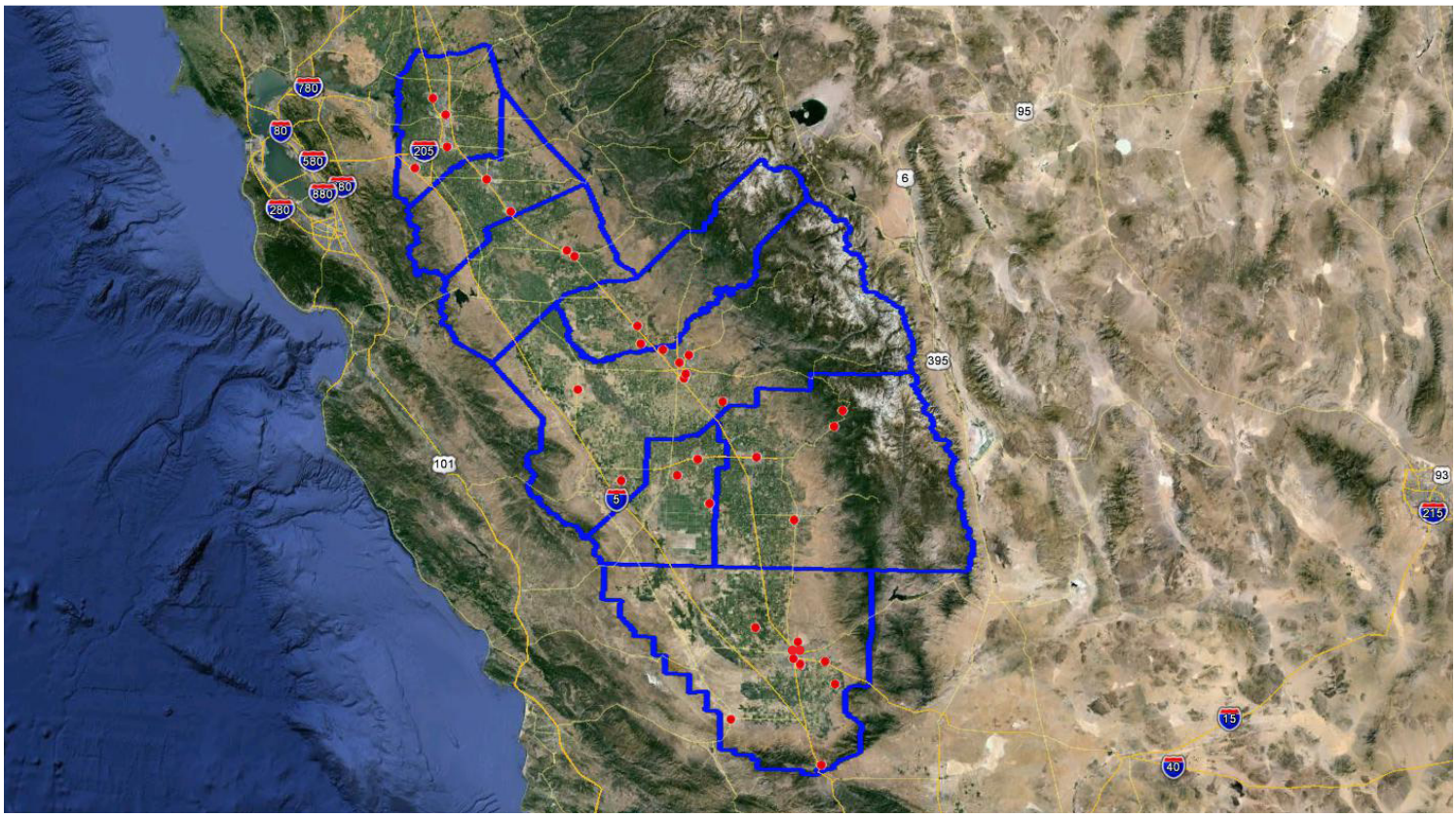
San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

2020 Air Monitoring Network Plan



DRAFT San Joaquin Valley Air Pollution Control District

2020 Air Monitoring Network Plan

May 27, 2020

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* 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 pollution monitors throughout the San Joaquin Valley (Valley) to support its mission of improving and protecting public health. District staff use 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 and California Air Resources Board (CARB) websites, and Valley media, 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, hazard reduction burning, agricultural burning, and residential wood burning to ensure these activities do not result in adverse air quality impacts.

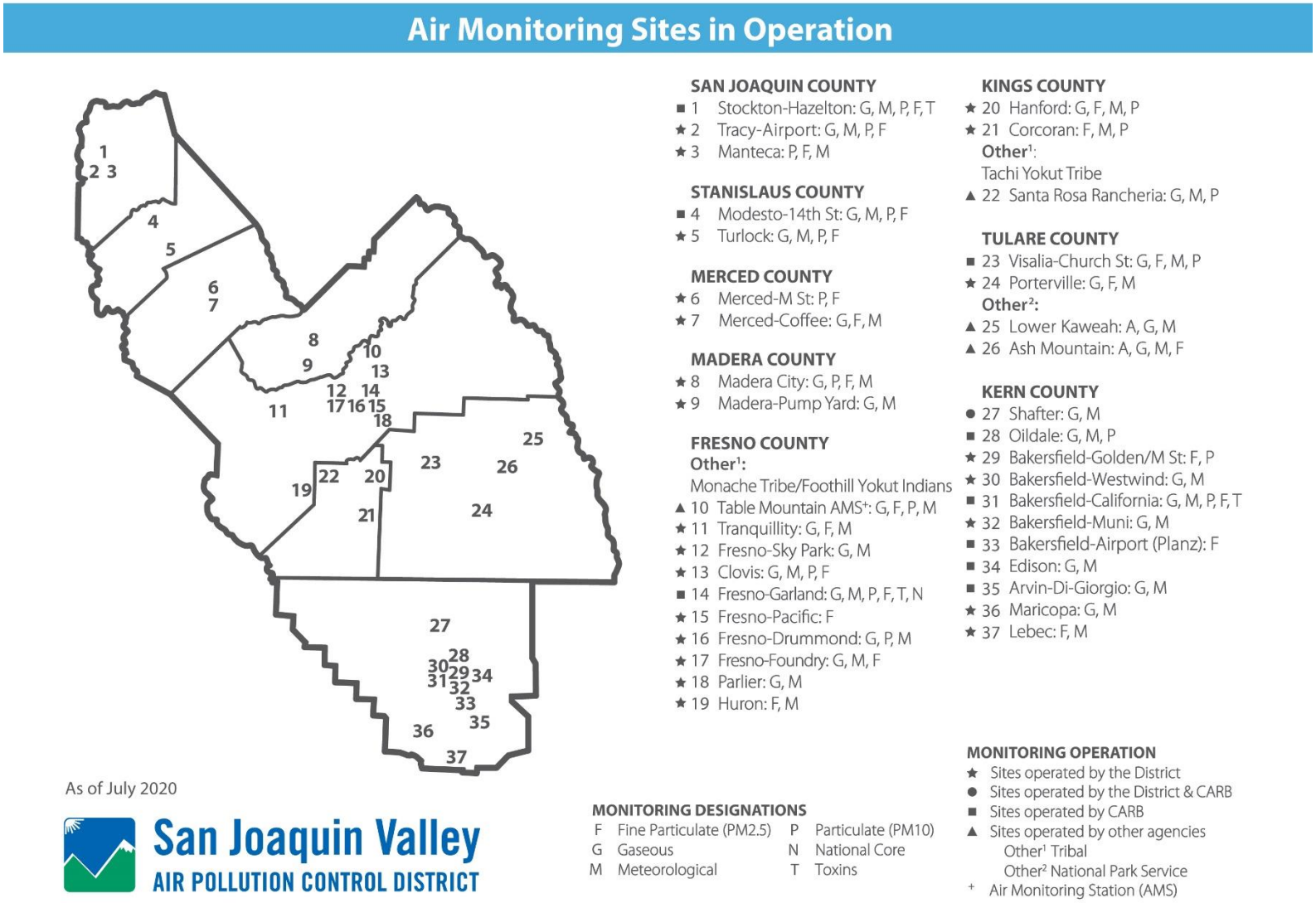
As part of the District's long-term efforts to improve public health, air monitors collect data that is rigorously analyzed by laboratory technicians and District staff. This monitoring data determines the Valley's air quality and is fundamental in the Valley's effort to improve air quality and achieve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

The Valley covers an area of 23,490 square miles, and is prone to one of the most challenging air quality problems in the nation. The Valley is home to over 4,000,000 residents and includes several major metropolitan areas, vast expanses of agricultural land, industrial sources, highways, and schools. The Valley is designated as an attainment area for the federal Lead (Pb), Nitrogen Dioxide (NO_2), Sulfur Dioxide (SO_2), and Carbon Monoxide (CO) National Ambient Air Quality Standards (NAAQS or standards). In addition, the Valley is designated as an attainment/maintenance area for the PM10 NAAQS (particulate matter less than 10 microns in diameter). The Valley is designated as a nonattainment area for federal PM2.5 and ozone (O_3) standards. 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 CARB and the National Park Service (NPS). Additionally, there are three tribal air monitoring stations operating in the Valley: the Tachi Yokut Tribe operates the Santa Rosa Rancheria air monitoring station located in Kings County; and the Monache Tribe and Foothill Yokut Indians operate the air monitoring station located at Table Mountain Rancheria in Fresno County. Since the tribal monitors are operated under the Tribal Authority Rule which is essential to tribal implementation of the Clean Air Act (CAA), and are not part of the District's jurisdiction, detailed site information for tribal monitors is not provided in this air monitoring network plan.

A map of air monitoring sites in the Valley is provided in Figure 1 on the following page.

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



AIR MONITORING NETWORK PLAN REQUIREMENTS

As specified in Title 40 Code of Federal Regulations (CFR) Part 58, Section 58.10, and as a requirement of the District's EPA 105 Grant, this air monitoring network plan describes the current state of the District's monitoring network and planned changes to the network.

Each year, the District updates the air monitoring network plan and posts it for public inspection for at least 30 days prior to submitting it to the EPA Regional Administrator. Air monitoring network plans provide information on 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, Monitors, and Networks

Abbreviation	Full Name	Description
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.
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.
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 FEM, or FRM.
STN	Speciated Trends Network	PM2.5 speciation stations that provide chemical speciation data of particulate matter (PM).

The air 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) site identification number (see Table 3).
- Population estimate (see Table 4).
- Location: 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 Part 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 *Improvements and Planned Changes* section of this document).

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 NAAQS as described in 40 CFR Section 58.30 (see *PM2.5 Monitors* section of this document).
- 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 air monitoring 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
Combined Statistical Area (CSA)	**Combined Statistical Area (CSA) Code**
Fresno–Madera	260
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*	12540

* 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

MSA/CBSA: Stockton–Lodi		
County: San Joaquin		
Site Name	**AQS ID**	**Operating Agency**
Stockton–Hazelton	060771002	CARB
Tracy–Airport	060773005	SJVAPCD
Manteca	060772010	SJVAPCD
MSA/CBSA: Modesto		
County: Stanislaus		
Site Name	**AQS ID**	**Operating Agency**
Modesto–14th St	06-099-0005	CARB
Turlock	06-099-0006	SJVAPCD
MSA/CBSA: Merced		
County: Merced		
Site Name	**AQS ID**	**Operating Agency**
Merced–M St	06-047-2510	SJVAPCD
Merced–Coffee	06-047-0003	SJVAPCD
MSA/CBSA: Madera		
County: Madera		
Site Name	**AQS ID**	**Operating Agency**
Madera–City	06-039-2010	SJVAPCD
Madera–Pump Yard	06-039-0004	SJVAPCD

Table 3 Site Identification (continued)

MSA/CBSA: Fresno		
County: Fresno		
Site Name	**AQS ID**	**Operating Agency**
Tranquillity	06-019-2009	SJVAPCD
Fresno–Sky Park	06-019-0242	SJVAPCD
Clovis–Villa	06-019-5001	SJVAPCD
Fresno–Garland	06-019-0011	CARB
Fresno–Pacific	06-019-5025	SJVAPCD
Fresno–Drummond	06-019-0007	SJVAPCD
Fresno–Foundry	06-019-2016	SJVAPCD
Parlier	06-019-4001	SJVAPCD
Huron	06-019-2008	SJVAPCD
MSA/CBSA: Hanford–Corcoran		
County: Kings		
Site Name	**AQS ID**	**Operating Agency**
Hanford–Irwin	06-031-1004	SJVAPCD
Corcoran–Patterson	06-031-0004	SJVAPCD
MSA/CBSA: Visalia–Porterville		
County: Tulare		
Site Name	**AQS ID**	**Operating Agency**
Visalia–Church St	06-107-2002	CARB
Porterville	06-107-2010	SJVAPCD
Sequoia–Ash Mountain	06-107-0009	NPS
Sequoia–Lower Kaweah	06-107-0006	NPS
MSA/CBSA: Bakersfield		
County: Kern (Valley Portion)		
Site Name	**AQS ID**	**Operating Agency**
Shafter	06-029-6001	CARB and SJVAPCD
Oildale	06-029-0232	CARB
Bakersfield–Golden / M St	06-029-0010	SJVAPCD
Bakersfield–Westwind	06-029-2019	SJVAPCD
Bakersfield–California	06-029-0014	CARB
Bakersfield–Muni	06-029-2012	SJVAPCD
Bakersfield–Airport (Planz)	06-029-0016	CARB
Edison	06-029-0007	CARB
Arvin–Di Giorgio	06-029-5002	CARB
Maricopa	06-029-0008	SJVAPCD
Lebec	06-029-2009	SJVAPCD

Table 4 San Joaquin Valley 2019 Population

County	Total County Population*	Major Urban Area Pop > 100,000	Urban Area Pop < 100,000 and > 50,000
San Joaquin	765,556	Stockton	Lodi, Manteca, Tracy
Stanislaus	554,018	Modesto	Turlock
Merced	280,735	—	Merced
Madera	158,216	—	Madera
Fresno	1,015,195	Fresno, Clovis	—
Kings	152,995	—	Hanford
Tulare	476,588	Visalia	Porterville, Tulare
Kern (Valley Portion)	772,144**	Bakersfield	Delano
Kern (Entire County)	908,405	Bakersfield	Delano
San Joaquin Valley Total	**4,175,447**		

* Data from California Department of Finance E–1 Population Estimates for Cities, Counties and the State, January 1, 2019, Released May 1, 2020

** 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.

Monitoring Objectives, Site Types, and Spatial Scales

Three **basic monitoring objectives** that define the purpose of each analyzer are identified in 40 CFR Part 58 Appendix D:

- 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**).

Site types meet the objectives that define what the monitor is measuring. Some of the general monitoring site types identified in 40 CFR Part 58, Appendix D include:

- 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 oriented** 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.

Scales of spatial representativeness are 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 following **spatial scales** are identified in 40 CFR Part 58, Appendix D:

- **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.

New monitoring stations and new monitors that are intended to be compared to the NAAQS must meet EPA siting criteria. Some sites may be appropriate for monitoring all air pollutants, while other sites may be 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. Table 5 summarizes the parameters measured at each air monitoring site in the San Joaquin Valley.

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 6 for the meteorological parameters measured in the Valley.

State of the Air Monitoring Network

This air monitoring network plan summarizes the state of the District's air monitoring network during 2019. Additionally, changes that the District may initiate through December 2020 are described in the *Improvements and Planned Changes* section later in this document.

Table 5 Pollutant Parameters Monitored in the San Joaquin Valley

Site Name	Ozone	PM2.5	PM10	PM10–2.5	NO2	CO	SO2	NMH	Speciated VOC	NOy	PM2.5 Speciation	Toxics
Stockton–Hazelton	✓	✓	✓		✓	✓						✓
Tracy–Airport	✓	✓	✓		✓							
Manteca		✓	✓									
Modesto–14th St	✓	✓	✓			✓					✓	
Turlock	✓	✓	✓		✓							
Merced–M St		✓	✓									
Merced–Coffee	✓	✓			✓							
Madera–City	✓	✓	✓									
Madera–Pump Yard	✓				✓			✓	✓			
Tranquillity	✓	✓										
Fresno–Sky Park	✓				✓							
Clovis–Villa	✓	✓	✓		✓	✓		✓	✓			
Fresno–Garland	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓
Fresno–Pacific		✓										
Fresno–Drummond	✓		✓		✓							
Fresno–Foundry		✓			✓	✓						
Parlier	✓				✓			✓	✓			
Huron		✓										
Hanford–Irwin	✓	✓	✓		✓							
Corcoran–Patterson		✓	✓									
Visalia–Church St	✓	✓	✓		✓						✓	
Porterville	✓	✓										
Sequoia–Ash Mountain	✓	✓										
Sequoia–Lower Kaweah	✓											
Shafter	✓				✓			✓	✓			
Oildale	✓		✓									
Bakersfield–Golden / M St		✓	✓									
Bakersfield–Westwind					✓							
Bakersfield–California	✓	✓	✓		✓						✓	✓
Bakersfield–Muni	✓				✓	✓		✓	✓			
Bakersfield–Airport (Planz)		✓										
Edison	✓				✓							
Arvin–Di Giorgio	✓											
Maricopa	✓											
Lebec		✓										

Table 6 Meteorological Parameters Monitored in the San Joaquin Valley

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

POLLUTANT MONITORING REQUIREMENTS

Ozone

In 2015, EPA revised the 8-hour average ozone NAAQS by lowering it to 0.070 parts per million (ppm), or 70 parts per billion (ppb). Ozone is formed when its precursors, oxides of nitrogen (NOx) and 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. Furthermore, 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 40 CFR part 58, Appendix D, Table D-2, ozone monitoring site requirements are based on MSA population and design values (see Table 7 below). Table 8 shows that the Valley's ozone monitoring network meets these requirements. Sites are intended to represent population exposures and maximum concentrations, so most ozone monitors are representative of neighborhood and regional scales. All of the SLAMS ozone analyzers in the District's network operate in compliance with 40 CFR Part 58 Appendix A and Appendix E and measure hourly ozone concentrations. The hourly ozone data is also used in the District's Real-time Air Advisory Network (RAAN) to inform the public of hourly ozone values in near real-time. As such, these analyzers are comparable to the ozone NAAQS (70 ppb) and also meet the "Timely/Public" monitor objective.

Table 7 SLAMS Minimum Ozone Monitoring Requirements

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 8 Ozone Monitoring Requirements for the Valley

MSA	2019 Population	Highest 2019 Ozone Design Value in MSA (ppb)*	≥85% of any ozone NAAQS	Number of SLAMS required	SLAMS in MSA
Stockton–Lodi	765,556	73	Yes	2	2
Modesto	554,018	82	Yes	2	2
Merced	280,735	76	Yes	1	1
Madera	158,216	78	Yes	1	2
Fresno	1,015,195	86	Yes	2	6
Hanford–Corcoran	152,995	80	Yes	1	1
Visalia–Porterville	476,588	86	Yes	2	3
Bakersfield	772,144**	88	Yes	2	7

* Design Values are preliminary pending updated values from CARB sites.

** Population estimate for Kern County (Valley Portion) was calculated using census tract data for the population living within the District's boundaries.

Photochemical Assessment Monitoring Stations

The monitoring objective of Photochemical Assessment Monitoring Stations (PAMS) is "research support". Clean Air Act Section 182 and 40 CFR 58 requires serious, severe, and extreme ozone nonattainment areas to have PAMS sites measure speciated ozone precursors in order to better understand the effect of precursors and photochemistry as well as control strategies on ozone formation. PAMS sites measure ozone, carbon monoxide (CO), nitrogen oxide (NO), nitrogen dioxide (NO2), oxides of nitrogen (NOx), and non–methane hydrocarbon (NMH) as well as meteorology. Although the Valley does not exceed federal or state standards for NO2, NOx reductions contribute to air quality improvement for both ozone and particulate matter (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 9, the District has a total of six PAMS sites configured as two networks, one for the Fresno MSA and one for the Bakersfield MSA. In May 2016, the

EPA approved the relocation of the ozone SLAMS monitor formerly at Arvin–Bear Mountain to the Arvin–Di Giorgio location in Kern County. Additionally, CARB has begun the process of building a permanent shelter that should have enough space to accommodate all of the PAMS equipment intended for the site. It should be noted that, in lieu of upcoming changes to PAMS program requirements, plans to continue PAMS monitoring at Arvin are pending (see *Planned Changes/Improvements* section of this document).

Each year, the PAMS program operates from June 1 through August 31 on a 1-in-3 day sampling schedule. At least four, three-hour integrated samples are collected each sampling day, which is 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. Other PAMS equipment (e.g. ozone, NO2, non-methane hydrocarbon analyzers) operates on an hourly basis year round.

Table 9 San Joaquin Valley PAMS Network

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

*CARB will install PAMS equipment for the Type 3 site at the Arvin-Di Giorgio when space becomes available.

As a part of the October 1, 2015, revisions to the PAMS requirements in 40 CFR Part 58, Appendix D, areas that are classified as Moderate nonattainment or above for 8-hour ozone must develop and implement an Enhanced Monitoring Plan (EMP), explaining how continued measurements of ozone and ozone precursors will assist in understanding the formation of ozone in the area. CARB is responsible for submitting the EMP for the entire state. According to CARB, EPA has made it clear that only an EMP submitted by CARB will satisfy the requirement. As such, the District has attached the California 2019 Enhanced Monitoring Plan as Appendix D to support this requirement.

Nitrogen Dioxide

As stated in 40 CFR Part 50, the annual average NO2 standard is 53 ppb, and the 1-hour NO2 standard at the level of 100 ppb. Within the NO2 network, one microscale near-road NO2 monitoring station is required in CBSAs with populations of 1,000,000 or more in order to meet the NAAQS. Thus a Three-Tier Network design that will represent NO2 concentrations that occur near freeways, urban areas, and locations

aimed at protecting susceptible and vulnerable communities is outlined in 40 CFR Part 58. The Three-Tier Network design is comprised of:

(1) One monitor that represents highest NO2 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 NO2 monitor, the District and CARB operate an extensive NO2 monitoring network consisting of 18 monitors, including one near-road NO2 monitor in Fresno and a second near-road NO2 monitor in Bakersfield. The District locates NO2 analyzers as required at PAMS sites and generally collocates NO2 analyzers wherever an ozone monitor is required. Currently, all of the Valley's NO2 monitors are in compliance with the federal NO2 standards, including the Fresno and Bakersfield near-road NO2 monitoring stations, which are focused on capturing peak NO2 concentrations from heavily trafficked roadways.

It should be noted that, during recent months, the District has encountered some challenges at the Bakersfield near–road monitoring station. The station has had two NO2 analyzers fail as a result of being inundated with construction dust from nearby roadwork on State Route 99. Both analyzers had built-in particulate filters that were designed to trap particles in typical ambient conditions. However, the filters became overwhelmed by the nearby construction as the dust particles subsequently entered the measurement system and destroyed the cavity of both analyzers. Both analyzers were destroyed, leading the District to postpone sampling until the construction work is confirmed to have subsided enough to allow near-road monitoring to resume without damaging the analyzers.

