	35m	35 m	39.5 m		
Distance to furnace or incinerator flue (meters)	48 m	45 m	43.5 m		
Distance between collocated monitors (meters)					

Madera–City (continued)					
Pollutant	**Ozone**	**PM10 FEM**	**PM2.5 FEM**	**PM2.5 FRM**	**Met Parameters**
Unrestricted airflow (degrees)	360	360	360		360
Probe material (Teflon, etc.)	TEFLON	STAINLESS STEEL	ALUMINUM		
Residence time (seconds)	11.29				
Frequency of flow rate verification for manual PM samplers audit					
Frequency of flow rate verification for automated PM analyzers audit		BI-WEEKLY	BI-WEEKLY		
Frequency of one-point QC check (gaseous)	Daily				
Last Annual Performance Evaluation (gaseous)	12/5/2013, 6/18/2014				11/18/2013, 12/5/2013
Last two semi-annual flow rate audits for PM monitors		12/5/2013, 5/8/2013	12/5/2013, 5/8/2013		
Changes planned within the next 18 months (Y/N)	N	N	N		N

Site name	Madera–Pump Yard
AIRS #	060390004
County	Madera
Collecting (Operating) Agency	All equipment operated by SJVAPCD
Reporting Agency	All data reported by SJVAPCD
Site Start Date	10/1/99
Pollutant Parameters	Ozone, NO_2, Speciated VOC, NMHC, Carbonyls
Meteorological Parameters	Wind speed, wind direction, outdoor temperature, relative humidity, barometric pressure, solar radiation
Address	Av 8 and Road 29 1/2, Madera CA 93637
Latitude	36.8672 N
Longitude	-120.0100 W
Elevation (m)	85
Location	Portable building, outside school
Distance to road	20 m (west)
Traffic Count	100
Ground Cover	Dirt, paved

Madera–Pump Yard (1 of 2)				
Pollutant	**Ozone**	**NO_2**	**Speciated VOC**	**NMHC**
Parameter code	44201	42602	43102	Many
Spatial scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Site type	General/background	Population	Population	Population
Monitor objective	Timely/public, standards/strategy, research support	Standards/strategy, research	Research	Research
Monitor type	PAMS	PAMS	PAMS	PAMS
POC	1	1	1	1
Method code	087	074	164	177
Sampling method (List Instrument)	Teledyne 400E	Thermo 42i	Xontech 910A	Thermo TECO 55C
Analysis method	UV	CL	GC	GC
Start date	10/1/1999	10/1/1999	10/1/1999	10/1/1999
Operation schedule (e.g. Hourly, 1:3)	Hourly	Hourly	1:3	Hourly
Sampling season	ALL YEAR	ALL YEAR	JUN-JUL-AUG	ALL YEAR
Probe height (meters)	7.0 m	7.0 m	7.0 m	7.0 m
Distance from supporting structure (meters)	_____	_____	_____	_____
Distance from obstructions on roof	_____	_____	_____	_____
Distance from obstructions not on roof (meters)	_____	_____	_____	_____
Distance from trees (meters)	20.7 m	20.7 m	20.7 m	20.7 m
Distance to furnace or incinerator flue (meters)	_____	_____	_____	_____
Distance between collocated monitors (meters)	_____	_____	_____	_____
Unrestricted airflow (degrees)	360	360	360	360
Probe material (Teflon, etc.)	TEFLON	TEFLON	S. STEEL	TEFLON
Residence time (seconds)	10.4	10.12		16.9
Frequency of flow rate verification for manual PM samplers audit	_____	_____	_____	_____
Frequency of flow rate verification for automated PM analyzers audit	_____	_____	_____	_____
Frequency of one-point QC check (gaseous)	Daily	Daily	_____	Daily
Last Annual Performance Evaluation (gaseous)	3/25/2014	3/13/2014	_____	_____
Last two semi-annual flow rate audits for PM monitors	_____	_____	_____	_____
Changes planned within the next 18 months (Y/N)	Yes	Yes	Yes	Yes

Madera–Pump Yard (2 of 2)	
Pollutant	**Met Parameters**
Parameter code	Many
Spatial scale	Regional
Site type	General
Monitor objective	Research, Timely/public
Monitor type	Many
POC	Many
Method code	Many
Sampling method (List Instrument)	ITP- Hy-Cal 512AA3B, OT- Met One 060A-2, BP- Met One 092, RH- Vaisala HMP45D, SRD- Epply Mod. 8-48, WD- Met One 020C, WS-Met One 010C
Analysis method	_____
Start date	10/1/1999
Operation schedule (e.g. Hourly, 1:3)	Hourly
Sampling season	ALL YEAR
Probe height (meters)	10.0 m
Distance from supporting structure (meters)	_____
Distance from obstructions on roof	_____
Distance from obstructions not on roof (meters)	_____
Distance from trees (meters)	21.2 m
Distance to furnace or incinerator flue (meters)	_____
Distance between collocated monitors (meters)	_____
Unrestricted airflow (degrees)	360
Probe material (Teflon, etc.)	_____
Residence time (seconds)	_____
Frequency of flow rate verification for manual PM samplers audit	_____
Frequency of flow rate verification for automated PM analyzers audit	_____
Frequency of one-point QC check (gaseous)	_____
Last Annual Performance Evaluation (gaseous)	_____
Last two semi-annual flow rate audits for PM monitors	_____
Changes planned within the next 18 months (Y/N)	Yes

Site name	Merced–Coffee
AIRS #	060470003
County	Merced
Collecting (Operating) Agency	All equipment operated by SJVAPCD
Reporting Agency	All data reported by SJVAPCD
Site Start Date	10/1/91
Pollutant Parameters	Ozone, PM2.5 FEM, NO_2
Meteorological Parameters	Wind speed, wind direction, outdoor temperature
Address	385 S. Coffee St., Merced CA 95340
Latitude	37.2816 N
Longitude	-120.4340 W
Elevation (m)	86
Location	Portable building, residential area
Distance to road	15 m (east)
Traffic Count	300
Ground Cover	Dirt, vegetated

Merced–Coffee				
Pollutant	**Ozone**	**PM2.5 FEM**	**NO_2**	**Met Parameters**
Parameter code	44201	88101	42602	Many
Spatial scale	Neighborhood	Neighborhood	Neighborhood	Regional
Site type	Population	Population	Population	General
Monitor objective	Timely/public, standards/strategy, research support	Timely/public	Standards/strategy	Research, Timely/public
Monitor type	SLAMS	SPM	SLAMS	Other
POC	1	3	1	Many
Method code	087	170	074	Many
Sampling method (List Instrument)	Teledyne 400E	Met One BAM 1020	Thermo TECO 42C	ITP- Hy-Cal 512AA3B, OT- Met One 060A-2, WD- Met One 020C, WS-Met One 010C
Analysis method	UV	BETA	CL	____
Start date	10/1/1991	10/19/2009	10/1/1991	10/1/1991
Operation schedule (e.g. Hourly, Hourly)	Hourly	Hourly	Hourly	Hourly
Sampling season	ALL YEAR	ALL YEAR	ALL YEAR	ALL YEAR
Probe height (meters)	5.0 m	5.5 m	5.0 m	8.0 m
Distance from supporting structure (meters)	____		____	____
Distance from obstructions on roof	____		____	____
Distance from obstructions not on roof (meters)	____		____	____
Distance from trees (meters)	13.5 m	13.5 m	13.5 m	13.5 m
Distance to furnace or incinerator flue (meters)	____		____	____
Distance between collocated monitors (meters)	____		____	____
Unrestricted airflow (degrees)	345	345	345	345
Probe material (Teflon, etc.)	TEFLON	ALUMINUM	TEFLON	____
Residence time (seconds)	12.0		14.1	____
Frequency of flow rate verification for manual PM samplers audit	____		____	____
Frequency of flow rate verification for automated PM analyzers audit	____	BI-WEEKLY	____	____
Frequency of one-point QC check (gaseous)	Daily		Daily	____
Last Annual Performance Evaluation (gaseous)	11/15/2012		11/15/2012	____

Merced–Coffee (continued)				
Pollutant	**Ozone**	**PM2.5 FEM**	**NO_2**	**Met Parameters**
Last two semi-annual flow rate audits for PM monitors	____	4/25/2011, 11/15/2012	____	____
Changes planned within the next 18 months (Y/N)	N	N	N	N

Site name	Merced–M St	
AIRS #	060472510	
County	Merced	
Collecting (Operating) Agency	All equipment operated by SJVAPCD	
Reporting Agency	Data reported by CARB: PM10 FRM	Data reported by CARB: PM2.5 FRM
Site Start Date	4/1/99	
Pollutant Parameters	PM10 FRM, PM2.5 FRM	
Meteorological Parameters	None	
Address	2334 M Street, Merced CA 95340	
Latitude	37.3086 N	
Longitude	-120.4800 W	
Elevation (m)	35	
Location	Roof, post office	
Distance to road	55 m (northwest)	
Traffic Count	22400	
Ground Cover	Gravel	

Merced–M St		
Pollutant	**PM10 FRM**	**PM2.5 FRM**
Parameter code	81102	88101
Spatial scale	Neighborhood	Neighborhood
Site type	High Concentration/Population	High Concentration/Population
Monitor objective	Standards/strategy, research support	Standards/strategy, research support
Monitor type	SLAMS	SLAMS
POC	1	1
Method code	063	120
Sampling method (List Instrument)	Sierra Andersen SSI	Thermo Partisol 2025
Analysis method	GRAVI-METRIC	GRAVI-METRIC
Start date	4/1/1999	4/1/1999
Operation schedule (e.g. Hourly, 1:3)	1:6	1:3
Sampling season	ALL YEAR	ALL YEAR
Probe height (meters)	8.7 m	8.7 m
Distance from supporting structure (meters)	_____	_____
Distance from obstructions on roof	_____	_____
Distance from obstructions not on roof (meters)	_____	_____
Distance from trees (meters)	10 m	10 m
Distance to furnace or incinerator flue (meters)	38.5 m	45.0 m
Distance between collocated monitors (meters)	_____	_____
Unrestricted airflow (degrees)	360	360
Probe material (Teflon, etc.)	_____	_____
Residence time (seconds)	_____	_____
Frequency of flow rate verification for manual PM samplers audit	QUARTERLY	MONTHLY
Frequency of flow rate verification for automated PM analyzers audit	_____	_____
Frequency of one-point QC check (gaseous)	_____	_____
Last Annual Performance Evaluation (gaseous)	_____	_____
Last two semi-annual flow rate audits for PM monitors	11/15/2012, 11/14/2013, 4/21/2014 (re-audit)	11/15/2012, 11/14/2013
Changes planned within the next 18 months (Y/N)	N	N

Site name	Manteca
AIRS #	060772010
County	San Joaquin
Collecting (Operating) Agency	All equipment operated by SJVAPCD
Reporting Agency	All data reported by SJVAPCD
Site Start Date	11/16/10
Pollutant Parameters	PM2.5 FEM; PM10 FEM
Meteorological Parameters	Wind speed, wind direction, outdoor temperature, barometric pressure
Address	530 Fishback Rd., Manteca CA 95337
Latitude	37.7933 N
Longitude	-121.2477 W
Elevation (m)	11
Location	Portable building, cement pad, dirt, corner near school
Distance to road	12 m (west)
Traffic Count	1,050*, 2008 (* - Average Daily Traffic. Nearest cross street to the count: Tuscany Dr. Direction from the count to the cross street: South Distance to the nearest cross street: 0.05 miles.)
Ground Cover	Sidewalk, dirt, grass

Manteca			
Pollutant	**PM2.5 FEM**	**PM10 FEM**	**Met Parameters**
Parameter code	88101	81102	Many
Spatial scale	Neighborhood	Neighborhood	Neighborhood
Site type	Population	Population	Population
Monitor objective	Standards/Strategy Research Support, Timely/Public	Standards/Strategy Research Support, Timely/Public	Standards/Strategy Research Support
Monitor type	SLAMS	SLAMS	Non-regulatory
POC	3	3	1
Method code	170	079	Many
Sampling method (List Instrument)	Met One BAM 1020	Thermo TEOM 1400	ITP- Hy-Cal 512AA3B, OT- Met One 060A-2, BP- Met One 092, WD- Met One 020C, WS-Met One 010C
Analysis method			
Start date	11/16/10	5/2/11	11/16/10
Operation schedule (e.g. Hourly, Hourly)	Hourly	Hourly	Hourly
Sampling season	ALL YEAR	ALL YEAR	ALL YEAR
Probe height (meters)	6M	6M	10M
Distance from supporting structure (meters)	1.8 M (vertical, from roof top)	2.0 M (vertical, from roof top)	
Distance from obstructions on roof	0	0	
Distance from obstructions not on roof (meters)	0	0	0
Distance from trees (meters)	53.5 M	53.5 M	53.5 M
Distance to furnace or incinerator flue (meters)	n/a	n/a	n/a
Distance between collocated monitors (meters)	n/a	n/a	n/a
Unrestricted airflow (degrees)	360	360	360
Probe material (Teflon, etc.)	Aluminum	Teflon	
Residence time (seconds)			
Frequency of flow rate verification for manual PM samplers audit			
Frequency of flow rate verification for automated PM analyzers audit	Bi-weekly	Bi-Weekly	
Frequency of one-point QC check (gaseous)	n/a	n/a	n/a

Manteca (continued)			
Pollutant	**PM2.5 FEM**	**PM10 FEM**	**Met Parameters**
Last Annual Performance Evaluation (gaseous)	n/a	n/a	n/a
Last two semi-annual flow rate audits for PM monitors	12/13/2011, 5/31/2012	12/13/2011, 5/31/2012	
Changes planned within the next 18 months (Y/N)	N	N	N

Site name	Stockton–Hazelton
AIRS #	060771002
County	San Joaquin
Collecting (Operating) Agency	All equipment operated by CARB
Reporting Agency	All data reported by CARB
Site Start Date	
Pollutant Parameters	Ozone, PM10 FRM, PM2.5 FEM, CO, NO_2, Toxics
Meteorological Parameters	Outdoor temperature
Address	1593 E. Hazelton St., Stockton CA 95205
Latitude	37.9507 N
Longitude	-121.2689 W
Elevation (m)	10
Location	
Distance to road	62 m (north)
Traffic Count	1000
Ground Cover	Asphalt

Stockton–Hazelton (1 of 2)			
Pollutant	**Ozone**	**PM10 FRM**	**PM2.5 FEM**
Parameter code	44201	81102	88101
Spatial scale	Neighborhood	Neighborhood	Neighborhood
Site type	General/Background	Highest Concentration	Population Exposure, High Concentration
Basic monitoring objective(s)	Standards/strategy	Standards/strategy	Standards/strategy
Monitor type	SLAMS	SLAMS	SLAMS
POC	1	2	3
Method code	087	063	170
Sampling method (List Instrument)	API/Teledyne 400	Sierra Anderson 1200	Met One 1020
Analysis method	UV	Gravimetric	Beta Attenuation
Start date	1/1/1981	1/1/1985	5/11/2010
Operation schedule (e.g. Hourly, 1:3, Hourly)	Hourly	1:6	Hourly
Sampling season	ALL YEAR	ALL YEAR	ALL YEAR
Probe/Inlet height above ground (meters)	5.4 m	6.4 m	5.7 m
Distance from supporting structure (meters)	None	None	None
Distance from obstructions on roof	None	None	None
Distance from obstructions not on roof (meters)	None	None	None
Distance from trees (meters)	6.0 m to Dripline	None	None
Distance to furnace or incinerator flue (meters)	None	None	None
Distance between collocated monitors (meters)	N/A	N/A	N/A
Unrestricted airflow (degrees)	360	360	360
Probe material (Teflon, etc.)	Teflon	N/A	N/A
Residence time (seconds)	6.1	N/A	N/A
Frequency of flow rate verification for manual PM samplers audit	N/A	Once a Month	N/A
Frequency of flow rate verification for automated PM analyzers audit	N/A	N/A	Once a month
Frequency of one-point QC check (gaseous)	Twice a month	N/A	N/A
Last Annual Performance Evaluation (gaseous)	8/1/2013	N/A	N/A
Last two semi-annual flow rate audits for PM monitors	N/A	3/14/2014, 8/1/2013	3/14/2014, 8/1/2013
Changes planned within the next 18 months (Y/N)	N	Y	N

Stockton–Hazelton (2 of 2)					
Pollutant	**NO_2**	**CO**	**Toxics SN20021014**	**Toxics SN20021016**	**Met Parameters**
Parameter code	42602	42101	Many	Many	Many
Spatial scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood	Regional
Site type	Population	Population Exposure	Population	Population	General
Basic monitoring objective(s)	Standards/strategy	Standards/strategy	Research, Timely/public	Research, Timely/public	Research, Timely/public
Monitor type	SLAMS	SLAMS	Many	Many	Many
POC	2	1	Many	Many	Many
Method code	074	593	Many	Many	Many
Sampling method (List Instrument)	API 200E	API 300 EU	Xontech 924	Xontech 924	
Analysis method	CL	IR			
Start date	1/1/1981	4/4/2013			1/1/1995
Operation schedule (e.g. Hourly, 1:3)	Hourly	Hourly	Hourly	Hourly	Hourly
Sampling season	ALL YEAR	All year	ALL YEAR	ALL YEAR	ALL YEAR
Probe/Inlet height above ground (meters)	5.4	5.4	7.0	7.0	
Distance from supporting structure (meters)	None	None	None	None	None
Distance from obstructions on roof	None	None	None	None	None
Distance from obstructions not on roof (meters)	None	None	None	None	None
Distance from trees (meters)	6.0 m to dripline	6.0 m to dripline	None	None	None
Distance to furnace or incinerator flue (meters)	None	None	None	None	None
Distance between collocated monitors (meters)	None	None	2	2	None
Unrestricted airflow (degrees)	360	360	360	360	360
Probe material (Teflon, etc.)	Teflon	Teflon	Teflon	Teflon	Teflon
Residence time (seconds)	6.7	7.9	N/A	N/A	N/A
Frequency of flow rate verification for manual PM samplers audit	N/A	N/A	N/A	N/A	N/A
Frequency of flow rate verification for automated PM analyzers audit	N/A	N/A	N/A	N/A	N/A
Frequency of one-point QC check (gaseous)	Twice a month	Twice a month	N/A	N/A	N/A
Last Annual Performance Evaluation (gaseous)	8/1/2013	Trace – not audited	8/1/2013	8/1/2013	9/18/2012

Stockton–Hazelton (2 of 2) continued					
Pollutant	**NO_2**	**CO**	**Toxics SN20021014**	**Toxics SN20021016**	**Met Parameters**
Last two semi-annual flow rate audits for PM monitors	N/A	N/A	N/A	N/A	N/A
Changes planned within the next 18 months (Y/N)	N	N	N	N	N

Site name	Stockton–Wagner/Holt
AIRS #	060773010
County	San Joaquin
Collecting (Operating) Agency	All equipment operated by SJVAPCD
Reporting Agency	All data reported by CARB
Site Start Date	10/1/96
Pollutant Parameters	PM10 FRM
Meteorological Parameters	None
Address	8778 Brattle Pl., Stockton CA 95209
Latitude	38.0297 N
Longitude	-121.3530 W
Elevation (m)	7
Location	On school roof
Distance to road	30 m (north)
Traffic Count	500
Ground Cover	Felt/rubber

Stockton–Wagner/Holt	
Pollutant	**PM10 FRM**
Parameter code	81102
Spatial scale	Neighborhood
Site type	Population
Monitor objective	Standards/strategy, research support
Monitor type	SLAMS
POC	1
Method code	063
Sampling method (List Instrument)	Sierra Anderson SSI
Analysis method	GRAVI-METRIC
Start date	10/1/1996
Operation schedule (e.g. Hourly, 1:3)	1:6
Sampling season	ALL YEAR
Probe height (meters)	10 m
Distance from supporting structure (meters)	1.5 m
Distance from obstructions on roof	11.8 m
Distance from obstructions not on roof (meters)	____
Distance from trees (meters)	12.5 m
Distance to furnace or incinerator flue (meters)	____
Distance between collocated monitors (meters)	____
Unrestricted airflow (degrees)	280
Probe material (Teflon, etc.)	_____
Residence time (seconds)	_____
Frequency of flow rate verification for manual PM samplers audit	QUARTERLY
Frequency of flow rate verification for automated PM analyzers audit	_____
Frequency of one-point QC check (gaseous)	_____
Last Annual Performance Evaluation (gaseous)	_____
Last two semi-annual flow rate audits for PM monitors	3/21/2012, 2/13/2013
Changes planned within the next 18 months (Y/N)	Y

Site name	Tracy–Airport
AIRS #	060773005
County	San Joaquin
Collecting (Operating) Agency	All equipment operated by SJVAPCD
Reporting Agency	All data reported by SJVAPCD
Site Start Date	1/11/05
Pollutant Parameters	Ozone, PM10 FEM, PM2.5 Non-FEM, NO_2
Meteorological Parameters	Wind speed, wind direction, outdoor temperature, barometric pressure, radio acoustic sounding system (RASS)
Address	5749 S. Tracy Blvd., Tracy CA 95376
Latitude	37.6826 N
Longitude	-121.4423 W
Elevation (m)	30
Location	Municipal airport yard
Distance to road	700 m (east)
Traffic Count	868
Ground Cover	Gravel

Tracy–Airport (1 of 2)				
Pollutant	**Ozone**	**PM10 FEM**	**PM2.5 Non-FEM**	**NO_2**
Parameter code	44201	81102	88502	42602
Spatial scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Site type	Regional transport	Regional transport	Regional transport	Population
Monitor objective	Timely/public, standards/strategy, research support	Timely/public	Timely/public	Standards/strategy
Monitor type	SLAMS	SPM	SPM	SLAMS
POC	1	3	3	1
Method code	087	079	731	074
Sampling method (List Instrument)	Teledyne 400E	Thermo TEOM 1400	Met One BAM 1020	Thermo 200E
Analysis method	UV	TAPERED ELEMENT	BETA-ATTENUATION	CL
Start date	1/11/2005	10/25/2005	1/11/2005	1/11/2005
Operation schedule (e.g. Hourly, Hourly)	Hourly	Hourly	Hourly	Hourly
Sampling season	ALL YEAR	ALL YEAR	ALL YEAR	ALL YEAR
Probe height (meters)	7.0 m	6.5 m	6.5 m	7.0 m
Distance from supporting structure (meters)	_____	_____	_____	
Distance from obstructions on roof	_____	_____	_____	
Distance from obstructions not on roof (meters)	42.7 m	42.7 m	42.7 m	42.7 m
Distance from trees (meters)	41.5 m	41.5 m	41.5 m	41.5 m
Distance to furnace or incinerator flue (meters)	_____	_____	_____	
Distance between collocated monitors (meters)	_____	3.5m	3.5m	
Unrestricted airflow (degrees)	360	360	360	360
Probe material (Teflon, etc.)	TEFLON	ALUMINUM	ALUMINUM	TEFLON
Residence time (seconds)	10.6	_____	_____	13.8
Frequency of flow rate verification for manual PM samplers audit	_____	_____	_____	_____
Frequency of flow rate verification for automated PM analyzers audit	_____	BI-WEEKLY	BI-WEEKLY	_____
Frequency of one-point QC check (gaseous)	Hourly	_____	_____	Hourly
Last Annual Performance Evaluation (gaseous)	12/05/2013	_____	_____	12/05/2013

Tracy–Airport (1 of 2) continued				
Pollutant	**Ozone**	**PM10 FEM**	**PM2.5 Non-FEM**	**NO_2**
Last two semi-annual flow rate audits for PM monitors	_____	12/05/13, 05/02/13	12/05/13, 05/02/13	_____
Changes planned within the next 18 months (Y/N)	N	N	N	N

Tracy–Airport (2 of 2)	
Pollutant	**Met Parameters**
Parameter code	Many
Spatial scale	Regional
Site type	General
Monitor objective	Research, Timely/public
Monitor type	SLAMS
POC	Many
Method code	Many
Sampling method (List Instrument)	I ITP- Hy-Cal 512AA3B, OT- Met One 060A-2, BP- Met One 092, WD- Met One 020C, WS-Met One 010C
Analysis method	_____
Start date	1/11/2005
Operation schedule (e.g. Hourly, 1:3)	Hourly
Sampling season	ALL YEAR
Probe height (meters)	10 m
Distance from supporting structure (meters)	_____
Distance from obstructions on roof	_____
Distance from obstructions not on roof (meters)	_____
Distance from trees (meters)	48.7m
Distance to furnace or incinerator flue (meters)	_____
Distance between collocated monitors (meters)	_____
Unrestricted airflow (degrees)	360
Probe material (Teflon, etc.)	_____
Residence time (seconds)	_____
Frequency of flow rate verification for manual PM samplers audit	_____