(2) Near-road monitoring at locations of expected maximum 1-hour NO2 concentrations near heavily trafficked roads in urban areas.

Per Section 4 of Appendix D in 40 CFR Part 58, one microscale near-road NO2 monitor is required in each CBSA with a population of 1,000,000 or more and must be located near a major road segment with a high annual average daily truck traffic (AADTT) count. Another near-road monitor is required in CBSAs with populations of 2,500,000 or more; or in CBSAs with populations of 1,000,000 or more that have one or more road segments with 250,000 or more AADTT counts. Additionally, for CBSAs with populations of 1,000,000 or more, EPA requires that one PM2.5 monitor and one CO monitor be collocated at a near–road NO2 site.

In order to meet this requirement, the District proactively established two near-road NO2 monitoring stations in the air monitoring network. One of near-road station is located in the Fresno CBSA, which reached a population of 1,000,000 in 2019. The near-road air monitoring station in Fresno became operational in January 2016. When the Fresno CBSA population reached 1,000,000, the District installed a CO analyzer and a PM2.5 analyzer to further meet EPA's requirements for near-road air monitoring. Both analyzers became operational in December 2019.

The other near-road NO2 monitoring station in the District's monitoring network is located in the Bakersfield CBSA, which is nearing a population of 1,000,000. The Bakersfield near-road air monitoring station became operational in January 2019. When the Bakersfield CBSA's population reaches 1,000,000, the District will install CO and PM2.5 analyzers as per EPA's requirements.

(3) NO2 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 NO2 sites located throughout the United States, as determined by the Regional Administrators. These 40 sites would be in addition to the minimum NO2 monitoring requirements. EPA Region 9 has asked the District to choose two sites for RA40 purposes. Currently, Parlier is designated as an RA40 site in the Fresno CBSA, and Bakersfield–Muni is designated as the RA40 site in the Bakersfield CBSA. These sites are located in towns with susceptible and vulnerable populations downwind from urban areas.

Carbon Monoxide

On August 12, 2011, EPA issued the decision to retain the existing NAAQS for CO. The primary standards are 9 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 NO2 monitoring station in a CBSA with population of 1,000,000 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 areas impacted by major stationary CO sources, in urban downtown areas, in 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, only Fresno is the CBSA within the District that is comprised of more than 1,000,000 people, thus the District is required to place a CO monitor at a near–road NO2 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.

Sulfur Dioxide

In 2010, EPA revised the NAAQS and monitoring requirements for SO2 which are outlined in 40 CFR Part 58 Appendix D Section 4.4. As such, a new primary 1–hour standard of 75 ppb was established, and the previous 24-hour and annual primary standards were revoked. Under the revised SO2 NAAQS, the monitoring requirements are determined by a Population 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 SO2 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 SO2 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 10.

Table 10 Valley SO2 PWEI Values for 2019

County	Total County 2019 Population	SO2 Tons per Year*	PWEI
San Joaquin	765,556	2,044	1,565
Stanislaus	554,018	548	303
Merced	280,735	329	92
Madera	158,216	329	52
Fresno	1,015,195	3,687	3,743
Kings	152,995	292	45
Tulare	476,588	1,351	644
Kern**	908,405	1,862	1,691

* SO2 emissions data is the most recent data for each county from 2015.Source: California Air Resources Board California Emission Inventory Development and Reporting System (CEIDARS) http://www.arb.ca.gov/ei/drei/maintain/database.htm.

** Population estimate SO2 tons per year are for the entire Kern County.

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 SO2 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 SO2 monitors. A minimum of one SO2 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 (Fresno County) is only 3,743, 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 SO2 standard there is no required number of SO2 monitors. As a result, there are no SO2 monitoring requirements for the District.

Despite not having any monitoring requirements, there is one SO2 monitor operating within the District's network. This monitor is located at the Fresno-Garland site to meet requirements for the NCore Network.

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. Within the District's network, the NCore site at Fresno-Garland currently monitors NOy.

Toxics

The airborne toxics program is run by CARB. Ambient 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 20 particulate metals including: arsenic, lead, nickel, cadmium, and hexavalent chromium.

Detailed Site Information – Gaseous Monitors

Criteria such as monitoring methods, monitor types, spatial scales, site types, basic monitoring objectives, current sampling frequencies, and other requirements being met by the District's gaseous pollutants monitoring network are shown in Tables 11, 12, 22 through 27, and Appendix B.

Table 11 Gaseous Monitors

Site Name	FRM/FEM/Other				
	Ozone	NO2	CO	NMH	Speciated VOC
Stockton-Hazelton	FEM	FRM	FRM		
Tracy-Airport	FEM	FEM			
Modesto-14th St	FEM		FRM		
Turlock	FEM	FEM			
Merced-Coffee	FEM	FEM			
Madera-City	FEM				
Madera-Pump Yard	FEM	FEM		Other	Other
Tranquillity	FEM				
Fresno-Sky Park	FEM	FEM			
Clovis-Villa	FRM	FEM	FEM	Other	Other
Fresno-Drummond	FRM	FEM			
Fresno-Foundry		FEM	FEM		
Parlier	FEM	FEM		Other	Other
Hanford-Irwin	FEM	FEM			
Visalia-Church St	FEM	FRM			
Porterville	FEM				
Shafter	FEM	FRM		Other	Other
Oildale	FEM				
Bakersfield-Westwind		FEM			
Bakersfield-California	FEM	FRM			
Bakersfield-Muni	FEM	FEM	FEM	Other	Other
Edison	FEM	FRM			
Arvin-Di Giorgio	FEM				
Maricopa	FEM				

Monitoring method information for the Fresno–Garland NCore site is provided in Table 22.

Table 12 Gaseous Monitors – Monitor Type

Site Name	Monitor Type		
	Ozone	NO2	CO
Stockton-Hazelton	SLAMS	SLAMS	SLAMS
Tracy-Airport	SLAMS	SLAMS	
Modesto-14th St	SLAMS		SLAMS
Turlock	SLAMS	SLAMS	
Merced-Coffee	SLAMS	SLAMS	
Madera-City	SLAMS		
Madera-Pump Yard	SLAMS	SLAMS	
Tranquillity	SLAMS		
Fresno-Sky Park	SLAMS	SLAMS	
Clovis-Villa	SLAMS	SLAMS	SLAMS
Fresno-Drummond	SLAMS	SLAMS	
Fresno-Foundry		SLAMS	SLAMS
Parlier	SLAMS	SLAMS	
Hanford-Irwin	SLAMS	SLAMS	
Visalia-Church St	SLAMS	SLAMS	
Porterville	SLAMS		
Shafter	SLAMS	SLAMS	
Oildale	SLAMS		
Bakersfield-Westwind		SLAMS	
Bakersfield-California	SLAMS	SLAMS	
Bakersfield-Muni	SLAMS	SLAMS	SLAMS
Edison	SLAMS	SLAMS	
Arvin-Di Giorgio	SLAMS		
Maricopa	SLAMS		

Monitor type information for the Fresno–Garland NCore site is provided in Table 22.

Particulate Matter (PM)

Particulate Matter (PM) can be emitted directly as primary PM as well as formed in the atmosphere through chemical reactions of precursors to form secondary PM. Primary PM can be emitted either naturally or as a result of human (anthropogenic) activity. The resulting ambient PM mixture includes aerosols consisting of components of nitrates, sulfates, elemental carbon, organic carbon compounds, acid aerosols, trace metals, and geological materials. Under current regulations, PM 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).

To better understand the influence of meteorology, natural events, and sources of emissions on the Valley's PM2.5 concentrations, the District conducted the California Regional Particulate Air Quality Study (CRPAQS). CRPAQS was a comprehensive particulate field study for which monitoring occurred between December 1999 and February 2001. Through the use of over 70 Special Purpose Monitor (SPM) PM10 sites and 50 SPM PM2.5 sites, researchers analyzed data from CRPAQS for database development, analysis, and modeling. In addition to CRPAQS, other Valley-specific air quality studies have assessed 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 and other research efforts.

Meteorological conditions directly influence dispersion conditions which, in turn, affect pollutant concentrations. Low pressure systems render atmospheric instability and can produce strong winds which help improve dispersion. Unstable conditions enhance vertical and horizontal mixing of air which help lift pollutants away from the surface and decrease pollutant concentrations. In contrast, high pressure systems produce stable conditions, weak winds, and temperature inversions which cause dispersion to deteriorate and pollutant concentrations to rise. Under high pressure systems, temperature inversions, wherein temperature increases with altitude, impede vertically lifting of air and are very instrumental in trapping pollutants near the Earth's surface. As such, prolonged periods of high pressure and strong inversions can lead to stagnant conditions and elevated pollutant concentrations. This is especially common for PM2.5 during the winter season.

The Valley's PM monitoring network includes federal reference method (FRM) monitors, federal equivalent method (FEM) monitors, and Non-FEM monitors. FRM monitors for PM are manual filter-based monitors. The District's PM FRM samples are primarily collected on either a one-in-six day, one-in-three day, or one-in-twelve day sampling schedule. FRM monitors meet the "NAAQS Comparison" 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 PM2.5 and PM10 data used in AQI forecasts, Smoke Management System (SMS) burn allocations, hazard reduction and prescribed burning allocations and, residential wood burning declarations. The hourly PM2.5 data is also used in the District's Real-time Air Advisory Network (RAAN). As such, these monitors help meet the "Timely/Public" objective.

Not all real-time monitors meet the "NAAQS Comparison" 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 "NAAQS Comparison" objective and the "Timely/Public" objective.

Several PM2.5 analyzers within the District's network are located at sites that are not required by EPA. The District operates these sites for various reasons, including complying with state laws (Huron), as a settlement to a lawsuit (Tracy-Airport), and for the purposes of helping the District's RAAN and forecasting programs (Porterville and Lebec, where the Lebec site was donated to the District). Additionally, settlements of California Environmental Quality Act (CEQA) lawsuits between a private company and a private citizen required the company to give the District specific air monitoring equipment to be operated at specific sites. All of these sites and/or equipment are not required for NAAQS purposes.

The District operates four PM2.5 analyzers (parameter code 88502) as SPMs. These analyzers have not been certified by EPA as comparable to the PM2.5 NAAQS and do not meet all of the certification requirements. Specifically, EPA requires a runtime of 42 minutes per hour with an eight–minute count and these analyzers operate with a runtime of 50 minutes per hour with a four–minute count. Additionally, these instruments use a Sharp Cut Cyclone PM2.5 inlet instead of a Very Sharp Cut Cyclone PM2.5 inlet. Finally, some of these analyzers do not support the approved software to operate in a manner comparable to the NAAQS. While these sites are non-FEMs, they produce valuable data that is of sufficient quality for their intended purposes. All other required PM2.5 analyzers in the District's network, both SLAMS and SPM, are operated in compliance with 40 CFR Part 58 Appendix A and Appendix E, and are comparable to the PM2.5 NAAQS.

Detailed Site Information – PM Monitors

As mentioned above, monitoring sites and monitors must meet siting and operational criteria as outlined in 40 CFR Part 58. Criteria such as monitor types, spatial scales, site types, basic monitoring objectives, current sampling frequencies, and other requirements being met by the District's PM network are shown in Tables 19 through 28 and Appendix B.

PM Collocation Requirements

Per 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 21 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 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.

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 ensure continued compliance with the federal PM10 standard (150 µg/m^3). All required SLAMS PM10 analyzers are operated in compliance with 40 CFR Part 58, Appendix A and Appendix E and are comparable to the PM10 NAAQS.

As shown in Table 13 below, Table D-4 of Appendix D to Part 58 specifies that the minimum number of PM10 sites required per MSA is based on population. As such, Table 14 shows that the District's PM10 monitoring network meets the requirements for the San Joaquin Valley. Additionally, the year 2019 24-hour PM10 highest concentrations for each PM10 monitoring site in the District's network are provided in Table 15.

Table 13 Minimum PM10 Monitoring Requirements*

Population category	High concentration** > 186 µg/m³	Medium concentration*** ≥ 124 µg/m³	Low concentration**** < 124 µg/m³
>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

* A range is presented, and the actual number of stations per area is jointly determined by EPA, CARB, and the local agency.

** High concentration areas which ambient PM10 concentrations exceed the PM10 NAAQS by 20 percent or more.

*** Medium concentration areas which ambient PM10 concentrations exceed 80 percent of the PM10 NAAQS.

**** Low concentration areas which ambient PM10 concentrations are less than 80 percent of the PM10 NAAQS. These minimum monitoring requirements apply in the absence of a design value.

Table 14 PM10 Monitoring Requirements for the Valley

MSA	County	2019 Population	PM10 (µg/m³)				
			Exceptional Events Included*		Exceptional Events Excluded**		Number of SLAMS in MSA
			24–hour 2019 Highest concentration in MSA	Number of SLAMS required	24–hour 2019 Highest concentration in MSA	Number of SLAMS required	
Stockton–Lodi	San Joaquin	765,556	333	4-8	85	2-4	3
Modesto	Stanislaus	554,018	308	4-8	95	2-4	2
Merced	Merced	280,735	96	0-1	96	0-1	1
Madera	Madera	158,216	218	1-2	135	0-1	1
Fresno	Fresno	1,015,195	327	6-10	150	4-8	4
Hanford–Corcoran	Kings	152,995	549	1-2	138	0-1	3
Visalia–Porterville	Tulare	476,588	410	3-4	148	1-2	1
Bakersfield***	Kern	772,144	652	4-8	142	2-4	3

* PM10 monitoring requirements for the Valley before all data influenced by exceptional events is removed

** PM10 monitoring requirements for the Valley after all data influenced by exceptional events is removed

*** Population estimate for Kern County (Valley Portion) was calculated using census tract data for the population living within the District's boundaries.

October and November 2019 experienced several extreme wind events that caused severe blowing dust and abnormally high PM10 concentrations. Table 14 above shows the highest measured 24-hour PM10 concentrations and required number of SLAMS, as well as the highest 24-hour PM10 concentrations *not* influenced by exceptional events. Since the extreme wind impacts in 2019 were the result of natural events that do not represent typical ambient PM10 concentrations, the 24-hour PM10 concentrations that

exclude the exceptional event days in the table above represent the District's PM10 attainment status and are appropriate to determine the number of SLAMS for each MSA.

The District will revisit the number of SLAMS (Table 14) and the sampling frequency (Table 27) in each MSA each year as a part of the annual Air Monitoring Network Plan.

Table 15 24–Hour PM10 highest concentrations at each site^

MSA	Site Name	Exceptional Events Included*	Exceptional Events Excluded**
		2019 Highest Concentration	2019 Highest Concentration
Stockton-Lodi	Stockton-Hazelton	85	86
	Tracy-Airport	241	116
	Manteca	333	124
Modesto	Modesto-14th St	308	105
	Turlock	95	95
Merced	Merced-M St	96	96
Madera	Madera-City	218	135
Fresno	Clovis-Villa	150	150
	Fresno-Garland***	327	148
	Fresno-Drummond	170	105
Hanford-Corcoran	Hanford-Irwin	211	138
	Corcoran-Patterson	549	148
Visalia-Porterville	Visalia-Church St	410	148
Bakersfield	Oildale	389	142
	Bakersfield-Golden State/M St	652	116
	Bakersfield-California	116	116

^Current Sampling Frequency information is provided in Table 27.
* PM10 monitoring requirements for the Valley before all data influenced by exceptional events is removed
** PM10 monitoring requirements for the Valley after all data influenced by exceptional events is removed
*** Current Sampling Frequency information for the Fresno–Garland NCore site is provided in Table 22.

PM2.5 Monitoring Requirements

The San Joaquin Valley is designated nonattainment for PM2.5. Per 40 CFR Part 58 Appendix D Table D-5 the minimum number of PM2.5 sites required per MSA is based on population (see Table 16). Table 17 shows that the District's PM2.5 monitoring network meets the PM2.5 monitoring requirements for the San Joaquin Valley. Additionally, the 2017-2019 24-hour PM2.5 and annual design values for each site in the District's PM2.5 network are provided in Table 18.

Table 16 Minimum PM2.5 Monitoring Requirements

MSA population	Most recent 3-yr design value % of the 24-Hour or Annual PM2.5 NAAQS*	
	≥85%	<85%
>1,000,000	3	2
500,000 - 1,000,000	2	1
50,000 - <500,000	1	0

* 24–hour $PM_{2.5}$ NAAQS is 35 µg/m^3. The Annual PM2.5 NAAQS is 12 µg/m^3.
** These minimum monitoring requirements apply in the absence of a design value.

Table 17 PM2.5 Monitoring Requirements for the Valley*

MSA	County	2019 Population	PM2.5				
			24–hour 2017-2019 Design Value in MSA (µg/m^3)	Annual 2017-2019 Design Value in MSA (µg/m^3)	Number of SLAMS required	Number of SLAMS in MSA	Number of Continuous PM2.5 Monitors in MSA**
Stockton-Lodi	San Joaquin	765,556	56	13.0	2	2	3
Modesto	Stanislaus	554,018	60	13.5	2	2	2
Merced	Merced	280,735	41	12.2	1	2	1
Madera	Madera	158,216	40	12	1	1	1
Fresno***	Fresno	1,015,195	59	14.5	3	4	6
Hanford-Corcoran	Kings	152,995	64	15.1	1	3	2
Visalia-Porterville	Tulare	476,588	61	15.5	1	1	2
Bakersfield****	Kern	772,144	61	15.2	2	3	2

* Air quality data may include data influenced by exceptional events and/or data completeness and substitution requirements.
** Number of continuous monitors includes regulatory and non–regulatory monitors.
*** The PM2.5 FRM monitor at Fresno-Garland is one of the monitors helping meet the number of PM2.5 SLAMS required in the Fresno MSA.
**** Population estimate for Kern County (Valley Portion) was calculated using census tract data for the population living within the District's boundaries.

Table 18 24–Hour and Annual $PM_{2.5}$ Maximum Design Values^

MSA	Site Name	2017-2019 24-Hour Design Value	2017-2019 Annual Design Value	Max Site in MSA	
				24-Hour	Annual
Stockton-Lodi	Stockton-Hazelton	56	13.0	✓	✓
	Manteca	53	11.0		
Modesto	Modesto-14th St	60	11.9	✓	
	Turlock	58	13.5		✓
Merced	Merced-M St	41	12.2		
	Merced-Coffee	41	12.5	✓	✓
Madera	Madera-City	40	12.0	✓	✓
Fresno	Tranquility	34	8.4		
	Clovis-Villa	47	12.8		
	Fresno-Garland	56	14.1		
	Fresno-Pacific	59	14.5	✓	✓
Hanford-Corcoran	Hanford-Irwin	63	15.7		✓
	Corcoran-Patterson	64	15.1	✓	
Visalia-Porterville	Visalia-Church St	61	15.5	✓	✓
Bakersfield	Bakersfield-Golden / M St	59	15.5		
	Bakersfield-California	61	15.2	✓	
	Bakersfield-Airport (Planz)	59	16.9		✓

PM2.5 Chemical Speciation Site Requirements

Per CFR 40 Part 58, the Chemical Speciation Network (CSN) includes Speciation Trends Network (STN) stations and supplemental speciation stations that provide chemical species data of fine particulate. Each State must conduct chemical speciation monitoring and analysis at sites that have been designated part of the STN and approved by the Administrator. Monitoring methods and sampling schedules used at the PM2.5 chemical speciation urban trends sites must be approved by the Administrator. Additionally, the sites must include analysis for elements, selected anions and cations, and carbon. Speciation data can be used to support a variety of efforts including:

- Air quality modeling analyses to help track NAAQS attainment progress and emissions controls.
- Aiding the interpretation of health studies by linking health effects to PM2.5 constituents.
- Understanding the effects of atmospheric elements on visibility.
- Assisting with air monitoring network design and siting adjustments.

In addition to the STN requirement, EPA encourages air agencies to operate additional supplemental speciation monitors to meet needs independent of the requirement such as supporting health effects related studies, and developing SIPs. There are seven PM2.5 speciation monitors operating in the District's network. Five of the monitors meet the STN requirement, and two are supplemental monitors. Details on these PM2.5 speciation monitors are shown in Table 19, and Appendix B.

Table 19 PM2.5 Speciation Monitors

Site Name	Network Affiliation	Monitor Type	FRM/FEM/ ARM/Other	Site Type	Spatial Scale	Basic Monitoring Objective	Current Sampling Frequency	QA Collocated
Modesto-14th St	CSN Supplemental	SLAMS	Other	PE	N	RS	1:6	
Fresno-Garland*	NCore, STN	Other	Other	PE	N,U	RS	1:3	
	NCore, STN	Other	Other	PE	N,U	RS	1:3	
Visalia-Church St	CSN Supplemental	SLAMS	FRM	PE	N	RS	1:3	
Bakersfield-California	STN	SLAMS	Other	PE, QA	N,U	RS	1:3	✓
	CSN, STN	Other	Other	PE	N,U	RS	1:3	
	CSN, STN	Other	Other	PE, QA	N,U	RS	1:6	✓

PE – Population Exposure N – Neighborhood U – Urban RS – Research TP – Timely/Public
Hourly = One sample every hour 1:3 = 1 in 3 day sampling 1:6 = 1 in 6 day sampling QA = Quality Assurance
*PM2.5 Speciation monitor information for the Fresno–Garland NCore site is also provided in Table 22.

Per network plan requirements described above, Tables 20 and 21 show the types of monitoring methods, collocated monitors, and monitor types operating in the District's PM monitoring network.

Table 20 PM Monitors

Site Name	FRM/FEM/Other						QA Collocated			
	PM10 (man.)	PM10 (cont.)	PM2.5 (man.)	PM2.5 (cont.)	Valid PM2.5 Design Value?^ Yes or No		PM10 (man.)	PM10 (cont.)	PM2.5 (man.)	PM2.5 (cont.)
					24-Hour NAAQS	Annual NAAQS				
Stockton-Hazelton	FRM			FEM	Yes	Yes				FEM
Tracy-Airport		FEM		Non-FEM						
Manteca		FEM		FEM	Yes	Yes				
Modesto-14th St		FEM		FEM	Yes	Yes			FRM	
Turlock	FRM			FEM	Yes	Yes				
Merced-M St	FRM		FRM		Yes	Yes				
Merced-Coffee				FEM	Yes	Yes				
Madera-City		FEM		FEM	Yes	Yes			FRM	
Tranquillity				FEM	Yes	Yes				
Clovis-Villa	FRM	FEM		FEM	Yes	Yes			FRM	
Fresno-Pacific			FRM		Yes	Yes				
Fresno-Drummond	FRM						FRM			
Huron				Non-FEM						
Hanford-Irwin	FRM	FEM		FEM	Yes	Yes				
Corcoran-Patterson		FEM	FRM	FEM	Yes	Yes				
Visalia-Church St		FEM	FRM	Non-FEM						
Porterville				Non-FEM						
Oildale		FEM								
Bakersfield-Golden / M St	FRM		FRM		Yes	Yes				
Bakersfield-California	FRM		FRM	Non-FEM			FRM		FRM	
Bakersfield-Airport (Planz)			FRM		Yes	Yes				
Lebec				Non-FEM						

cont. – Continuous man. – Manual QA = Quality Assurance
Monitoring method and monitor collocation information for the Fresno–Garland NCore site is provided in Table 22.

Table 21 PM Monitors – Monitor Type

Site Name	Monitor Type				QA Collocated			
	PM2.5 (man.)	PM2.5 (cont.)	PM10 (man.)	PM10 (cont.)	PM2.5 (man.)	PM2.5 (cont.)	PM10 (man.)	PM10 (cont.)
Stockton-Hazelton		SLAMS	SLAMS			SPM		
Tracy-Airport		SPM		SLAMS				
Manteca		SLAMS		SLAMS				
Modesto-14th St		SLAMS		SLAMS	SLAMS			
Turlock		SLAMS	SLAMS					
Merced-M St	SLAMS		SLAMS					
Merced-Coffee		SLAMS						
Madera-City		SLAMS		SLAMS	SLAMS			
Tranquillity		SLAMS						
Clovis-Villa		SLAMS	SLAMS	SLAMS	SLAMS			
Fresno-Pacific	SLAMS							
Fresno-Drummond			SLAMS				SLAMS	
Huron		SPM						
Hanford-Irwin		SLAMS	SLAMS	SLAMS				
Corcoran-Patterson	SLAMS	SLAMS		SLAMS				
Visalia-Church St	SLAMS	Other		SLAMS				
Porterville		SPM						
Oildale				SLAMS				
Bakersfield-Golden / M St	SLAMS		SLAMS					
Bakersfield-California	SLAMS	OTHER	SLAMS		SLAMS		SLAMS	
Bakersfield-Airport (Planz)	SLAMS							
Lebec		SPM						

cont. – Continuous man. – Manual QA = Quality Assurance
Monitor information for the Fresno–Garland NCore site is provided in Table 22.

NCore

On October 17, 2006, EPA issued final amendments to the ambient air monitoring requirements for criteria pollutants. These amendments were codified in Title 40 CFR parts 53 and 58 and established a requirement for NCore multi–pollutant monitoring stations to be operational by January 1, 2011. Since CARB's Fresno-First site already met many of the NCore requirements for filter-based and continuous PM2.5, speciated PM2.5, ozone, and meteorological monitoring, CARB submitted an NCore monitoring plan to the EPA in November 2009. CARB's Fresno-First site was selected by EPA to be an NCore site for the Fresno, CA MSA. In December 2010, CARB installed trace level CO, trace level SO2, trace level NOy, and continuous PM10 and 2.5 monitors at this site. A gas dilution calibrator, a zero air generator, and digital data loggers were also installed to support NCore monitoring. In January 2012, CARB relocated the Fresno-First site (site identification number 060190008) two blocks north to the Fresno-Garland site (site identification number 060190011). The Fresno-Garland site continues to serve as the NCore site for the Fresno, CA MSA. Details on the parameters being monitored at the NCore site are shown in Table 22 and Appendix B.

Table 22 Fresno-Garland NCore Site

Pollutant	Monitor Type	FRM/FEM/ ARM/Other	Site Type	Spatial Scale	Basic Monitoring Objective	Current Sampling Frequency	QA Collocation
Ozone	SLAMS	FEM	PE	U	NC,RS	Hourly	
NO2	SLAMS	FRM	Max PEI	U	NC,RS	Hourly	
CO	SLAMS	FRM	PE	U	NC,RS	Hourly	
SO2	SLAMS	FEM	PE	U	NC,RS	Hourly	
NOy	SLAMS	Other	PE	U	NC,RS	Hourly	
Toxics	SLAMS	Other	PE	N	RS,TP	Hourly	
PM2.5 (man.)	SLAMS	FRM	HC	N	NC,RS	1:1	
PM2.5 (man.)	SLAMS	FRM	HC,PE, QA	N	NC,RS	1:6	✓
PM2.5 (cont.)	SLAMS	FEM	HC,QA	N	NC,RS	Hourly	✓
PM2.5 Speciation (STN)	Other	Other	PE	N,U	RS	1:3	
	Other	Other	PE	N,U	RS	1:3	
PM10 STP (cont.)	SLAMS	FEM	PE	N	NC,RS	Hourly	
PM10-2.5 (cont.)	SLAMS	FEM	PE,QA	N	NC,RS	Hourly	✓

cont. – Continuous man. – Manual PE – Population Exposure HC – Highest Concentration
N – Neighborhood U – Urban RS – Research MxPEI – Max Precursor Emissions Impact
NC – NAAQS Comparison TP – Timely/Public STP – Standard Temperature and Pressure
Hourly = One sample every hour 1:1 = One sample per day 1:6 = 1 in 6 day sampling

Non-EPA Federal Monitors

Within the District's air monitoring network are Non-EPA Federal monitors which are located in Sequoia and Kings Canyon National Park and operated by the National Forest Service. The monitors operating at the Sequoia-Ash Mountain AMS are affiliated with the Clean Air Status and Trends Network (CASTNET). CASTNET assesses trends in pollutant concentrations, atmospheric deposition, and ecological effects due to changes in air pollutant emissions. Details on these monitors are shown in Table 23 and Appendix B.

Table 23 Non-EPA Federal Monitors

Sequoia-Ash Mountain						
Parameter	**Site Type**	**FRM/FEM/ ARM/Other**	**Spatial Scale**	**Network affiliation**	**Basic Monitoring Objective**	**Current Sampling Frequency**
Ozone	HC, RT	Other	R	CASTNET	NC, RS, TP	Hourly
PM2.5 (continuous)	HC	Non–FEM	R	None	RS, TP	Hourly
Meteorology	GB	Other	R	CASTNET	RS, TP	Hourly
Sequoia-Lower Kaweah						
Parameter	**Site Type**	**FRM/FEM/ ARM/Other**	**Spatial Scale**	**Network affiliation**	**Basic Monitoring Objective**	**Current Sampling Frequency**
Ozone	RT	Other	R	None	NC, RS, TP	Hourly
Meteorology	GB	Other	R	None	RS, TP	Hourly

HC – High Concentration RT – Regional Transport GB – General Background R – Regional
NC – NAAQS Comparison RS – Research TP – Timely/Public Hourly = One sample every hour
CASTNET – Clear Air Status and Trends Network

As previously noted, purpose, siting, and operational requirements for each monitor must be met as outlined in Appendices A, C, D, and E of 40 CFR Part 58. Accordingly, this detailed site information is provided in Tables 24 through 28 as well as in Appendix B of this network plan.

Table 24 SLAMS – Site Type

Site Name	Ozone	PM2.5 (man.)	PM2.5 (cont.)	PM10 (man.)	PM10 (cont.)	NO2	CO	NMH
Stockton-Hazelton	HC, PE		HC, PE	HC		PE	PE	
Tracy-Airport	RT				RT	RT		
Manteca			HC		HC			
Modesto-14th St	HC, PE	PE, QA	PE		PE		PE	
Turlock	HC, PE		HC, PE	PE		PE		
Merced-M St		HC, PE		HC, PE				
Merced-Coffee	HC, PE		PE			PE		
Madera-City	HC, GB	HC, QA	PE		PE			
Madera-Pump Yard	HC, GB					PE		PE
Tranquillity	PE		PE					
Fresno-Sky Park	HC, PE, RT					PE		
Clovis-Villa	Max PEI, HC	HC	HC	PE	HC	HC	Max PEI, PE	HC
Fresno-Pacific		PE						
Fresno-Drummond	PE, HC, RT			PE, QA		HC		
Fresno-Foundry			HC			HC	HC	
Parlier	HC, RT					PE		PE
Hanford-Irwin	HC, PE		PE	PE	PE	PE		
Corcoran-Patterson		HC	HC, PE		HC, PE			
Visalia-Church St	GB	HC, PE			PE	PE		
Porterville	HC, PE							
Shafter	GB, PE					PE		PE
Oildale	HC, RT				SO			
Bakersfield-Golden / M St		PE		PE				
Bakersfield-Westwind						HC		
Bakersfield-California	HC, GB	HC, PE	PE	PE		PE		
Bakersfield-Muni	HC					HC	PE	PE
Bakersfield-Airport (Planz)		HC, PE						
Edison	HC, RT					PE		
Arvin–Di Giorgio	HC, PE							
Maricopa	HC, RT							

cont. – Continuous man. – Manual PE – Population Exposure HC – Highest Concentration
RT – Regional Transport GB – General/Background QA – QA Collocation SO – Source Oriented
Site Type information for the Fresno–Garland NCore site is provided in Table 22.

Table 25 SLAMS – Spatial Scale

Site	Ozone	PM2.5 (man.)	PM2.5 (cont.)	PM10 (man.)	PM10 (cont.)	NO2	CO	NMH
Stockton-Hazelton	N		N	N		N	N	
Tracy-Airport	R				R	R		
Manteca			N		N			
Modesto-14th St	N	N	N		N		N	
Turlock	N		N	N		N		
Merced-M St		N		N				
Merced-Coffee	N		N			N		
Madera-City	N	N	N		N			
Madera-Pump Yard	N					N		N
Tranquillity	U		U					
Fresno-Sky Park	N					N		
Clovis-Villa	N	N	N	N	N	N	N	N
Fresno-Pacific		N						
Fresno-Drummond	N			N		N		
Fresno-Foundry			MC			MC	MC	
Parlier	N					N		N
Hanford-Irwin	N		N	N	N	N		
Corcoran-Patterson		N	N		N			
Visalia-Church St	N	N			N	N		
Porterville	N							
Shafter	N					N		N
Oildale	U				MD			
Bakersfield-Golden / M St		MC		MC				
Bakersfield-Westwind						MC		
Bakersfield-California	N	N	N	N		N		
Bakersfield-Muni	N					N	N	N
Bakersfield-Airport (Planz)		N						
Edison	N					N		
Arvin-Di Giorgio	N							
Maricopa	N							

N – Neighborhood U – Urban R – Regional MC – Microscale MD – Middle scale cont. – Continuous man. – Manual

Spatial Scale information for the Fresno–Garland NCore site is provided in Table 22.

Table 26 SLAMS – Basic Monitoring Objective

Site	Ozone	PM2.5 (man.)	PM2.5 (cont.)	PM10 (man.)	PM10 (cont.)	NO2	CO	NMH
Stockton-Hazelton	NC,RS TP		NC,RS,TP	NC, RS		NC, RS, TP	NC, RS, TP	
Tracy-Airport	NC,RS,TP				NC,RS,TP	NC, RS, TP		
Manteca			NC,RS,TP		NC,RS,TP			
Modesto-14th St	NC,RS,TP	NC, RS	NC,RS,TP		NC,RS,TP		NC, RS, TP	
Turlock	NC,RS,TP		NC,RS,TP	NC,RS		NC, RS, TP		
Merced-M St		NC, RS		NC RS				
Merced-Coffee	NC,RS,TP		NC,RS,TP			NC, RS,TP		
Madera-City	NC,RS,TP	NC,RS	NC,RS,TP		NC,RS,TP			
Madera-Pump Yard	NC,RS,TP					NC, RS, TP		RS
Tranquillity	NC,RS,TP		NC,RS,TP					
Fresno-Sky Park	NC,RS,TP					NC, RS, TP		
Clovis-Villa	NC,RS,TP	NC,RS	NC,RS,TP	NC,RS	NC,RS,TP	NC,RS, TP	NC, RS, TP	RS
Fresno-Pacific		NC,RS						
Fresno-Drummond	NC,RS,TP			NC, RS		NC		
Fresno-Foundry			NC,RS,TP			NC,RS,TP	NC, RS, TP	
Parlier	NC,RS,TP					NC, RS, TP		RS
Hanford-Irwin	NC,RS,TP		NC,RS,TP	NC, RS	NC,RS,TP	NC,RS,TP		
Corcoran-Patterson		NC,RS	NC,RS,TP		NC,RS,TP			
Visalia-Church St	NC,RS,TP	NC, RS			NC,RS,TP	NC, RS,TP		
Porterville	NC,RS,TP							
Shafter	NC,RS,TP					NC, RS,TP		RS, TP
Oildale	NC,RS TP				NC,RS,TP			
Bakersfield-Golden / M St		NC, RS		NC, RS				
Bakersfield-Westwind						NC, RS, TP		
Bakersfield-California	NC, RS, TP	NC, RS	RS, TP	NC, RS		NC, RS, TP		

Table 26 SLAMS – Basic Monitoring Objective (cont'd)

Site	Ozone	PM2.5 (man.)	PM2.5 (cont.)	PM10 (man.)	PM10 (cont.)	NO2	CO	NMH
Bakersfield-Muni	NC,RS,TP					NC, RS, TP	NC,RS, TP	RS
Bakersfield-Airport (Planz)		NC, RS						
Edison	NC,RS,TP					NC, RS,TP		
Arvin-Di Giorgio	NC,RS,TP							
Maricopa	NC,RS,TP							

NC – NAAQS Comparison RS – Research TP – Timely/Public cont. – Continuous man. – Manual
Basic Monitor Objective information for the Fresno–Garland NCore site is provided in Table 22.

Table 27 SLAMS – Current Sampling Frequency

Site Name	Ozone	PM2.5 (man.)	PM2.5 (cont.)	PM10 (man.)	PM10 (cont.)	NO2	CO	NMH
Stockton-Hazelton	Hourly		Hourly	1:6		Hourly	Hourly	
Tracy-Airport	Hourly				Hourly	Hourly		
Manteca			Hourly		Hourly			
Modesto-14th St	Hourly	1:12	Hourly		Hourly		Hourly	
Turlock	Hourly		Hourly	1:6		Hourly		
Merced-M St		1:3		1:6				
Merced-Coffee	Hourly		Hourly			Hourly		
Madera-City	Hourly	1:12	Hourly		Hourly			
Madera-Pump Yard	Hourly					Hourly		Hourly
Tranquillity	Hourly		Hourly					
Fresno-Sky Park	Hourly					Hourly		
Clovis-Villa	Hourly	1:3	Hourly	1:6	Hourly	Hourly	Hourly	Hourly
Fresno-Pacific		1:3						
Fresno-Drummond	Hourly			1:6		Hourly		
Fresno-Foundry			Hourly			Hourly	Hourly	
Parlier	Hourly					Hourly		Hourly
Hanford-Irwin	Hourly		Hourly	1:6	Hourly	Hourly		
Corcoran-Patterson		1:3	Hourly		Hourly			
Visalia-Church St	Hourly	1:3			Hourly	Hourly		
Porterville	Hourly							
Shafter	Hourly					Hourly		Hourly

Table 27 SLAMS – Current Sampling Frequency (cont'd)

Site Name	Ozone	PM2.5 (man.)	PM2.5 (cont.)	PM10 (man.)	PM10 (cont.)	NO2	CO	NMH
Oildale	Hourly				Hourly			
Bakersfield-Golden / M St		1:3		1:6				
Bakersfield-Westwind						Hourly		
Bakersfield-California	Hourly	1:1		1:6		Hourly		
Bakersfield-Muni	Hourly					Hourly	Hourly	Hourly
Bakersfield-Airport (Planz)		1:3						
Edison	Hourly					Hourly		
Arvin-Di Giorgio	Hourly							
Maricopa	Hourly							

cont. – Continuous man. – Manual 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
Current Sampling Frequency information for the Fresno–Garland NCore site is provided in Table 22.

Table 28 SPM / Other (PM2.5 Continuous)

Site Name	Site Type	Spatial Scale	Basic Monitoring Objective	Current Sampling Schedule
Tracy-Airport	RT	R	TP	Hourly
Huron	PE	N	TP	Hourly
Visalia-Church St*	RT, PE	N	RS, TP	Hourly
Porterville	PE	N	TP	Hourly
Lebec	PE	N	TP	Hourly

* - Other PE – Population Exposure RT – Regional Transport N – Neighborhood R – Regional
Timely/Public Hourly = One sample every hour

IMPROVEMENTS AND PLANNED 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 CARB and EPA, as appropriate, to address necessary requirements for documentation. A summary of the planned changes to the District's air monitoring network during 2020/2021 is provided in Table 29 below.

Planned Improvements and Other Changes Scheduled for 2020/2021

Stockton–Hazelton

CARB plans to close and relocate the Stockton-Hazleton site (06-077-1002). Demolition of the current site may occur as early as August 2020, however air monitoring will continue there as long as possible. A new potential site has been located at University Park (College of Stanislaus) and lease negotiations are currently taking place. CARB will provide updates as the process evolves. Additionally, the site's PM10 HiVol analyzer will be replaced with a PM10 BAM-1020 analyzer when the new site becomes operational.

Visalia-Church St

At the request of the property owner at the Visalia-Church St site, CARB has initiated the process of finding a new location in Visalia for the air monitoring station. CARB plans to relocate the site as soon as possible.

Fresno-Sierra Sky Park

Vegetation to the south and southwest of the Fresno-Sierra 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.

All other Sites

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

Table 29 Summary of Proposed Changes to the Air Monitoring Network

CBSA: Stockton	County: San Joaquin	
Site Name	**Operating Agency**	**Planned Changes**
Stockton-Hazelton	CARB	CARB plans to move the Stockton–Hazelton site to a new location as soon as possible. A potential site has been located and lease negotiations are currently underway. Additionally, the site's PM10 HiVol analyzer will be replaced with a PM10 BAM-1020 analyzer when the new site becomes operational.
Tracy-Airport	SJVAPCD	None
Manteca	SJVAPCD	None
CBSA: Modesto	**County: Stanislaus**	
Site Name	**Operating Agency**	**Planned Changes**
Modesto-14th St	CARB	None
Turlock	SJVAPCD	None
CBSA: Merced	**County: Merced**	
Site Name	**Operating Agency**	**Planned Changes**
Merced-M St	SJVAPCD	None
Merced-Coffee	SJVAPCD	None
CBSA: Madera	**County: Madera**	
Site Name	**Operating Agency**	**Planned Changes**
Madera-City	SJVAPCD	None
Madera-Pump Yard	SJVAPCD	None
CBSA: Fresno	**County: Fresno**	
Site Name	**Operating Agency**	**Planned Changes**
Tranquillity	SJVAPCD	None
Fresno-Sky Park	SJVAPCD	None
Clovis-Villa	SJVAPCD	None
Fresno-Garland	CARB	None
Fresno-Pacific	SJVAPCD	None
Fresno-Drummond	SJVAPCD	None
Fresno-Foundry (near–road)	SJVAPCD	None
Parlier	SJVAPCD	None
CBSA: Kings	**County: Kings**	
Site Name	**Operating Agency**	**Planned Changes**
Hanford-Irwin	SJVAPCD	None
Corcoran-Patterson	SJVAPCD	None

Table 29 Summary of Proposed Changes to the Air Monitoring Network (cont'd)

CBSA: Visalia–Porterville	County: Tulare	
Site Name	**Operating Agency**	**Planned Changes**
Visalia-Church St	CARB	CARB will relocate the site as soon as possible.
Porterville	SJVAPCD	None
Sequoia-Ash Mountain	NPS	None
Sequoia-Lower Kaweah	NPS	None
CBSA: Bakersfield	**County: Kern (Valley Portion Only)**	
Site Name	**Operating Agency**	**Planned Changes**
Shafter	Shared	None
Oildale	CARB	None
Bakersfield-Golden State/M St	SJVAPCD	None
Bakersfield-Westwind (near–road)	SJVAPCD	None
Bakersfield-California	CARB	None
Bakersfield-Muni	SJVAPCD	None
Bakersfield-Airport (Planz)	CARB	None
Edison	CARB	None
Arvin–Di Giorgio	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 its 2019 data on May 1, 2020.

ACRONYMS AND ABBREVIATIONS

AQI: Air Quality Index
AQS: Air Quality System
BAM: Beta Attenuation Monitor
CAA: Clean Air Act
CASTNET: Clean Air Status and Trends Network
CARB: California Air Resources Board
CBSA: Core–Based Statistical Area
CFR: Code of Federal Regulations
CRPAQS: California Regional Particulate Air Quality Study
CO: Carbon Monoxide
CSA: Combined statistical area
District: San Joaquin Valley Air Pollution Control District
BAM: Beta Attenuation Monitor
EPA: U.S. Environmental Protection Agency
FEM: Federal Equivalent Method
FRM: Federal Reference Method
LAP: Lower Air Profiler
MSA: Metropolitan statistical area
NAAQS: National Ambient Air Quality Standard
NCore: National Core
NMH: Non–Methane Hydrocarbons
NO: Nitrogen Oxide
NO2: Nitrogen Dioxide
NOx: Oxides of Nitrogen
NOy: Reactive Nitrogen
NPS: National Park Service
O3: Ozone
PAMS: Photochemical Assessment Monitoring Station
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
SJVAPCD: San Joaquin Valley Air Pollution Control District
SMS: Smoke Management System
SO2: Sulfur Dioxide
SPM: Special Purpose Monitor
STN: Speciated Trends Network
TEOM: Tapered Element Oscillating Microbalance
VOC: Volatile Organic Compounds

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APPENDIX A:

Air Monitoring Site Descriptions

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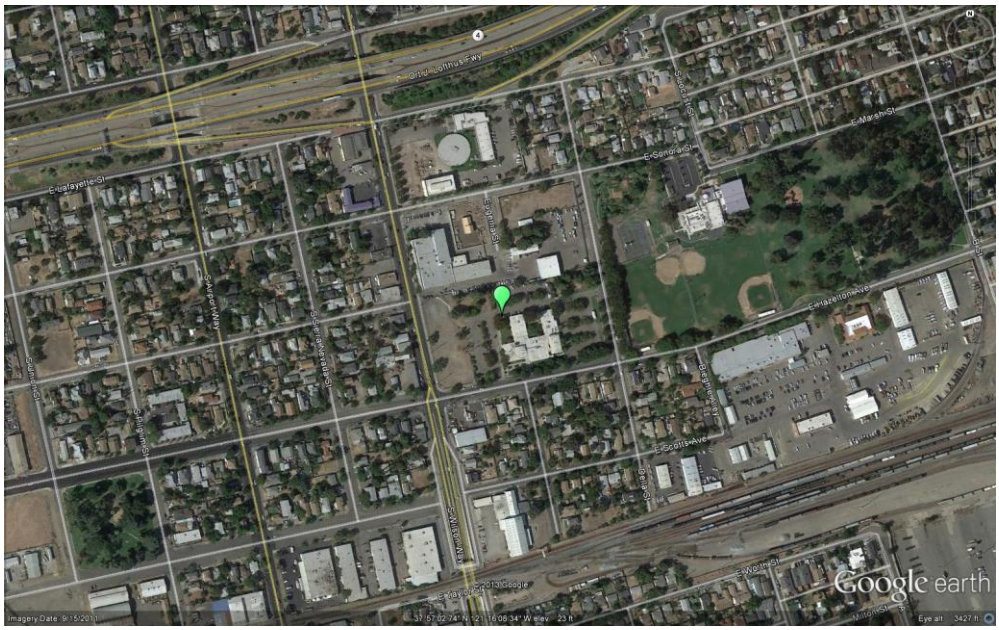
Stockton-Hazelton

The Stockton-Hazelton monitoring site is operated by the California Air Resources Board (CARB) and is located in the Stockton, CA metropolitan area. It began operating in January 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, NO2, toxics, and meteorology.