Tracy–Airport (2 of 2) continued	
Pollutant	**Met Parameters**
Frequency of flow rate verification for automated PM analyzers audit	_____
Frequency of one-point QC check (gaseous)	_____
Last Annual Performance Evaluation (gaseous)	_____
Last two semi-annual flow rate audits for PM monitors	_____
Changes planned within the next 18 months (Y/N)	N

Site name	Modesto–14th St
AIRS #	060990005
County	Stanislaus
Collecting (Operating) Agency	All equipment operated by CARB
Reporting Agency	All data reported by CARB
Site Start Date	1/1/81
Pollutant Parameters	Ozone, PM10 FRM, PM10 FEM, PM2.5 FRM, PM2.5 FEM, CO
Meteorological Parameters	Wind speed, wind direction, outdoor temperature, barometric pressure
Address	814 14th Street, Modesto CA 95354
Latitude	37.6421 N
Longitude	-120.9942 W
Elevation (m)	33
Location	
Distance to road	50 m (southwest)
Traffic Count	10000
Ground Cover	Asphalt

Modesto–14th St (1 of 2)				
Pollutant	**Ozone**	**PM10 FRM**	**PM10 FEM**	**PM2.5 FEM**
Parameter code	44201	81102	81102	88101
Spatial scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Site type	Population Exposure	Population Exposure	Population Exposure	Population Exposure
Basic monitoring objective(s)	Standards/strategy	Standards/strategy	Standards/strategy	Standards/strategy
Monitor type	SLAMS	SLAMS	SLAMS	SLAMS
POC	1	3	7	3, Primary
Method code	087	063	122	170
Sampling method (List Instrument)	API/Teledyne 400	Sierra Anderson 1200	Met One 4 Models Beta A	Met One 1020
Analysis method	UV	Gravimetric	Beta Attenuation	Beta Attenuation
Start date	1/1/1983	8/27/1998	12/1/2013	5/1/2010
Operation schedule (e.g. Hourly, 1:3,)	Hourly	1:6	Hourly	Hourly
Sampling season	ALL YEAR	ALL YEAR	ALL YEAR	ALL YEAR
Probe/Inlet height above ground (meters)	7.7	5.3	4.4	5.1
Distance from supporting structure (meters)	None	None	None	None
Distance from obstructions on roof	None	None	None	None
Distance from obstructions not on roof (meters)	None	None	None	None
Distance from trees (meters)	None	None	None	None
Distance to furnace or incinerator flue (meters)	None	None	None	None
Distance between collocated monitors (meters)	None	None	None	None
Unrestricted airflow (degrees)	360	360	360	360
Probe material (Teflon, etc.)	Teflon	N/A	N/A	N/A
Residence time (seconds)	15.5	N/A	N/A	N/A
Frequency of flow rate verification for manual PM samplers audit	N/A	Once a month	N/A	N/A
Frequency of flow rate verification for automated PM analyzers audit	N/A	N/A	Once a month	Once a month
Frequency of one-point QC check (gaseous)	Twice a month	N/A	N/A	N/A
Last Annual Performance Evaluation (gaseous)	11/13/2013	N/A	N/A	N/A
Last two semi-annual flow rate audits for PM monitors	N/A	4/21/2014, 11/13/2013	4/21/14	4/21/2014, 11/13/2013
Changes planned within the next 18 months (Y/N)	N	Yes. Monitor end date was 12/31/2013.	N	N

Modesto–14th St (2 of 2)			
Pollutant	**PM2.5 FRM**	**CO**	**Met Parameters**
Parameter code	88101	42101	Many
Spatial scale	Neighborhood	Neighborhood	Regional
Site type	Population Exposure	Population	General
Basic monitoring objective(s)	Standards/strategy	Standards/strategy	Research, Timely/public
Monitor type	SLAMS	SLAMS	SLAMS
POC	1, QA Collocated	3	Many
Method code	143	067	Many
Sampling method (List Instrument)	Met One 1020	API 300 EU	N/A
Analysis method	Beta Attenuation	IR	N/A
Start date	7/1/2010	1/1/2013	1/1/1995
Operation schedule (e.g. Hourly, 1:3)	1:3	1 hour	Hourly
Sampling season	ALL YEAR	ALL YEAR	ALL YEAR
Probe/Inlet height above ground(meters)	5.5	7.7	N/A
Distance from supporting structure (meters)	None	None	None
Distance from obstructions on roof	None	None	None
Distance from obstructions not on roof (meters)	None	None	None
Distance from trees (meters)	None	None	None
Distance to furnace or incinerator flue (meters)	None	None	None
Distance between collocated monitors (meters)	None	None	None
Unrestricted airflow (degrees)	360	360	360
Probe material (Teflon, etc.)	N/A	Teflon	
Residence time (seconds)	N/A	N/A	N/A
Frequency of flow rate verification for manual PM samplers audit	N/A	N/A	N/A
Frequency of flow rate verification for automated PM analyzers audit	Once a month	N/A	N/A
Frequency of one-point QC check (gaseous)	N/A	Twice a month	N/A
Last Annual Performance Evaluation (gaseous)	N/A	Trace – Not audited	N/A
Last two semi-annual flow rate audits for PM monitors	4/21/2014, 11/13/2013	N/A	N/A
Changes planned within the next 18 months (Y/N)	N	N	N

Site name	Turlock	
AIRS #	060990006	
County	Stanislaus	
Collecting (Operating) Agency	All equipment operated by SJVAPCD	
Reporting Agency	Data reported by SJVAPCD: Ozone, PM2.5 FEM, CO, NO_2, Meteorology	Data reported by CARB: PM10 FRM
Site Start Date	4/1/1992	
Pollutant Parameters	Ozone, PM10 FRM, PM2.5 FEM, CO, NO_2	
Meteorological Parameters	Wind speed, wind direction, outdoor temperature, barometric pressure	
Address	1034 S. Minaret St., Turlock CA 95380	
Latitude	37.4880 N	
Longitude	-120.8360 W	
Elevation (m)	30	
Location	Portable building – neighborhood	
Distance to road	40 m (northeast)	
Traffic Count	670	
Ground Cover	Gravel	

Turlock (1 of 2)				
Pollutant	**Ozone**	**PM10 FRM**	**PM2.5 FEM**	**CO**
Parameter code	44201	81102	88101	42101
Spatial scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Site type	Population	Population	Population, High Concentration	Population
Monitor objective	Timely/public, standards/strategy, research support	Standards/strategy, research support	Timely/public	Standards/strategy
Monitor type	SLAMS	SLAMS	SLAMS	SLAMS
POC	1	1	3	1
Method code	087	063	170	054
Sampling method (List Instrument)	Teledyne 400E	Sierra Andersen SSI	Met One BAM 1020	Thermo TECO 48C
Analysis method	UV	GRAVIMETRIC	Beta Attenuation	IR
Start date	4/1/2000	9/14/2006	9/14/2006	4/1/2000
Operation schedule (e.g. Hourly, 1:3, Hourly)	Hourly	1:6	Hourly	Hourly
Sampling season	ALL YEAR	ALL YEAR	ALL YEAR	ALL YEAR
Probe height (meters)	7 m	6.5 m	5.4 m	7 m
Distance from supporting structure (meters)	____	____	____	____
Distance from obstructions on roof	____	____	____	____
Distance from obstructions not on roof (meters)	____	____	____	____
Distance from trees (meters)	37.5 m	37.5 m	37.5 m	37.5 m
Distance to furnace or incinerator flue (meters)	48.0 m	48.0 m	48.0 m	48.0 m
Distance between collocated monitors (meters)	____	____	____	____
Unrestricted airflow (degrees)	360	360	360	360
Probe material (Teflon, etc.)	TEFLON	____	ALUMINUM	TEFLON
Residence time (seconds)	14.8	____	____	14.0
Frequency of flow rate verification for manual PM samplers audit	____	QUARTERLY	____	____

Turlock (1 of 2) continued				
Pollutant	**Ozone**	**PM10 FRM**	**PM2.5 FEM**	**CO**
Frequency of flow rate verification for automated PM analyzers audit	____	____	BI-WEEKLY	____
Frequency of one-point QC check (gaseous)	Daily	____	____	Daily
Last Annual Performance Evaluation (gaseous)	3/19/2014	____	____	3/19/2014
Last two semi-annual flow rate audits for PM monitors	____	2/5/2014 4/28/2014	10/28/2013 4/2/2014	____
Changes planned within the next 18 months (Y/N)	N	N	N	Y

Turlock (2 of 2)			
Pollutant	**NO_2**	**Met Parameters**	
Parameter code	42602	Many	
Spatial scale	Neighborhood	Regional	
Site type	Population	General	
Monitor objective	Standards/strategy	Research, Timely/public	
Monitor type	SLAMS	Other	
POC	1	1	
Method code	074	Many	
Sampling method (List Instrument)	Teledyne 200 E	ITP- Hy-Cal 512AA3B, OT- Met One 060A-2, BP- Met One 092, WD- Met One 020C, WS-Met One 010C	
Analysis method	CL	____	
Start date	4/1/2000	Wind speed and wind direction 4/1/2000	Outdoor temperature and barometric pressure 9/3/2008
Operation schedule (e.g. Hourly, 1:3)	Hourly	Hourly	
Sampling season	ALL YEAR	ALL YEAR	
Probe height (meters)	7 m	7.7 m 7 m (OT)	
Distance from supporting structure (meters)	____	____	
Distance from obstructions on roof	____	____	
Distance from obstructions not on roof (meters)	____	____	
Distance from trees (meters)	37.5 m	37.5 m	
Distance to furnace or incinerator flue (meters)	48.0 m	48.0 m	
Distance between collocated monitors (meters)	____	____	
Unrestricted airflow (degrees)	360	360	

Turlock (2 of 2) continued		
Pollutant	**NO_2**	**Met Parameters**
Probe material (Teflon, etc.)	TEFLON	____
Residence time (seconds)	14.1	____
Frequency of flow rate verification for manual PM samplers audit	____	____
Frequency of flow rate verification for automated PM analyzers audit	____	____
Frequency of one-point QC check (gaseous)	Daily	____
Last Annual Performance Evaluation (gaseous)	3/19/2014	1/9/2014
Last two semi-annual flow rate audits for PM monitors	____	____
Changes planned within the next 18 months (Y/N)	N	N

Site name	Porterville
AIRS #	061072010
County	Tulare
Collecting (Operating) Agency	All equipment operated by SJVAPCD
Reporting Agency	All data reported by SJVAPCD
Site Start Date	3/8/2010
Pollutant Parameters	Ozone, PM2.5 FEM
Meteorological Parameters	Wind speed, wind direction, outdoor temperature, barometric pressure
Address	1839 S. Newcomb St., Porterville CA 93257
Latitude	36.0310 N
Longitude	-119.0550 W
Elevation (m)	41
Location	Portable building on parking lot
Distance to road	100 (south)
Traffic Count	1,010*, 2007 (* - Closest to Porterville site. Traffic Counts Ave 136 (36.036714°, -119.042117°). Nearest cross street to the count: S 236 Prospect Rd. Direction from the count to the cross street: West Distance to the nearest cross street: 0.12 miles.)
Ground Cover	Paved

Porterville			
Pollutant	**Ozone**	**PM2.5 Non-FEM**	**Met Parameters**
Parameter code	44201	88502	Many
Spatial scale	Neighborhood	Neighborhood	Neighborhood
Site type	Population	Population	Population
Monitor objective	Timely/public, standards/strategy, research support	Timely/public	Timely/public
Monitor type	SLAMS	SPM	SLAMS
POC	1	3	1
Method code	087	731	Many
Sampling method (List Instrument)	Teledyne 400 E (IZS)	Met One BAM 1020	ITP- Hy-Cal 512AA3B, OT- Met One 060A-2, BP- Met One 092, WD- Met One 020C, WS-Met One 010C
Analysis method	UV	BETA-ATTENUATION	
Start date	3/8/2010	3/8/2010	3/8/2010
Operation schedule (e.g. Hourly, 1:3)	Hourly	Hourly	Hourly
Sampling season	ALL YEAR	ALL YEAR	ALL YEAR
Probe height (meters)	5.4 m	5.4 m	9.6 m
Distance from supporting structure (meters)			
Distance from obstructions on roof			
Distance from obstructions not on roof (meters)	10 m	10 m	
Distance from trees (meters)			
Distance to furnace or incinerator flue (meters)			
Distance between collocated monitors (meters)			
Unrestricted airflow (degrees)	345	345	345
Probe material (Teflon, etc.)	TEFLON	ALUMINUM	
Residence time (seconds)	15.1		
Frequency of flow rate verification for manual PM samplers audit			
Frequency of flow rate verification for automated PM analyzers audit		BI-WEEKLY	

Porterville (continued)			
Pollutant	**Ozone**	**PM2.5 Non-FEM**	**Met Parameters**
Frequency of one-point QC check (gaseous)	Daily		
Last Annual Performance Evaluation (gaseous)	8/8/13, 11/6/13, 5/12/14		
Last two semi-annual flow rate audits for PM monitors		9/16/13, 3/10/14, 9/10/14	
Changes planned within the next 18 months (Y/N)	N	N	N

Site name	Sequoia–Ash Mountain
AIRS #	061070009
County	Tulare
Collecting (Operating) Agency	All equipment operated by NPS
Reporting Agency	All data reported by NPS
Site Start Date	1/1/00
Pollutant Parameters	Ozone, PM2.5 FEM, IMPROVE
Meteorological Parameters	Wind speed, wind direction, outdoor temperature, relative humidity, solar radiation
Address	Ash Mountain, Sequoia National Park 47050 Generals Hwy, Three Rivers, CA 93271
Latitude	36.4894 N
Longitude	-118.8290 W
Elevation (m)	535
Location	Ash Mountain
Distance to road	120 m (north)
Traffic Count	1000
Ground Cover	Dirt

Sequoia–Ash Mountain			
Pollutant	**Ozone**	**PM2.5 FEM**	**Met Parameters**
Parameter code	44201	88501	Many
Spatial scale	Regional	Regional	Regional
Site type	Regional transport	Regional transport	General
Monitor objective	Timely/public, standards/strategy, research support	Timely/public	Research, Timely/public
Monitor type	Non-EPA Federal	Non-EPA Federal	Non-EPA Federal
POC	1	1	1
Method code	047	707	Many
Sampling method (List Instrument)	Thermo TECO 49, 49C	BAM 1020	Many
Analysis method	UV	Beta Attenuation	Many
Start date	2000	2007	2000
Operation schedule (e.g. Hourly, Hourly, 1:3, Hourly)	Hourly	Hourly	Hourly
Sampling season	ALL YEAR	ALL YEAR	ALL YEAR
Probe height (meters)	10	4	10
Distance from supporting structure (meters)	3	1.5	3
Distance from obstructions on roof	5	--	5
Distance from obstructions not on roof (meters)	--	--	--
Distance from trees (meters)	15 – 20	15 – 20	15-20
Distance to furnace or incinerator flue (meters)	305	305	305
Distance between collocated monitors (meters)	3	3	3
Unrestricted airflow (degrees)	360	360	360
Probe material (Teflon, etc.)	Teflon	--	--
Residence time (seconds)	13.4	--	--
Frequency of flow rate verification for manual PM samplers audit	--	--	--
Frequency of flow rate verification for automated PM analyzers audit	--	Weekly	--
Frequency of one-point QC check (gaseous)	daily	--	--
Last Annual Performance Evaluation (gaseous)	4/22/2014	--	4/22/2014
Last two semi-annual flow rate audits for PM monitors	--	11/19/2013, 4/9/2014	--
Changes planned within the next 18 months (Y/N)	N	N	N

Site name	Sequoia–Lower Kaweah
AIRS #	061070006
County	Tulare
Collecting (Operating) Agency	All equipment operated by NPS
Reporting Agency	All data reported by NPS
Site Start Date	4/1/1981
Pollutant Parameters	Ozone, NADP (wet deposition)
Meteorological Parameters	Wind speed, wind direction, outdoor temperature, relative humidity, solar radiation
Address	Giant Forest, Sequoia National Park, 47050 Generals Highway, Three Rivers, CA 93271
Latitude	36.5661 N
Longitude	-118.7776 W
Elevation (m)	1890
Location	Giant Forest
Distance to road	380 m (southeast)
Traffic Count	To be determined
Ground Cover	Dirt

Sequoia–Lower Kaweah		
Pollutant	**Ozone**	**Met Parameters**
Parameter code	44201	Many
Spatial scale	Regional	Regional
Site type	Regional transport	General
Monitor objective	Timely/public, standards/strategy, research/monitoring support	Research, Timely/public
Monitor type	Non-EPA Federal	Non-EPA Federal
POC	1	1
Method code	087	Many
Sampling method (List Instrument)	Thermo TECO 49, 49C	Many
Analysis method	047	Many
Start date	1982	1982
Operation schedule (e.g. Hourly, 1:3)	Hourly	Hourly
Sampling season	ALL YEAR	ALL YEAR
Probe height (meters)	5	5
Distance from supporting structure (meters)	1.5	10
Distance from obstructions on roof	1	--
Distance from obstructions not on roof (meters)	--	--
Distance from trees (meters)	5-10	5-10
Distance to furnace or incinerator flue (meters)	457	457
Distance between collocated monitors (meters)	5-10	10-15
Unrestricted airflow (degrees)	360	360
Probe material (Teflon, etc.)	Teflon	--
Residence time (seconds)	13.9	--
Frequency of flow rate verification for manual PM samplers audit	--	--
Frequency of flow rate verification for automated PM analyzers audit	--	--
Frequency of one-point QC check (gaseous)	daily	--
Last Annual Performance Evaluation (gaseous)	4/23/2014	4/23/2014
Last two semi-annual flow rate audits for PM monitors	--	--
Changes planned within the next 18 months (Y/N)	N	N

Site name	Visalia–Airport
AIRS #	061073000
County	Tulare
Collecting (Operating) Agency	All equipment operated by SJVAPCD
Reporting Agency	All data reported by SJVAPCD
Site Start Date	September 2000
Pollutant Parameters	None
Meteorological Parameters	Wind speed, wind direction, outdoor temperature, relative humidity, barometric pressure, solar radiation, radio acoustic sounding system (RASS)
Address	9501 West Airport Drive, Visalia, CA 93277
Latitude	39.3266 N
Longitude	-119.3984 W
Elevation (m)	90
Location	Municipal airport yard
Distance to road	100 m (west)
Traffic Count	32000
Ground Cover	Vegetated

Visalia–Airport	
Pollutant	**Met Parameters**
Parameter code	Many
Spatial scale	Regional
Site type	General
Monitor objective	Research, Timely/public
Monitor type	PAMS
POC	1
Method code	Many
Sampling method (List Instrument)	ITP- Hy-Cal 512AA3B, OT- Met One 060A-2, BP- Met One 092, RH- Vaisala HMP45D, SRD- Epply Mod. 8-48WD- Met One 020C, WS-Met One 010C
Analysis method	_____
Start date	10/1/1999
Operation schedule (e.g. Hourly, 1:3)	Hourly
Sampling season	ALL YEAR
Probe height (meters)	10 m
Distance from supporting structure (meters)	_____
Distance from obstructions on roof	_____
Distance from obstructions not on roof (meters)	_____
Distance from trees (meters)	6 m
Distance to furnace or incinerator flue (meters)	_____
Distance between collocated monitors (meters)	_____
Unrestricted airflow (degrees)	270
Probe material (Teflon, etc.)	_____
Residence time (seconds)	_____
Frequency of flow rate verification for manual PM samplers audit	_____
Frequency of flow rate verification for automated PM analyzers audit	_____
Frequency of one-point QC check (gaseous)	_____
Last Annual Performance Evaluation (gaseous)	_____
Last two semi-annual flow rate audits for PM monitors	_____
Changes planned within the next 18 months (Y/N)	N

Site name	Visalia–Church St
AIRS #	061072002
County	Tulare
Collecting (Operating) Agency	All equipment operated by CARB
Reporting Agency	All data reported by CARB
Site Start Date	7/1/79
Pollutant Parameters	Ozone, PM10 FRM, PM2.5 FRM, PM2.5 FEM, NO_2
Meteorological Parameters	Wind speed, wind direction, outdoor temperature, barometric pressure
Address	310 N. Church St., Visalia CA 93291
Latitude	36.3325 N
Longitude	-119.2909 W
Elevation (m)	102
Location	Portable building
Distance to road	25 m (west)
Traffic Count	10000
Ground Cover	Asphalt

Visalia–Church St (1 of 2)				
Pollutant	**Ozone**	**PM10 FRM**	**PM2.5 FRM**	**PM2.5 Non-FEM**
Parameter code	44201	81102	88101	88501
Spatial scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Site type	General/Background	Population Exposure	Population Exposure, High Concentration	Regional transport, Population Exposure
Basic monitoring objective(s)	Standards/strategy	Standards/strategy	Standards/strategy	Research, Timely/public
Monitor type	SLAMS	SLAMS	SLAMS	Non-regulatory
POC	1	2	1	3
Method code	087	063	118	731
Sampling method (List Instrument)	API/Teledyne 400	Sierra Anderson 1200	R&P 2025	Met One 1020
Analysis method	UV	Gravimetric	Gravimetric	Beta attenuation
Start date	1/1/1981	1/1/1988	1/3/1999	11/1/2001
Operation schedule (e.g. Hourly, 1:3)	Hourly	1:6	1:3	Hourly
Sampling season	ALL YEAR	ALL YEAR	ALL YEAR	ALL YEAR
Probe/Inlet height above ground (meters)	6.7	5.2	5.9	5.4
Distance from supporting structure (meters)	None	None	None	None
Distance from obstructions on roof	None	None	None	None
Distance from obstructions not on roof (meters)	None	None	None	None
Distance from trees (meters)	None	None	None	None
Distance to furnace or incinerator flue (meters)	None	None	None	None
Distance between collocated monitors (meters)	None	None	None	None
Unrestricted airflow (degrees)	360	360	360	360
Probe material (Teflon, etc.)	Teflon			
Residence time (seconds)	11.6	N/A	N/A	N/A
Frequency of flow rate verification for manual PM samplers audit	N/A	Once a month	Once a month	N/A
Frequency of flow rate verification for automated PM analyzers audit	N/A	N/A	N/A	Twice a month

Visalia–Church St (1 of 2)				
Pollutant	**Ozone**	**PM10 FRM**	**PM2.5 FRM**	**PM2.5 Non-FEM**
Frequency of one-point QC check (gaseous)	Twice a month	N/A	N/A	N/A
Last Annual Performance Evaluation (gaseous)	10/29/2013	N/A	N/A	N/A
Last two semi-annual flow rate audits for PM monitors	N/A	4/21/2014, 10/29/2013	4/21/2014, 10/29/2013	4/21/2014, 10/29/2013
Changes planned within the next 18 months (Y/N)	N	Y	Y	N

Visalia–Church St (2 of 2)			
Pollutant	**NO_2**	**Met Parameters**	**PM2.5 Speciation**
Parameter code	42602	Many	Many
Spatial scale	Unknown	Regional	Neighborhood
Site type	Unknown	General	Unknown
Basic monitoring objective(s)	Standards/strategy	Research, Timely/public	
Monitor type	SLAMS	Many	Supplemental speciation
POC	1	1	5
Sampling method (List Instrument)	API 200E	Many	Gravimetric
Analysis method	099	Many	811/812
Start date	1/1/1981	1/1/1995	N/A
Operation schedule (e.g. Hourly, 1:3)	1 Hour	Hourly	N/A
Sampling season	ALL YEAR	ALL YEAR	ALL YEAR
Probe height (meters)	6.7	11.9	N/A
Distance from supporting structure (meters)	None	None	None
Distance from obstructions on roof	None	None	None
Distance from obstructions not on roof (meters)	None	None	None
Distance from trees (meters)	None	None	None
Distance to furnace or incinerator flue (meters)	None	None	None

Visalia–Church St (2 of 2)			
Pollutant	**NO_2**	**Met Parameters**	**PM2.5 Speciation**
Distance between collocated monitors (meters)	None	None	None
Unrestricted airflow (degrees)	360	360	360
Probe material (Teflon, etc.)	Teflon	N/A	N/A
Residence time (seconds)	11.7	N/A	N/A
Frequency of flow rate verification for manual PM samplers audit	N/A	N/A	N/A
Frequency of flow rate verification for automated PM analyzers audit	N/A	N/A	N/A
Frequency of one-point QC check (gaseous)	Twice a month	N/A	N/A
Last Annual Performance Evaluation (gaseous)	10/29/2014	10/29/2013	N/A
Last two semi-annual flow rate audits for PM monitors	N/A	N/A	N/A
Changes planned within the next 18 months (Y/N)	N	N	N

APPENDIX C:

Technical Justification for the Closure of the Merced-M Air Monitoring Site and the Relocation of the PM2.5 and PM10 FRM Monitors to the Merced-Coffee Air Monitoring Site

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Introduction

As recommended by U.S. Environmental Protection Agency (EPA) to reduce redundancy, to increase efficiency, effectiveness, and to minimize costs, (EPA Guidance Ref: EPA-454/D-07-001, Ambient Air Monitoring Network Assessment Guidance, US EPA/OAQPS, February 2007), the San Joaquin Valley Air Pollution Control District (District) is planning to "right-size" the monitoring network and reduce operating costs which may make other monitoring opportunities available elsewhere in the District.