Site name:	Stockton-Hazelton
AQS ID:	06-077-1002
County:	San Joaquin
Street Address:	1601 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):	4,000; 2014*
Ground Cover:	Paved
Representative Statistical Area (CBSA):	Stockton-Lodi

*Traffic count estimated by City of Stockton Public Works Traffic Engineering Division (2014)

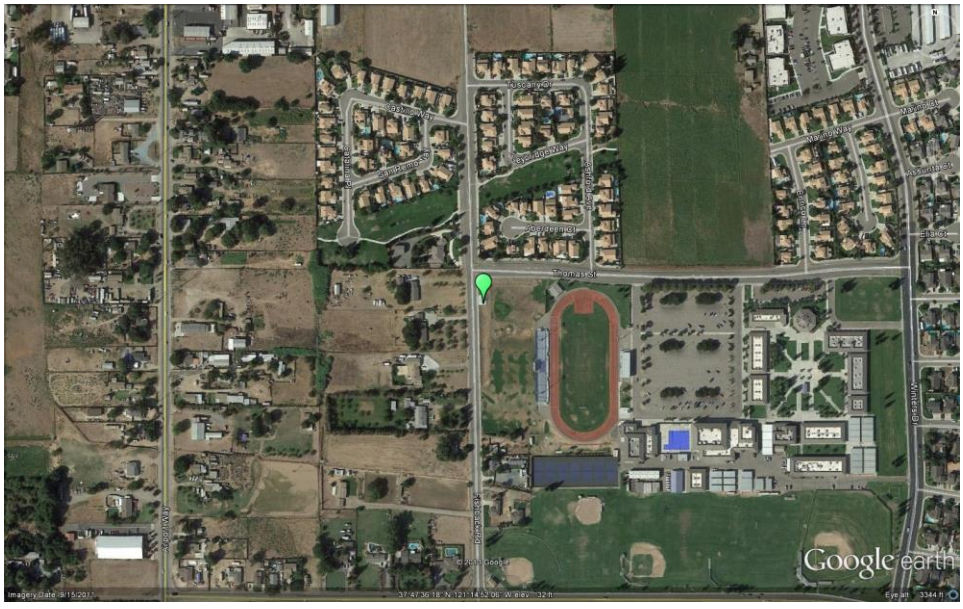


Manteca

The Manteca monitoring site is located in Manteca, CA and operated by the San Joaquin Valley Air Pollution Control District (SJVAPCD or District). It became operational in November 2010. The purpose of the site is to monitor representative concentrations of PM2.5 and PM10 from upwind and nearby urban areas. The site also monitors meteorology.

Site name:	Manteca
AQS ID:	06-077-2010
County:	San Joaquin
Street Address:	530 Fishback Rd, Manteca CA 95337
Geographic Coordinates:	37.793392 N, -121.247874 W
Distance to road (meters):	12 m (west)
Traffic Count (AADT; Year):	10,224; 2015*
Ground Cover:	Paved, vegetative
Representative Statistical Area (CBSA):	Stockton-Lodi

*Traffic count for nearest roads: Airport Way between Lathrop Rd and Hwy 120.
Source: San Joaquin Council of Governments, 2016 Monitoring and Conformance Report



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 January 2006. The site monitors transport of ozone, NO2, PM2.5, and PM10 from upwind and nearby urban areas. The site also measures meteorology.

Site name:	Tracy-Airport
AQS ID:	06-077-3005
County:	San Joaquin
Street Address:	5749 S Tracy Blvd, Tracy CA 95376
Geographic Coordinates:	37.682635 N, -121.442495 W
Distance to road (meters):	700 m (east)
Traffic Count (AADT; Year):	4,063; 2014*
Ground Cover:	Dirt and Gravel
Representative Statistical Area (CBSA):	Stockton-Lodi

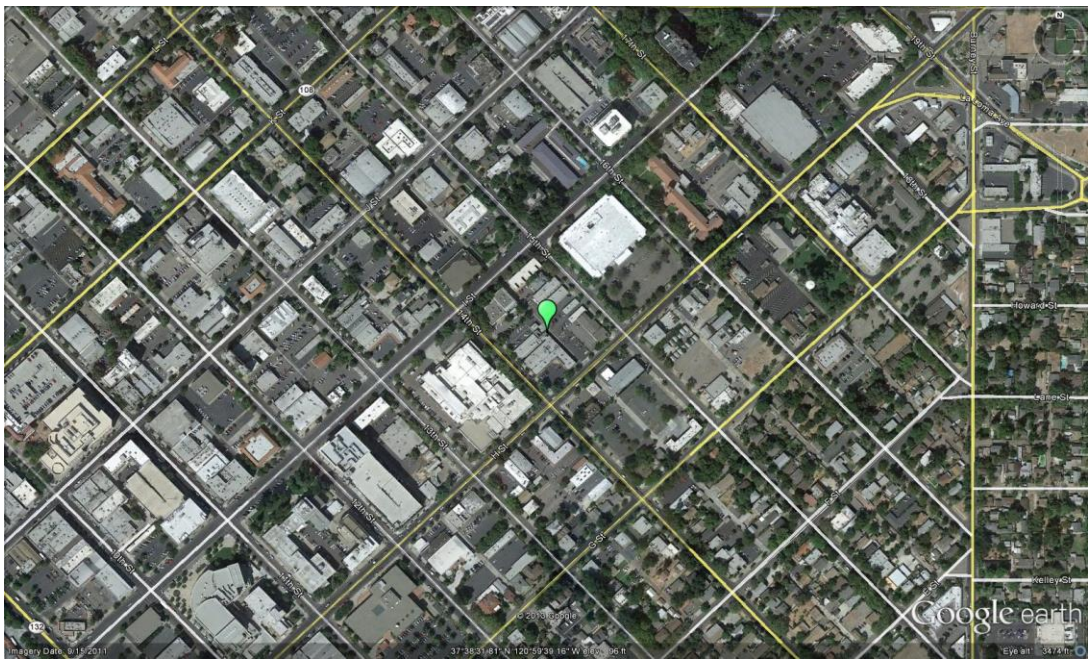
*Traffic count for nearest roads: Linne Rd and Corral Hollow Rd.
Source: San Joaquin Council of Governments, 2016 Monitoring and Conformance Report

Modesto-14th St

The Modesto-14th St 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 ozone, PM2.5, and PM10 in local and upwind urban areas. The site also monitors CO, PM2.5 Speciation, and meteorology.

Site name:	Modesto-14th St
AQS ID:	06-099-0005
County:	Stanislaus
Street Address:	814 14th St, Modesto CA 95354
Geographic Coordinates:	37.6421 N, -120.9942 W
Distance to road (meters):	50 m (southwest)
Traffic Count (AADT; Year):	122,000; 2014*
Ground Cover:	Paved
Representative Statistical Area (CBSA):	Modesto

* Traffic count for nearest roads: H Street / CA Route 99. Source: Caltrans 2017 AADT

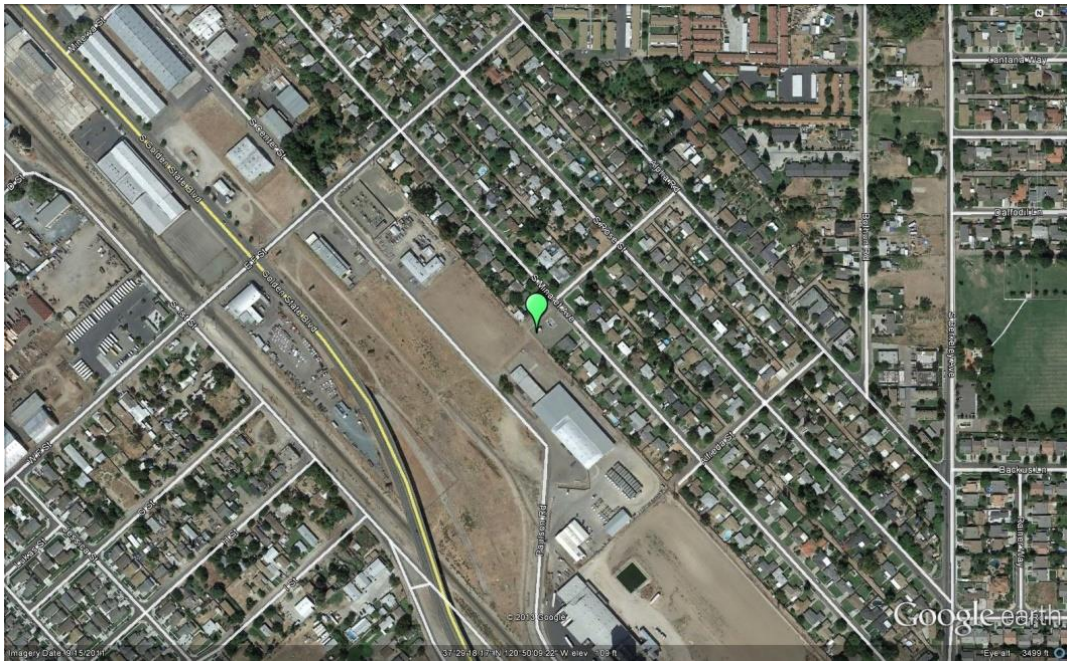


Turlock

The Turlock monitoring site is operated by the SJVAPCD and is located in Turlock, CA. It began operating in April 1992. The purpose of the site is to monitor representative concentrations of ozone, PM2.5, and PM10 from upwind urban areas. The site also monitors NO2, and meteorology.

Site name:	Turlock
AQS ID:	06-099-0006
County:	Stanislaus
Street Address:	900 S Minaret Ave, Turlock CA 95380
Geographic Coordinates:	37.488317 N, -120.836008 W
Distance to road (meters):	40 m (northeast)
Traffic Count (AADT; Year):	742; 2015*
Ground Cover:	Gravel
Representative Statistical Area (CBSA):	Modesto

* Traffic count for Minaret Ave. between East Ave. and Berkley Ave. Five-day average two-way traffic. Source: City of Turlock Engineering Division 2015

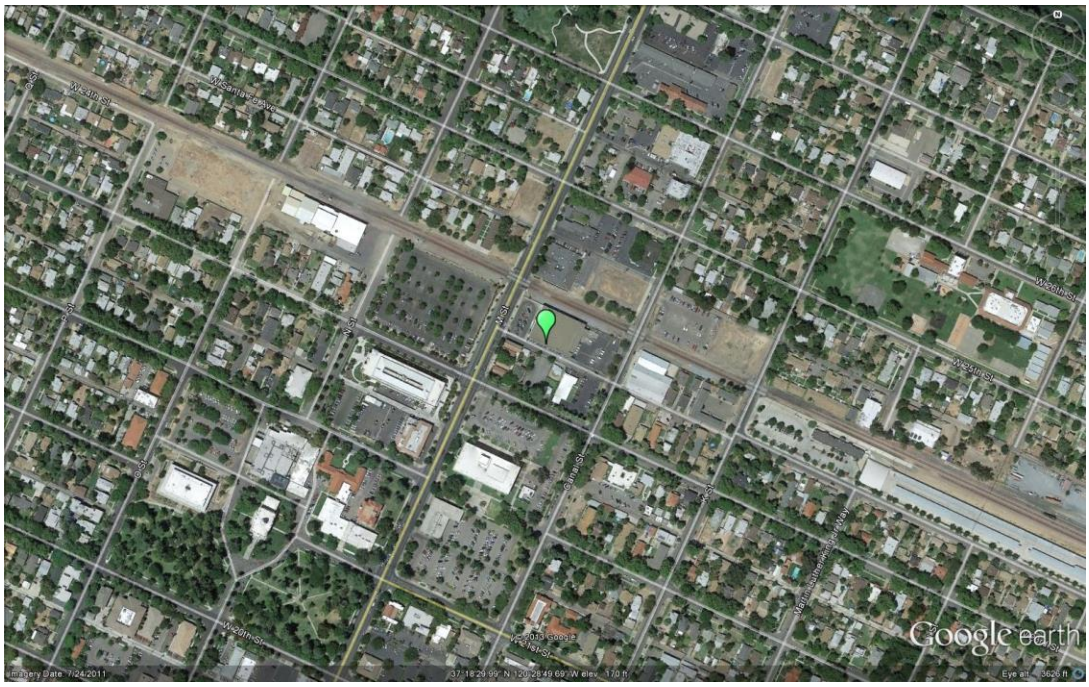


Merced-M St

The Merced-M St monitoring site is operated by the 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 St
AQS ID:	06-047-2510
County:	Merced
Street Address:	2334 M St, Merced CA 95340
Geographic Coordinates:	37.30832 N, -120.480456 W
Distance to road (meters):	55 m (northwest)
Traffic Count (AADT; Year):	51,000; 2014*
Ground Cover:	Paved, gravel
Representative Statistical Area (CBSA):	Merced

*Traffic count for nearest roads: R St / CA Route 99. Source: Caltrans 2017 AADT



Merced-Coffee

The Merced-Coffee monitoring site is operated by the 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 ozone and PM2.5 responses from upwind urban areas. The site also monitors NO2 and meteorology.

Site name:	Merced-Coffee
AQS ID:	06-047-0003
County:	Merced
Street Address:	385 S. Coffee St., Merced CA 95340
Geographic Coordinates:	37.281853 N, -120.433671 W
Distance to road (meters):	15 m (east)
Traffic Count (AAD; Year):	42,500; 2014*
Ground Cover:	Vegetative, dirt and gravel
Representative Statistical Area (CBSA):	Merced

*Traffic count for nearest roads: Childs Ave / CA Route 99. Source: Caltrans 2016 AADT

Madera-City

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

Site name:	Madera-City
AQS ID:	06-039-2010
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):	386; 2017*
Ground Cover:	Paved, dirt, and vegetative
Representative Statistical Area (CBSA):	Madera

*Traffic count for nearest roads: Avenue14 west of Road 29, westbound trips per hour in 24 hours. Source: Madera County Transportation Commission 2018 Traffic Volumes Report.

Madera-Pump Yard

The Madera-Pump Yard monitoring site is operated by the SJVAPCD and is located in southern Madera County. It began operating in July 1997. This site was established as a Type 1 site for the Photochemical Assessment Monitoring Stations (PAMS) program, and located in an area upwind of Fresno essentially void of upwind or local ozone precursor emissions influences. This site monitors ozone, NO2, NMH, Speciated-VOC, and meteorology for the PAMS program.

Site name:	Madera–Pump Yard
AQS ID:	06-039-0004
County:	Madera
Street Address:	Avenue 8 and Road 29 1/2, Madera CA 93637
Geographic Coordinates:	36.867125 N, -120.010158 W
Distance to road (meters):	20 m (west)
Traffic Count (AADT; Year):	2,980; 2017*
Ground Cover:	Dirt, paved
Representative Statistical Area (CBSA):	Madera

*Traffic count for nearest roads: Avenue 7 west of CA Route 99, westbound trips per hour in 24 hours. Source: Madera County Transportation Commission 2018 Traffic Volumes Report.

Tranquillity

The Tranquillity monitoring site is located in western Fresno County. It began operating in September 2009 and is operated by the SJVAPCD. The purpose of this site is to monitor representative background and rural pollutant concentrations of ozone and PM2.5. The site also monitors meteorology.

Site name:	Tranquillity
AQS ID:	06-019-2009
County:	Fresno
Street Address:	32650 W Adams, Tranquillity CA 93668
Geographic Coordinates:	36.634225 N, -120.382331 W
Distance to road (meters):	200 m (south)
Traffic Count (AADT; Year):	2,292; 2018*
Ground Cover:	Dirt, vegetative
Representative Statistical Area (CBSA):	Fresno

* Raw traffic count for nearest roads: Northbound Derrick Ave between W Nebraska Ave and West Mountain View Ave. Source: Fresno COG Traffic Counts, 2007-2019 Kittelson & Associates, Inc.

Fresno-Sierra Sky Park

The Fresno-Sierra Sky Park monitoring site is operated by the 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 ozone responses in an urban area. In addition to ozone, the site also monitors NO2 and meteorology.

Site name:	Fresno-Sky Park
AQS ID:	06-019-0242
County:	Fresno
Street Address:	4508 Chennault Ave, Fresno CA 93722
Geographic Coordinates:	36.841592 N, -119.874739 W
Distance to road (meters):	12 m (west)
Traffic Count (AADT; Year):	15,626; 2018*
Ground Cover:	Gravel, dirt
Representative Statistical Area (CBSA):	Fresno

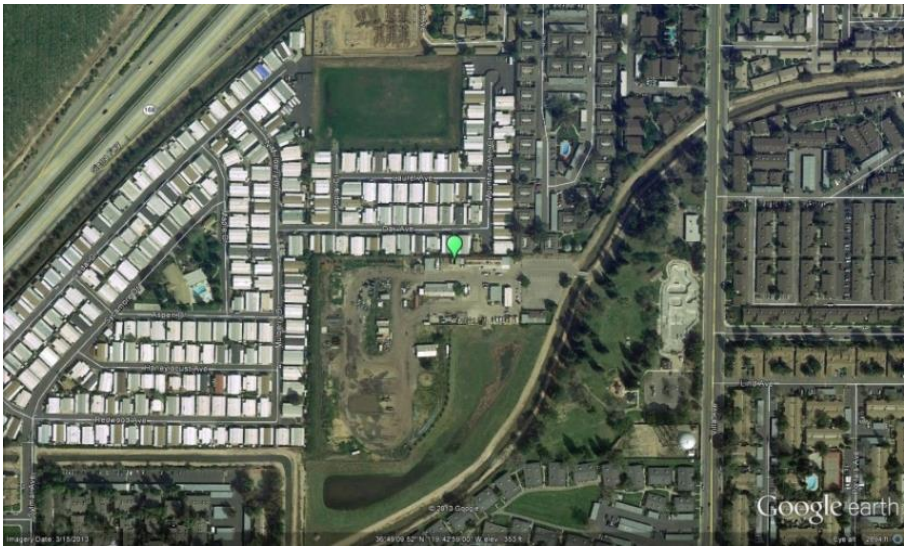
*Raw traffic count in a 24-hour period for nearest roads: Spruce Ave east of Milburn Ave
Source: Fresno COG Traffic Counts, 2007-2019 Kittelson & Associates, Inc.

Clovis-Villa

The Clovis-Villa monitoring site is operated by the 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. The site monitors ozone, CO, NO2, NMH and speciated-VOC, and meteorology for the PAMS program. PM2.5 and PM10 are also monitored at the site.

Site name:	Clovis-Villa
AQS ID:	06-019-5001
County:	Fresno
Street Address:	908 N Villa Ave, Clovis CA 93612
Geographic Coordinates:	36.819449 N, -119.716433 W
Distance to road (meters):	260 m (east)
Traffic Count (AADT; Year):	6,480; 2008*
Ground Cover:	Paved
Representative Statistical Area (CBSA):	Fresno

*Raw traffic count in a 24-hour period: 6,480/2008 (Raw traffic count in a 24-hour period: Northbound Villa Avenue south of Bullard Avenue. Source: Fresno COG Fresno County Regional Traffic Monitoring Report 2013 (latest available)



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. It began operating in December 2011. The purpose of the site is to monitor representative concentrations of ozone, PM2.5, and PM10 in an urban area. The site also monitors PM10-2.5, PM2.5 Speciation, CO, NO2, NOy, SO2, Toxics, and meteorology.

Site name:	Fresno–Garland
AQS ID:	06-019-0011
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):	7,520; 2011*
Ground Cover:	Gravel covered tar paper with wooden deck walkways
Representative Statistical Area (CBSA):	Fresno

*Raw traffic count in a 24-hour period for nearest roads: First St near Dakota Ave
Source: Fresno COG Fresno County Regional Traffic Monitoring Report 2013 (latest available).

Fresno-Pacific

The Fresno-Pacific monitoring site is operated by the 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:	06-019-5025
County:	Fresno
Street Address:	1716 Winery Ave, Fresno, CA 93727
Geographic Coordinates:	36.7263 N, -119.7330 W
Distance to road (meters):	40 m (east)
Traffic Count (AADT; Year):	8,540; 2018*
Ground Cover:	Rubber roof coating
Representative Statistical Area (CBSA):	Fresno

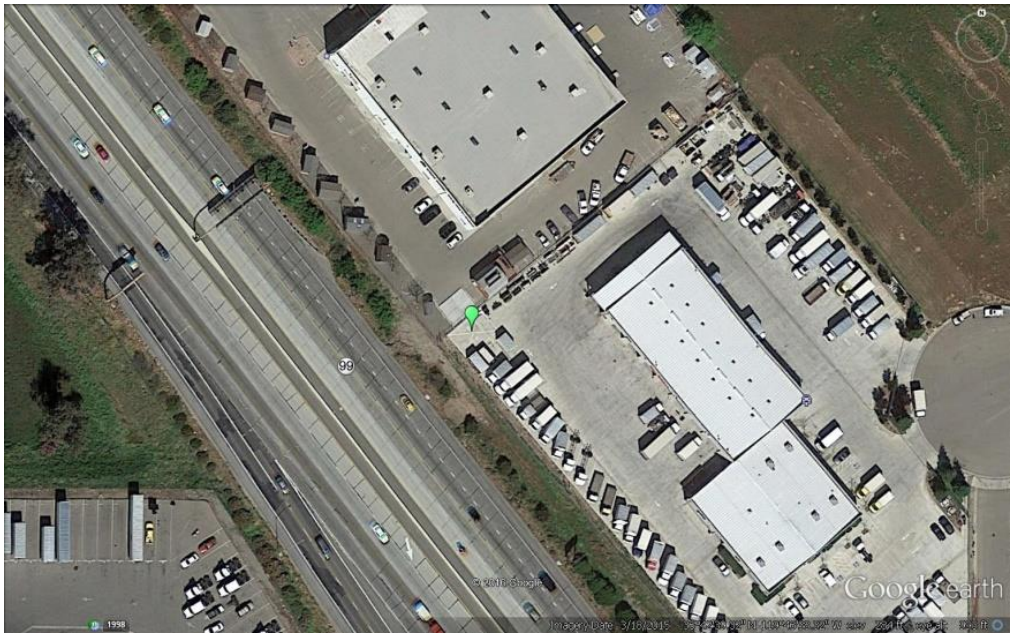
*Raw traffic count in a 24-hour period for nearest roads: Butler Ave/Winery Ave intersection
Source: Fresno COG Traffic Counts, 2007-2019 Kittelson & Associates, Inc.

Fresno-Foundry

The Fresno-Foundry near-road NO2 monitoring site is operated by the SJVAPCD and is located adjacent to Highway 99 in the Fresno, CA metropolitan area. It began operating in January 2016. The purpose of the site is to monitor representative maximum 1–hour NO_2 concentrations near a high traffic roadway in an urban area. In addition to NO_2, the site also monitors PM2.5, CO, and meteorology.

Site name:	Fresno-Foundry
AQS ID:	06-019-2016
County:	Fresno
Street Address:	2482 Foundry Park Ave, Fresno, CA 93706
Geographic Coordinates:	N 36.710833, W -119.7775
Distance to road (meters):	16 to 19 meters
Traffic Count (AADT; Year):	117,000; 2017*
Ground Cover:	Paved
Representative Statistical Area (CBSA):	Fresno

*Traffic count for nearest roads: CA Route 99 and Jensen Ave off-ramp. Source: Caltrans (2017)



Fresno-Drummond

The Fresno-Drummond monitoring site is operated by the 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 ozone responses in an urban area. In addition to ozone, the site also monitors PM10, NO2, and meteorology.

Site name:	Fresno-Drummond
AQS ID:	06-019-0007
County:	Fresno
Street Address:	4706 E Drummond Ave, Fresno CA 93725
Geographic Coordinates:	36.705474 N, -119.741332 W
Distance to road (meters):	50 m (north)
Traffic Count (AADT; Year):	27,251; 2018*
Ground Cover:	Paved
Representative Statistical Area (CBSA):	Fresno

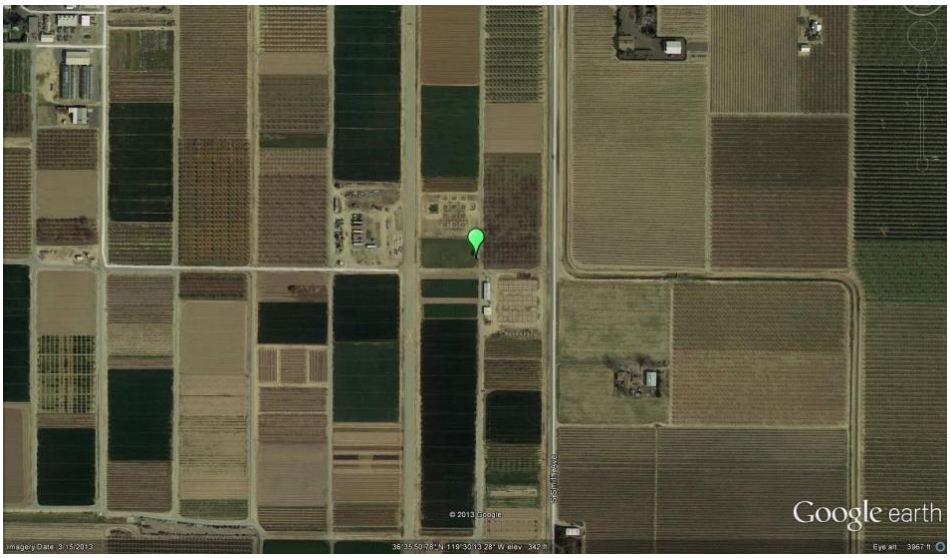
*Raw traffic count in a 24-hour period for nearest roads: Jensen Ave between Chestnut Ave and Maple Ave.
Source: Fresno COG Traffic Counts, 2007-2019 Kittelson & Associates, Inc.

Parlier

The Parlier monitoring site is operated by the SJVAPCD and is located 20 miles southeast of the Fresno, CA metropolitan area. It began operating in June 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 NO2, NMH, speciated-VOC, and meteorology for the PAMS program.

Site name:	Parlier
AQS ID:	06-019-4001
County:	Fresno
Street Address:	9240 S Riverbend Ave, Parlier CA 93648
Geographic Coordinates:	36.597442 N, -119.503659 W
Distance to road (meters):	100 m (east)
Traffic Count (AADT; Year):	21,260; 2018*
Ground Cover:	Dirt, vegetative
Representative Statistical Area (CBSA):	Fresno

*Raw traffic count in a 24-hour period for nearest roads: E Manning Ave between S Mendocino Ave and S Newmark Ave. Source: Fresno COG Traffic Counts, 2007-2019 Kittelson & Associates, Inc.



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 is operated by the SJVAPCD and was established in September 2009 in order to comply with Assembly Bill (AB) 841. This site monitors PM2.5 and meteorology.

Site name:	Huron
AQS ID:	06-019-2008
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):	3,300; 2017*
Ground Cover:	Paved, vegetative
Representative Statistical Area (CBSA):	Fresno

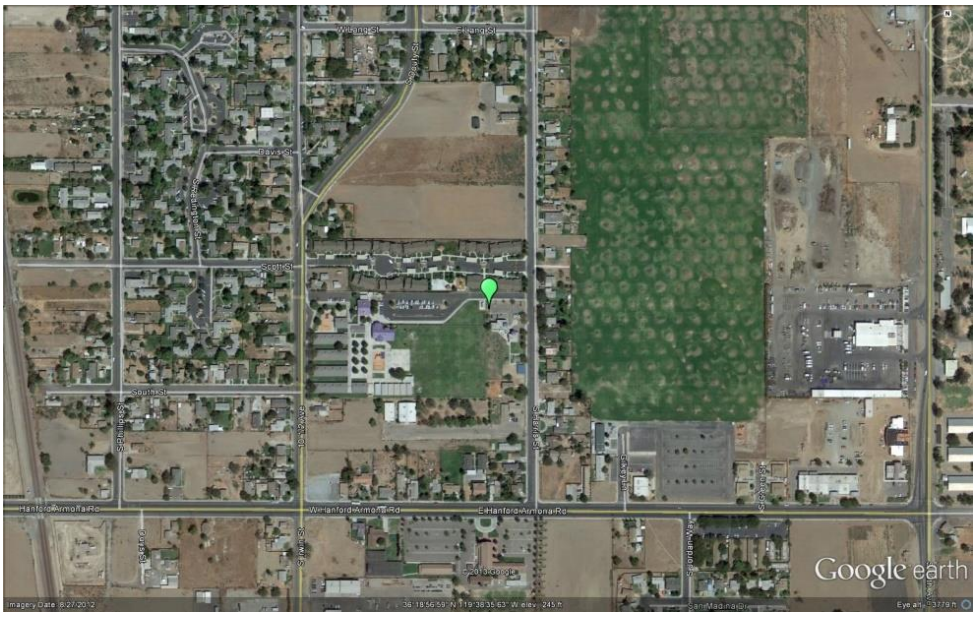
*Traffic count for nearest roads: CA Route 269 / CA Route 198. Source: Caltrans 2017

Hanford-Irwin

The Hanford-Irwin monitoring site is operated by the 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 ozone, PM2.5, PM10, and NO2 responses from upwind and nearby urban areas. The site also monitors meteorology.

Site name:	Hanford–Irwin
AQS ID:	06-031-1004
County:	Kings
Street Address:	807 S Irwin St, Hanford CA 93230
Geographic Coordinates:	36.31567 N, -119.643447 W
Distance to road (meters):	60 m (east)
Traffic Count (AADT; Year):	9,647; 2016*
Ground Cover:	Paved, vegetative
Representative Statistical Area (CBSA):	Hanford – Corcoran

*Traffic count for nearest roads: Hanford-Armona Rd east of S Williams St
Source: City of Hanford Public Works - Engineering, Traffic Counts Volume Summary 2017 – City of Hanford.

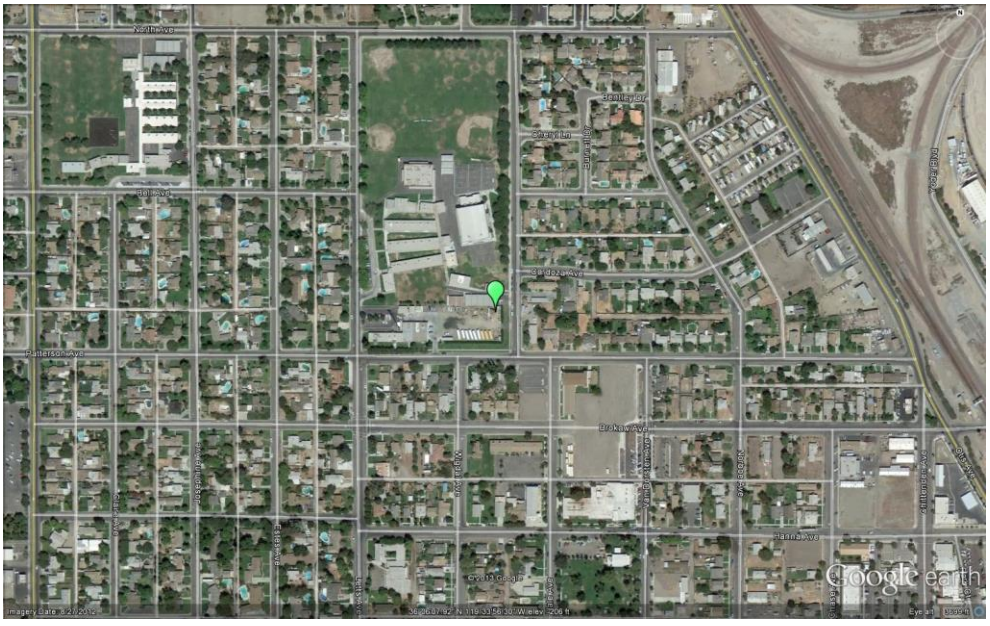


Corcoran-Patterson

The Corcoran-Patterson monitoring site is operated by the 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:	06-031-0004
County:	Kings
Street Address:	1520 Patterson Ave, Corcoran CA 93212
Geographic Coordinates:	36.102244 N, -119.56565 W
Distance to road (meters):	30 m (east)
Traffic Count (AADT; Year):	2,900; 2017*
Ground Cover:	Dirt, gravel
Representative Statistical Area (CBSA):	Hanford – Corcoran

*Traffic count for nearest roads: Junction of CA Route 43 / CA Route 137. Source: Caltrans 2017.

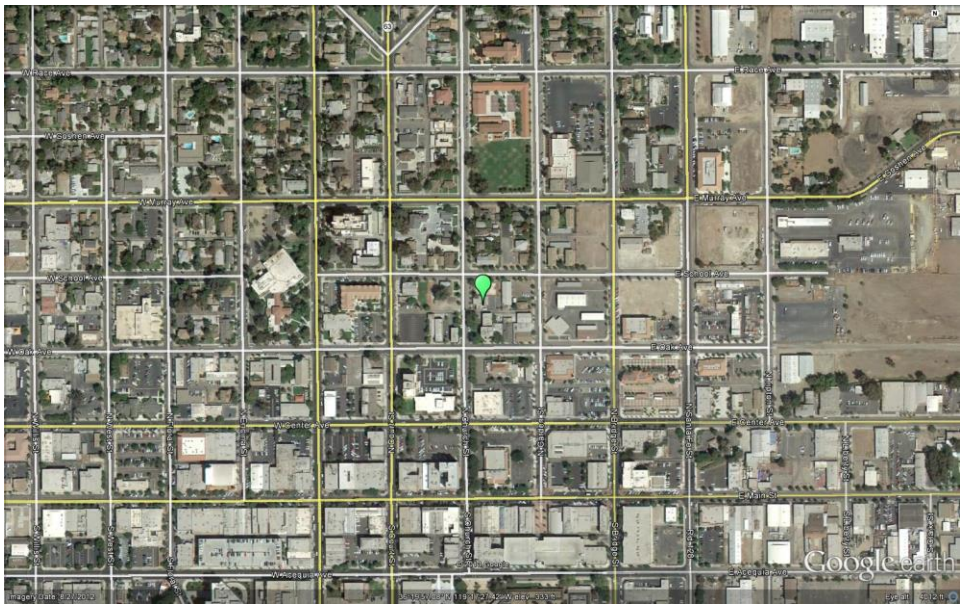


Visalia-Church St

The Visalia-Church St monitoring site is operated by CARB. It began operating in January 1979. The purpose of the site is to monitor representative concentrations of ozone, PM2.5, and PM10 from upwind and nearby urban areas. The site also monitors NO2, PM2.5 Speciation, and meteorology.

Site name:	Visalia-Church St
AQS ID:	06-107-2002
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; 2017*
Ground Cover:	Paved
Representative Statistical Area (CBSA):	Visalia – Porterville

*Traffic count for nearest roads: N Court St and W School Ave
Source: Caltrans AADT 2017.

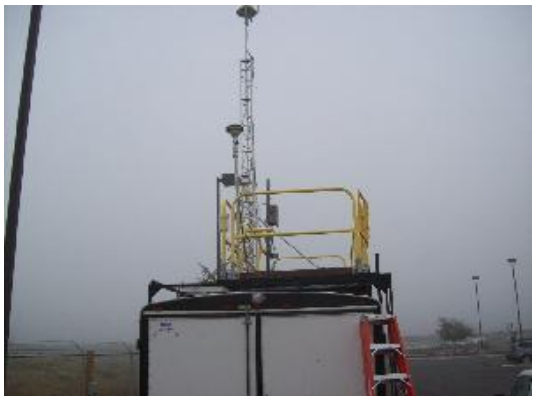


Porterville

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.

Site name:	Porterville
AQS ID:	06-107-2010
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):	24,800; 2017*
Ground Cover:	Paved, vegetative
Representative Statistical Area (CBSA):	Visalia-Porterville

*Ahead AADT traffic count for nearest roads: Junction CA Route 190/CA Route 65. Source: Caltrans 2017.

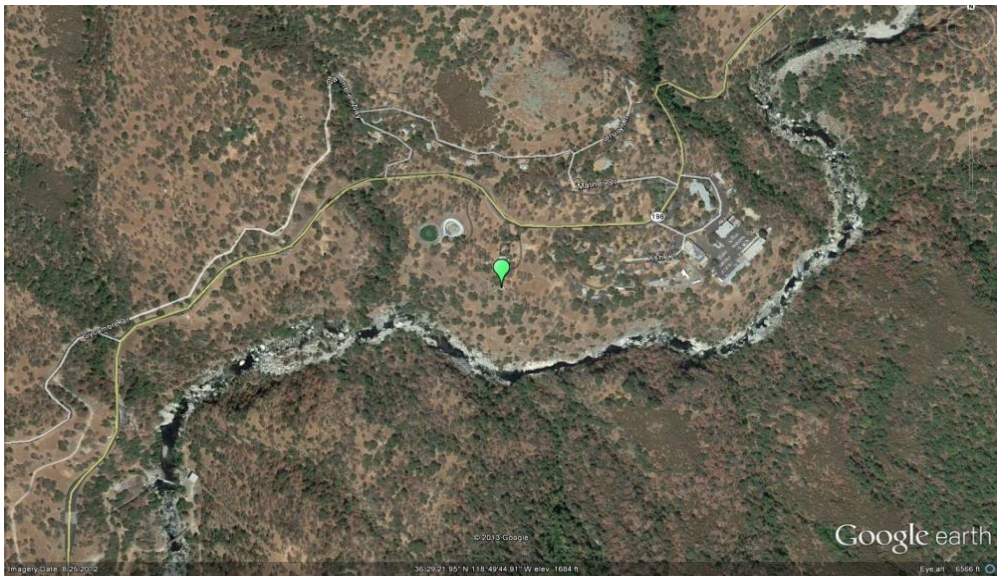


Sequoia-Ash Mountain

The Ash Mountain monitoring station is operated by Sequoia and Kings Canyon National Park and is located at the southern entrance of the Park at 1,500-feet elevation. It began operating in July 1999, though the site has been relocated several times over the years. The site demonstrates the ozone concentrations in the foothills. The site also monitors PM2.5 and meteorology.

Site name:	Sequoia-Ash Mountain
AQS ID:	06-107-0009
County:	Tulare
Street Address:	Ash Mountain, Sequoia and Kings Canyon 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):	2,300; 2017*
Ground Cover:	Dirt, vegetative
Representative Statistical Area (CBSA):	Visalia – Porterville

*Traffic count for nearest roads: CA Route 198 / Sequoia National Park boundary.
Source: Caltrans Back AADT 2017



Sequoia-Lower Kaweah

The Lower Kaweah monitoring station is operated by Sequoia and Kings Canyon National Park and is located at the southern entrance of the Park at 6,200-feet elevation. It began operating in January 1987. This is a seasonal-only site that monitors ozone and meteorology from May 31st to October 31st each year. The purpose of the site is to demonstrate the ozone concentrations in a rural area.

Site name:	Sequoia-Lower Kaweah
AQS ID:	06-107-0006
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):	2,300; 2017*
Ground Cover:	Dirt, vegetation
Representative Statistical Area (CBSA):	Visalia – Porterville

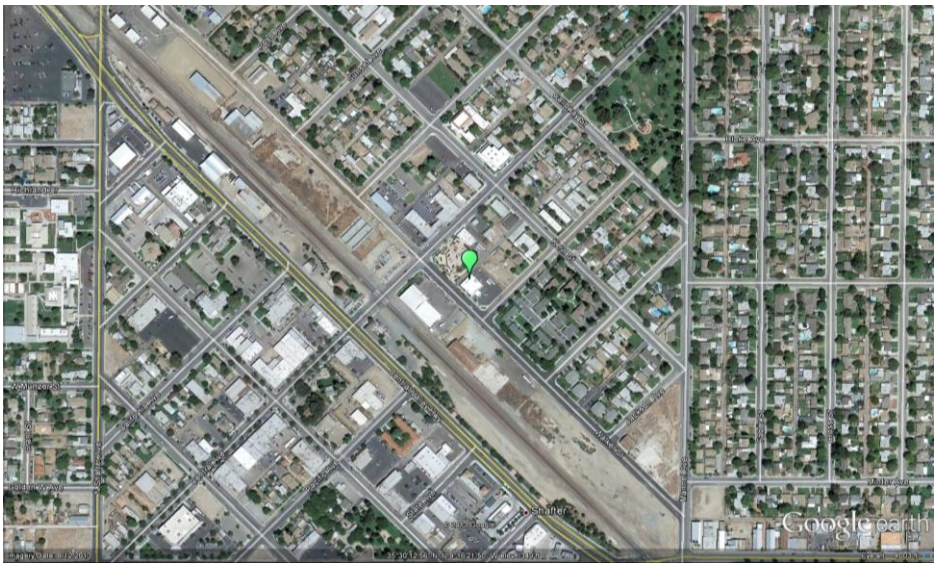
*Traffic count for nearest roads: CA Route 198 / Sequoia National Park boundary.
Source: Caltrans Back AADT 2017

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 NO2, NMH, speciated-VOC and meteorology for the PAMS program.

Site name:	Shafter
AQS ID:	06-029-6001
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):	4,002; 2018*
Ground Cover:	Paved
Representative Statistical Area (CBSA):	Bakersfield

*Traffic count for nearest roads: Central Ave and Walker St. Source: Kern Council of Governments.

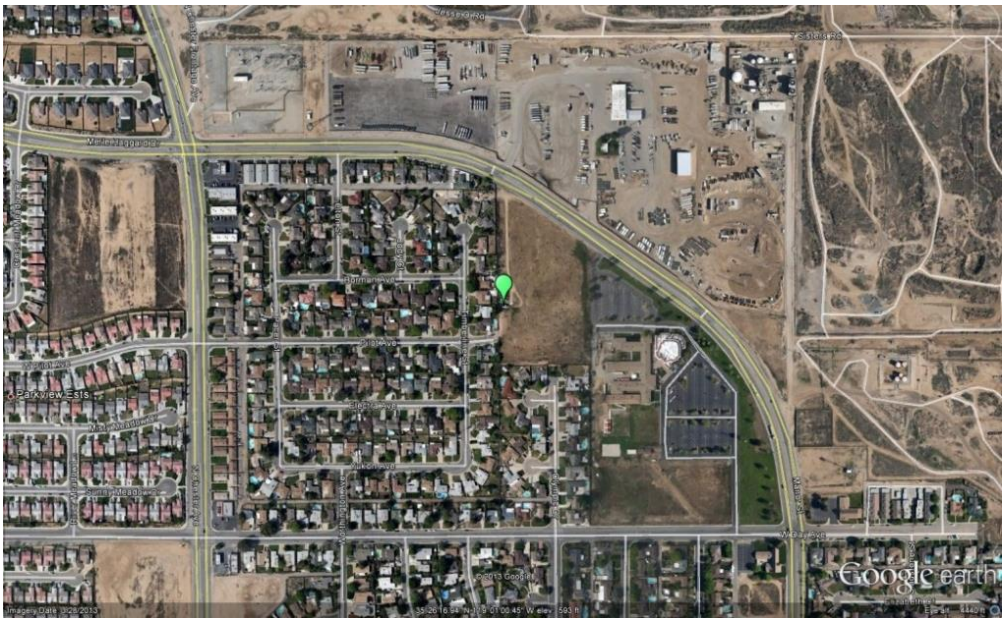


Oildale

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 ozone and PM10. The site also monitors meteorology.

Site name:	Oildale
AQS ID:	06-029-0232
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):	6,683; 2018*
Ground Cover:	Dirt, vegetative
Representative Statistical Area (CBSA):	Bakersfield

*Traffic count for roads: Manor St between Day Ave and Felton St. Source: Kern Council of Governments.

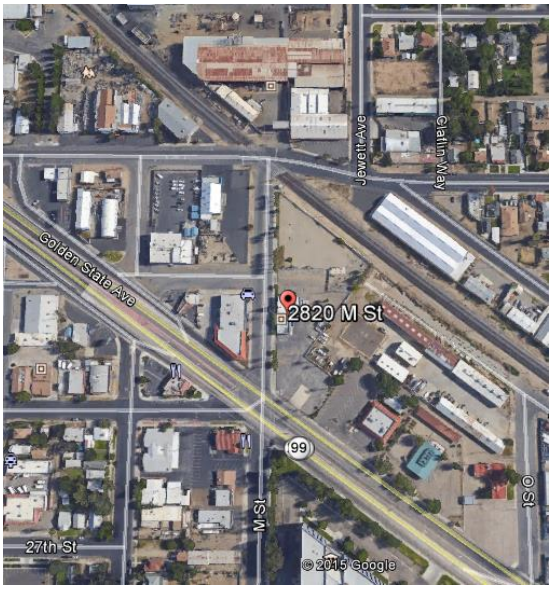


Bakersfield-Golden / M St

The Bakersfield-Golden / M St monitoring site is operated by the SJVAPCD and is located in the Bakersfield, CA metropolitan area. It began operating in June 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:	06-029-0010
County:	Kern
Street Address:	2820 M St, Bakersfield, CA 93301
Geographic Coordinates:	35.385574 N, -119.015009 W
Distance to road (meters):	13 m
Traffic Count (AADT; Year):	3,280; 2018*
Ground Cover:	Paved
Representative Statistical Area (CBSA):	Bakersfield

*Traffic count for nearest roads: 30th St at Golden State Ave. Source: Kern Council of Governments.