To fulfill this recommendation, the District plans to relocate the Merced-M (AIRS Code 060472510) rooftop PM2.5 and PM10 Federal Reference Method (FRM) monitors to the Merced-Coffee air monitoring station (AIRS Code 060470003). Both sites are Neighborhood scale, while Merced-M is a High Concentration/Population site type, and Merced-Coffee is a Population site type. The Merced-M monitors are both State and Local Air Monitoring Station (SLAMS) monitors, while the PM2.5 monitor operating at the Merced-Coffee site is a Special Purpose Monitor (SPM).

Analyses demonstrate that the Merced-M PM2.5 and PM10 monitors can be relocated. The Merced-Coffee air monitoring station already has a PM2.5 real-time Federal Equivalent Method (FEM) monitor (SPM) that has been in operation for a number of years, and therefore to relocate the Merced-M PM2.5 FRM monitor to Merced-Coffee would constitute a redundancy and for that reason termination of the Merced-M PM2.5 FRM monitor may be considered in the future. Even though the termination of the PM2.5 monitor may be possible, the District plans to keep both PM2.5 monitors in service as co-located monitors for a length of time to demonstrate the differences (if any) between the FRM and FEM. Should the resulting data illustrate non-performance by the FEM, the District may later submit a formal request to the EPA that the FEM data be used only for forecasting purposes and not for design value calculations.

Background

The Merced-M air monitoring site is located at 2334 'M' Street, Merced CA 95340 and has been monitoring since April 1, 1999. The Merced-M site measures PM10 FRM and PM2.5 FRM. The Merced-Coffee site is located at 385 S. Coffee St., Merced CA 95340 and has been monitoring since October 1, 1991. The Merced-Coffee site measures Ozone, PM2.5 (FEM), NO_2, and meteorology.

The Merced-M site does not typically measure the peak PM2.5 values for the County of Merced, which are usually recorded at the Merced-Coffee site. In addition, the Merced-M site location is not as suitable as the Merced-Coffee site for measuring the city's total concentration of PM2.5. This is because the dominant wind flow is from the northwest and the Merced-M site location is near the center of the city, while the Merced-Coffee location is situated on the southeast edge of the city and is directly downwind of the *entire* city.

As shown in Table 1, the number of required PM2.5 monitors for the Merced Metropolitan Statistical Area (MSA) is 1. The current number and sites of PM2.5 monitors for the Merced MSA is 2, and these are depicted in Table 2.

Table 1: PM2.5 Monitoring Requirements for Merced MSA

Metropolitan Statistical Area (MSA)	County	2014 Population[2]	PM2.5[1]					
			24–hour 2012–2014 Design Value in MSA (µg/m³)	Annual 2012–2014 Design Value in MSA (µg/m³)	Stations required	# of SLAMS Stations in MSA	# of SPM Stations in MSA	Total Number of Stations
Merced	Merced	264,922	52	11.7	1	1	1	2

[1] Air quality data may include data influenced by exceptional events and/or data completeness and substitution requirements.
[2] From California Department of Finance, County and State Population.

Table 2: Current PM2.5 Air Monitoring Sites in the Merced MSA

MSA/CBSA: Merced County: Merced	Instrument Type		Monitor Type		Total Number of Monitors
	FRM	FEM	SLAMS	SPM	
Site Name					
Merced-M	1		1		
Merced-Coffee		1		1	
Total SLAMS/SPM			1	1	2

The Merced-M rooftop PM2.5 filter monitor (FRM) has been in operation since April 1, 1999 (AIRS Code is 06-047-2510-88101-1). The Merced-Coffee real-time PM2.5 monitor (FEM) has been in operation since October 19, 2009 (AIRS Code is 06-047-0003-88101-3). Both are operated by the District. With the proposed relocation of the Merced-M monitor to the Merced-Coffee air monitoring station, the type and number of monitors for the Merced MSA will remain the same (Table 3).

Table 3: Proposed PM2.5 Air Monitoring Sites in the Merced MSA

MSA/CBSA: Merced County: Merced	Instrument Type		Monitor Type		Total Number of Monitors
	FRM	FEM	SLAMS	SPM	
Site Name					
Merced-Coffee	1	1	1	1	
Total SLAMS/SPM			1	1	2

The number of required PM10 monitors for the Merced MSA is 0 to 1 (Table 4). The Merced-M rooftop PM10 monitor (FRM) has been collecting filter-based samples of PM10 since April 6, 1999 (AIRS Code is 06-047-2510-81102-1). The Merced-Coffee air monitoring station does not currently monitor PM10.

Table 4: PM10 Monitoring Requirements for the Merced MSA

Metropolitan Statistical Area (MSA)	County	2014 Population[1]	PM10				
			2014 Highest 24-hour concentration in MSA (µg/m³)	Stations required	# of SLAMS Stations in MSA	# of SPM Stations in MSA	Total Number of Stations
Merced	Merced	264,992	88	0 - 1	1	0	1

[1] From California Department of Finance, County and State Population

At present there is 1 PM10 SLAMS and 0 PM10 Special Purpose Monitors (SPM) located in the Merced MSA and it is operated by the District (Table 5). After the PM10 relocation is complete, there will still remain 1 SLAMS and 0 SPM monitors in the MSA as shown in Table 6. This designation will ensure that the 1 PM10 SLAMS monitor continues to operate in the Merced MSA.

Table 5: Current PM10 Air Monitoring Stations in the Merced MSA

MSA/CBSA: Merced County: Merced	Instrument Type		Monitor Type		Total Number of Monitors
	FRM	FEM	SLAMS	SPM	
Site Name					
Merced-M	1		1		
Merced-Coffee					
Total SLAMS/SPM			1		1

With the proposed relocation of the Merced-M PM10 monitor to Merced-Coffee, the District would still meet the minimum PM10 monitoring requirements for the Merced MSA as the type and number of monitors for the Merced MSA will remain the same (Table 6).

Table 6: Proposed PM10 Air Monitoring Stations in the Merced MSA

MSA/CBSA: Merced County: Merced	Instrument Type		Monitor Type		Total Number of Monitors
	FRM	FEM	SLAMS	SPM	
Site Name					
Merced-M					
Merced-Coffee	1		1		
Total SLAMS/SPM			1		1

Technical Justification for System Modification

Under 40 CFR 58.14(c)(1), there are four criteria listed that an Agency must satisfy, before the Regional Administrator has the authority to consider whether to approve a request for monitor shutdown/termination. The four criteria are the following:

1. The monitor showed attainment during the previous five years.

2. The probability is less than 10% that this monitor will exceed 80% of the applicable NAAQS during the next 3 years based upon concentrations, trends, and variability observed in the past.

3. The monitor is not specifically required by an attainment plan or maintenance plan.

4. The monitor is not the last monitor in a nonattainment area or maintenance area that contains a contingency measure triggered by an air quality concentration in the latest attainment or maintenance plan adopted by the state and approved by the EPA.

Based on the PM2.5 values recorded at the Merced-M site in recent years, the data is unable to meet the criteria listed above. In addition, the data from this monitor is also unable to meet the criteria listed in the other options available under 40 CFR 58.14(c)(3-6). However, under the option provided in 40 CFR 58.14(c), the District holds that this system modification can be approved through the case-by-case basis provision, based on the analysis and arguments provided below.

Although the above technical justifications were not met, the PM2.5 and PM10 monitors at the Merced-M site do qualify for relocation as per the criteria presented in the document *Site Relocation and Parallel Monitoring Guidelines*[1] (hereafter as *Guidelines*) prepared by the Air Monitoring Technical Advisory Committee, June 1997, and published by the California Air Resources Board. There is no standard performance criteria for establishing relationships between pollutant concentrations between two

[1] http://www.arb.ca.gov/aqd/parallel/parallel.pdf

sites, but this document presents recommended criteria as guidelines (rather than pass or fail rules) of equivalency. This document states that that for most monitoring objectives *higher* pollutant concentrations at the replacement site are generally acceptable for relocation.

In general terms, this document states the case that "For most monitoring objectives, a replacement site with higher concentrations of pollutants than at the existing site would be satisfactory. Also, in some cases it might be sufficient to show that the data from two sites are comparable instead of being equivalent. It might then be the case that a loose test of comparability is met when a more stringent test of equivalency is not." The details of this guidance are summarized in the points below:

1. It is important to conduct a map-study comparing the existing site to the new site(s). The new site should be located in the same geographical area as the old air monitoring station. Evaluate the topography, elevation, wind patterns, traffic, emission inventories, forests, bodies of water, population centers, commercial areas, etc., to get a consensus on the adequacy of the potential site(s).

2. The pollutant concentrations at the replacement site should be equal to or greater than the pollutant concentrations observed at the existing site.

3. Usually the concentrations from a replacement site need to be of comparable magnitude to the concentrations at the existing trend site.

4. Ideally, the time period for conducting parallel monitoring is at least one year.

5. Parallel monitoring data will be needed to determine the adequacy of the replacement site and to substantiate any shifts in concentrations from the existing site to the proposed site.

Map Study

To meet the map study criteria from the above, the following analysis was undertaken. Merced-M and Merced-Coffee sites are in the same geographical area and reside within the same County of Merced, with Merced-Coffee being southeast of Merced-M. The distance between and Merced-M and Merced-Coffee is 3.14 miles (Figure 1). With regards to traffic flows and wind patterns, both sites are east and downwind of California State Route 99 (the dominate wind flow being from the northwest) and in addition, the Merced-Coffee site is also south and downwind of California State Route 140 (Yosemite Parkway and Highway).

Figure 1: Relative Location and Distance between Merced-M and Merced-Coffee Air Monitoring Sites

The Merced-M and the Merced-Coffee sites have very similar topography (flat) and similar elevations. The elevation difference between them is only 12 feet and is shown below in Table 7.

Table 7: Site Elevation Differences

Site	Elevation (feet)
Merced-Coffee	183
Merced-M	171
Difference	12

Data Comparison

In fulfillment of the second guideline, the following Tables 8 through 11 shows the replacement site of Merced-Coffee typically has greater pollutant concentrations for the county than the existing site of Merced-M. Although the replacement site generally has greater pollutant concentrations, the concentrations are still within comparable magnitudes as per the third guideline.

Table 8: Merced County PM2.5 Annual Average Concentrations

PM2.5 Single Year Annual Average (µg/m^3)†								
Sites	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Merced-M	14.8	15.2	*	13.5	11.2	10.4	9.4	13.5
Merced-Coffee	*	*	*	*	16.3	15.6	10.9	13.2

†The average of the year's quarterly averages, calculated according to the method specified in Title 40, Part 50, Appendix N of the Code of Federal Regulations as it appeared on October 17, 2006.
*There was insufficient (or no) data available to determine the value.

Table 9: Merced County PM2.5 Annual Average Design Value

PM2.5 Annual Average Design Value (µg/m^3)†								
Sites	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Merced-M	14.7	14.7	*	*	*	11.7	10.4	11.1
Merced-Coffee	*	*	*	*	*	*	14.3	13.3

†The average of three consecutive National Annual Averages, calculated according to the methods specified in Title 40, Part 50, Appendix N of the Code of Federal Regulations as it appeared when the national PM2.5 standards were re-promulgated on October 17, 2006.
*There was insufficient (or no) data available to determine the value.

Table 10: Merced County Maximum PM2.5 24-Hour Average Concentrations

PM2.5 Maximum 24-Hour Average Concentrations†								
Sites	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Merced-M	55.8	81.6	54.0	53.3	46.9	43.5	48.4	68.9
Merced-Coffee	*	*	*	41.9	57.4	63.0	50.7	75.1

†The highest nationally valid daily 24-hour PM2.5 average observed within the year, expressed in micrograms per cubic meters.
*There was insufficient (or no) data available to determine the value.

Table 11: Merced County PM2.5 24-Hour Average Design Values

PM2.5 24-Hour Average Design Values (µg/m^3)†								
Sites	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Merced-M	45	48	50	51	45	39	36	43
Merced-Coffee	*	*	*	*	*	43	41	42

†The average of consecutive National 2006 98th Percentiles over three years, expressed in micrograms per cubic meters.
*There was insufficient (or no) data available to determine the value.

The most likely reason that Merced-Coffee usually measures the peak PM2.5 values for the County is that the general wind flow pattern for the San Joaquin Valley is from the

northwest, as is shown in Figure 2. Merced-Coffee is downwind of Merced-M as is shown in a map of greater detail in Figure 3 and therefore captures more of the city's emissions, as well as being downwind and capturing the emissions of both California State Route 99 and California State Route 140 (Yosemite Parkway and Highway) as shown in Figure 5.

Figure 2: Typical summer wind flow pattern (Arrows depict wind direction, colors depict wind speed)

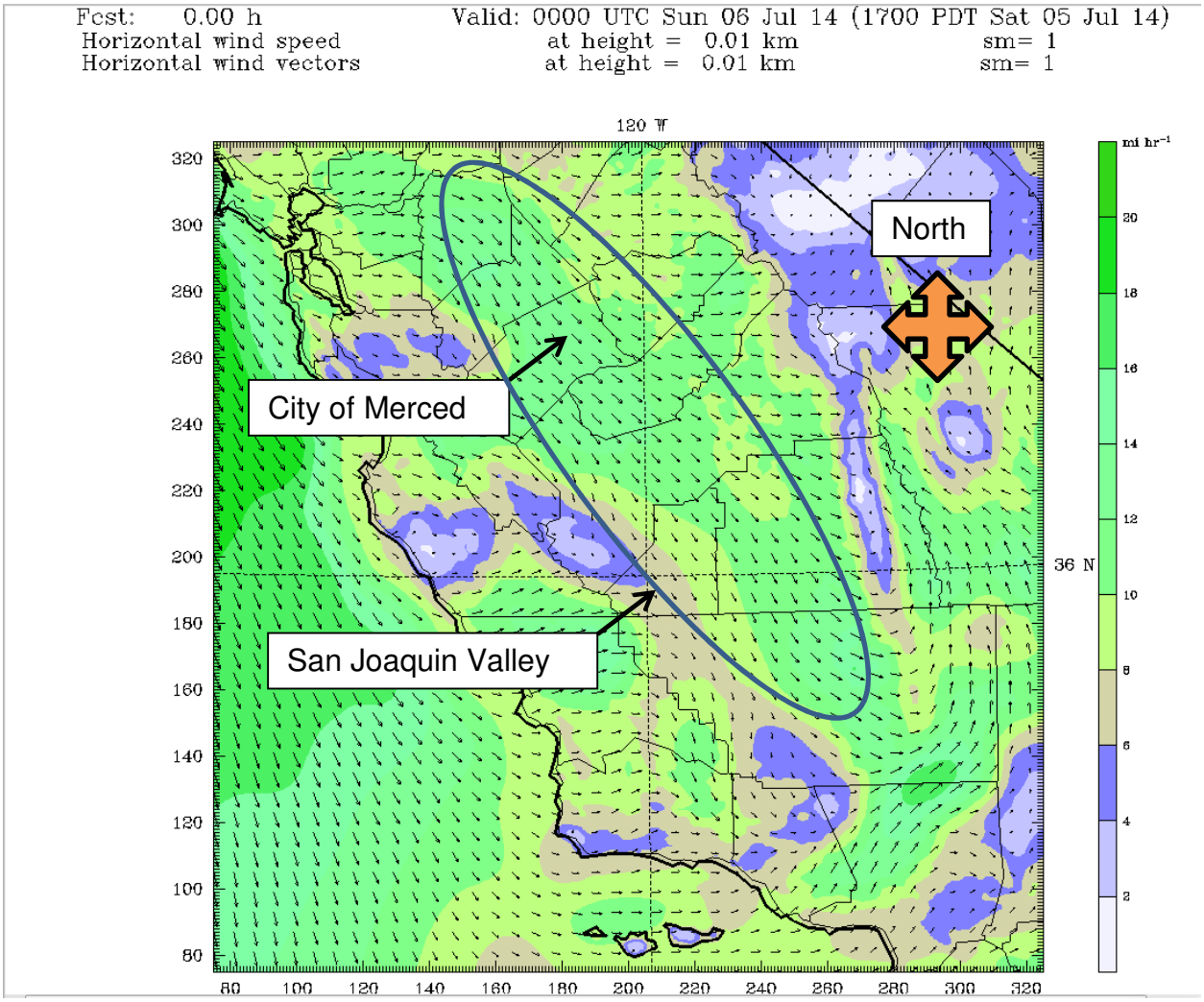
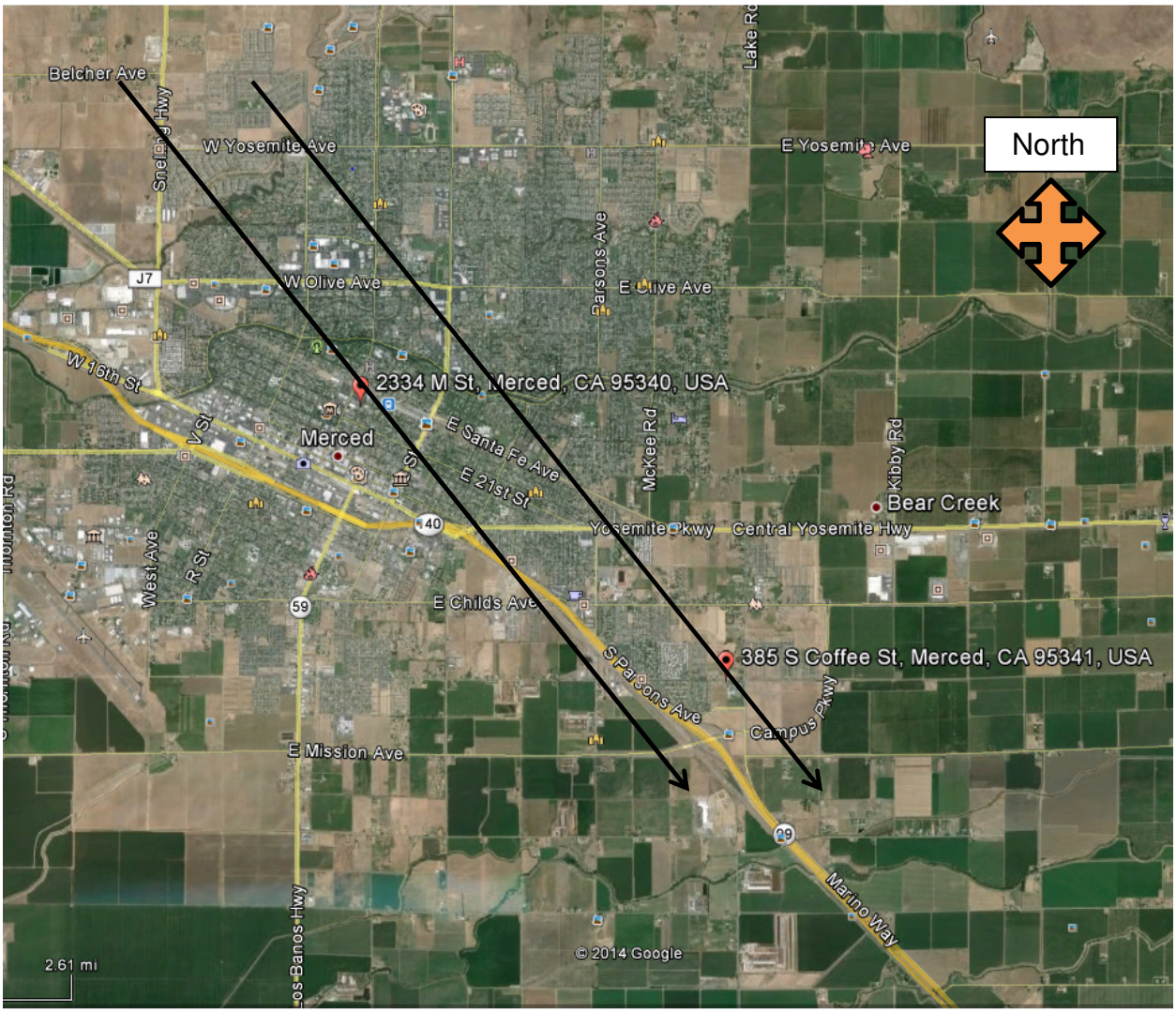


Figure 3: Location of the Merced-M and Merced-Coffee Air Monitoring Sites in Relation to the Dominant Wind Flow Pattern



There is not a PM10 monitor located at the Merced-Coffee site and therefore there is no parallel monitoring data to analyze between the two sites. However, because PM2.5 is a fraction of PM10, and since the PM2.5 24-hour average and annual average design values are higher at the Merced-Coffee site, it is logical to presume that the PM10 values would also be higher at the Merced-Coffee site, especially since the Merced-Coffee site is directly downwind of the Merced-M site and State Route 140. Tables 12 through 15 depict the relative concentrations of PM10 using various metrics as measured by Merced-M.

Table 12: Merced-M Site PM10 Annual Average Concentrations

PM10 Single Year Annual Average (µg/m^3)†								
Sites	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Merced-M	32.0	29.1	33.7	26.2	25.1	29.6	28.5	36.2

†The average of the year's quarterly averages of standard-conditions measurements, calculated according to the method specified in Title 40, Part 50, Appendix K of the Code of Federal Regulations, as it appeared before the national annual PM10 standard was revoked on December 17, 2006.

Table 13: Merced-M Site PM10 3-Year Average Concentrations

PM10 3-Year Average (µg/m^3)†								
Sites	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Merced-M	29	30	32	30	28	27	28	31

†The average of three consecutive national annual averages, calculated according to the methods specified in Title 40, Part 50, Appendix K of the Code of Federal Regulations, as it appeared before the national annual PM10 standard was revoked on December 17, 2006.

Table 14: Merced-M Site PM10 Maximum 24-Hour Average Concentrations

PM10 Maximum 24-Hour Average Concentrations (µg/m^3)†								
Sites	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Merced-M	94.0	65.0	75.4	64.0	93.4	73.9	89.4	77.4

†The highest standard-conditions 24-hour PM10 average observed within the year, expressed in micrograms per cubic meters.

A design value metric does not exist for PM10, but in lieu of this metric, Table 13 presents the 'Expected Peak Day Concentration' (EPDC). The EPDC is defined as "…a calculated concentration that represents the highest PM10 concentration expected each year. The EPDC is based on the observations within 3 consecutive years and is associated with the last year of the three consecutive years. It is expressed in micrograms per cubic meter."