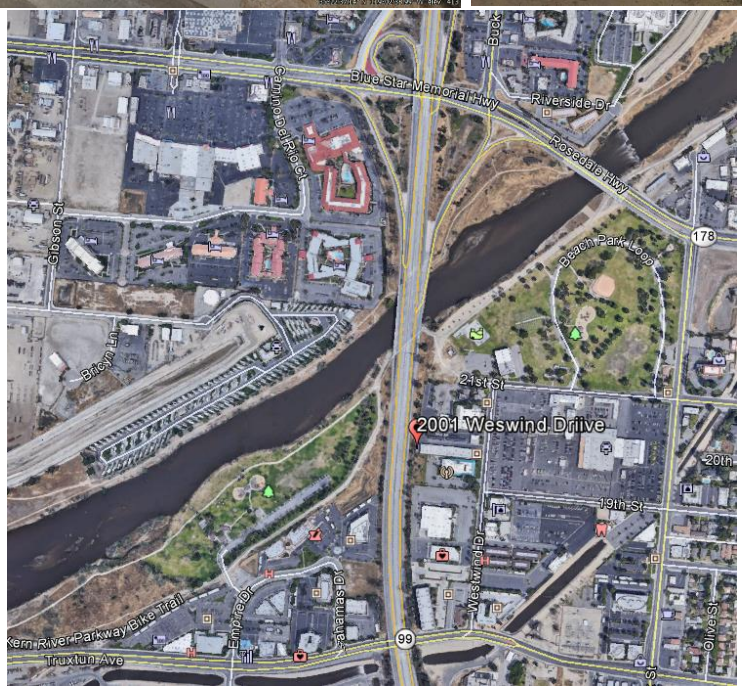
Bakersfield-Westwind

The Bakersfield-Westwind near-road NO_2 monitoring site is operated by the SJVAPCD and is located adjacent to Highway 99 in the Bakersfield, CA metropolitan area. It began operating in January 2019. The purpose of the site is to monitor representative maximum 1–hour NO_2 concentrations near a high traffic roadway in an urban area. In addition to NO_2, the site also monitors meteorology.

Site name:	Bakersfield-Westwind
AQS ID:	06-029-2019
County:	Kern
Street Address:	2001 Westwind Drive, Bakersfield, CA 93301
Geographic Coordinates:	35.37695278N, -119.04388889W
Distance to road (meters):	16 to 19 meters
Traffic Count (AADT; Year):	124,000; 2017* 2,726; 2018**
Ground Cover:	Paved
Representative Statistical Area (CBSA):	Kern

* Traffic count for road adjacent to monitoring station: CA Route 99 and JCT. RTE 58 West / JCT. RTE. 178 East Source: Caltrans (2017)

** Traffic count for monitoring station's street address: Westw ind Drive; Source: Kern Council of Governments

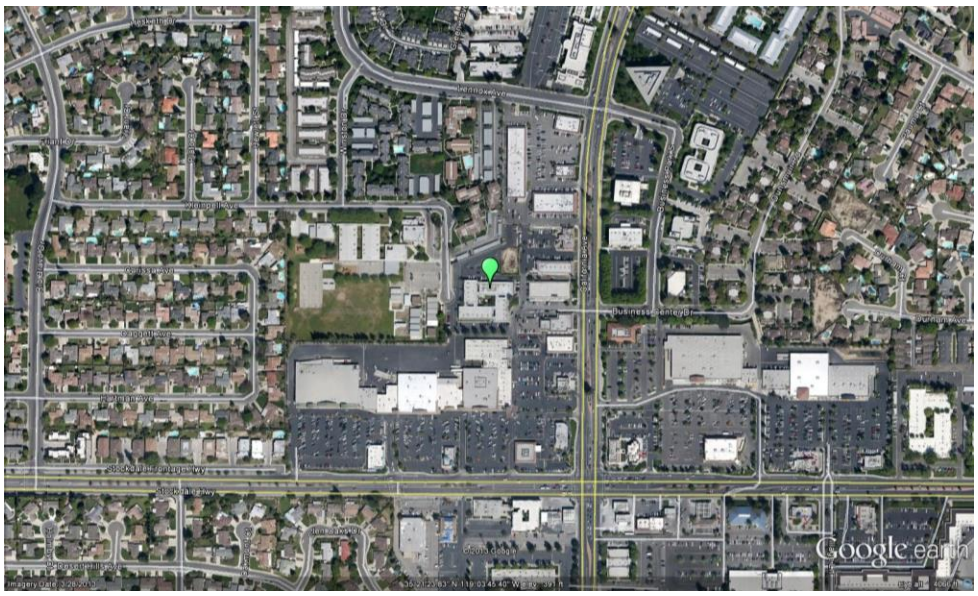


Bakersfield-California

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 ozone, PM10, and PM2.5 in an urban area. The Bakersfield-California site also monitors NO2, PM2.5 Speciation, Toxics, and meteorology.

Site name:	Bakersfield-California
AQS ID:	06-029-0014
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):	33,244; 2017*
Ground Cover:	Paved
Representative Statistical Area (CBSA):	Bakersfield

*Traffic count for roads: California Ave between Stockdale Hwy and Business Center Dr
Source: Kern Council of Governments



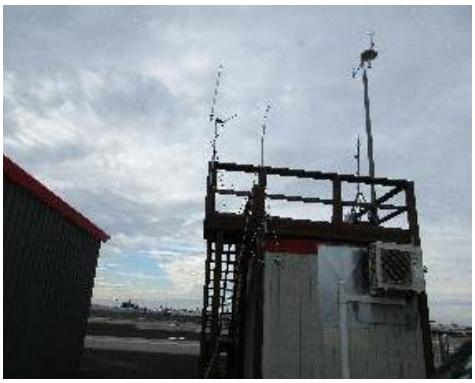
Bakersfield-Muni

The Bakersfield-Muni site is located in the Bakersfield, CA metropolitan area and is operated by THE SJVAPCD. It became operational in June 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, NO2, NMH, Speciated-VOC, and meteorology for the PAMS program.

Site name:	Bakersfield-Muni
AQS ID:	06-029-2012
County:	Kern
Street Address:	2000 South Union Ave., Bakersfield, CA 93307
Geographic Coordinates:	35.331612 N, -118.999961 W
Distance to road (meters):	280 m (west)
Traffic Count (AADT; Year):	20,545; 2018* 5,033; 2018**
Ground Cover:	Paved
Representative Statistical Area (CBSA):	Bakersfield

*Traffic count for monitoring station's street address: S Union Ave between E Casa Loma Dr and Watts Dr
Source: Kern Council of Governments

**Traffic count for road adjacent to monitoring station: Watts Dr between S Union Ave and Short St
Source: Kern Council of Governments



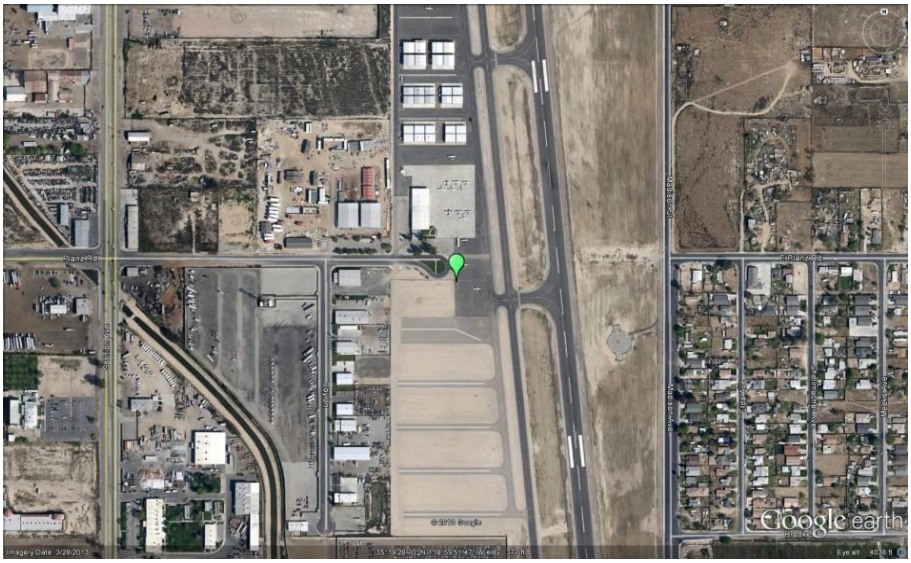
Bakersfield-Airport (Planz)

The Bakersfield-Airport (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:	06-029-0016
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):	17,987; 2018* 1,030; 2018**
Ground Cover:	Paved
Representative Statistical Area (CBSA):	Bakersfield

*Traffic count for nearest cross street: S. Union Ave between E. Planz Rd and E White Lane. Source: Kern Council of Governments

**Traffic count for monitoring station's street address E. Planz Rd. Source: Kern Council of Governments (2018)

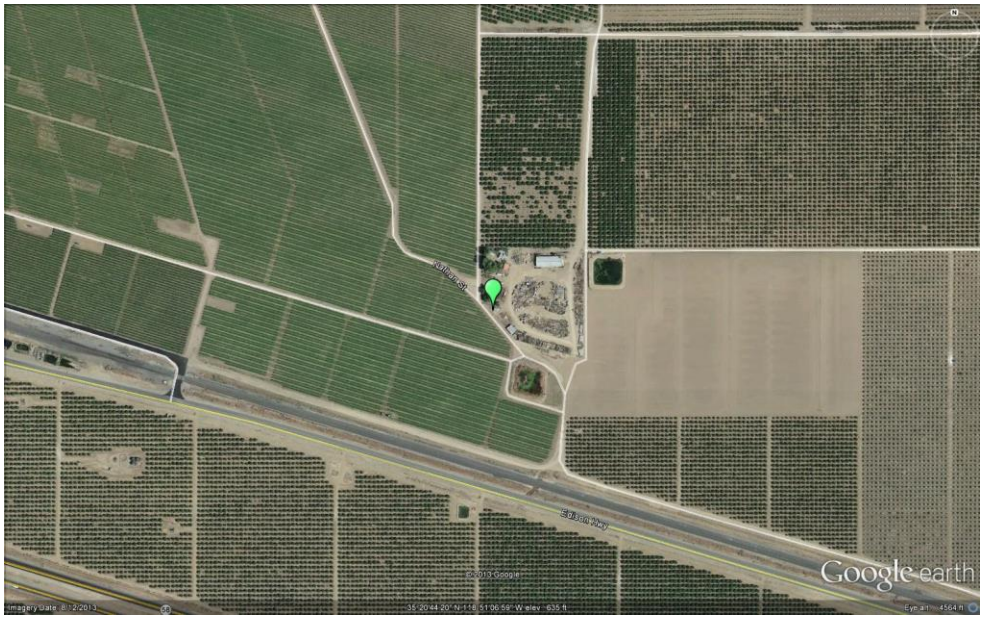


Edison

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 ozone from upwind and nearby urban areas. The site also monitors NO2 and meteorology.

Site name:	Edison
AQS ID:	06-029-0007
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):	2,800; 2018*
Ground Cover:	Dirt, vegetative
Representative Statistical Area (CBSA):	Bakersfield

*Traffic count for nearest roads: Edison Hwy and Comanche Dr.
Source: Kern Council of Governments (2018).

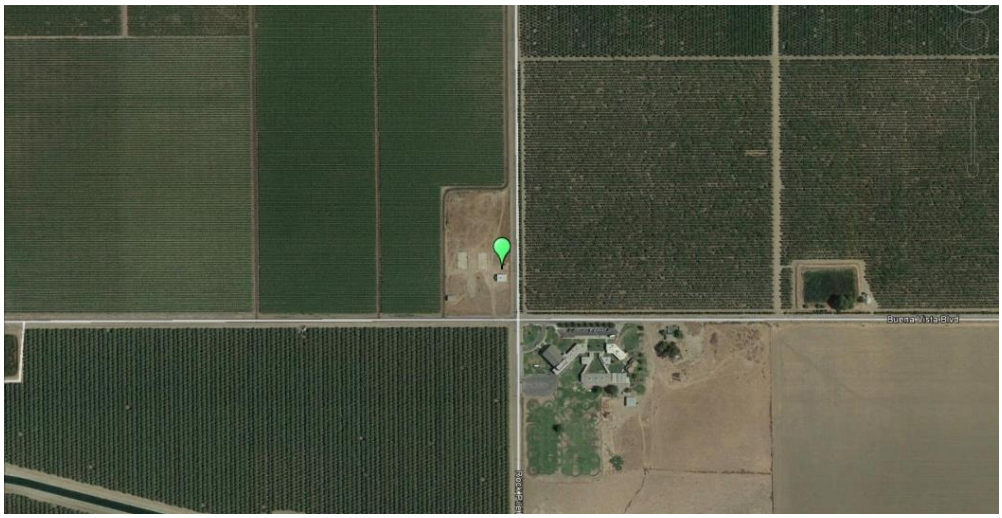


Arvin-Di Giorgio

The Arvin-Di Giorgio site is located 18 miles southeast of the Bakersfield, CA metropolitan area. The site began operating in November 2009, and currently monitors ozone and meteorology. The purpose of this site is to measure emissions downwind of the Bakersfield urban area, and serve as a PAMS Type 3 site which would monitor maximum ozone concentrations and transport from upwind urban areas. PAMS equipment will be installed at the site when space becomes available.

Site name:	Arvin-Di Giorgio
AQS ID:	06-029-5002
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):	712; 2018*
Ground Cover:	Dirt, vegetative
Representative Statistical Area (CBSA):	Bakersfield

*Traffic count for Buena Vista Blvd east of Tejon Hwy. Source: Kern Council of Governments.



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 ozone in a rural area. The site also monitors meteorology.

Site name:	Maricopa
AQS ID:	06-029-0008
County:	Kern
Street Address:	755 Stanislaus St, Maricopa CA 93352
Geographic Coordinates:	35.051454 N, -119.40262 W
Distance to road (meters):	500 m (northwest)
Traffic Count (AADT; Year):	499; 2018*
Ground Cover:	Gravel, dirt, vegetative
Representative Statistical Area (CBSA):	Bakersfield

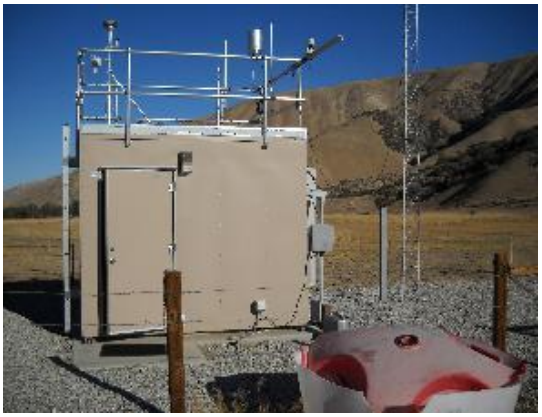
*Traffic count for nearest roads: Union St at California St. Source: Kern Council of Governments (2018).

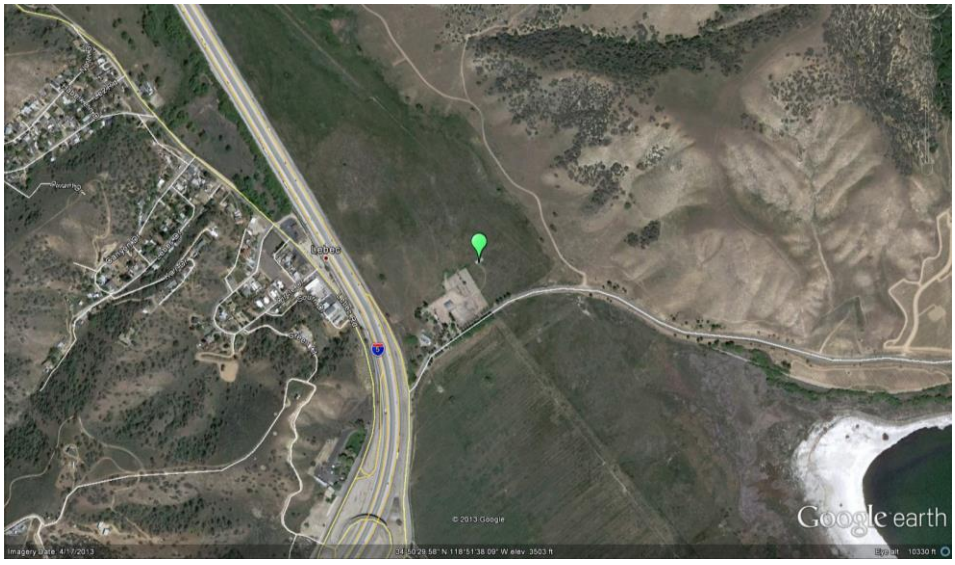
Lebec

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 monitors PM2.5 and meteorology and allows the District to better understand pollution impacts in the southern San Emigdio Mountains. The site is also used for residential wood burning declarations for the Greater Frazier Park Area.

Site name:	Lebec
AQS ID:	06-029-2009
County:	Kern
Street Address:	1277 Beartrap Rd, Lebec, CA 93243
Geographic Coordinates:	34.8415 N, -118.8610 W
Distance to road (meters):	300 m (west)
Traffic Count (AADT; Year):	1,911; 2017*
Ground Cover:	Gravel, vegetative
Representative Statistical Area (CBSA):	Bakersfield

*Traffic count for nearest roads: Lebec Rd and Interstate 5. Source: Kern Council of Governments (2017).





Tribal Sites

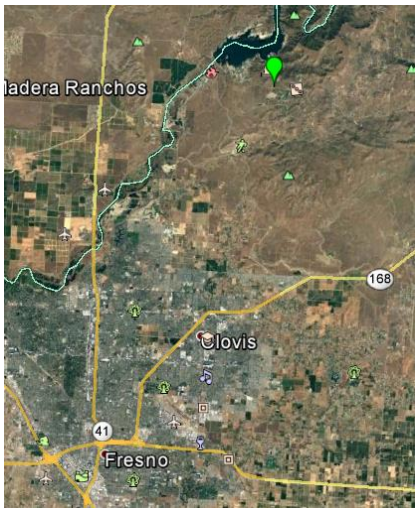
Tribal sites are operated under the Tribal Authority Rule which is essential to tribal implementation of the CAA. Since tribal sites are not part of the District's jurisdiction, detailed site information for tribal monitors will not be provided in Appendix B.

Table Mountain Air Monitoring Site

The Table Mountain air monitoring station is located on Tribal land near Millerton Lake in Fresno County, CA and is operated by the Monache Tribe and Foothill Yokut Indians. The site began operating in September 2015. The purpose of the site is to monitor representative concentrations of ozone, PM2.5, and PM10 responses from upwind and nearby urban areas. The site also monitors meteorology.

Site name:	Table Mountain Air Monitoring Site
AQS ID:	06-019-0500
County:	Fresno
Street Address:	Millerton Rd and Winchell Rd, Friant, CA 93626
Geographic Coordinates:	36.985119 N, -119.658339 W
Distance to road (meters):	Unknown
Traffic Count (AADT; Year):	50,000; 2017*
Ground Cover:	Dirt
Representative Statistical Area (CBSA):	Fresno-Madera

*Traffic count for nearest roads: CA Route 41 and Friant Rd. Source: Caltrans 2017 Ahead AADT.

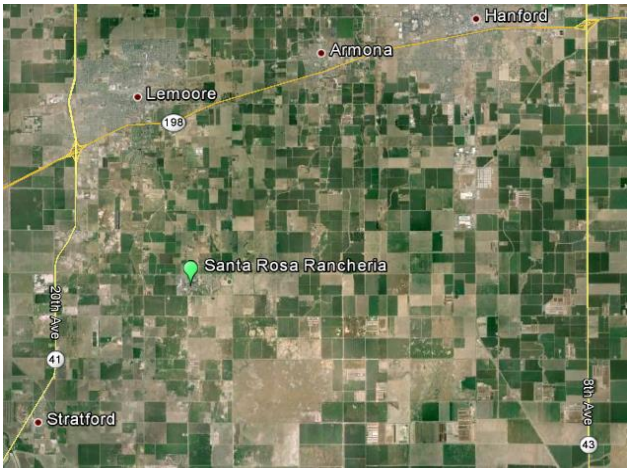


Santa Rosa Rancheria

The Santa Rosa Rancheria air monitoring site is located on Tribal land in Lemoore, Kings County, CA 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 ozone, PM2.5, and PM10 responses from upwind and nearby urban areas. The site also monitors meteorology.