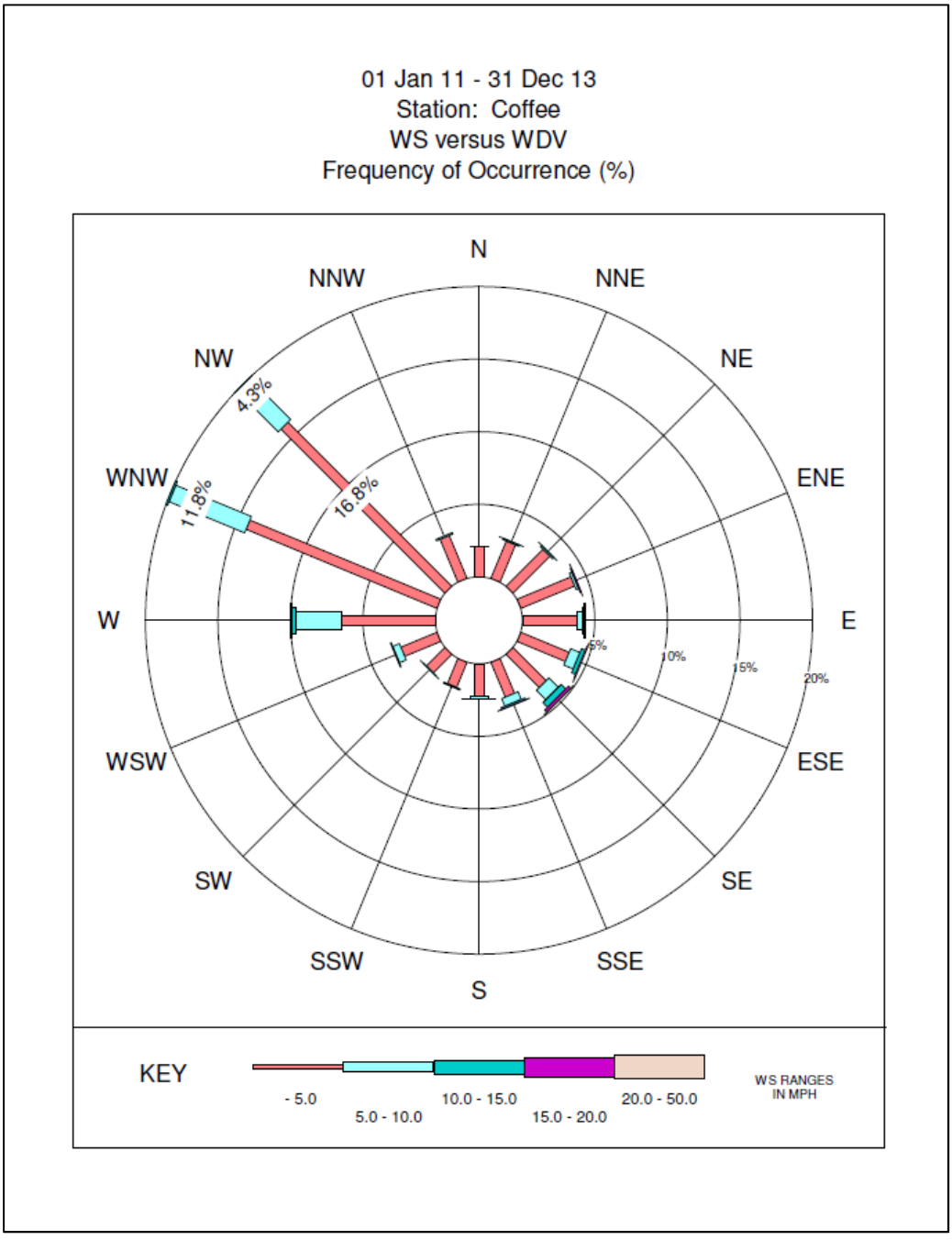
Table 15: Merced County Site PM10 Expected Peak Day Concentrations

PM10 Expected Peak Day Concentrations (µg/m^3)†								
Sites	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Merced-M	95.3	99.7	97.7	86.8	91.6	87.7	93.0	91.4

†The calculated concentration that represents the highest PM10 concentration expected each year. The EPDC is based on the observations within 3 consecutive years and is associated with the last year of the three consecutive years. It is expressed in micrograms per cubic meter.

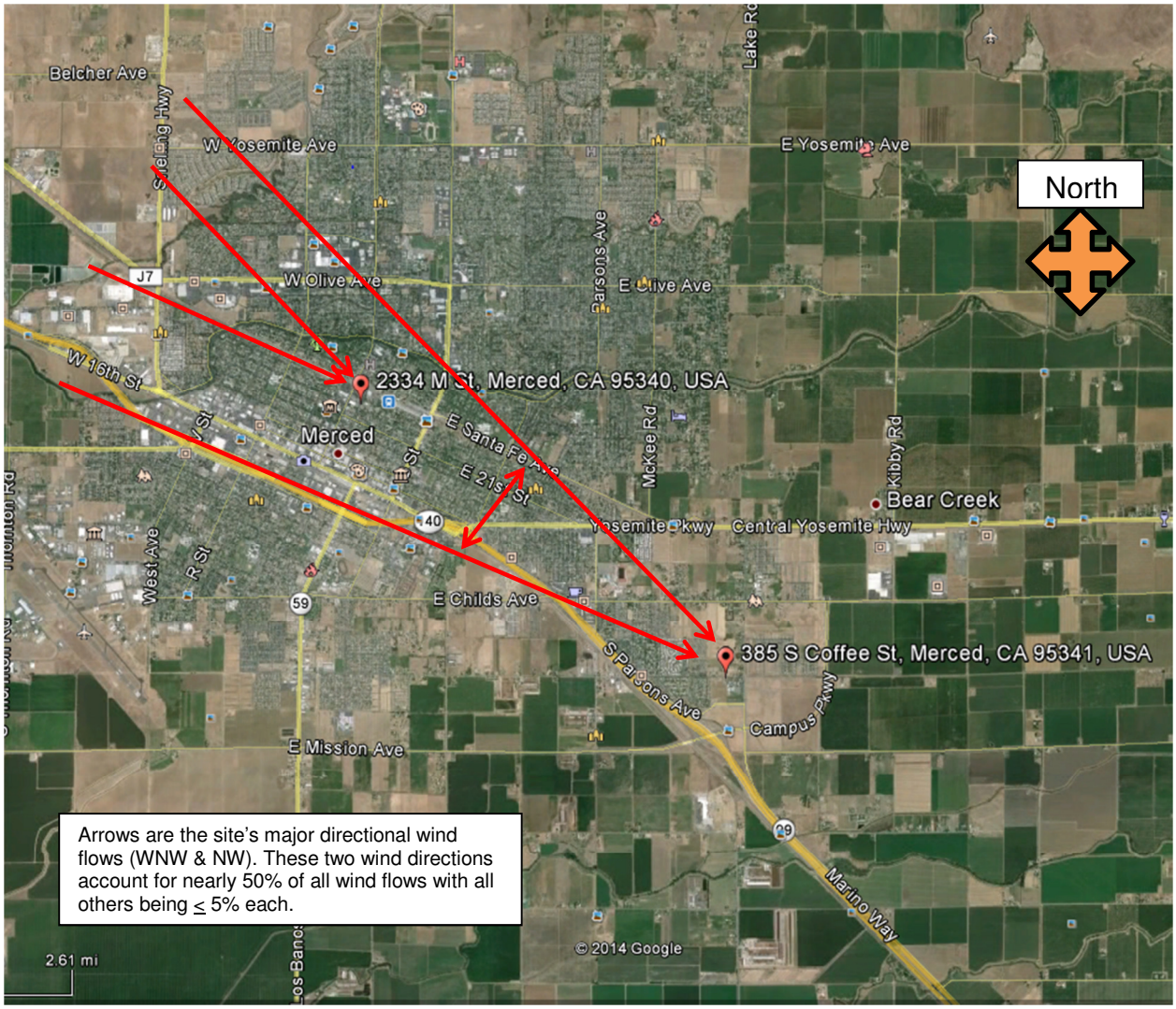
A specific study of Merced-Coffee air monitoring site's wind flow pattern (Figure 4) for the past three years has shown that the dominant wind direction was from the west-northwest (26%) and the northwest (21%). These two wind flow directions account for over 45% of all the wind flow during the 3-year study period and all other individual wind flow directions each accounting for 5% or less of the total. The Merced-M site does not have meteorological parameters, as it only measures filter-based PM2.5 and PM10.

Figure 4: Merced-Coffee Wind Rose for Jan. 1, 2011 through Dec. 31, 2013



The above two identified dominant wind rose directions were then applied to a map in relation to Merced-Coffee's downwind location of the Merced-M air monitoring site (Figure 5). This figure shows that the two dominant wind flow directions clearly place the Merced-M site upwind of the Merced-Coffee location. Being downwind of Merced-M, the entire City of Merced, and California State Routes 99 and 140 (Yosemite Highway) explains why Merced-Coffee records the peak values for PM2.5 values in the County. Although there are is not a PM10 monitor at Merced-Coffee for comparison, PM2.5 is a subcomponent of PM10, and it follows that Merced-Coffee would measure higher PM10 concentrations than at the Merced-M site as well. The relocation of the Merced-M rooftop PM10 and PM2.5 FRMs to the Merced-Coffee air monitoring station would save on resources, but it also would place both monitors in a more appropriate location than at the current Merced-M site.

Figure 5: Location of Merced-Coffee and Merced-M Air Monitoring Sites in Relation to the Two Dominant Upwind Flow Directions

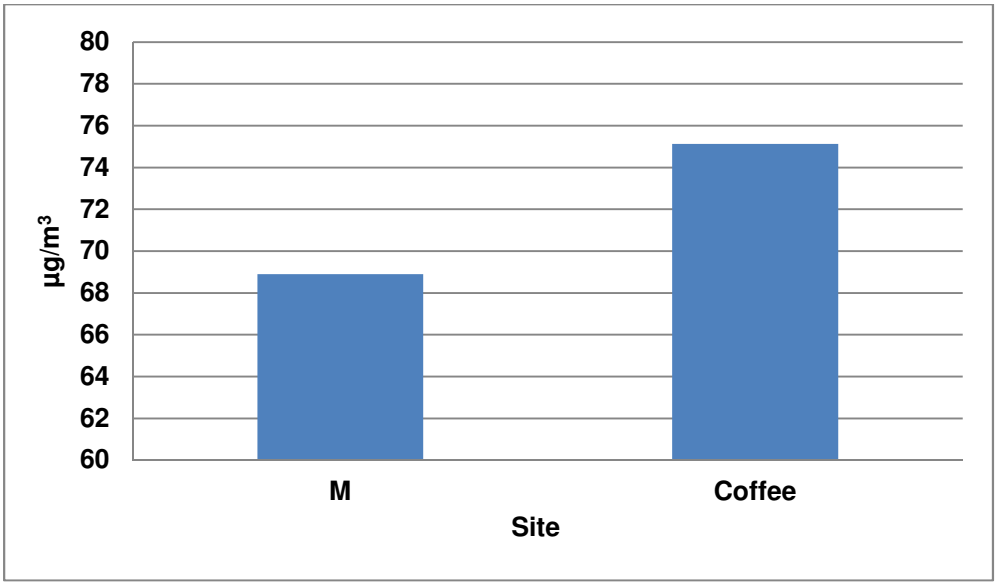


Parallel Monitoring

In fulfillment of the fourth guideline, a record of PM2.5 parallel monitoring began between the two sites when the Merced-Coffee site began monitoring PM2.5 on October 19, 2009. Since parallel monitoring has now been occurring for over 5 years, this satisfies the guideline's time period for parallel monitoring to be at least one year in length. In fulfillment of the last guideline, an analysis of the PM2.5 data was undertaken for three calendar years spanning the time frame of January 1, 2011 to December 31, 2013.

An examination of the 250 paired data points from the 'All Values' data sets for both sites ('All Values' dataset as defined in the *Guidelines* document) shows that the maximum 24-hour average PM2.5 concentrations are greater for the Merced-Coffee replacement site than the Merced-M existing site (Figure 6).

Figure 6: Maximum 24-Hour Average PM2.5 Concentrations among 'All Values' Datasets



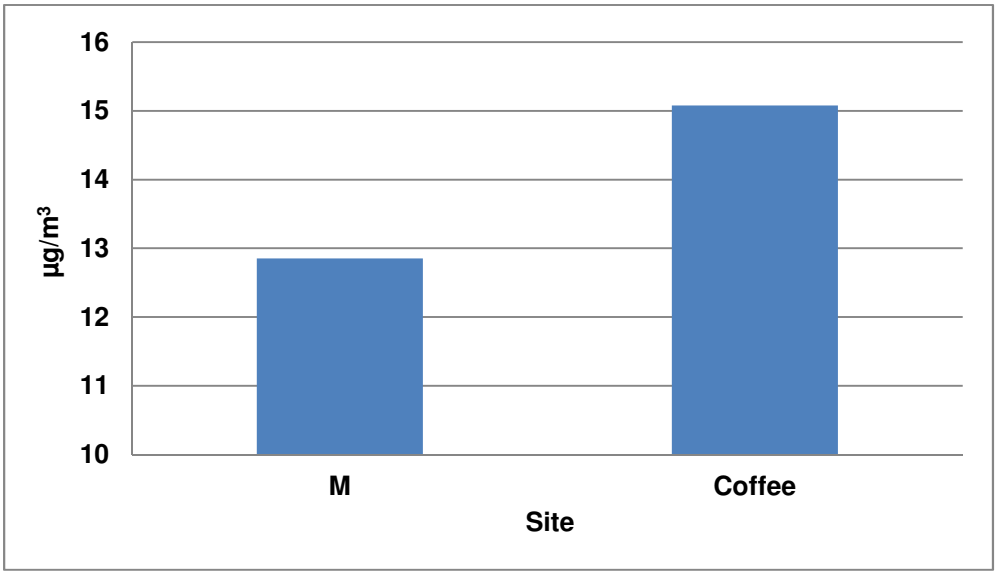
By comparing both site maximum values of the 'All Values' data set, the Merced-Coffee replacement site has an 8% greater maximum PM2.5 concentration than the Merced-M site (Table 16).

Table 16: Comparison between PM2.5 Maximum 24-Hour Average Concentrations

Site	24-Hour Average Max (µg/m^3)
Merced-Coffee	75
Merced-M	69
Difference	6
Percent Coffee > M	8%

A comparison of the 250 paired data points from the 'All Values' data sets for both sites depicts that the average PM2.5 concentration is also greater at the Merced-Coffee replacement site when compared to the Merced-M existing site (Figure 7).

Figure 7: Average of 24-Hour Average PM2.5 Concentrations among 'All Values' Datasets



By comparing both site average values of the 'All Values' data set, the Merced-Coffee replacement site has an 15% greater average PM2.5 concentration than the Merced-M site (Table 17).

Table 17: Average of PM2.5 24-Hour Averages in 'All Values' Datasets

Site	Average Concentration (µg/m^3)
Merced-Coffee	15
Merced-M	13
Difference	2
Percent Coffee > M	15%

A comparison of the annual average design values for both sites since October 19, 2009 (start of the Merced-Coffee real time PM2.5 monitor) is shown in Table 18. For both years that have data the Merced-Coffee site depicts higher concentrations than the Merced-M site.

Table 18: PM2.5 Annual Average Design Value

Site	2009	2010	2011	2012	2013
Merced-Coffee	*	*	*	14.3	13.3
Merced-M	*	*	11.7	10.4	11.1
Difference	*	*	*	3.9	2.2
		Percent Coffee > M		37%	19%

Next, a paired data comparison similar to the above 'All Values' set was prepared; however this dataset, called the 'High Values' data set, was limited to only concentration values in the top 25% of the 'All Values' dataset, per the *Guidelines* document. Because the maximum PM2.5 24-hour concentrations are the same for both data sets ('All Values' and 'High Values'), and since these were presented in Figure 6 and Table 16, that data is not repeated again here.

Averaging only the 'High Values' datasets for each site over the three-year period also indicated that the Merced-Coffee replacement site recorded higher concentrations in this metric compared to the existing Merced-M site (Figure 8). The percent difference between the two sites shows that Merced-Coffee is greater than Merced-M by 8% (Table 19).

Figure 8: Average of 24-Hour Average PM2.5 Concentrations among 'High Values' Datasets

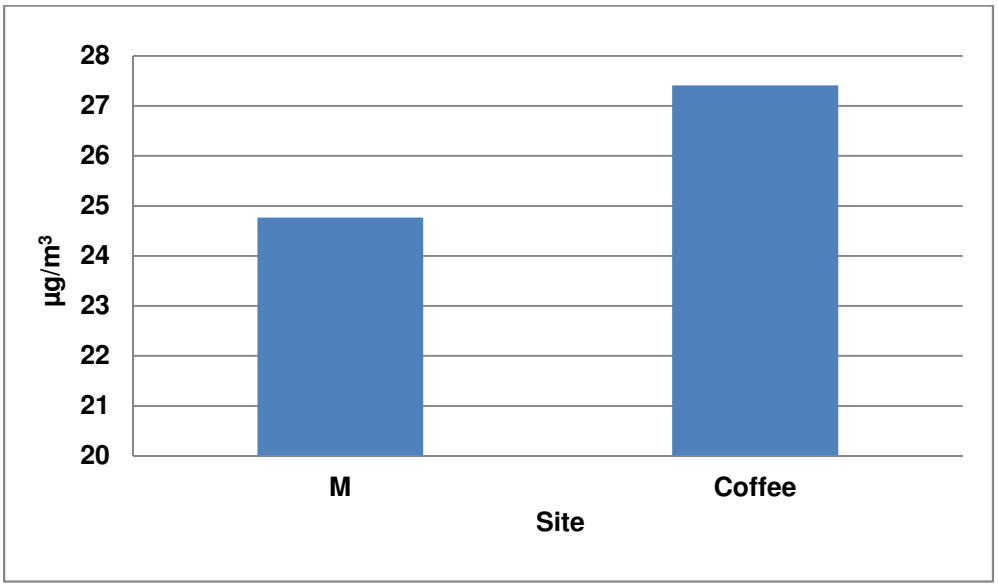


Table 19: Average of PM2.5 24-Hour Averages in 'High Values' Datasets

Site	Average Concentration (µg/m^3)
Merced-Coffee	27
Merced-M	25
Difference	2
Percent Coffee > M	8%

Summary

Having generally met the criteria as outlined in the *Guidelines* document, it is therefore possible to relocate the Merced-M PM2.5 monitor to the Merced-Coffee site, and because PM2.5 is a subcomponent of PM10, it is logical to presume that the Merced-Coffee will also record higher PM10 concentrations than Merced-M, and so moving this NAAQS attaining monitor is also acceptable. The CFR allows for this system modification under the case-by-case criteria provided in 40 CFR 58.14(c).

The map studies indicated that the Merced-M site and the Merced-Coffee site can be considered equivalent with respect to topography, elevation, and wind patterns, (forests and bodies of water are not applicable). However, the map studies also show that there are differences with regards to traffic, emissions, population centers, and commercial areas where it would be expected that the replacement site (Merced-Coffee) will record higher 24-hour average PM2.5 FRM concentrations, which is considered acceptable for relocation purposes.

Three years of parallel monitoring and subsequent analyses of wind patterns and paired data from the 'All Values' and 'High Values' datasets has determined that the 24-hour average PM2.5 concentrations for the replacement site of Merced-Coffee are of comparable magnitude and has equal to or greater PM2.5 concentrations than the existing site of Merced-M in regards to the averages, maximums, and design values. In fact, the replacement site (Merced-Coffee) generally registers higher 24-hour PM2.5 concentrations, which is considered acceptable for relocation purposes.

If approved, the District anticipates to close the Merced-M air monitoring site at the end of 2015, and subsequently begin operating these FRM monitors at the Merced-Coffee site at the beginning of 2016. Through this change, peak PM concentrations will continue to be recorded in the Merced MSA at the Merced-Coffee site, and minimum PM monitoring requirements will continue to be met in the MSA. This consolidation will streamline the District's air monitoring network in the area, and will allow for more resources to be used in other parts of the expansive network across the Valley.

APPENDIX D:

Technical Justification for the Closure of the Madera-Pump Air Monitoring Site and Relocation of the Madera-Pump PAMS Equipment to the Madera-City Air Monitoring Site

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Introduction

As recommended by EPA to reduce redundancy, to increase efficiency, effectiveness, and to minimize costs, (EPA Guidance Ref: EPA-454/D-07-001, Ambient Monitoring Network Assessment Guidance, US EPA/OAQPS, February 2007), the San Joaquin Valley Air Pollution Control District (District) is planning to "right-size" the monitoring network and reduce operating costs which may make other monitoring opportunities available elsewhere in the District.

To reach this end, the District has plans to terminate the service of the Madera-Pump ozone monitor (AIRS Code is 06-039-0004-44201-1) and relocate the Madera-Pump Photochemical Assessment Monitoring Stations (PAMS) equipment to Madera-City (AIRS Code 060392010). Both sites are Neighborhood and Regional scale, General/background site type, and SLAMS/PAMS air monitoring stations. The State and Local Air Monitoring Stations (SLAMS) network includes stations classified as PAMS and does not include Special Purpose Monitors (SPM).

Analyses demonstrate that the Madera-Pump ozone monitor can be terminated as the Madera-City ozone monitor records the peak concentrations in the Madera Metropolitan Statistical Area (MSA). Even with this proposed change, the minimum ozone monitoring requirements are still satisfied in the Madera MSA. In addition, the following analysis shows that the Madera-City site location is better suited for PAMS monitoring upwind of the Fresno/Clovis area, and therefore provides a viable alternate location for the Type 1 PAMS site in Madera. With these network modifications, the Madera-Pump site will no longer be needed, and will be closed from the District's operations.

Background

The Madera-Pump air monitoring site is located at Avenue 8 and Road 29 1/2, Madera CA, 93637 and has been monitoring since October 1997. The Madera-Pump site measures Ozone, NO_2, Speciated VOC, NMHC, Carbonyls, and meteorology. The Madera-City site is located at 28261 Avenue 14, Madera, CA 93638 and has been monitoring since June 2010. The Madera-City site measures Ozone, PM10 (Federal Equivalent Method (FEM)), PM2.5 (FEM), PM2.5 (Federal Reference Method (FRM)), and meteorology.

The Madera-Pump site does not measure the peak ozone values for the County of Madera, which are in fact, recorded at the Madera-City site. In addition, the Madera-Pump location is not as suitable as the Madera-City site for collecting PAMS ambient air samples. This is because the dominant wind flow direction that occurs at both sites places as the Madera-Pump site upwind of one to possibly three of the five air monitoring stations in the city of Fresno/Clovis. The Madera-City site is much more directly upwind of all five of the air monitoring stations in the city of Fresno/Clovis.

As shown in Table 1, the number of required ozone monitors for the Madera MSA is 1. With the proposed closure of the ozone monitor at Madera-Pump, the District would still meet the minimum ozone monitoring requirements for the Madera MSA.

Table 1: Ozone Monitoring Requirements for Madera MSA

Metropolitan Statistical Area (MSA)	County	2014 Population[1]	Ozone					
			Highest 2014 Ozone Design Value in MSA (ppb)	≥85% of 2008 ozone NAAQS (75 ppb)	SLAMS Stations required	# of SLAMS Stations in MSA	# of SPM Stations in MSA	Total Number of Stations
Madera	Madera	153,897	85	Yes	1	2	0	2

[1] From California Department of Finance, County and State Population.

At present there are 2 ozone SLAMS monitors and 0 Special Purpose Monitors (SPM) located at the 2 air monitoring sites in the Madera MSA, both of which are operated by the District (Table 2). With the Madera-Pump site closure, there will be 1 SLAMS and 0 SPM monitors in the county. Closure of the Madera-Pump ozone monitor will not affect the network's ability to meet the minimum ozone monitoring requirements as summarized in Table 2. As Table 3 shows, this designation will ensure that 1 ozone SLAMS monitor will continue to operate in the Madera MSA. Most importantly, the ozone monitor that will continue to operate is the peak monitor in the MSA.

Table 2: Current Ozone Air Monitoring Stations in the Madera MSA

MSA/CBSA: Madera County: Madera	Instrument Type		Monitor Type	
	FRM	FEM	SLAMS	SPM
Site Name				
Madera-Pump	1		1	
Madera-City	1		1	
Total SLAMS/SPM			2	

Table 3: Proposed Ozone Air Monitoring Stations in the Madera MSA

MSA/CBSA: Madera County: Madera	Instrument Type		Monitor Type	
	FRM	FEM	SLAMS	SPM
Site Name				
Madera-City	1		1	
Total SLAMS/SPM			1	

The relocation of the Madera-Pump PAMS equipment to Madera-City site would place the equipment in a more appropriate location than at the current Madera-Pump site. The Madera-Pump location is a PAMS Type 1 site, which "are established to characterize upwind background and transported ozone and its precursor concentrations entering the area and will identify those areas which are subjected to overwhelming incoming transport of ozone. The Type 1 Sites are located in the predominant morning upwind direction from the local area of maximum precursor emissions and at a distance sufficient to obtain urban scale measurements. Typically, these sites will be located near the upwind edge of the photochemical grid model domain." Although the sites are located only six miles apart (Figure 1), because of the dominant summer wind flow pattern being from the northwest (Figure 2), the Madera-City site is better for the fulfillment of the above PAMS site description as it is directly upwind of the central areas of the City of Fresno. The Madera-Pump site is upwind of only the very western edge of the City of Fresno (Figure 3).

Technical Justification for System Modification

Under 40 CFR 58.14(c)(1), there are four criteria listed that an Agency must satisfy, before the Regional Administrator has the authority to consider whether to approve a request for monitor shutdown/termination. The four criteria are the following:

1. The monitor showed attainment during the previous five years.

2. The probability is less than 10% that this monitor will exceed 80% of the applicable NAAQS during the next 3 years based upon concentrations, trends, and variability observed in the past.

3. The monitor is not specifically required by an attainment plan or maintenance plan.

4. The monitor is not the last monitor in a nonattainment area or maintenance area that contains a contingency measure triggered by an air quality concentration in the latest attainment or maintenance plan adopted by the state and approved by the EPA.

Based on the ozone values recorded at the Madera-Pump site in recent years, the data is unable to meet the criteria listed above. In addition, the data from this monitor is also unable to meet the criteria listed in the other options available under 40 CFR 58.14(c)(3-6). However, under the option provided in 40 CFR 58.14(c), the District holds that this system modification can be approved through the case-by-case basis provision, based on the analysis and arguments provided below.

Although the above technical justifications were not met, the ozone monitor at the Madera-Pump site does qualify for relocation as per the criteria presented in the

document *Site Relocation and Parallel Monitoring Guidelines*[1] (hereafter as *Guidelines*) prepared by the Air Monitoring Technical Advisory Committee, June 1997, and published by the California Air Resources Board (ARB). There is no standard performance criteria for establishing relationships between pollutant concentrations between two sites, but this document presents recommended criteria as guidelines (rather than pass or fail rules) of equivalency. This document states that that for most monitoring objectives *higher* pollutant concentrations at the replacement site are generally acceptable for relocation.

In general terms, this document states the case that "For most monitoring objectives, a replacement site with higher concentrations of pollutants than at the existing site would be satisfactory. Also, in some cases it might be sufficient to show that the data from two sites are comparable instead of being equivalent. It might then be the case that a loose test of comparability is met when a more stringent test of equivalency is not." The details of this guidance are summarized in the points below:

1. It is important to conduct a map-study comparing the existing site to the new site(s). The new site should be located in the same geographical area as the old air monitoring station. Evaluate the topography, elevation, wind patterns, traffic, emission inventories, forests, bodies of water, population centers, commercial areas, etc., to get a consensus on the adequacy of the potential site(s).

2. The pollutant concentrations at the replacement site should be equal to or greater than the pollutant concentrations observed at the existing site.

3. Usually the concentrations from a replacement site need to be of comparable magnitude to the concentrations at the existing trend site.

4. Ideally, the time period for conducting parallel monitoring is at least one year.

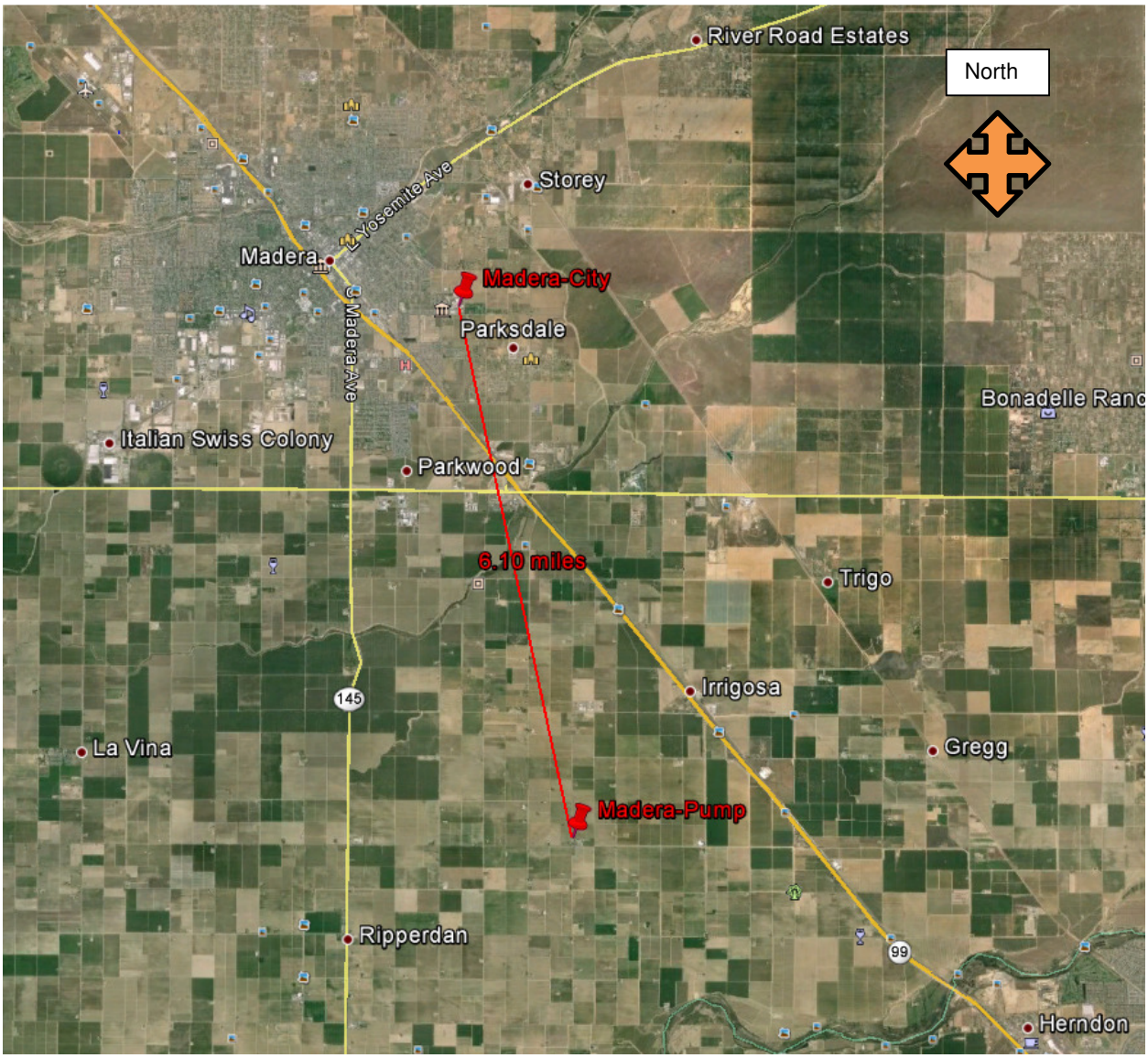
5. Parallel monitoring data will be needed to determine the adequacy of the replacement site and to substantiate any shifts in concentrations from the existing site to the proposed site.

Map Study

To meet the map study criteria from the above, the following analysis was undertaken. Madera-Pump and Madera-City sites are in the same geographical area and reside within the same County of Madera, with Madera-Pump being nearly due south of Madera-City. The distance between and Madera-Pump and Madera-City is 6.10 miles (Figure 1).

[1] http://www.arb.ca.gov/aqd/parallel/parallel.pdf

Figure 1: Relative Location and Distance between Madera-City and Madera-Pump Air Monitoring Sites



The Madera-Pump and the Madera-City sites have very similar topography (flat) and similar elevations. The elevation difference is only 3.3 feet as shown in Table 4.

Table 4: Site Elevation Differences

Site	Elevation (feet)
Madera-Pump	278.9
Madera-City	275.6
Difference	3.3

Data Comparison

In fulfillment of the second guideline, the following Tables 5 and 6 show the Madera-City site typically has greater pollutant concentrations for the county than the site of Madera-Pump. Although the Madera-City site has greater pollutant concentrations, the concentrations are still within comparable magnitudes as per the third guideline.

Table 5: Madera County 1-Hour Ozone Comparison

1-Hour Ozone Design Value (ppb)								
Sites	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Madera-Pump	97	95	105	105	110	104	97	96
Madera-City	*	*	*	*	120	106	105	99

*There was insufficient (or no) data available to determine the value.

Table 6: Madera County 8-Hour Ozone Comparison

8-Hour Ozone Design Value (ppb)								
Sites	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Madera-Pump	78	78	83	84	84	81	78	79
Madera-City	*	*	*	*	*	*	86	84

*There was insufficient (or no) data available to determine the value.

The general wind flow pattern for the San Joaquin Valley (when summer ozone levels are at their highest concentrations) is from the northwest, which is depicted in Figure 2. This general wind flow pattern in relation to the cities of Madera and Fresno and the air monitoring stations of Madera-City and Madera-Pump are shown in greater detail in Figure 3.

Figure 2: Typical summer wind flow pattern (Arrows depict wind direction, colors depict wind speed)

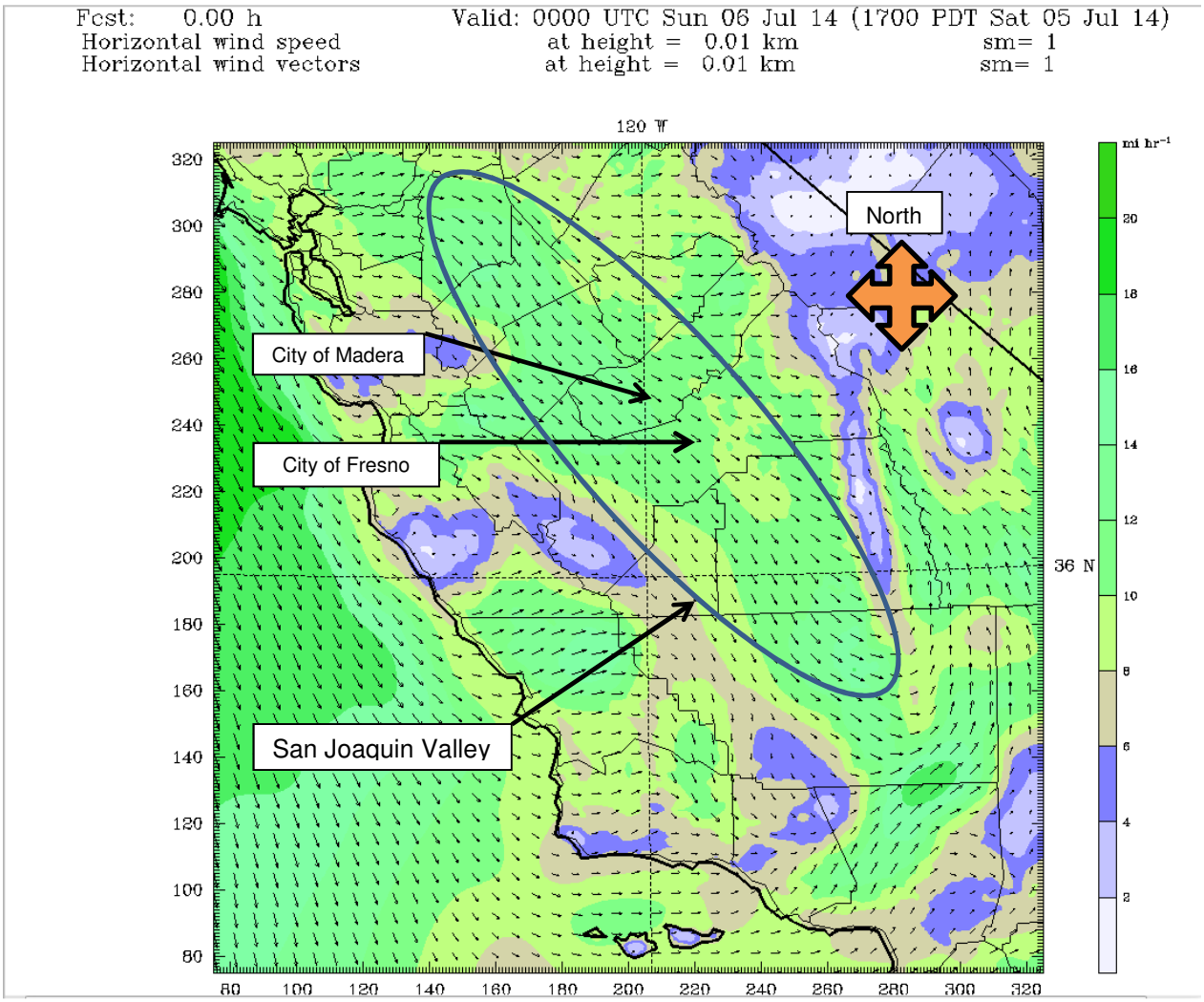
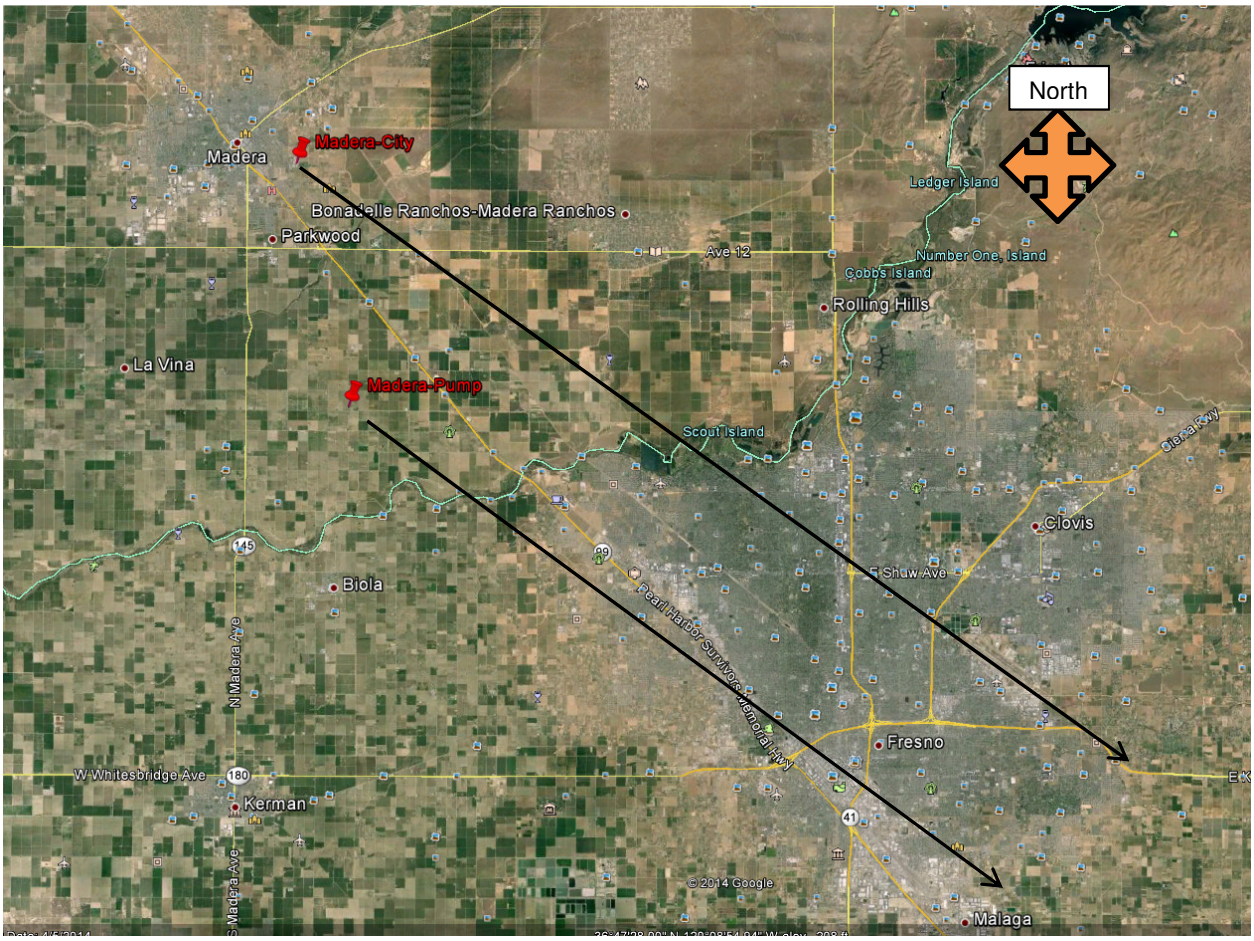


Figure 3: Location of the Madera-Pump and Madera-City Air Monitoring Sites in Relation to the City of Fresno and the Dominant Wind Flow Pattern



A specific study of wind flow pattern for each site showed that both sites had very similar wind patterns. For both sites the dominant wind direction was from the west-northwest (greater than 20%) and the northwest (20%). These two wind directions account for over 40% of all the wind flow during the 3-year period of study and is shown in Figures 4 and 5. All other individual wind flow directions account for 10% or less of the total.

Figure 4: Madera-Pump Wind Rose for Jan. 1, 2011 through Dec. 31, 2013

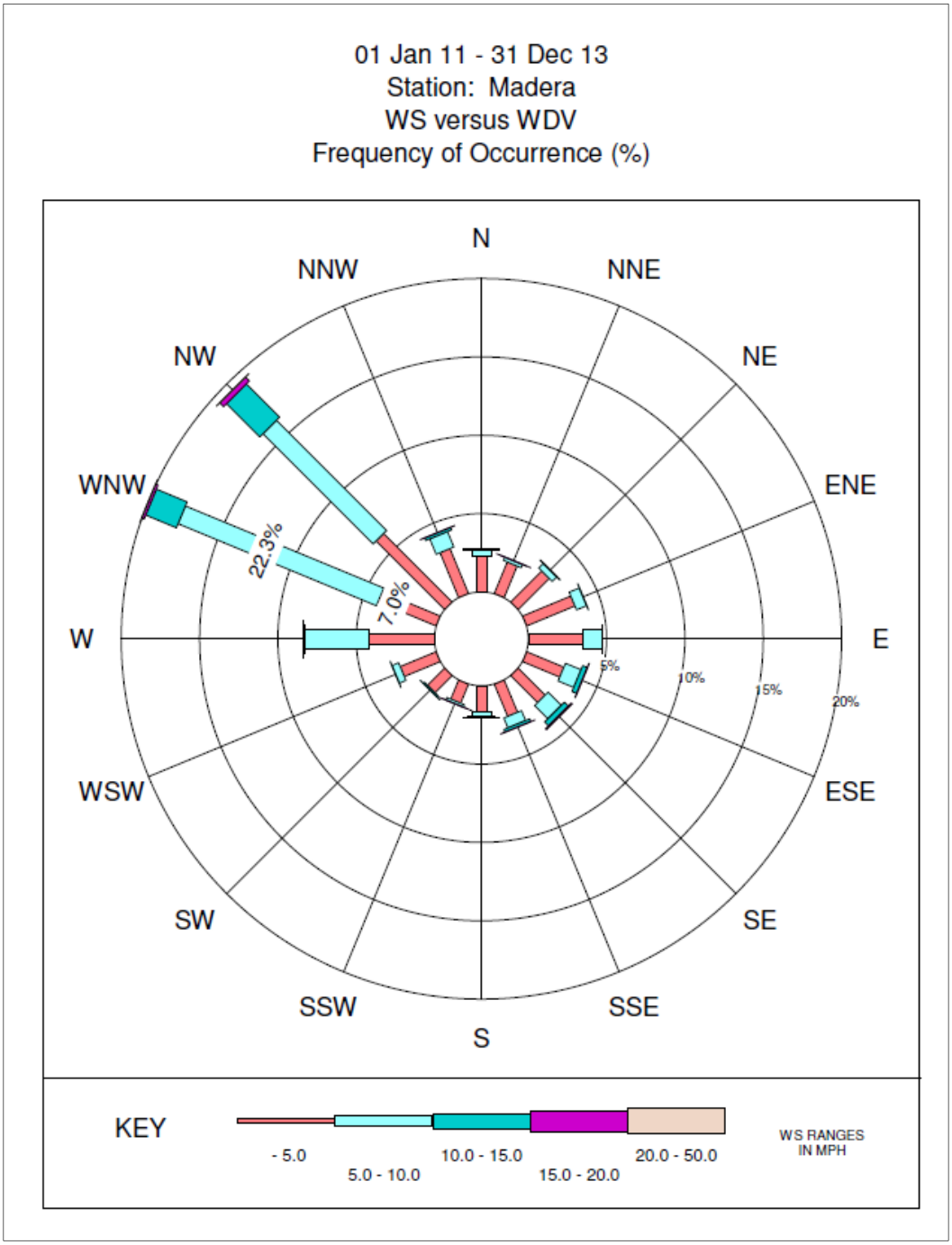
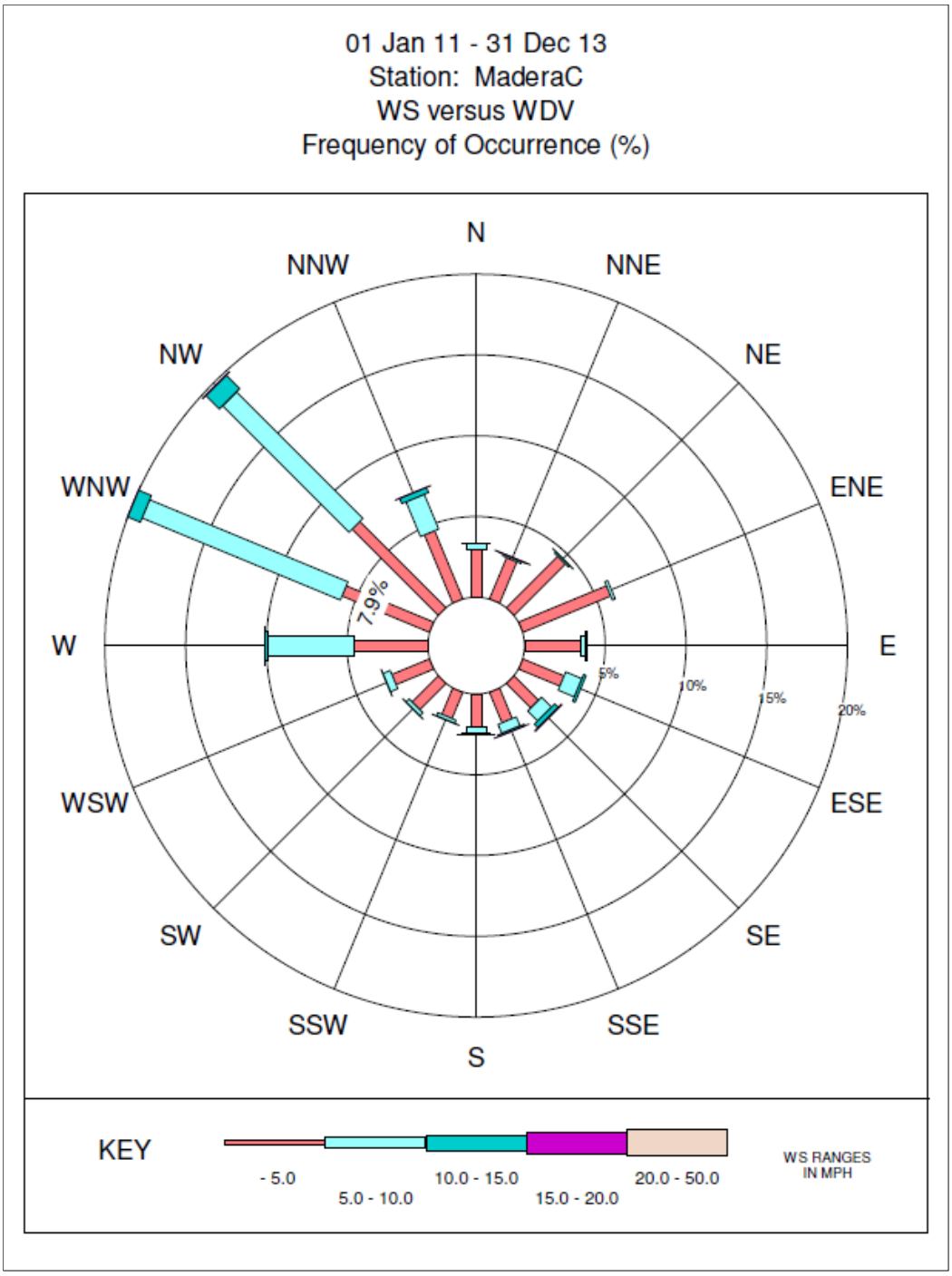
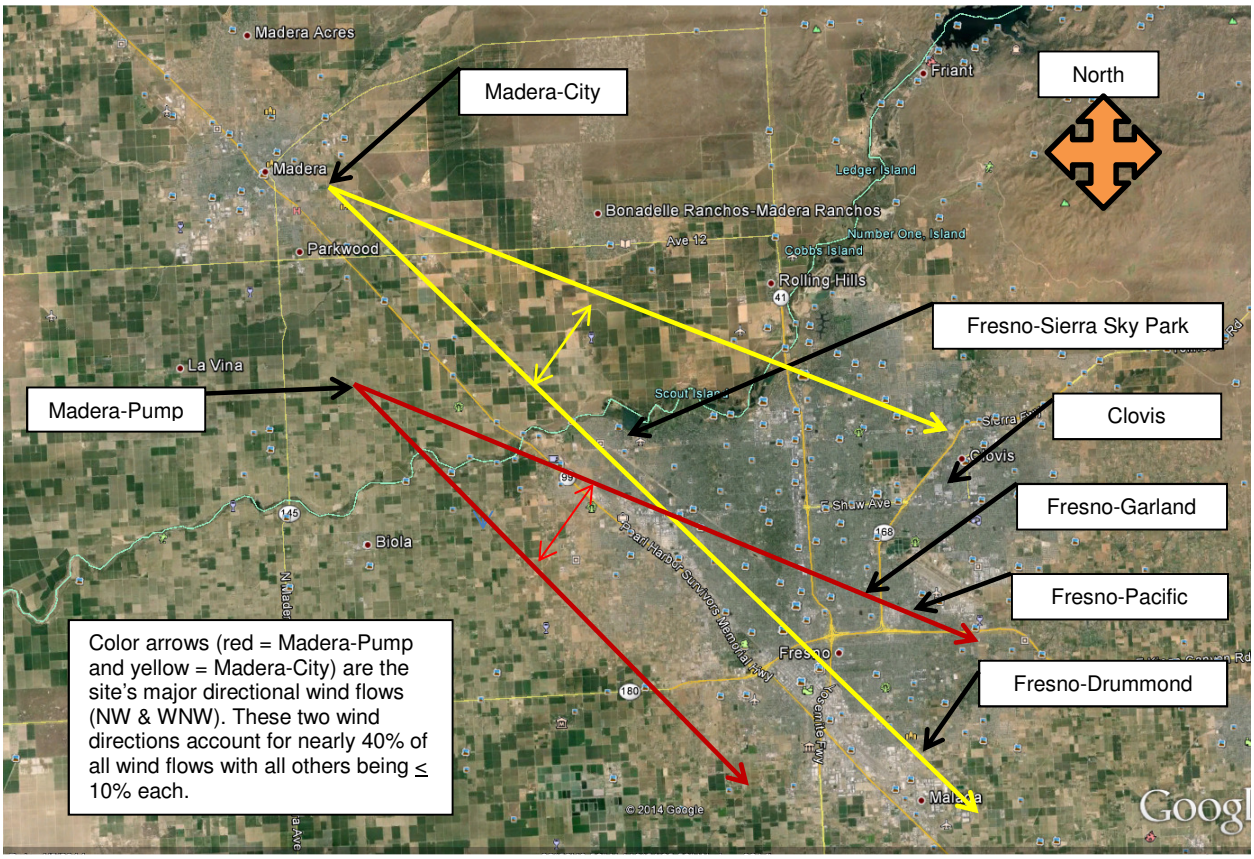