Site name:	Santa Rosa Rancheria
AQS ID:	06-031-0500
County:	Kings
Street Address:	17225 Jersey Ave, Lemoore, CA 93245
Geographic Coordinates:	36.2332 N, -119.7662 W
Distance to road (meters):	40 m (south)
Traffic Count (AADT; Year):	775; 2014*
Ground Cover:	Dirt, paved
Representative Statistical Area (CBSA):	Hanford-Corcoran

*Traffic count for nearest roads: Jackson Ave and 16th Ave
Source: 2014 Kings County Regional Transportation Plan – Kings County Association of Governments



Appendix B:

Detailed Site Information

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List of Abbreviations

Site Type	
PE	Population Exposure
HC	Highest Concentration
Max PEI	Max Precursor Emissions Impact
RT	Regional Transport
GB	General/Background
SO	Source Oriented
QA	Quality Assurance Collocation
Spatial Scale	
N	Neighborhood
U	Urban
R	Regional
MC	Microscale
MD	Middle Scale
Basic Monitoring Objective	
NC	NAAQS Comparison
RS	Research
TP	Timely/Public
N/A	Not Applicable
AADT	Annual Average Daily Traffic

Site Name	Stockton–Hazelton
AQS ID (XX-XXX-XXXX)	06-077-1002
Representative statistical area Name (i.e. MSA, CBSA, other)	Stockton-Lodi
County	San Joaquin
Collecting (Operating) Agency	CARB
Analytical Lab (i.e. weigh lab, toxics lab, other)	CARB
Reporting Agency	CARB
Site Start Date	1/1/1976
Pollutant Parameters	Ozone, PM10 FRM, PM2.5 FEM, CO, NO_2, Toxics
Meteorological Parameters	Outdoor temperature, Wind direction, Wind speed, Relative humidity
Address	1601 E. Hazelton St., Stockton CA 95205
GPS Coordinates (decimal degrees)	37.9507 N, -121.2689 W
Distance to roadways	62 m (north)
Traffic Count/Year	4000/2014 (Traffic count estimated by City of Stockton Public Works Traffic Engineering Division)
Groundcover (e.g. paved, vegetative, dirt, sand, gravel)	Paved

Stockton–Hazelton (1)				
Pollutant	**Ozone**	**PM10 STP**	**PM2.5**	**PM2.5**
Parameter code	44201	81102	88101	88101
Spatial scale	N	N	N	N
Site type	HC, PE	HC	HC, PE	GB, QA
Monitoring objective	NC, RS, TP	NC, RS	NC, RS, TP	TP
Monitor type	SLAMS	SLAMS	SLAMS	SLAMS
Network affiliation	None	None	None	None
FRM/FEM/ARM/Other	FEM	FRM	FEM	FEM
POC	1	2	3	4
Primary / QA Collocated / Other (provide for all $PM_{2.5}$, PM_{10}, $PM_{10-2.5}$, Pb and NO_2 monitors. Non-PM, Pb, NO_2 monitors should be listed as "N/A".)	N/A	Primary	Primary	QA Collocation
Is it suitable for comparison against the annual $PM_{2.5}$? (Y/N)	N/A	N/A	Y	Y
Instrument manufacturer and model	Teledyne API 400	Sierra Anderson 1200	Met One 1020	Met One 1020
Analysis method	UV	Gravimetric	Beta Attenuation	Beta Attenuation
Method code	087	063	170	170
Monitoring start date (MM/DD/YYYY)	01/01/1976	01/01/1985	05/11/2010	08/23/2010
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	Hourly	1:6	Hourly	Hourly
Sampling season (MM/DD - MM/DD)	01/01 - 12/31	01/01 - 12/31	01/01 - 12/31	01/01 - 12/31
Probe/Inlet height above ground (meters)	5.7 m	6.5 m	5.7 m	5.7 m
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	2.0 m	1.7 m	2.0 m	2.0 m
Distance from obstructions on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	None	None	None	None
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	None	None	None	None

Pollutant	Ozone	PM10 STP	PM2.5	PM2.5
Distance from the drip line of closest tree(s)	None	None	None	None
Distance to furnace or incinerator flue (meters)	None	None	None	None
Distance between collocated monitors (meters)	N/A	N/A	N/A	1.2
Unrestricted airflow (degrees)	360	360	360	360
Probe material (Teflon, etc.)	Teflon	N/A	N/A	N/A
Residence time (seconds)	8.4	N/A	N/A	N/A
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the lovol? If yes, please list distance (meters) and instrument(s).	N/A	N/A	N/A	N/A
For high volume PM instrument (flow rate > 200 liters/minute), is any PM instrument within 2m of the hivol? If yes, please list distance (meters) and instrument(s).	N/A	No	No	No
Frequency of flow rate verification for manual PM samplers audit	N/A	Monthly	N/A	N/A
Frequency of flow rate verification for automated PM analyzers audit	N/A	N/A	Bi-weekly	Bi-weekly
Frequency of one-point QC check (gaseous)	Nightly	N/A	N/A	N/A
Last Annual Performance Evaluation (gaseous)	3/25/19	N/A	N/A	N/A
Last two semi-annual flow rate audits for PM monitors	N/A	3/6/19	2/27/19, 8/30/19	2/27/19, 8/30/19
Changes planned within the next 18 months (Y/N)	Yes. Site closure/demolition planned for mid-summer 2020. New site yet to be determined.	Yes. Site closure/demolition planned for mid-summer 2020. New site yet to be determined. PM10 HiVol analyzer will be replaced with a PM10 BAM-1020 analyzer when the new site becomes operational.	Yes. Site closure/demolition planned for mid-summer 2020. New site yet to be determined.	Yes. Site closure/demolition planned for mid-summer 2020. New site yet to be determined.

Stockton-Hazelton (2)					
Pollutant	**NO_2**	**CO**	**Toxics SN20021014**	**Toxics SN20021016**	**Meteorology**
Parameter code	42602	42101	Many	Many	Many
Spatial scale	N	N	N	N	R
Site type	PE	PE	PE	PE, QA	GB
Basic monitoring objective(s)	NC, RS, TP	NC, RS, TP	RS, TP	RS, TP	RS, TP
Monitor type	SLAMS	SLAMS	Many	Many	Other
Network affiliation(s), if applicable (a monitor may have none, one, or multiple)	None	None	CA Air Toxics	CA Air Toxics	None
FRM/FEM/ARM/Other	FRM	FRM	Other	Other	Other
POC	2	3	Many	Many	Many
Primary / QA Collocated / Other (provide for all $PM_{2.5}$, PM_{10}, $PM_{10-2.5}$, Pb and NO_2 monitors. Non-PM, Pb, NO_2 monitors should be listed as "N/A".)	N/A	N/A	Primary	QA Collocated	Other
Is it suitable for comparison against the annual $PM_{2.5}$? (Y/N)	N/A	N/A	N/A	N/A	N/A
Instrument manufacturer and model	API 200E	API 300 EU	Xontech 924	Xontech 924	Vaisala HMP-155 (OT/RH), RM Young 81000 (WS/WD/3DT)
Analysis method	CL	IR	Many	Many	Many
Method code	099	593	Many	Many	066
Monitoring start date (MM/DD/YYYY)	01/01/77	04/04/13	Varies by compound	Varies by compound	01/01/95
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	Hourly	Hourly	Hourly	Hourly	Hourly
Sampling season (MM/DD - MM/DD)	01/01 - 12/31	01/01 - 12/31	01/01 - 12/31	01/01 - 12/31	01/01 - 12/31
Probe/Inlet height above ground (meters)	5.7	5.4	6.8	6.8	4.4
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	2.0	None	2.0	2.0	None
Distance from obstructions on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	None	None	None	None	None

Pollutant	NO_2	CO	Toxics	Toxics	Meteorology
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	None	None	None	None	None
Distance from the drip line of closest tree(s)	None	None	None	None	None
Distance to furnace or incinerator flue (meters)	None	None	None	None	None
Distance between collocated monitors (meters)	None	None	2.8	2.8	None
Unrestricted airflow (degrees)	360	360	360	360	360
Probe material (Teflon, etc.)	Teflon	Teflon	Teflon	Teflon	Teflon
Residence time (seconds)	8.8	6.6	N/A	N/A	N/A
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the lovol? If yes, please list distance (meters) and instrument(s).	N/A	N/A	N/A	N/A	N/A
For high volume PM instrument (flow rate > 200 liters/minute), is any PM instrument within 2m of the hivol? If yes, please list distance (meters) and instrument(s).	N/A	N/A	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)	Nightly	Nightly	N/A	N/A	N/A
Last Annual Performance Evaluation (gaseous)	3/25/19	2/12/19	N/A	N/A	N/A
Last two semi-annual flow rate audits for PM monitors	N/A	N/A	3/25/19	3/25/19	N/A
Changes planned within the next 18 months (Y/N)	Yes. Site closure/demolition planned for mid-summer 2020. New site yet to be determined.	Yes. Site closure/demolition planned for mid-summer 2020. New site yet to be determined.	Yes. Site closure/demolition planned for mid-summer 2020. New site yet to be determined.	Yes. Site closure/demolition planned for mid-summer 2020. New site yet to be determined.	Yes. Site closure/demolition planned for mid-summer 2020. New site yet to be determined.

Site Name	Tracy - Airport
AQS ID (XX-XXX-XXXX)	06-077-3005
Representative statistical area Name (i.e. MSA, CBSA, other)	Stockton-Lodi
County	San Joaquin
Collecting (Operating) Agency	SJVAPCD
Analytical Lab (i.e. weigh lab, toxics lab, other)	N/A
Reporting Agency	SJVAPCD
Site Start Date	01/01/2006
Pollutant Parameters	Ozone, PM10 FEM, PM2.5 Non-FEM, NO2
Meteorological Parameters	Wind speed, wind direction, outdoor temperature, barometric pressure
Address	5749 S. Tracy Blvd., Tracy, CA 95376
GPS Coordinates (decimal degrees)	37.6826 N, -121.4423 W
Distance to roadways (meters)	700m (east)
Traffic Count/Year	4,063/2014 (Traffic count for nearest roads: Linne Rd and Corral Hollow Rd) Source: San Joaquin Council of Governments, 2016 Monitoring and Conformance Report
Groundcover (e.g. paved, vegetative, dirt, sand, gravel)	Dirt and Gravel

Tracy – Airport (1)					
Pollutant	**Ozone**	**PM2.5**	**PM10**	**NO_2**	**Meteorology**
Parameter code	44201	88502	81102	42602	Many
Spatial scale	R	R	R	R	R
Site type	RT	RT	RT	RT	GB
Basic monitoring objective(s)	NC, RS, TP	TP	NC, RS, TP	NC, RS, TP	RS, TP
Monitor type	SLAMS	SPM	SLAMS	SLAMS	Other
FRM/FEM/ARM/Other	FEM	Non-FEM	FEM	FEM	Other
POC	1	3	3	1	Many
Primary / QA Collocated / Other (provide for all $PM_{2.5}$, PM_{10}, $PM_{10-2.5}$, Pb and NO_2 monitors. Non-PM, Pb, NO_2 monitors should be listed as "N/A".)	Primary	Primary	Primary	Other	Other
Is it suitable for comparison against the annual $PM_{2.5}$? (Y/N)	N/A	N	N/A	N/A	N/A
Instrument manufacturer and model	Teledyne T400	MET One BAM 1020	Thermo TEOM 1400	Teledyne 200E	ITP- 125-50HV, OT- Met One 060A-2, BP- Met One 092, WD- Met One 020C, WS-Met One 010C
Analysis method	UV	Beta-Attenuation	Tapered Element	CL	Many
Method code	087	731	079	099	Many
Monitoring start date (MM/DD/YYYY)	01/01/2006	09/27/2006	09/27/2006	01/01/2006	01/01/2006
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	Hourly	Hourly	Hourly	Hourly	Hourly
Sampling season (MM/DD - MM/DD)	01/01 – 12/31	01/01 – 12/31	01/01 – 12/31	01/01 – 12/31	01/01 – 12/31
Probe height (meters)	5.9 m	5.6 m	5.6 m	5.9 m	10 m
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	2.1 m	1.8 m	1.8 m	2.1 m	N/A
Distance from obstructions on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	N/A	N/A	N/A	N/A	N/A
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	N/A	N/A	N/A	N/A	N/A
Distance from the drip line of closest tree(s)	N/A	N/A	N/A	N/A	N/A

Pollutant	Ozone	PM2.5	PM10	NO_2	Meteorology
Distance to furnace or incinerator flue (meters)	N/A	N/A	N/A	N/A	N/A
Distance between monitors fulfilling a QA collocation requirement (meters).	N/A	N/A	N/A	N/A	N/A
Unrestricted airflow (degrees around probe/inlet or percentage of monitoring path)	360	360	360	360	360
Probe material for reactive gases $NO/NO_2/NO_y$, SO_2, O_3; PAMS: VOCs, Carbonyls (e.g. Pyrex, stainless steel, Teflon)	Teflon/Pyrex with Borosilicate	N/A	N/A	Teflon/Pyrex with Borosilicate	N/A
Residence time for reactive gases $NO/NO_2/NO_y$, SO_2, O_3; PAMS: VOCs, Carbonyls (seconds)	12.55	N/A	N/A	13.42	N/A
Frequency of one-point QC check for gaseous instruments	Daily	N/A	N/A	Daily	N/A
Frequency of flow rate verification for manual PM samplers, including Pb samplers (routine checks)	N/A	N/A	N/A	N/A	N/A
Frequency of flow rate verification for automated PM analyzers (routine checks)	N/A	Bi-Weekly	Monthly	N/A	N/A
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the lovol? If yes, please list distance (meters) and instrument(s).	N/A	No	No	N/A	N/A
For high volume PM instrument (flow rate > 200 liters/minute), is any PM instrument within 2m of the hivol? If yes, please list distance (meters) and instrument(s).	N/A	N/A	N/A	N/A	N/A
Date of Annual Performance Evaluation conducted in the past calendar year for gaseous parameters (MM/DD/YYYY)	11/15/19	N/A	N/A	11/15/19	N/A
Date of two semi-annual flow rate audits conducted in the past calendar year for PM monitors (MM/DD/YYYY, MM/DD/YYYY)	N/A	05/21/19, 11/15/19	05/21/19, 11/15/19	N/A	N/A
Changes planned within the next 18 months (Y/N)	N	N	N	N	N

Site Name	Manteca
AQS ID (XX-XXX-XXXX)	06-077-2010
Representative statistical area Name (i.e. MSA, CBSA, other)	Stockton-Lodi
County	San Joaquin
Collecting (Operating) Agency	SJVAPCD
Analytical Lab (i.e. weigh lab, toxics lab, other)	N/A
Reporting Agency	SJVAPCD
Site Start Date	11/16/2010
Pollutant Parameters	PM2.5 FEM; PM10 FEM
Meteorological Parameters	Wind speed, wind direction, outdoor temperature, barometric pressure
Address	530 Fishback Rd., Manteca, CA 95337
GPS Coordinates (decimal degrees)	37.7933 N, -121.2477 W
Distance to roadways (meters)	12 m (west)
Traffic Count/Year	10,224 / 2015 (Traffic count for nearest roads: Airport Way between Lathrop Rd and Hwy 120. Source: San Joaquin Council of Governments, 2016 Monitoring and Conformance Report)
Groundcover (e.g. paved, vegetative, dirt, sand, gravel)	Paved, vegetative

Manteca (1)							
Pollutant	**PM2.5**	**PM2.5**	**PM10 LC**	**PM10 LC**	**PM10 STP**	**PM10 STP**	**Meteorology**
Parameter code	88101	88101	85101	85101	81102	81102	Many
Spatial scale	N	N	N	N	N	N	N
Site type	HC	HC	HC	HC	HC	HC	PE
Basic monitoring objective(s)	NC, RS, TP	NC, RS, TP	RS, TP	RS, TP	NC, RS, TP	NC, RS, TP	RS, TP
Monitor type	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS	Other
Network affiliation(s), if applicable (a monitor may have none, one, or multiple)	None	None	None	None	None	None	None
FRM/FEM/ARM/Other	FEM	FEM	FEM	FEM	FEM	FEM	Other
POC	3	3	3	3	3	3	1
Primary / QA Collocated / Other (provide for all $PM_{2.5}$, PM_{10}, $PM_{10-2.5}$, Pb and NO_2 monitors. Non-PM, Pb, NO_2 monitors should be listed as "N/A".)	Primary	Primary	Other	Other	Primary	Primary	Other
Is it suitable for comparison against the annual $PM_{2.5}$? (Y/N)	Yes	Yes	N/A	N/A	N/A	N/A	N/A
Instrument manufacturer and model	Teledyne 602	METOne BAM 1020	Teledyne 602	METOne BAM 1020	Teledyne 602	METOne 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	Beta Attenuation	Beta Attenuation	Beta Attenuation	Beta Attenuation	Beta Attenuation	Many
Method code	204	170	205	122	205	122	Many
Monitoring start date (MM/DD/YYYY)	01/01/2017	08/27/2019	01/01/2017	08/27/2019	01/01/2017	08/27/2019	11/16/2010

Pollutant	PM2.5	PM2.5	PM10 LC	PM10 LC	PM10 STP	PM10 STP	Meteorology
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	Hourly	Hourly	Hourly	Hourly	Hourly	Hourly	Hourly
Sampling season (MM/DD - MM/DD)	01/01 - 12/31	01/01 - 12/31	01/01 - 12/31	01/01 - 12/31	01/01 - 12/31	01/01 - 12/31	01/01 – 12/31
Probe height (meters)	4.9 m	3.7 m	4.6 m	3.6 m	4.6 m	3.6 m	10 m
Distance from supporting structure (meters)	2.4 m	1.9m	2.3 m	1.8 m	2.3 m	1.8 m	10 m
Distance from obstructions on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Distance from the drip line of closest tree(s)	55 m	55 m	55 m	55 m	55 m	55 m	55.5 m
Distance to furnace or incinerator flue (meters)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Distance between monitors fulfilling a QA collocation requirement (meters).	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Unrestricted airflow (degrees around probe/inlet or percentage of monitoring path)	360	360	360	360	360	360	360

Pollutant	PM2.5	PM2.5	PM10 LC	PM10 LC	PM10 STP	PM10 STP	Meteorology
Probe material for reactive gases $NO/NO_2/NO_y$, SO_2, O_3; PAMS: VOCs, Carbonyls (e.g. Pyrex, stainless steel, Teflon)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Residence time for reactive gases $NO/NO_2/NO_y$, SO_2, O_3; PAMS: VOCs, Carbonyls (seconds)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Frequency of one-point QC check for gaseous instruments	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Frequency of flow rate verification for manual PM samplers, including Pb samplers (routine checks)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Frequency of flow rate verification for automated PM analyzers (routine checks)	Biweekly	Biweekly	Biweekly	Biweekly	Biweekly	Biweekly	N/A
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the lovol? If yes, please list distance (meters) and instrument(s).	No	No	No	No	No	No	N/A
For high volume PM instrument (flow rate > 200 liters/minute), is any PM instrument within 2m of the hivol? If yes, please list distance (meters) and instrument(s).	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Pollutant	PM2.5	PM2.5	PM10 LC	PM10 LC	PM10 STP	PM10 STP	Meteorology
Date of Annual Performance Evaluation conducted in the past calendar year for gaseous parameters (MM/DD/YYYY)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Date of two semi-annual flow rate audits conducted in the past calendar year for PM monitors (MM/DD/YYYY, MM/DD/YYYY)	5/21/2019	11/12/2019	5/21/2019	11/12/2019	5/21/2019	11/12/2019	N/A
Changes planned within the next 18 months (Y/N)	Removed 8/27/2019	Replaced the Teledyne 602	Removed 8/27/2019	Replaced the Teledyne 602	Removed 8/27/2019	Replaced the Teledyne 602	N

Site Name	Modesto –14th St
AQS ID (XX-XXX-XXXX)	06-099-0005
Representative statistical area Name (i.e. MSA, CBSA, other)	Modesto
County	Stanislaus
Collecting (Operating) Agency	CARB
Analytical Lab (i.e. weigh lab, toxics lab, other)	CARB
Reporting Agency	CARB
Site Start Date	01/01/81
Pollutant Parameters	Ozone, PM10 FEM, PM2.5 FRM, PM2.5 FEM, CO, PM2.5 Speciation (CSN Supplemental)
Meteorological Parameters	Wind speed, wind direction, outdoor temperature, relative humidity
Address	814 14th Street, Modesto CA 95354
GPS Coordinates (decimal degrees)	37.6421 N, -120.9942 W
Distance to road	50 m (southwest)
Traffic Count/Year	122,000 / 2014 (Traffic count for nearest roads: H Street / Rte 99, Source: Caltrans 2017 AADDT)
Groundcover (e.g. paved, vegetative, dirt, sand, gravel)	Paved

Modesto –14th St (1)			
Pollutant	**Ozone**	**PM10 STP**	**PM2.5**
Parameter code	44201	81102	88101
Spatial scale	N	N	N
Site type	HC, PE	PE	PE
Monitoring objective	NC, RS, TP	NC, RS, TP	NC, RS, TP
Monitor type	SLAMS	SLAMS	SLAMS
Network affiliation	None	None	None
FRM/FEM/ARM/Other	FEM	FEM	FEM
POC	1	7	3
Primary / QA Collocated / Other (provide for all $PM_{2.5}$, PM_{10}, $PM_{10-2.5}$, Pb and NO_2 monitors. Non-PM, Pb, NO_2 monitors should be listed as "N/A".)	N/A	Primary	Primary
Is it suitable for comparison against the annual $PM_{2.5}$? (Y/N)	N/A	N/A	Y
Instrument manufacturer and model	Teledyne API 400	Met One 4 Models Beta A	Met One 1020
Analysis method	UV	Beta Attenuation	Beta Attenuation
Method code	087	122	170
Monitoring start date (MM/DD/YYYY)	1/1/1981	12/1/2013	5/1/2010
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	Hourly	Hourly	Hourly
Sampling season (MM/DD - MM/DD)	01/01 - 12/31	01/01 - 12/31	01/01 - 12/31
Probe/Inlet height above ground (meters)	7.9 m	4.4 m	5.1 m
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	4.8 m	1.1 m	1.8 m
Distance from obstructions on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	None	None	None
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	None	None	None
Distance from the drip line of closest tree(s)	None	None	None
Distance to furnace or incinerator flue (meters)	None	None	None
Distance between collocated monitors (meters)	N/A	N/A	2.0
Unrestricted airflow (degrees)	360	360	360
Probe material (Teflon, etc.)	Teflon	N/A	N/A
Residence time (seconds)	9.3	N/A	N/A

Pollutant	Ozone	PM10 STP	PM2.5
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the lovol? If yes, please list distance (meters) and instrument(s).	N/A	No	No
For high volume PM instrument (flow rate > 200 liters/minute), is any PM instrument within 2m of the hivol? If yes, please list distance (meters) and instrument(s).	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	N/A	Monthly	Bi-Weekly
Frequency of one-point QC check (gaseous)	Nightly	N/A	N/A
Last Annual Performance Evaluation (gaseous)	11/21/19	N/A	N/A
Last two semi-annual flow rate audits for PM monitors	N/A	5/20/19, 11/21/19	5/20/19, 11/21/19
Changes planned within the next 18 months (Y/N)	N	N	N

Modesto–14th St (2)				
Pollutant	**PM2.5**	**PM2.5 Speciation**	**CO**	**Meteorology**
Parameter code	88101	Many	42101	Many
Spatial scale	N	N	N	R
Site type	PE, QA	PE	PE	GB
Monitoring objective(s)	NC, RS	RS	NC, RS, TP	RS, TP
Monitor type	SLAMS	SLAMS	SLAMS	Other
Network affiliation	None	CSN Supplemental	None	None
FRM/FEM/ARM/Other	FRM	Other	FRM	Other
POC	1	5	3	Many
Primary / QA Collocated / Other (provide for all $PM_{2.5}$, PM_{10}, $PM_{10-2.5}$, Pb and NO_2 monitors. Non-PM, Pb, NO_2 monitors should be listed as “N/A”.)	QA Collocation	Primary	N/A	Other
Is it suitable for comparison against the annual $PM_{2.5}$? (Y/N)	Y	N/A	N/A	N/A
Instrument manufacturer and model	Thermo 2000i	Met-One SASS	API 300 EU	Vaisala HMP-155 (OT/RH); RM Young 81000 (WS/WD/3DT)

Pollutant	PM2.5	PM2.5 Speciation	CO	Meteorology
Analysis method	Gravimetric	Many	IR	N/A
Method code	143	810	593	Many
Monitoring start date (MM/DD/YYYY)	01/03/95	01/14/02	01/01/13	01/01/95
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	1:12	1:6	Hourly	Hourly
Sampling season (MM/DD - MM/DD)	01/01 - 12/31	01/01 - 12/31	01/01 - 12/31	01/01 - 12/31
Probe/Inlet height above ground (meters)	6.1	5.6	7.7	8
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	2.8	N/A	0.6	None
Distance from obstructions on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	None	4.5	None	None
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	None	1 (Met tower)	None	None
Distance from the drip line of closest tree(s)	None	40	None	None
Distance to furnace or incinerator flue (meters)	None	Approx. 40 m	None	None
Distance between collocated monitors (meters)	2.0	2.4 (URG 3000n) 4.5 (Partisol) 3.0 (BAM-10)	None	None
Unrestricted airflow (degrees)	360	Est. 350	360	360
Probe material (Teflon, etc.)	N/A	N/A	Teflon	N/A
Residence time (seconds)	N/A	N/A	9.5	N/A
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the lovol? If yes, please list distance (meters) and instrument(s).	N/A	N/A	N/A	N/A
For high volume PM instrument (flow rate > 200 liters/minute), is any PM instrument within 2m of the hivol? If yes, please list distance (meters) and instrument(s).	N/A	N/A	N/A	N/A
Frequency of flow rate verification for manual PM samplers audit	Monthly	Monthly	N/A	N/A
Frequency of flow rate verification for automated PM analyzers audit	N/A	N/A	N/A	N/A