Figure 5: Madera-City Wind Rose for Jan. 1, 2011 through Dec. 31, 2013



These two dominant wind rose directions were then applied to a map in relation to the downwind city of Fresno (Figure 6). This figure shows that the two dominant wind flow directions for both sites puts the Madera-Pump site upwind for one to three of the five air monitoring site in the city of Fresno. The Madera-City site is upwind of all five air monitoring sites in the city of Fresno.

Figure 6: Location of Madera-Pump and Madera-City Air Monitoring Sites in Relation to the Monitors within the Downwind City of Fresno



The main difference between the two sites is that Madera-City site is located east of California State Route 99 (commonly known as Highway 99) and is downwind of the city of Madera, and is impacted by emissions from the highway and the City of Madera while Madera-Pump is generally not. The result is that the Madera-City site measures the peak ozone values for the County and measures more accurately the ozone concentration entering the city of Fresno.

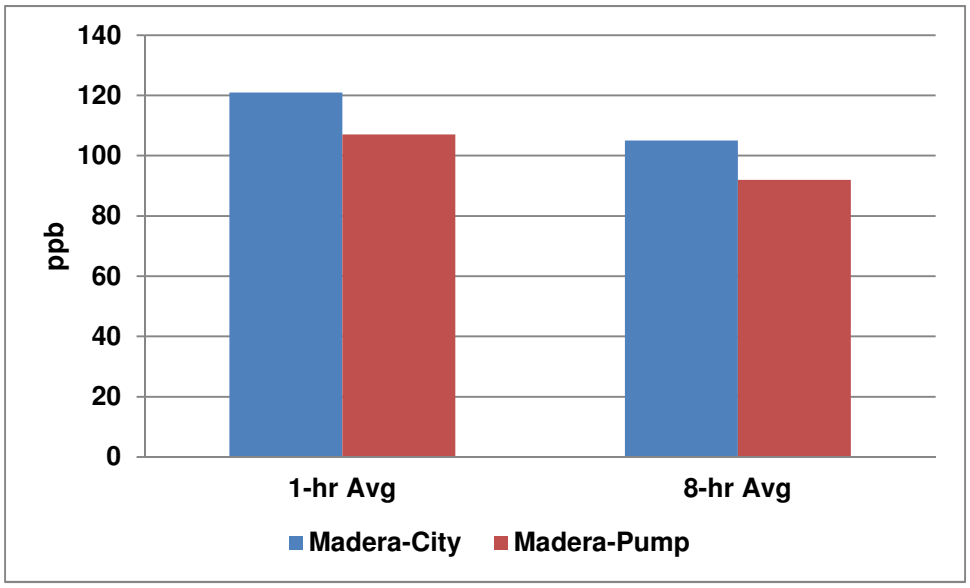
Parallel Monitoring

In fulfillment of the fourth guideline, a record of ozone parallel monitoring began between the two sites when the Madera-City site began measuring ozone on June 1, 2010. Since parallel monitoring has now been occurring for over 4 years, this satisfies the guideline's time period for parallel monitoring to be at least one year in length. In fulfillment of this last guideline, an analysis of this data was undertaken for three calendar years spanning the time frame of January 1, 2011 to December 31, 2013.

An examination of the 1,015 paired data points from the 'All Values' data sets for both sites ('All Values' dataset as defined in the *Guidelines* document), shows that the

maximum ozone concentrations are greater for the Madera-City site than the Madera-Pump site (Figure 7).

Figure 7: Maximum 1-hour and 8-hour Average Ozone Concentrations among 'All Values' Datasets



By comparing the maximum 1-hour and 8-hour average ozone values of the 'All Values' data set, it is clear that the Madera-City site records greater maximum ozone concentrations than the Madera-Pump site by at least 13 ppb (or at least 13%) for both metrics (Table 7).

Table 7: Comparison of Maximum Ozone Concentrations

Site	1-Hour Average Max (ppb)	8-Hour Average Max (ppb)
Madera-City	121	105
Madera-Pump	107	92
Difference	14	13
Percent City > Pump	13%	14%

Next, a paired data comparison similar to the above 'All Values' set was prepared; however this dataset, called the 'High Values' data set, was limited to only concentration values in the top tier of the 'All Values' dataset, per the *Guidelines* document. Because the maximum 1-hour and 8-hour average ozone concentrations are the same for both data sets ('All Values' and 'High Values'), and since these were presented in Figure 7 and Table 7, that data is not repeated again here.

Averaging only the 'High Values' datasets for each site over the three-year period also indicated that the Madera-City site recorded high ozone concentrations in this metric compared to the Madera-Pump site (Figure 8 and Table 8). The percent difference between the two sites shows that Madera-City is greater than Madera-Pump by at least 3.9 ppb (or at least 5.9%).

Figure 8: Average of 1-hour and 8-hour Average Ozone Concentrations among 'High Values' Datasets

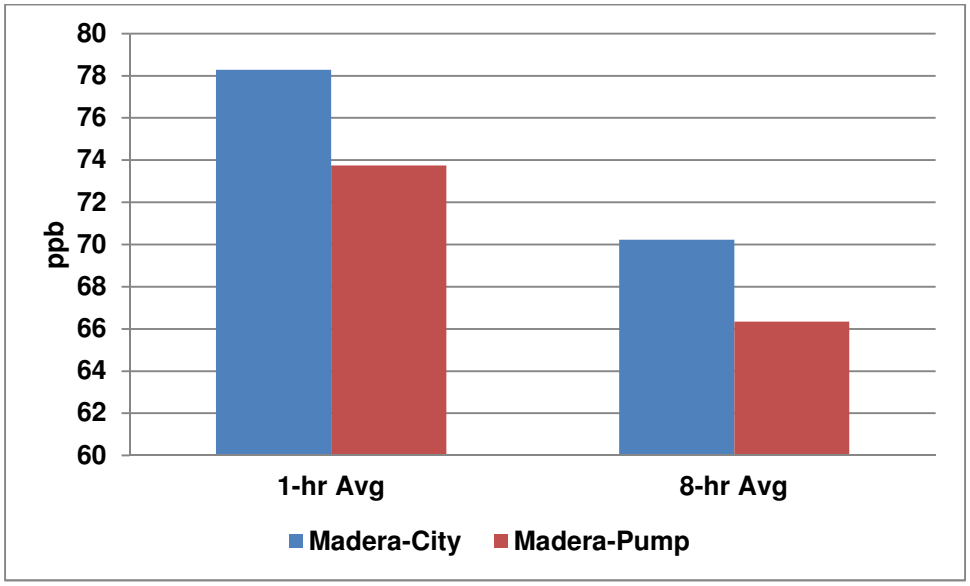


Table 8: Average of 1-hour and 8-hour Average Ozone in 'High Values' Datasets

Site	1-Hour Average (ppb)	8-Hour Average (ppb)
Madera-City	78.3	70.2
Madera-Pump	73.7	66.3
Difference	4.6	3.9
Percent City > Pump	6.2%	5.9%

An additional matching pairs metric, as per the *Guidelines* document, is the Relative Percent Difference (RPD) between ozone measurements at the Madera-City and Madera-Pump sites over the three-year period of 2011 through 2013 (RPD defined as the percent that Madera-City is greater than Madera-Pump). These metrics use the 'High Values' data set of 273 matching pairs of data points to make a comparison of the existing site (Madera-Pump) and the replacement site (Madera-City) by plotting the RPD against time for both 1-hour and 8-hour average ozone concentrations, as shown in Figures 9 and 10. Since these plots display that the RPD is predominantly above zero, especially during the higher concentrations of summer, this indicates that the concentrations at the Madera-City replacement site are greater than the Madera-pump existing site for the majority of the parallel monitoring period.

Figure 9: Relative Percent Difference of 1-Hour Average Ozone over Parallel Monitoring Period

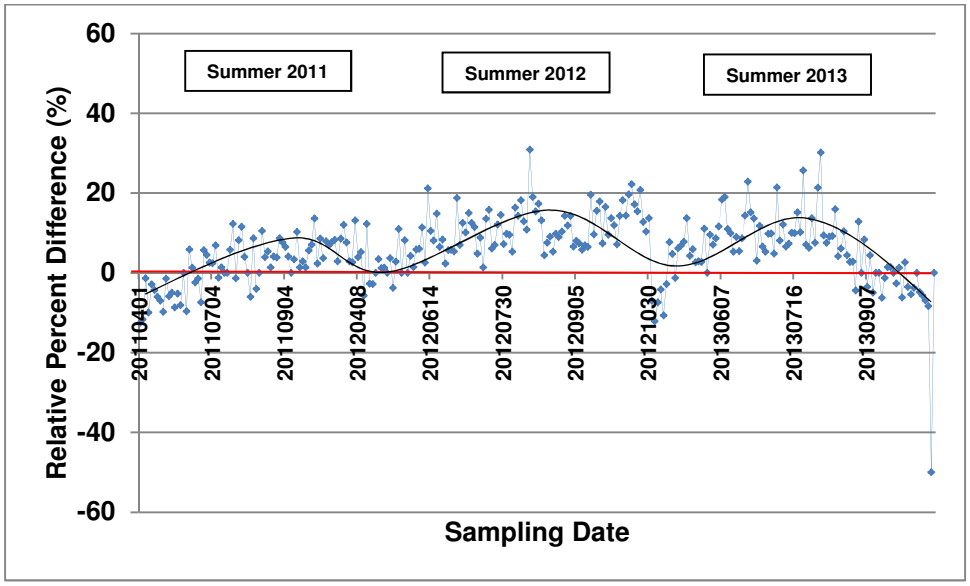
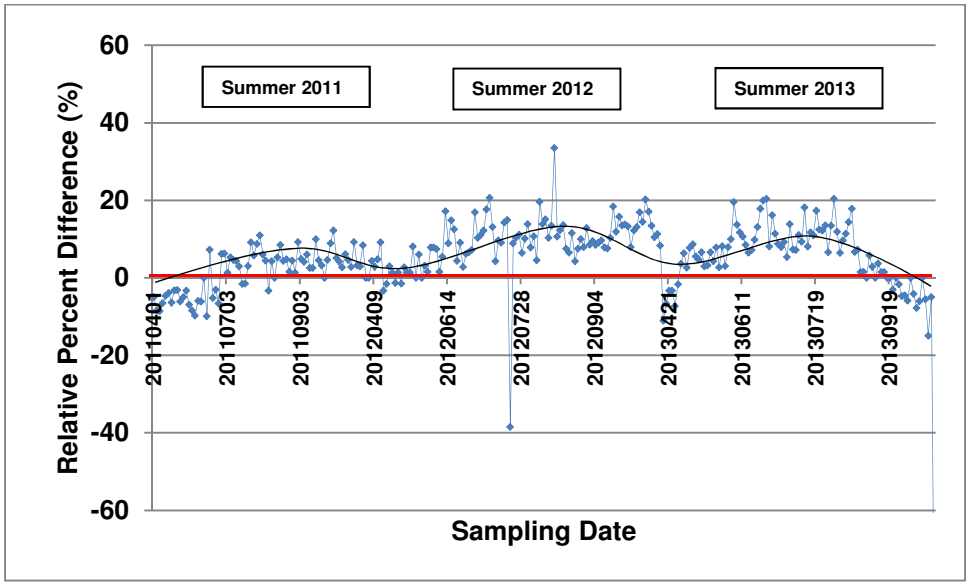


Figure 10: Relative Percent Difference of 8-Hour Average Ozone over Parallel Monitoring Period



An additional 'High Values' metric as proposed in the *Guidelines* document are the linear regressions for 1-hour and 8-hour average ozone between Madera-City and Madera-Pump as shown below in Figures 11 and 12. Both figures include the linear equation and the R^2 value. The linear regression graphs include a diagonal red line indicating the 1-to-1 line, where the ozone measurements between the sites are equal. If the majority of the blue data points and black regression line reside below the red line,

it would indicate that the Madera-Pump ozone monitor (x-axis) measures higher concentrations compared to Madera-City. If the blue data points and regression line reside above the red line, it would indicate that the Madera-City (y-axis) ozone measures greater concentrations than Madera-Pump. As shown in the figures below, the Madera-City site measures greater ozone concentrations than Madera-Pump for both 1-hour and 8-hour average metrics.

Figure 11: Linear Regression of 1-Hour Average Ozone between Madera-Pump and Madera-City Sites

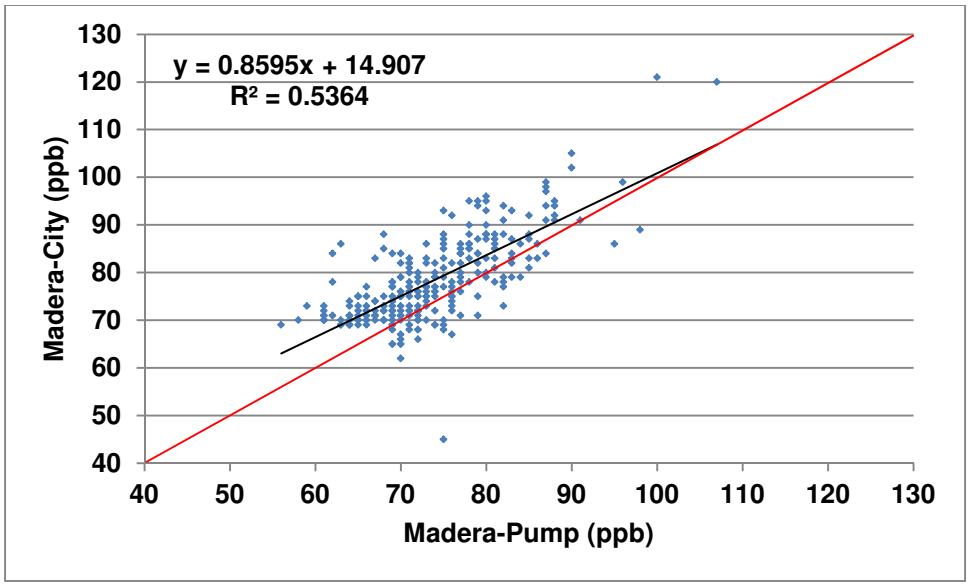
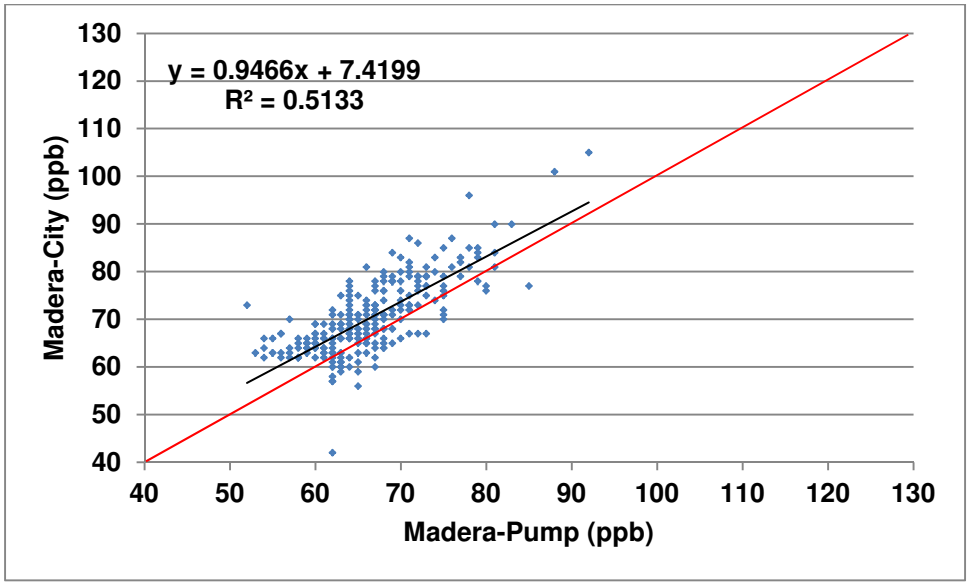


Figure 12: Linear Regression of 8-hour Average Ozone between Madera-Pump and Madera-City Sites



Summary

Having generally met the criteria as outlined in the *Guidelines* document, it is therefore possible to close down the Madera-Pump site and relocate the PAMS monitoring equipment to the Madera-City site. Through this change the Madera MSA will continue to meet the all of the federal monitoring requirements. The CFR allows for this system modification under the case-by-case criteria provided in 40 CFR 58.14(c).

The map studies indicated that the Madera-Pump site and the Madera-City site can be considered equivalent with respect to topography, elevation, and wind patterns, (forests and bodies of water are not applicable). However, the map studies also show that there are differences with regards to traffic, emissions, population centers, and commercial areas where it would be expected that the replacement site (Madera-City) will record higher ozone concentrations, which is considered acceptable for relocation purposes. The Madera-City site is also a better location for the Type 1 site for the Fresno PAMS network since it is more directly upwind of this metropolitan area.

Three years of parallel monitoring and subsequent analyses of wind patterns and paired data from the 'All Values' and 'High Values' datasets has determined that the ozone concentrations for the replacement site of Madera-City are of comparable magnitude and has equal to or greater ozone concentrations than the existing site of Madera-Pump in regards to the averages, maximums, and design values. In fact, the replacement site (Madera-City) generally registers higher ozone concentrations, which is considered acceptable for relocation purposes.

If approved, the District anticipates closing monitoring at the Madera-Pump air monitoring site at the end of 2015, and subsequently begin operating the PAMS equipment at the Madera-City site during the 2016 PAMS season. Through this change, peak ozone concentrations will continue to be recorded in the Madera MSA at the Madera-City site, and minimum ozone monitoring requirements will continue to be met in the MSA. This consolidation will streamline the District's air monitoring network in the area, and will allow for more resources to be used in other parts of the expansive network across the Valley.

APPENDIX E:

Technical Justification for the Closure of the Fresno-Pacific Air Monitoring Site and the Relocation of the PM2.5 Monitor to the Fresno-Drummond Air Monitoring Site

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Introduction

As recommended by EPA to reduce redundancy, to increase efficiency, effectiveness, and to minimize costs, (EPA Guidance Ref: EPA-454/D-07-001, Ambient Monitoring Network Assessment Guidance, US EPA/OAQPS, February 2007), the San Joaquin Valley Air Pollution Control District (District) is planning to "right-size" the monitoring network and reduce operating costs which may make other monitoring opportunities available elsewhere in the District.

To reach this end, and due to staff safety reasons (as detailed below), the District has plans to terminate the service of the Fresno-Pacific PM2.5 Federal Reference Method (FRM) monitor (AIRS Code is 06-019-5025-88101-1), close down the Fresno-Pacific air monitoring site, and relocate the PM2.5 FRM monitor to the nearby Fresno-Drummond (AIRS Code 060190007) air monitoring site to continue its operation. Both sites are Neighborhood and Regional scale, General/background site type, and State and Local Air Monitoring Stations (SLAMS).

Analyses demonstrate that the Fresno-Pacific PM2.5 monitor can be moved to the Fresno-Drummond site, as the Fresno-Drummond site has been shown to record higher PM2.5 concentrations than Fresno-Pacific through the data recorded during the parallel monitoring period. With this proposed change, the minimum PM2.5 monitoring requirements are still satisfied in the Fresno MSA. Additionally, with this network modification, the Fresno-Pacific site will no longer be needed, and will be closed from the District's operations.

Background

The Fresno-Pacific air monitoring site is located at 1716 Winery Avenue, Fresno, CA 93726 and has been monitoring since January 1, 2000. The Fresno-Pacific site is an outdoor rooftop setup on the gymnasium at Fresno Pacific University, and measures PM2.5 FRM. The Fresno-Drummond site is located at 4706 E. Drummond Avenue, Fresno, CA 93725 and has been monitoring since July 1, 1984. The Fresno-Drummond site measures Ozone, PM10 (FRM), CO, NO_2, and meteorology.

Recently at the Fresno-Pacific site, the roof of the building (gymnasium) was reroofed using a white, reflective, energy efficient material. This new roof is slippery when wet and staff is unable to see ice on the roof in the winter, thus making for unsafe working conditions, especially when carrying heavy equipment.

Further compounding the access and worker safety issues, the monitoring equipment for this site is located on the top of a three story building, requiring staff to climb one story of stairs and two stories of vertical ladders, often while carrying equipment. District staff attempted to resolve the safety issues with Fresno Pacific University staff a number of times. However, the University has been unwilling to make any of the recommended changes based on the desire to not make any modifications to the

building or roof. Since the District is required and committed to maintain a safe working environment for its employees, the District would like to close the Fresno-Pacific air monitoring site at the end of this year, while continuing the operation of the PM2.5 FRM monitor at the nearby Fresno-Drummond air monitoring site.

The Fresno-Pacific site does not typically measure the peak PM2.5 values for the County of Fresno, which have recently been recorded at the Clovis site. In addition, the Fresno-Pacific and Fresno-Drummond air monitoring sites are very close in proximity to one another and generally capture emissions from similar sources.

As shown in Table 1, the number of required PM2.5 monitors for the Fresno Metropolitan Statistical Area (MSA) is 2. The current number of PM2.5 monitors in the Fresno MSA is 3, and with the proposed relocation of the Fresno-Pacific monitor to the Fresno-Drummond air monitoring station, the number of SLAMS monitors for the Fresno MSA will remain the same (Table 2).

Table 1: PM2.5 Monitoring Requirements for Fresno MSA

Metropolitan Statistical Area (MSA)	County	2014 Population[2]	PM2.5[1]			
			24–hour 2012–2014 Design Value in MSA (µg/m³)	Annual 2012–2014 Design Value in MSA (µg/m³)	Stations required	# of SLAMS Stations in MSA
Fresno	Fresno	964,040	62	15.4	2	3

[1] Air quality data may include data influenced by exceptional events and/or data completeness and substitution requirements.
[2] From California Department of Finance, County and State Population.

Table 2: Current and Proposed PM2.5 SLAMS Air Monitoring Sites in the Fresno MSA

MSA/CBSA: Fresno County: Fresno	Current SLAMS Sites	Proposed SLAMS Sites
Clovis	X	X
Fresno-Garland	X	X
Fresno-Pacific	X	
Fresno-Drummond		X
Total	***3***	***3***

According to 40 CFR Part 58.10(c), moving a non-attainment PM2.5 monitor requires a public process prior to moving the monitor. The District is meeting this requirement through the public inspection of this *2015 Air Monitoring Network Plan*.

Technical Justification for System Modification

Under 40 CFR 58.14(c)(1), there are four criteria listed that an Agency must satisfy, before the Regional Administrator has the authority to consider whether to approve a request for monitor shutdown/termination. The four criteria are the following:

- The monitor showed attainment during the previous five years.
- The probability is less than 10% that this monitor will exceed 80% of the applicable NAAQS during the next 3 years based upon concentrations, trends, and variability observed in the past.
- The monitor is not specifically required by an attainment plan or maintenance plan.
- The monitor is not the last monitor in a nonattainment area or maintenance area that contains a contingency measure triggered by an air quality concentration in the latest attainment or maintenance plan adopted by the state and approved by the EPA.

Based on the PM2.5 values recorded at the Fresno-Pacific site in recent years, the data is unable to meet the criteria listed above. In addition, the data from this monitor is also unable to meet the criteria listed in the other options available under 40 CFR 58.14(c)(3-6). However, under the option provided in 40 CFR 58.14(c), the District holds that this system modification can be approved through the case-by-case basis provision, based on the analysis and arguments provided below.

PM2.5 Comparison between Fresno-Pacific and Fresno-Drummond

Because the District is committed to maintaining a robust and efficient air monitoring program, a comparison study was conducted to show that the Fresno-Drummond air monitoring site was a suitable location to house the Fresno-Pacific PM2.5 monitor.

To accomplish this study, in 2012 the District established a temporary real-time PM2.5 monitor at the Fresno-Drummond air monitoring site to determine whether moving the Fresno-Pacific filter-based PM2.5 sampler to Fresno-Drummond would be supported by equivalent PM2.5 levels measured between the two sites. This study period started at the beginning of November 2012 and concluded at the end of October 2013. As the following data comparison analysis shows, the move of the filter-based PM2.5 monitor from Fresno-Pacific to Fresno-Drummond is valid since the PM2.5 values recorded at Fresno-Drummond are equal to or higher than the values measured at Fresno-Pacific. Since the study period between these two sites has concluded, the temporary real-time PM2.5 monitoring at Fresno-Drummond has since been terminated.

The data comparison analysis shows that the two sites measure similar levels of PM2.5, since they are affected by similar sources (residential and light commercial/industrial.

Based on one year of parallel monitoring (November 2012 through October 2013), the Fresno-Drummond site is anticipated to produce a slightly higher 24-hour average design value and a slightly higher annual average compared to the Fresno-Pacific site. As demonstrated during the parallel monitoring period, the new location will also be non-attainment of the PM2.5 standards. This is, in effect, trading one non-attainment location for another.

Since real-time PM2.5 monitors tend to run higher than filter-based PM2.5 monitors, relocating the filter-based PM2.5 monitor from Fresno-Pacific to Fresno-Drummond should remove any positive bias when measurements are low, potentially bringing the annual average at Fresno-Drummond closer to that of Fresno-Pacific. Table 3 shows various statistics that illustrate the slight differences between the sites. It is interesting to note that the 98th percentile of the 89 samples collected at Fresno-Pacific is the same value of the 98th percentile of the 358 samples collected at Fresno-Drummond. The 98th percentile value of the paired dataset for Fresno-Drummond is much higher at 54 micrograms per cubic meter (µg/m^3) compared to 47 µg/m^3 at Fresno-Pacific.

Table 3: Comparative Statistics between Sites

Metric	Fresno-Pacific (µg/m^3)	Fresno-Drummond (µg/m^3)
Arithmetic Average	13.9	15.3
Regulatory Average	12.8	14.3
Maximum	50	60
Second high (98th percentile of paired data set (89 pairs))	47	54
98th Percentile of 365 day Fresno-Drummond data set	-	47

The average error during the study period of the paired data set was 1.5 µg/m^3, while the absolute error was 2.7 µg/m^3. The paired data between the two sites were well correlated with an R^2 of 0.87. Figure 1 shows the day-to-day data being compared between the two sites from November 2012 through October 2013 using the paired dataset. As one can see, both sites consistently track one another. Figure 2 shows for the majority of days, Fresno-Drummond is higher than Fresno-Pacific. This is easily shown by the blue line (Fresno-Drummond) being higher than the red line (Fresno-Pacific). Note that the data pairs in this figure have been arranged with Fresno-Pacific having ascending values.

Figure 1: Comparison of PM2.5 Concentrations between Sites during Parallel Monitoring Period (Linear Timeline)

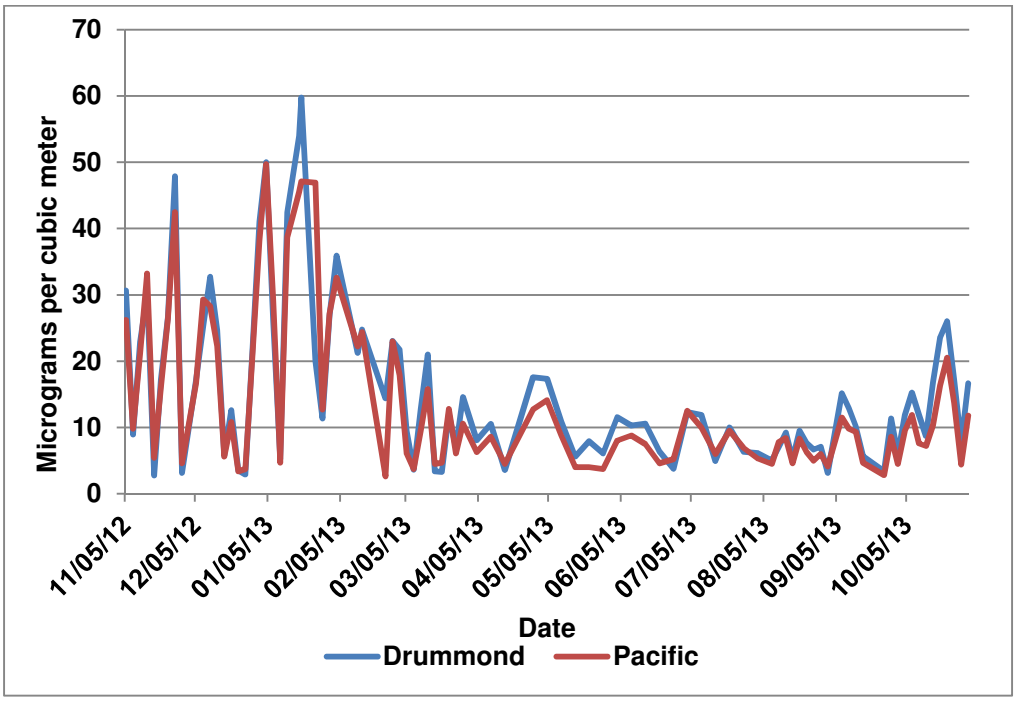


Figure 2: Comparison of PM2.5 Concentrations between Sites during Parallel Monitoring Period (Ascending Fresno-Pacific Values Timeline)

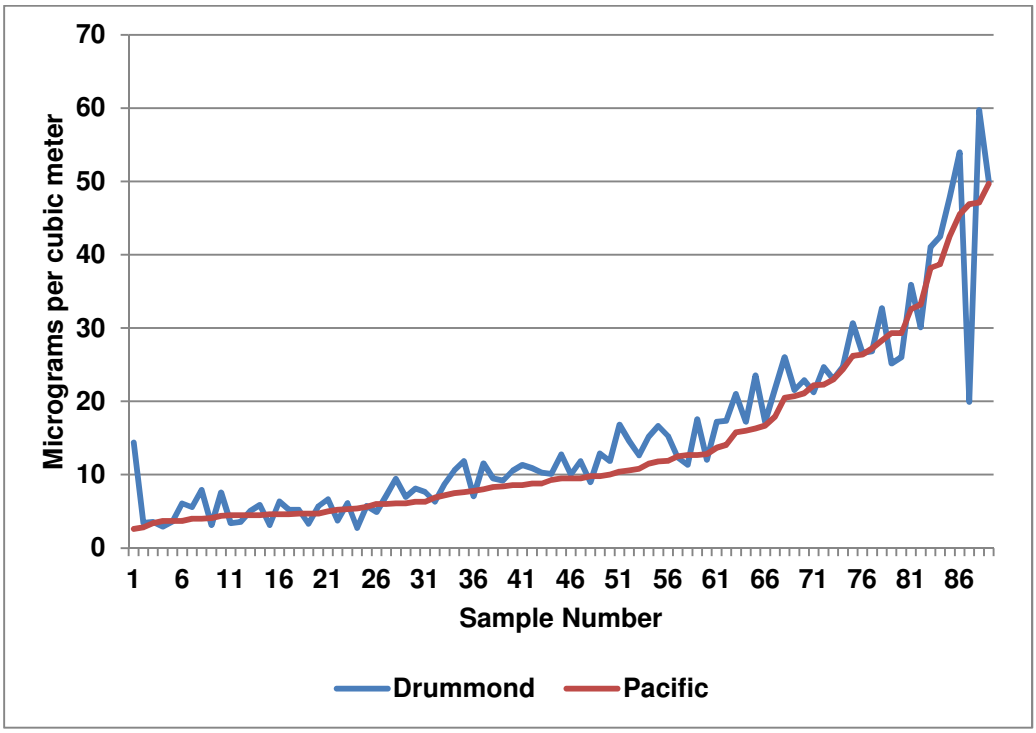
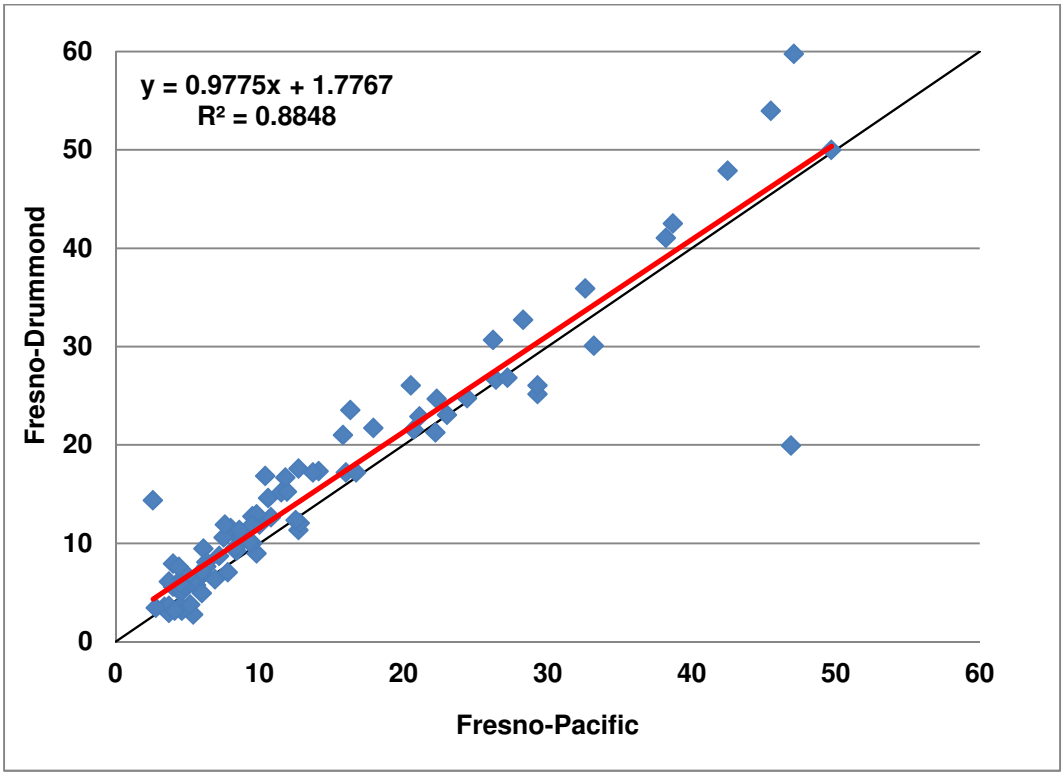


Figure 3 is the standard regression chart showing how well the sites correlate to one another, with the regression line just above the 1-to-1 line, indicating that Fresno-Drummond recorded slightly higher concentrations during the parallel monitoring period. Table 6 at the end of this document shows the complete dataset between the Fresno-Pacific and Fresno-Drummond sites during the parallel monitoring period.

Figure 3: Linear Regression between Fresno-Pacific and Fresno-Drummond PM2.5 Concentrations during Parallel Monitoring Period



Further, based on data gathered from EPA's Design Value Report (AQS AMP 480), Fresno-Pacific has never been the peak PM2.5 design value site for Fresno County, and therefore this system modification would not be affecting the District's or the County's peak PM2.5 monitor. Table 4 shows the last five years of annual average design values for Fresno County. Table 5 shows the corresponding 24-hour average design values for Fresno County for the last five years. From these tables, it is clear that the Fresno-Pacific is not the peak PM2.5 site in Fresno County.

Table 4: 2009 through 2013 Annual Average PM2.5 Design Values (µg/m³) for Fresno County Air Monitoring Sites

Site	2009	2010	2011	2012	2013
Fresno-First/Garland	17.1	15.2	14.5	14.2	15.4
Tranquillity	11.8*	9.4*	9.0	7.4	7.8
Clovis	17.0	16.4	17.0	14.7	16.4
Fresno-Pacific	16.0	14.9	14.5	13.8	14.7

Data Source: EPA's AQS AMP480 report ran on May 12, 2014, 11:41 PDT
*Incomplete data, Tranquillity started operations in 2009 therefore, 2007 and 2008 data is not available for Design Value calculations.

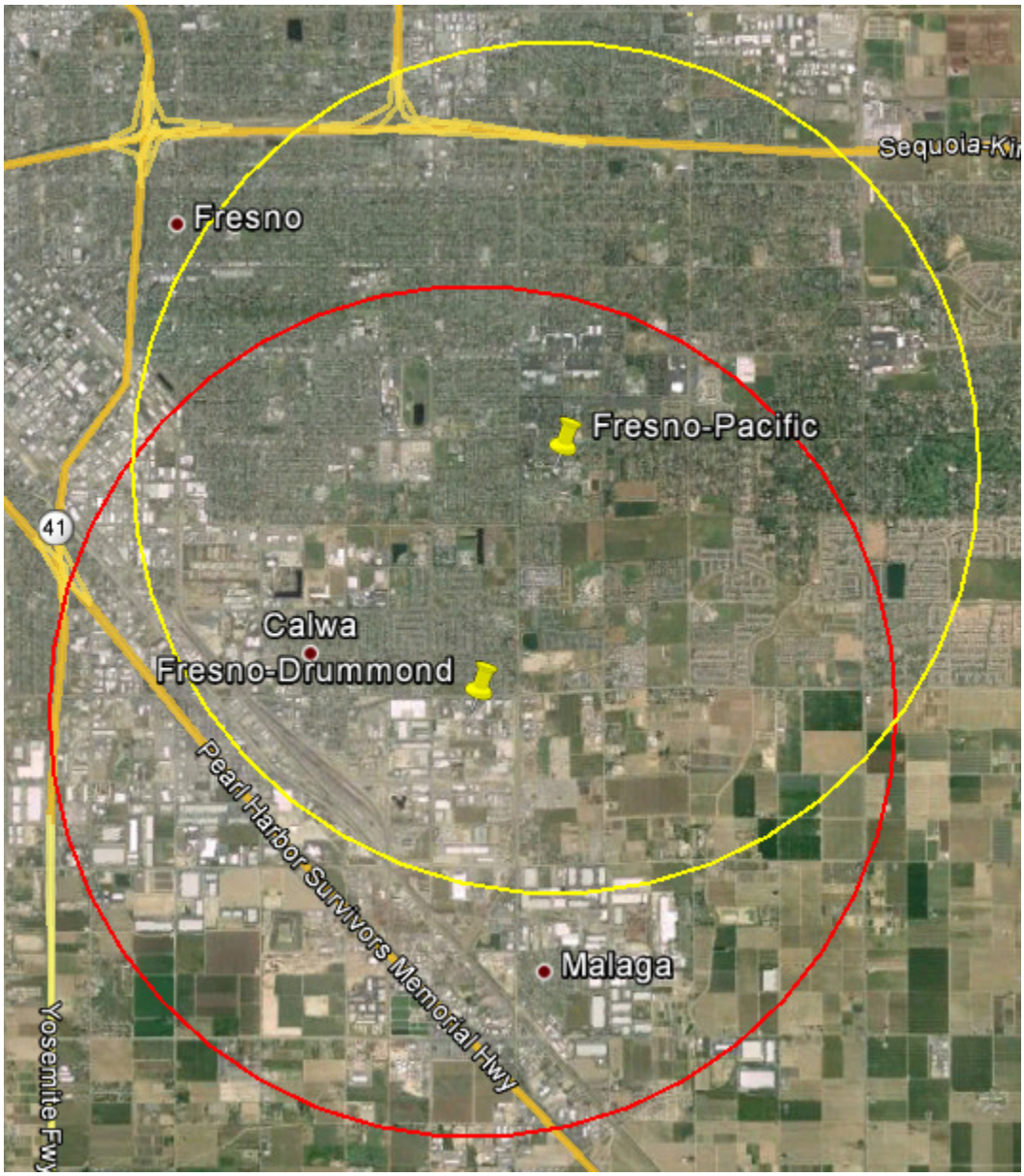
Table 5: 2009 through 2013 24-hour Average PM2.5 Design Values (µg/m³) for Fresno County Air Monitoring Sites

Site	2009	2010	2011	2012	2013
Fresno-First/Garland	60	54	58	59	61
Tranquillity	36*	31*	30	27	30
Clovis	53	48	54	54	58
Fresno-Pacific	50	43	48	46	58

Data Source: EPA's AQS AMP480 report ran on May 12, 2014, 11:41 PDT
*Incomplete data, Tranquillity started operations in 2009 therefore, 2007 and 2008 data is not available for Design Value calculations.

As mentioned earlier, both sites are surrounded by similar land uses. The primary land use is residential and secondary land uses are light commercial, light industrial, farmland, and city center (downtown) in each monitors area of coverage (See Figure 4). Both of these sites are Neighborhood Scale and are approximately 1.5 miles apart, with Fresno-Pacific sited to the northeast of Fresno-Drummond. Neighborhood Scale means that the PM2.5 levels are relatively constant in the area that is between 0.5 to 4 kilometers (0.3 to 2.5 miles) surrounding the site. The red circle is centered at the Fresno-Drummond site and the yellow circle is centered over the Fresno-Pacific site with both circles having a radius of 4 kilometers. About 58 percent of the coverage of each site overlaps, sharing the same sources. As the figure shows, Fresno-Pacific coverage has slightly more residential sources on the northern edge and Fresno-Drummond coverage has more light industrial/warehouse and farmland sources to the south. In general, the figure shows that both sites are affected by similar sources.

Figure 4: Neighborhood Scale Maps for Fresno-Pacific and Fresno-Drummond



Summary

Based on concerns for worker safety and the District's goals of streamlining the air monitoring network, the District is requesting to close down the Fresno-Pacific air monitoring site at the end of the year 2015. The filter-based PM2.5 monitor currently being operated at Fresno-Pacific will be installed at the Fresno-Drummond air monitoring site and will begin operating at the start of 2016 to ensure the continuation of three (3) SLAMS PM2.5 monitors in Fresno County. To support this system modification, a parallel monitoring period was conducted between the Fresno-Pacific

and Fresno-Drummond sites, which demonstrated that the measured PM2.5 values are slightly higher at Fresno-Drummond compared to Fresno-Pacific. Since Fresno-Pacific has never historically been the peak PM2.5 monitor in the Fresno MSA, making this modification will not affect the maximum concentrations in Fresno County. Due to this, and since both sites measure emissions of a similar source-mix, moving the filter-based PM2.5 monitor from Fresno-Pacific to Fresno-Drummond will minimally affect design values for the area, and is not anticipated to affect the peak design value for the Fresno MSA.

Table 6: Measured PM2.5 at Fresno-Pacific and Fresno-Drummond during Parallel Monitoring Period (in µg/m^3)

Date	Fresno-Drummond (FEM)	Fresno-Pacific (FRM)
11/1/2012	15	
11/2/2012	25	
11/3/2012	26	
11/4/2012	28	
11/5/2012	31	26.2
11/6/2012	27	
11/7/2012	33	
11/8/2012	9	9.8
11/9/2012	5	
11/10/2012	9	
11/11/2012	23	21.1
11/12/2012	25	
11/13/2012	23	
11/14/2012	30	33.2
11/15/2012	35	
11/16/2012	20	
11/17/2012	3	5.4
11/18/2012	7	
11/19/2012	20	
11/20/2012	17	16
11/21/2012	14	
11/22/2012	15	
11/23/2012	27	26.4
11/24/2012	33	
11/25/2012	37	
11/26/2012	48	42.5
11/27/2012	60	
11/28/2012	25	
11/29/2012	3	4.6

Date	Fresno-Drummond (FEM)	Fresno-Pacific (FRM)
11/30/2012	2	
12/1/2012	0	
12/2/2012		2.8
12/3/2012	8	
12/4/2012	15	
12/5/2012	17	16.7
12/6/2012	5	
12/7/2012	9	
12/8/2012	25	29.3
12/9/2012	20	
12/10/2012	31	
12/11/2012	33	28.3
12/12/2012	22	
12/13/2012	12	
12/14/2012	25	22.3
12/15/2012	29	
12/16/2012	15	
12/17/2012	6	5.6
12/18/2012	4	
12/19/2012	12	
12/20/2012	13	10.8
12/21/2012	12	
12/22/2012	7	
12/23/2012	4	3.4
12/24/2012	7	
12/25/2012	16	
12/26/2012	3	3.7
12/27/2012	11	
12/28/2012	17	
12/29/2012	22	20.7
12/30/2012	16	
12/31/2012	18	
01/1/2013	41	38.2
01/2/2013	36	
01/3/2013	42	
01/4/2013	50	49.7
01/5/2013	41	
01/6/2013	4	
01/7/2013	26	29.3

Date	Fresno-Drummond (FEM)	Fresno-Pacific (FRM)
01/8/2013	34	
01/9/2013	30	
01/10/2013	5	4.7
01/11/2013	16	
01/12/2013	30	
01/13/2013	43	38.7
01/14/2013	27	
01/15/2013	35	
01/16/2013	41	
01/17/2013	44	
01/18/2013	54	45.5
01/19/2013	60	47.1
01/20/2013	54	
01/21/2013	48	
01/22/2013	58	
01/23/2013	30	
01/24/2013	46	
01/25/2013	20	46.9
01/26/2013	13	
01/27/2013	4	
01/28/2013	11	12.7
01/29/2013	23	
01/30/2013	23	
01/31/2013	27	27.2
02/1/2013	37	
02/2/2013	37	
02/3/2013	36	32.6
02/4/2013	38	
02/5/2013	41	
02/6/2013	20	
02/7/2013	23	
02/8/2013	8	
02/9/2013	16	
02/10/2013	16	
02/11/2013	18	
02/12/2013	21	22.2
02/13/2013	26	
02/14/2013	25	24.4
02/15/2013	28	

Date	Fresno-Drummond (FEM)	Fresno-Pacific (FRM)
02/16/2013	28	
02/17/2013	25	
02/18/2013	21	
02/19/2013	4	
02/20/2013	8	
02/21/2013	16	
02/22/2013	21	
02/23/2013	11	
02/24/2013	14	2.6
02/25/2013	15	
02/26/2013	23	
02/27/2013	23	23
02/28/2013	19	
03/1/2013	23	
03/2/2013	22	17.9
03/3/2013	12	
03/4/2013	8	
03/5/2013	9	6.1
03/6/2013	4	
03/7/2013	5	
03/8/2013	4	3.7
03/9/2013	10	
03/10/2013	12	
03/11/2013	13	9.5
03/12/2013	22	
03/13/2013	24	
03/14/2013	21	15.8
03/15/2013	13	
03/16/2013	11	
03/17/2013	3	4.5
03/18/2013	9	
03/19/2013	14	
03/20/2013	3	4.7
03/21/2013	3	
03/22/2013	9	
03/23/2013	12	12.8
03/24/2013	18	
03/25/2013	15	
03/26/2013	7	6.1

Date	Fresno-Drummond (FEM)	Fresno-Pacific (FRM)
03/27/2013	5	
03/28/2013	7	
03/29/2013	15	10.6
03/30/2013	9	
03/31/2013	4	
04/1/2013	3	
04/2/2013	5	
04/3/2013	15	
04/4/2013	8	6.3
04/5/2013	2	
04/6/2013	3	
04/7/2013	5	
04/8/2013	2	
04/9/2013	4	
04/10/2013	11	8.6
04/11/2013	7	
04/12/2013	10	
04/13/2013	11	
04/14/2013	6	
04/15/2013	3	
04/16/2013	4	4.5
04/17/2013	4	
04/18/2013		
04/19/2013		
04/20/2013		
04/21/2013		
04/22/2013		11
04/23/2013		
04/24/2013	15	
04/25/2013	10	
04/26/2013	12	
04/27/2013	17	
04/28/2013	18	12.7
04/29/2013	14	
04/30/2013	11	
05/1/2013	16	
05/2/2013	22	
05/3/2013	17	
05/4/2013	17	14.1

Date	Fresno-Drummond (FEM)	Fresno-Pacific (FRM)
05/5/2013	12	
05/6/2013	7	
05/7/2013	11	
05/8/2013	16	
05/9/2013	9	
05/10/2013	11	8.8
05/11/2013	18	
05/12/2013	10	
05/13/2013	9	
05/14/2013	8	
05/15/2013	12	
05/16/2013	6	4
05/17/2013	6	
05/18/2013	5	
05/19/2013	5	
05/20/2013	11	
05/21/2013	11	
05/22/2013	8	4
05/23/2013	10	
05/24/2013	12	
05/25/2013	8	
05/26/2013	3	
05/27/2013	4	
05/28/2013	6	3.7
05/29/2013	5	
05/30/2013	7	
05/31/2013	9	
06/1/2013	16	
06/2/2013	19	
06/3/2013	12	8
06/4/2013	9	
06/5/2013	9	
06/6/2013	11	
06/7/2013	13	
06/8/2013	18	
06/9/2013	10	8.8
06/10/2013	8	
06/11/2013	10	
06/12/2013	9	

Date	Fresno-Drummond (FEM)	Fresno-Pacific (FRM)
06/13/2013	7	
06/14/2013	9	
06/15/2013	11	7.5
06/16/2013	6	
06/17/2013	5	
06/18/2013	5	
06/19/2013	6	
06/20/2013	7	
06/21/2013	6	4.6
06/22/2013	8	
06/23/2013	4	
06/24/2013	2	
06/25/2013	4	
06/26/2013	3	
06/27/2013	4	5.2
06/28/2013	7	
06/29/2013	7	
06/30/2013	7	
07/1/2013	11	
07/2/2013	13	
07/3/2013	12	12.5
07/4/2013	20	
07/5/2013	7	
07/6/2013	11	
07/7/2013	9	
07/8/2013	9	
07/9/2013	12	10
07/10/2013	12	
07/11/2013	6	
07/12/2013	9	
07/13/2013	9	
07/14/2013	6	
07/15/2013	5	6
07/16/2013	5	
07/17/2013	6	
07/18/2013	6	
07/19/2013	8	
07/20/2013	11	
07/21/2013	10	9.5

Date	Fresno-Drummond (FEM)	Fresno-Pacific (FRM)
07/22/2013	10	
07/23/2013	9	
07/24/2013	6	
07/25/2013	7	
07/26/2013	7	
07/27/2013	6	6.9
07/28/2013	6	
07/29/2013	15	
07/30/2013	32	
07/31/2013	19	
08/1/2013	5	
08/2/2013	6	5.3
08/3/2013	9	
08/4/2013	11	
08/5/2013	11	
08/6/2013	12	
08/7/2013	7	
08/8/2013	5	4.5
08/9/2013	9	
08/10/2013	13	
08/11/2013	7	7.8
08/12/2013	10	
08/13/2013	9	
08/14/2013	9	8.4
08/15/2013	9	
08/16/2013	4	
08/17/2013	5	4.6
08/18/2013	6	
08/19/2013	11	
08/20/2013	10	8.3
08/21/2013	9	
08/22/2013	6	
08/23/2013	8	6.3
08/24/2013	7	
08/25/2013	9	
08/26/2013	7	5
08/27/2013	4	
08/28/2013	7	
08/29/2013	7	6

Date	Fresno-Drummond (FEM)	Fresno-Pacific (FRM)
08/30/2013	15	
08/31/2013	7	
09/1/2013	3	4.1
09/2/2013	2	
09/3/2013	3	
09/4/2013	7	
09/5/2013	6	
09/6/2013	10	
09/7/2013	15	11.5
09/8/2013	20	
09/9/2013	17	
09/10/2013	13	9.8
09/11/2013	9	
09/12/2013	11	
09/13/2013	10	9.3
09/14/2013	12	
09/15/2013	6	
09/16/2013	6	4.7
09/17/2013	5	
09/18/2013	8	
09/19/2013	14	
09/20/2013	17	
09/21/2013	4	
09/22/2013	5	
09/23/2013	8	
09/24/2013	13	
09/25/2013	3	2.8
09/26/2013	5	
09/27/2013	10	
09/28/2013	11	8.6
09/29/2013	12	
09/30/2013	5	
10/1/2013	6	4.5
10/2/2013	9	
10/3/2013	9	
10/4/2013	12	9.5
10/5/2013	15	
10/6/2013	14	
10/7/2013	15	11.9

Date	Fresno-Drummond (FEM)	Fresno-Pacific (FRM)
10/8/2013	14	
10/9/2013	15	
10/10/2013	12	7.6
10/11/2013	13	
10/12/2013	15	
10/13/2013	9	7.2
10/14/2013	11	
10/15/2013	17	
10/16/2013	17	10.4
10/17/2013	16	
10/18/2013	19	
10/19/2013	24	16.3
10/20/2013	22	
10/21/2013	17	
10/22/2013	26	20.5
10/23/2013	31	
10/24/2013	27	
10/25/2013	17	13.7
10/26/2013	25	
10/27/2013	25	
10/28/2013	8	4.4
10/29/2013	7	
10/30/2013	14	
10/31/2013	17	11.8

APPENDIX F:

San Joaquin Valley Air Pollution Control District Notice of Public Inspection Period on the 2015 Air Monitoring Network Plan

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SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT NOTICE OF PUBLIC INSPECTION PERIOD ON THE DRAFT 2015 AIR MONITORING NETWORK PLAN

NOTICE IS HEREBY GIVEN that a 30-day public inspection period is being held on the San Joaquin Valley Air Pollution Control District's (District) Draft 2015 Air Monitoring Network Plan.

Interested persons may submit comments to:

Shawn Ferreria
San Joaquin Valley Unified Air Pollution Control District
1990 East Gettysburg Avenue
Fresno, CA 93726
Email: shawn.ferreria@valleyair.org

The public inspection period begins May 28, 2015 and will end June 28, 2015.

Copies of the Draft 2015 Air Monitoring Network Plan can be obtained by calling (559) 230-6100. You may download a copy of the Draft 2015 Air Monitoring Network Plan from the District's website on or after May 28, 2015 under the Other Notices portion of the following page:

http://www.valleyair.org/notices/public_notices_idx.htm

For additional information, contact Shawn Ferreria by phone at (559) 230-6100.

APPENDIX G:

Comments and Responses

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Appendix G: Comments and Responses

This Appendix contains responses to comments made by the public on the 2015 Air Monitoring Network Plan (Plan). The District held a 30-day public inspection period on the Plan from May 28, 2015 through June 28, 2015.

WRITTEN COMMENTS ON THE 2015 AIR MONITORING NETWORK PLAN

Comment period held from May 28, 2015 through June 28, 2015.

Comments were received from the following organization:

Central Valley Air Quality Coalition (CVAQ)

Comment: CVAQ commented on the need to establish a permanent full-sized air monitoring site in the Arvin area as a replacement for the previously closed Arvin-Bear Mountain site. Specifically, CVAQ comments on the need for PAMS and NO2 monitoring to begin again in the Arvin area.

Response: In 2010 the Arvin-Edison Water Storage District made a decision to not renew the lease of its property with the California Air Resources Board (ARB) on which the Arvin-Bear Mountain air monitoring site resided. Multiple efforts were made by EPA, ARB, the San Joaquin Valley Air Pollution Control District (District), and other stakeholders to compel the Arvin-Edison Water Storage District to renew the lease, but those efforts were unsuccessful. This essentially forced the closure of the Arvin-Bear Mountain site. The Arvin-DiGiorgio site was then established by ARB as a replacement for the closed Arvin-Bear Mountain site; however this new site was not established as a full-sized shelter as this site still required formal EPA approval before becoming permanent. Due to the size limitations of the site, the PAMS and NO2 equipment that ARB and the District operated at the Arvin-Bear Mountain site would not fit inside the Arvin-DiGiorgio shelter.

EPA is fully aware of this and all efforts are being made by ARB and the District to work collaboratively with EPA to approve the Arvin-Di Giorgio site as the permanent site. Upon EPA approval of the Arvin-DiGiorgio site, ARB will proceed with establishing a permanent full-sized monitoring shelter, which has already been purchased and is currently being kept in storage. This full sized monitoring shelter will have enough room to house the PAMS and NO2 equipment and the Type 3 PAMS site in the Bakersfield area will once again be in operation.

Comment: CVAQ commented that the plan did not include adequate justification for the consolidation of the Madera-Pump and Madera-City air monitoring sites (through closing the Madera-Pump site) and that ozone concentrations from Madera-Pump at times read higher than ozone at Madera-City.

Response: Per 40 CFR Part 58.14, the District prepared documentation in support of the potential closure of the Madera-Pump air monitoring site and moving the PAMS equipment to the Madera-City site. Although there are times that ozone at the Madera-Pump site may be higher than ozone at Madera-City, the extensive analytical documentation provided in the plan clearly shows that the Madera-City site records higher ozone than the Madera-Pump site based on a variety of metrics and indicators. Based on this, the District is confident that even with the potential closure of the Madera-Pump site, the peak ozone concentrations in the Madera area will continue to be recorded.

Additionally, with the PAMS equipment moving to the Madera-City site, the Type 1 PAMS site for the Fresno MSA will continue to operate should the District proceed with this network consolidation. The District is committed to looking for opportunities to streamline the air monitoring network, in order to free up additional resources to address other air monitoring needs, while being mindful of continuing to capture peak pollutant levels in the Valley.

Comment: CVAQ is concerned that the closure of the PM10 monitor at the Stockton-Wagner/Holt air monitoring site would harm the District's efforts in providing a robust PM10 monitoring network in the northern portion of the Valley and would be a detriment to air quality forecasting and planning efforts.

Response: The Stockton-Wagner/Holt site is a single parameter site that only measures filter-based PM10 on a rooftop. Since the PM10 monitor at this site is filter-based and not real-time, it only provides a 24-hour average concentration once every 6 days. In addition, the filter used to collect the PM10 mass must be sent to a lab for gravimetric analysis to determine the concentration of PM10, the results of which are not seen until months later. Because of this, the PM10 data from this site cannot be used for air quality forecasting or reporting through the District's RAAN program.

In addition, the Stockton-Hazelton air monitoring site in Stockton, CA also measures PM10, and will continue to do so even after the closure of the Stockton-Wagner/Holt site. Therefore PM10 concentrations will still be represented in the Stockton area through continued measurements at Stockton-Hazelton. In addition, PM10 is also measured at the Manteca and Tracy air monitoring sites in San Joaquin County, providing for a robust PM10 monitoring network in the northern most part of the Valley.

Finally, as shown in the plan, the Stockton-Wagner/Holt PM10 monitor is in attainment of the federal PM10 standard and consistently records concentrations among the lowest in the Valley. Therefore closing this monitor would not prevent the District from measuring peak PM10 values in the Valley and would not affect air quality planning efforts in the future. Additionally, through the submittal of the 2014 Air Monitoring Network Plan, EPA has given approval to the District for the closure of the Stockton-Wagner/Holt air monitoring site based on meeting the criteria found in 40 CFR Part 58.14.

Shawn Ferreria
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1990 East Gettysburg Avenue
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VIA ELECTRONIC MAIL

June 28, 2015

Dear Mr. Ferreria,

Thank you for the opportunity to review and comment on the San Joaquin Valley Unified Air Pollution Control District's ("the District") Draft 2015 Air Monitoring Network Plan ("2015 Plan"). This letter is submitted on behalf of the Central Valley Air Quality Coalition ("CVAQ"). CVAQ is a coalition of over 70 groups across the San Joaquin Valley and statewide who share a vision of a healthy, safe, and economically prosperous San Joaquin Valley where chronic air pollution and epidemic sickness due to poor air quality is eliminated.

CVAQ members view a robust air monitoring network as a critical piece of achieving our shared vision of a healthy and prosperous San Joaquin Valley. A reliable air monitoring network provides the public with invaluable information about current air quality, helps researchers better understand air pollution, and allows regulators to see how control measures impact air quality.

The 2015 Plan describes a network that is not as robust as it must be to fulfill the District's Core Values. Monitoring data from Arvin contains data gaps and deficiencies. The 2015 Plan does not provide enough justification for the closure of the Madera-Pump Yard monitor. CVAQ also requests a reconsideration of the closure of the Stockton PM10 monitor.

The Arvin monitors fail to provide required monitoring data

The Arvin-DiGiorgio monitor does not have the equipment necessary to comply with the requirements of the Clean Air Act. The California Air Resources Board ("ARB") opened the Arvin-DiGiorgio monitor due to the abrupt closure of the Arvin-Bear Mountain monitor. The Arvin-Bear Mountain monitor served as a Photochemical Assessment Monitoring Station ("PAMS") Type 3 site. A PAMS Type 3 site records data on ozone precursors at the maximum ozone concentration site in a Metropolitan Statistical Area ("MSA"). Though ARB intends for the Arvin-DiGiorgio monitor to replace the Arvin-Bear Mountain monitor, the Arvin-DiGiorgio monitor lacks the equipment it needs to serve as the PAMS Type 3 site for the Bakersfield MSA.

The 2015 Plan says that the equipment "will be installed when space becomes available."[1] As a result, the area of the San Joaquin Valley with the worst ozone pollution is lacking a monitor to track ozone precursors where ozone concentrations are at their highest.

The Arvin-DiGiorgio monitoring site has also been selected as one of two NO_2 sites placed in the San Joaquin Valley "to protect susceptible and vulnerable communities."[2] The Arvin-DiGiorgio NO_2 monitoring equipment will be installed "once [Arvin-DiGiorgio] is rebuilt and fully operational."[3] The 2015 Plan does not provide an estimated date upon which the NO_2 monitoring equipment will be operational at the site, despite its importance in protecting vulnerable communities.

The Arvin-DiGiorgio monitor is a poor replacement for the Arvin-Bear Mountain monitor, for the variety of reasons outlined above. It is baffling that the Arvin-DiGiorgio monitor was opened five years ago and still fails to have the same monitoring capabilities as the Arvin-Bear Mountain monitor. The California Air Resources Board ("CARB"), as the owner of the monitor, has a responsibility to do whatever is necessary to reinstate the Arvin-Bear Mountain monitor in its original location with the PAMS Type 3 and NO2 equipment necessary. Though the District does not own this monitor, it can and should partner with CARB and the Arvin-Edison Water Storage District to reinstate the monitor. It is particularly distressing that the District has allowed this breach in its monitoring network within an environmental justice community, as the District is attempting to demonstrate its commitment to environmental justice communities in the Valley.

The 2015 Plan does not provide sufficient justification for closure of monitors

The 2015 Plan explains the District's plans to close the Madera-Pump Yard monitoring site and to move its equipment to the Madera-City monitoring site, because Madera-City monitors read higher than Madera-Pump Yard monitors. The 2015 Plan should include documentation supporting this statement. A review of the monitoring data from ARB's website as well as the District's website did not indicate that Madera-City's monitors consistently read higher than Madera-Pump Yard's monitors. In fact, Madera-Pump Yard's monitors often displayed slightly higher readings (see Table 1).[4] The 2015 Plan must provide additional documentation to verify that the readings at Madera-City are higher than those at Madera-Pump Yard.

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[1] San Joaquin Valley Air Pollution Control District. (May 28, 2015). Draft 2015 Air Monitoring Network Plan, p. 10.

[2] *Ibid,* p. 16.

[3] *Ibid.*

[4] San Joaquin Valley Air Pollution Control District. Ozone Eight-Hour Maximum (PPB). Retrieved June 22, 2015 from http://www.valleyair.org/aqinfo/d-O38.htm; California Air Resources Board. San Joaquin Valley Air Basin, Daily Average Ozone Data, Seven Day Display Ending 08/20/2014, Parts Per Million (ppm). Retrieved June 22, 2015 from http://www.arb.ca.gov/aqmis2/display.php?year=2014&mon=8&day=20&param=OZONE_ppm&units=007&statistic=DAVG&order=basin%2Ccounty_name%2Cname&hours=midday&o3area=&o3pa8=&county_name=--COUNTY--&latitude=--PART+OF+STATE--&basin=SJV-San+Joaquin+Valley&o3switch=new&ptype=aqd&report=7DAY&btnsubmit=Update+Display.

Table 1. Daily Average Ozone Values for Madera-City and Madera-Pump Yard. [5]

AQMIS web pages were recently revised. Please report any problems to aqmis@arb.ca.gov

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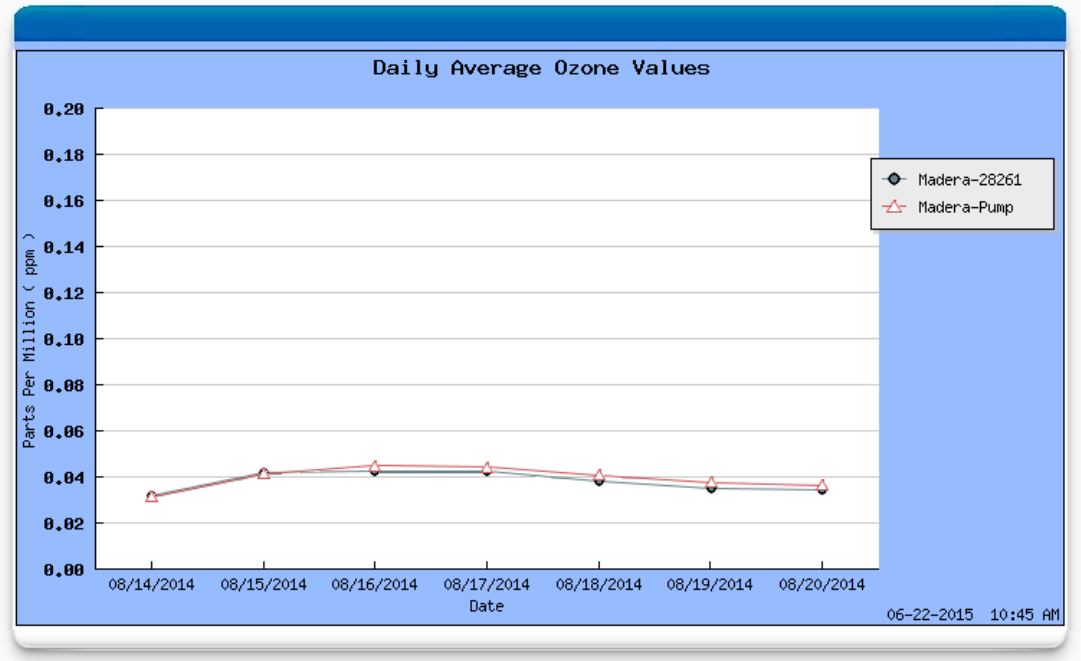


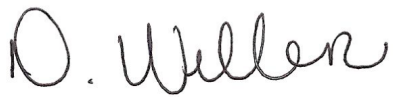
The 2015 Plan includes the closure of a monitor in Stockton, reducing the number of monitors for PM10 in the northern part of the San Joaquin Valley. The District should remove the closure of the Stockton PM10 monitor from the Plan. The District aims to create a robust monitoring network and, at some point in the future, to use that network to provide hyper-local air quality forecasts to the public. Closing a monitor harms the District's efforts to create a robust network and to provide accurate forecasts. In addition, as drought conditions continue into the foreseeable future, PM10 pollution (dust) will become a bigger issue in the San Joaquin Valley. The monitor should remain open to track changes in PM10 concentrations over time and to give the District and the public information about how successful existing PM10 controls are at keeping PM10 concentrations below the National Ambient Air Quality Standard ("NAAQS") for PM10.

[5] California Air Resources Board. Daily Average Ozone Values. Retrieved June 22, 2015 from http://www.arb.ca.gov/aqmis2/graph.php?x=36&y=15&rcheck15=0.0317%2C0.0419%2C0.0423%2C0.0423%2C0.0382%2C0.0350%2C0.0341%2CMadera-28261+Avenue+14%2C3771&rcheck16=0.0315%2C0.0414%2C0.0447%2C0.0443%2C0.0409%2C0.0377%2C0.0363%2CMadera-Pump+Yard%2C3211&year=2014&mon=8&day=20&param=OZONE&units=007&statistic=DAVG&order=basin%2Ccounty_name%2Cname&hours=midday&o3area=&o3pa8=&county_name=--COUNTY--&latitude=--PART+OF+STATE--&basin=SJV-San+Joaquin+Valley&o3switch=new&ptype=aqd&report=7DAY&btnsubmit=Update+Display&rows=27&xlabel=08%2F14%2F2014%2C08%2F15%2F2014%2C08%2F16%2F2014%2C08%2F17%2F2014%2C08%2F18%2F2014%2C08%2F19%2F2014%2C08%2F20%2F2014%2C.

Conclusion

Access to accurate air monitoring data is of critical importance for the San Joaquin Valley, and the air monitoring network is the foundation that allows access to accurate data.
The data provides needed updates on progress toward attainment, and helps researchers understand the nature of air pollution in the region. The data helps residents know when air pollution reaches dangerous levels so that they can protect themselves. It lets families know when it is safe for their children to play outside. The District must live up to the principles listed in its Core Values and ensure that the air monitoring network serves as a reliable source for air quality data for all San Joaquin Valley residents. CVAQ urges the District to adopt the recommendations described in this letter, and thanks the District for the opportunity to comment.

Sincerely,



Dolores Weller
Director
Central Valley Air Quality Coalition