Pollutant	PM2.5	PM2.5 Speciation	CO	Meteorology
Frequency of one-point QC check (gaseous)	N/A	N/A	Nightly	N/A
Last Annual Performance Evaluation (gaseous)	N/A	N/A	2/12/19	N/A
Last two semi-annual flow rate audits for PM monitors	5/20/19, 11/21/19	5/29/19	N/A	N/A
Changes planned within the next 18 months (Y/N)	N	N	N	N

Site Name	Turlock	
AQS ID (XX-XXX-XXXX)	06-099-0006	
Representative statistical area Name (i.e. MSA, CBSA, other)	Modesto	
County	Stanislaus	
Collecting (Operating) Agency	SJVAPCD	
Analytical Lab (i.e. weigh lab, toxics lab, other)	CARB	
Reporting Agency	SJVAPD: Ozone, PM2.5 FEM, NO2, Meteorology	CARB: PM10 FRM
Site Start Date	4/1/1992	
Pollutant Parameters	Ozone, PM10 FRM, PM2.5 FEM, NO2	
Meteorological Parameters	Wind speed, wind direction, outdoor temperature, barometric pressure	
Address	900 S. Minaret Ave., Turlock, CA 95380	
GPS Coordinates (decimal degrees)	37.4880 N, -120.8360 W	
Distance to roadways (meters)	40m (northeast)	
Traffic Count/Year	742 / 2015 (Traffic count for Minaret Ave. between East Ave. and Berkley Ave. Five-day average two-way traffic. Source: City of Turlock Engineering Division 2015)	
Groundcover (e.g. paved, vegetative, dirt, sand, gravel)	Gravel	

Turlock (1)					
Pollutant	**Ozone**	**PM2.5**	**PM10**	**NO_2**	**Meteorology**
Parameter code	44201	88101	81102	42602	Many
Spatial scale	N	N	N	N	R
Site type	HC, PE	HC, PE	PE	PE	GB
Basic monitoring objective(s)	NC, RS, TP	NC, RS, TP	NC, RS	NC, RS, TP	RS, TP
Monitor type	SLAMS	SLAMS	SLAMS	SLAMS	Other
Network affiliation(s), if applicable (a monitor may have none, one, or multiple)	None	None	None	None	None
FRM/FEM/ARM/Other	FEM	FEM	FRM	FEM	Other
POC	1	3	1	1	1
Primary / QA Collocated / Other (provide for all $PM_{2.5}$, PM_{10}, $PM_{10-2.5}$, Pb and NO_2 monitors. Non-PM, Pb, NO_2 monitors should be listed as "N/A".)	N/A	Primary	Primary	N/A	Other
Is it suitable for comparison against the annual $PM_{2.5}$? (Y/N)	N/A	Y	N/A	N/A	N/A
Instrument manufacturer and model	Teledyne T400	MET One BAM 1020	ECOTECH Hi-Vol 3000	Teledyne 200E	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	Gravimetric	Chem.	Many
Method code	087	170	162	099	Many
Monitoring start date (MM/DD/YYYY)	04/01/2000	09/14/2006	09/14/2006	04/01/2000	WS, WD - 4/1/2000; OT, BP 09/03/08
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	Hourly	Hourly	1:6	Hourly	Hourly
Sampling season (MM/DD - MM/DD)	01/01 - 12/31	01/01 – 12/31	01/01 – 12/31	01/01 – 12/31	01/01 – 12/31
Probe height (meters)	5.6 m	5.6 m	5.5 m	5.6 m	8.3 m

Pollutant	Ozone	PM2.5	PM10	NO_2	Meteorology
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	2 m	2 m	1.6 m	2 m	N/A
Distance from obstructions on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	N/A	N/A	N/A	N/A	N/A
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	N/A	N/A	N/A	N/A	N/A
Distance from the drip line of closest tree(s)	21.34 m	22.88 m	21.04 m	21.34 m	20.11 m
Distance to furnace or incinerator flue (meters)	N/A	N/A	N/A	N/A	N/A
Distance between monitors fulfilling a QA collocation requirement (meters).	N/A	N/A	N/A	N/A	N/A
Unrestricted airflow (degrees around probe/inlet or percentage of monitoring path)	360	360	360	360	360
Probe material for reactive gases $NO/NO_2/NO_y$, SO_2, O_3; PAMS: VOCs, Carbonyls (e.g. Pyrex, stainless steel, Teflon)	Teflon/Pyrex with Borosilicate	N/A	N/A	Teflon/Pyrex with Borosilicate	N/A
Residence time for reactive gases $NO/NO_2/NO_y$, SO_2, O_3; PAMS: VOCs, Carbonyls (seconds)	12.47	N/A	N/A	13.40	N/A
Frequency of one-point QC check for gaseous instruments	Daily	N/A	N/A	Daily	N/A
Frequency of flow rate verification for manual PM samplers, including Pb samplers (routine checks)	N/A	N/A	Monthly	N/A	N/A
Frequency of flow rate verification for automated PM analyzers (routine checks)	N/A	Bi-weekly	N/A	N/A	N/A
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the lovol? If yes, please list distance (meters) and instrument(s).	N/A	No	N/A	N/A	N/A

Pollutant	Ozone	PM2.5	PM10	NO_2	Meteorology
For high volume PM instrument (flow rate > 200 liters/minute), is any PM instrument within 2m of the hivol? If yes, please list distance (meters) and instrument(s).	N/A	N/A	No	N/A	N/A
Date of Annual Performance Evaluation conducted in the past calendar year for gaseous parameters (MM/DD/YYYY)	11/19/2019	N/A	N/A	11/19/2019	N/A
Date of two semi-annual flow rate audits conducted in the past calendar year for PM monitors (MM/DD/YYYY, MM/DD/YYYY)	N/A	5/14/2019, 11/19/2019	5/14/2019, 11/19/2019	N/A	N/A
Changes planned within the next 18 months (Y/N)	N	N	N	N	N

Site Name	Merced - M St
AQS ID (XX-XXX-XXXX)	06-047-2510
Representative statistical area Name (i.e. MSA, CBSA, other)	Merced
County	Merced
Collecting (Operating) Agency	SJVAPCD
Analytical Lab (i.e. weigh lab, toxics lab, other)	CARB
Reporting Agency	CARB: PM10 FRM and PM2.5 FRM
Site Start Date	04/01/1999
Pollutant Parameters	PM10 FRM, PM2.5 FRM
Meteorological Parameters	None
Address	2334 M Street, Merced, CA 95340
GPS Coordinates (decimal degrees)	37.3086 N, -120.4800 W
Distance to roadways (meters)	55 m (northwest)
Traffic Count/Year	51,000/2014 (Traffic count for nearest roads: R Street/Rte 99, Source: Caltrans 2017 AADT)
Groundcover (e.g. paved, vegetative, dirt, sand, gravel)	Paved, gravel

Merced – M St (1)		
Pollutant	**PM2.5**	**PM10**
Parameter code	88101	81102
Spatial scale	N	N
Site type	HC, PE	HC, PE
Basic monitoring objective(s)	NC, RS	NC, RS
Monitor type	SLAMS	SLAMS
Network affiliation(s), if applicable (a monitor may have none, one, or multiple)	None	None
FRM/FEM/ARM/Other	FRM	FRM
POC	1	1
Primary / QA Collocated / Other (provide for all $PM_{2.5}$, PM_{10}, $PM_{10-2.5}$, Pb and NO_2 monitors. Non-PM, Pb, NO_2 monitors should be listed as "N/A".)	Primary	Primary
Is it suitable for comparison against the annual $PM_{2.5}$? (Y/N)	Y	N/A
Instrument manufacturer and model	Thermo-Partisol 2025i	ECOTECH Hi-Vol 3000
Analysis method	Gravimetric	Gravimetric
Method code	145	162
Monitoring start date (MM/DD/YYYY)	04/01/1999	4/01/1999
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	1:3	1:6
Sampling season (MM/DD - MM/DD)	1/1 -12/31	1/1 – 12/31
Probe height (meters)	8.4 m	8.1 m
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	2.05 m	1.7 m
Distance from obstructions on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	N/A	N/A
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	N/A	N/A
Distance from the drip line of closest tree(s)	14.7 m	13.3 m
Distance to furnace or incinerator flue (meters)	44.3 m	39.1 m

Pollutant	PM2.5	PM10
Distance between monitors fulfilling a QA collocation requirement (meters).	N/A	N/A
Unrestricted airflow (degrees around probe/inlet or percentage of monitoring path)	360	360
Probe material for reactive gases $NO/NO_2/NO_y$, SO_2, O_3; PAMS: VOCs, Carbonyls (e.g. Pyrex, stainless steel, Teflon)	N/A	N/A
Residence time for reactive gases $NO/NO_2/NO_y$, SO_2, O_3; PAMS: VOCs, Carbonyls (seconds)	N/A	N/A
Frequency of one-point QC check for gaseous instruments	N/A	N/A
Frequency of flow rate verification for manual PM samplers, including Pb samplers (routine checks)	Bi-weekly	Monthly
Frequency of flow rate verification for automated PM analyzers (routine checks)	N/A	N/A
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the lovol? If yes, please list distance (meters) and instrument(s).	No	N/A
For high volume PM instrument (flow rate > 200 liters/minute), is any PM instrument within 2m of the hivol? If yes, please list distance (meters) and instrument(s).	N/A	No
Date of Annual Performance Evaluation conducted in the past calendar year for gaseous parameters (MM/DD/YYYY)	N/A	N/A
Date of two semi-annual flow rate audits conducted in the past calendar year for PM monitors (MM/DD/YYYY, MM/DD/YYYY)	05/20/2019, 11/20/2019	05/20/2019, 11/20/2019
Changes planned within the next 18 months (Y/N)	N	N

Site Name	Merced - Coffee
AQS ID (XX-XXX-XXXX)	06-047-0003
Representative statistical area Name (i.e. MSA, CBSA, other)	Merced
County	Merced
Collecting (Operating) Agency	SJVAPCD
Analytical Lab (i.e. weigh lab, toxics lab, other)	N/A
Reporting Agency	SJVAPCD
Site Start Date	10/1/1991
Pollutant Parameters	Ozone, PM2.5 FEM, NO2
Meteorological Parameters	Wind speed, wind direction, outdoor temperature
Address	385 S. Coffee St., Merced, CA 95340
GPS Coordinates (decimal degrees)	37.2816 N, -120.4340 W
Distance to roadways (meters)	15 m (east)
Traffic Count/Year	42,500/2014 (Traffic count for nearest roads: Childs Avenue/Rte 99, Source: Caltrans 2016 AADT)
Groundcover (e.g. paved, vegetative, dirt, sand, gravel)	Vegetative, dirt and gravel

Merced – Coffee (1)				
Pollutant	**Ozone**	**PM2.5**	**NO_2**	**Meteorology**
Parameter code	44201	88101	42602	Many
Spatial scale	N	N	N	R
Site type	HC, PE	PE	PE	GB
Basic monitoring objective(s)	NC, RS, TP	NC, RS, TP	NC, RS, TP	RS, TP
Monitor type	SLAMS	SLAMS	SLAMS	Other
Network affiliation(s), if applicable (a monitor may have none, one, or multiple)	None	None	None	None
FRM/FEM/ARM/Other	FEM	FEM	FEM	Other
POC	1	3	1	Many
Primary / QA Collocated / Other (provide for all $PM_{2.5}$, PM_{10}, $PM_{10-2.5}$, Pb and NO_2 monitors. Non-PM, Pb, NO_2 monitors should be listed as "N/A".)	N/A	Primary	N/A	Other
Is it suitable for comparison against the annual $PM_{2.5}$? (Y/N)	N/A	Y	N/A	N/A
Instrument manufacturer and model	Teledyne T400	MET One BAM 1020	Teledyne T200	ITP- Hampshire Controls 125-50HVB, OT- Met One 060A-2, WD- Met One 020C-1, WS-Met One 010C
Analysis method	UV	Beta Attenuation	CL	Many
Method code	087	170	099	Many
Monitoring start date (MM/DD/YYYY)	10/01/1991	10/19/2009	10/01/1991	10/01/1991
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	Hourly	Hourly	Hourly	Hourly
Sampling season (MM/DD - MM/DD)	01/01 – 12/31	01/01 – 12/31	01/01 – 12/31	01/01 – 12/31
Probe height (meters)	5.4 m	5.4 m	5.4 m	7.6 m
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	1.9 m	1.9 m	1.9 m	4.1 m
Distance from obstructions on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	N/A	N/A	N/A	N/A
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	N/A	N/A	N/A	N/A

Pollutant	Ozone	PM2.5	NO_2	Meteorology
Distance from the drip line of closest tree(s)	13.5 m	14.0 m	13.5 m	13.5 m
Distance to furnace or incinerator flue (meters)	N/A	N/A	N/A	N/A
Distance between monitors fulfilling a QA collocation requirement (meters).	N/A	N/A	N/A	N/A
Unrestricted airflow (degrees around probe/inlet or percentage of monitoring path)	360	360	360	360
Probe material for reactive gases NO/NO_2/NO_y, SO_2, O_3; PAMS: VOCs, Carbonyls (e.g. Pyrex, stainless steel, Teflon)	Teflon/Pyrex with Borosilicate	N/A	Teflon/Pyrex with Borosilicate	N/A
Residence time for reactive gases NO/NO_2/NO_y, SO_2, O_3; PAMS: VOCs, Carbonyls (seconds)	12.05	N/A	12.89	N/A
Frequency of one-point QC check for gaseous instruments	Daily	N/A	Daily	N/A
Frequency of flow rate verification for manual PM samplers, including Pb samplers (routine checks)	N/A	N/A	N/A	N/A
Frequency of flow rate verification for automated PM analyzers (routine checks)	N/A	Bi-weekly	N/A	N/A
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the lovol? If yes, please list distance (meters) and instrument(s).	N/A	No	N/A	N/A
For high volume PM instrument (flow rate > 200 liters/minute), is any PM instrument within 2m of the hivol? If yes, please list distance (meters) and instrument(s).	N/A	N/A	N/A	N/A
Date of Annual Performance Evaluation conducted in the past calendar year for gaseous parameters (MM/DD/YYYY)	11/20/2019	N/A	11/20/2019	N/A
Date of two semi-annual flow rate audits conducted in the past calendar year for PM monitors (MM/DD/YYYY, MM/DD/YYYY)	N/A	05/16/2019, 11/20/2019	N/A	N/A
Changes planned within the next 18 months (Y/N)	N	N	N	N

Site Name	Madera - City
AQS ID (XX-XXX-XXXX)	06-039-2010
Representative statistical area Name (i.e. MSA, CBSA, other)	Madera
County	Madera
Collecting (Operating) Agency	SJVAPCD
Analytical Lab (i.e. weigh lab, toxics lab, other)	CARB: PM2.5 FRM
Reporting Agency	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
GPS Coordinates (decimal degrees)	36.9532 N, -120.0342 W
Distance to roadways (meters)	70 m (south)
Traffic Count/Year	386/2017 (Traffic count for nearest roads: Avenue 14 west of Road 29, westbound trips per hour in 24 hours. Source: Madera County Transportation Commission 2018 Traffic Volumes Report.)
Groundcover (e.g. paved, vegetative, dirt, sand, gravel)	Paved, dirt, and vegetative

Madera City (1)				
Pollutant	**Ozone**	**PM2.5**	**PM2.5**	**PM2.5**
Parameter code	44201	88101	88101	88101
Spatial scale	N	N	N	N
Site type	HC, GB	HC, QA	PE	PE
Basic monitoring objective(s)	NC, RS, TP	NC, RS,	NC, RS, TP	NC, RS, TP
Monitor type	SLAMS	SLAMS	SLAMS	SLAMS
Network affiliation(s), if applicable (a monitor may have none, one, or multiple)	None.	None	None	None
FRM/FEM/ARM/Other	FEM	FRM	FEM	FEM
POC	1	1	3	3
Primary / QA Collocated / Other (provide for all $PM_{2.5}$, PM_{10}, $PM_{10-2.5}$, Pb and NO_2 monitors. Non-PM, Pb, NO_2 monitors should be listed as "N/A".)	N/A	QA Collocated	Primary	Primary
Is it suitable for comparison against the annual $PM_{2.5}$? (Y/N)	N/A	Y	Y	Y
Instrument manufacturer and model	TAPI 400E IZS	Thermo Partisol 2025i	Teledyne 602	METOne BAM 1020
Analysis method	UV	Gravimetric	Beta Attenuation	Beta Attenuation
Method code	87	145	205	170
Monitoring start date (MM/DD/YYYY)	06/01/2010	02/17/2014	12/01/2017	09/20/2019
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	Hourly	1:12	Hourly	Hourly
Sampling season (MM/DD - MM/DD)	01/01 – 12/31	01/01 – 12/31	01/01 - 12/31	01/01 - 12/31
Probe height (meters)	5.1 m	5.1 m	4.9 m	3.7 m
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	2 m	2.1 m	2.4 m	1.9 m
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	N/A	N/A	N/A	N/A
Distance from the drip line of closest tree(s)	16.0 m	16.5 m	15 m	18.1 m

Pollutant	Ozone	PM2.5	PM2.5	PM2.5
Distance to furnace or incinerator flue (meters)	53m	53m	53m	53 m
Distance between monitors fulfilling a QA collocation requirement (meters).	N/A	N/A	N/A	N/A
Unrestricted airflow (degrees around probe/inlet or percentage of monitoring path)	360	360	360	360
Probe material for reactive gases NO/NO_2/NO_y, SO_2, O_3; PAMS: VOCs, Carbonyls (e.g. Pyrex, stainless steel, Teflon)	Teflon/Pyrex with Borosilicate	N/A	N/A	N/A
Residence time for reactive gases NO/NO_2/NO_y, SO_2, O_3; NPAMS: VOCs, Carbonyls (seconds)	15.28	N/A	N/A	N/A
Frequency of one-point QC check for gaseous instruments	Daily	N/A	N/A	N/A
Frequency of flow rate verification for manual PM samplers, including Pb samplers (routine checks)	N/A	Monthly	N/A	N/A
Frequency of flow rate verification for automated PM analyzers (routine checks)	N/A	N/A	Bi-Weekly	Bi-Weekly
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the lovol? If yes, please list distance (meters) and instrument(s).	N/A	No	No	No
For high volume PM instrument (flow rate > 200 liters/minute), is any PM instrument within 2m of the hivol? If yes, please list distance (meters) and instrument(s).	N/A	N/A	N/A	N/A
Date of Annual Performance Evaluation conducted in the past calendar year for gaseous parameters (MM/DD/YYYY)	11/19/2019, 12/05/2019	N/A	N/A	N/A
Date of two semi-annual flow rate audits conducted in the past calendar year for PM monitors (MM/DD/YYYY, MM/DD/YYYY)	N/A	5/14/19, 11/19/2019	05/14/2019	11/19/2019
Changes planned within the next 18 months (Y/N)	N	N	Replaced the Teledyne 602	Removed 9/20/2019

Madera City (2)					
Pollutant	**PM10 LC**	**PM10 LC**	**PM10 STP**	**PM10 STP**	**Meteorology**
Parameter code	85101	85101	81102	81102	Many
Spatial scale	N	N	N	N	N
Site type	PE	PE	PE	PE	GB
Basic monitoring objective(s)	RS, TP	RS, TP	NC, RS, TP	NC, RS, TP	RS, TP
Monitor type	SLAMS	SLAMS	SLAMS	SLAMS	Other
Network affiliation(s), if applicable (a monitor may have none, one, or multiple)	None	None	None	None	None
FRM/FEM/ARM/Other	FEM	FEM	FEM	FEM	Other
POC	3	3	3	3	1
Primary / QA Collocated / Other (provide for all $PM_{2.5}$, PM_{10}, $PM_{10-2.5}$, Pb and NO_2 monitors. Non-PM, Pb, NO_2 monitors should be listed as "N/A".)	Other	Other	Other	Other	Other
Is it suitable for comparison against the annual $PM_{2.5}$? (Y/N)	N/A	N/A	N/A	N/A	N/A
Instrument manufacturer and model	Teledyne 602	METOne BAM 1020	Teledyne 602	METOne 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	Beta Attenuation	Beta Attenuation	Beta Attenuation	Many
Method code	204	122	204	122	Many
Monitoring start date (MM/DD/YYYY)	12/01/2017	09/20/2019	12/01/2017	09/20/2019	06/01/2010
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	Hourly	Hourly	Hourly	Hourly	Hourly

Pollutant	PM10 LC	PM10 LC	PM10 STP	PM10 STP	Meteorology
Sampling season (MM/DD - MM/DD)	01/01 - 12/31	01/01 - 12/31	01/01 - 12/31	01/01 - 12/31	01/01 – 12/31
Probe height (meters)	4.6 m	3.6 m	4.6 m	3.6 m	10 m
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	2.3 m	1.8 m	2.3 m	1.8 m	7 m
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	N/A	N/A	N/A	N/A	N/A
Distance from the drip line of closest tree(s)	15 m	16.2 m	15 m	16.2 m	14.5 m
Distance to furnace or incinerator flue (meters)	53m	53 m	53m	53 m	N/A
Distance between monitors fulfilling a QA collocation requirement (meters).	N/A	N/A	N/A	N/A	N/A
Unrestricted airflow (degrees around probe/inlet or percentage of monitoring path)	360	360	360	360	360
Probe material for reactive gases NO/NO_2/NO_y, SO_2, O_3; PAMS: VOCs, Carbonyls (e.g. Pyrex, stainless steel, Teflon)	N/A	N/A	N/A	N/A	N/A
Residence time for reactive gases NO/NO_2/NO_y, SO_2, O_3; NPAMS: VOCs, Carbonyls (seconds)	N/A	N/A	N/A	N/A	N/A
Frequency of one-point QC check for gaseous instruments	N/A	N/A	N/A	N/A	N/A
Frequency of flow rate verification for manual PM samplers, including Pb samplers (routine checks)	N/A	N/A	N/A	N/A	N/A
Frequency of flow rate verification for automated PM analyzers (routine checks)	Bi-Weekly	Bi-Weekly	Bi-Weekly	Bi-Weekly	N/A
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the lovol? If yes, please list distance (meters) and instrument(s).	No	No	No	No	N/A

Pollutant	PM10 LC	PM10 LC	PM10 STP	PM10 STP	Meteorology
For high volume PM instrument (flow rate > 200 liters/minute), is any PM instrument within 2m of the hivol? If yes, please list distance (meters) and instrument(s).	N/A	N/A	N/A	N/A	N/A
Date of Annual Performance Evaluation conducted in the past calendar year for gaseous parameters (MM/DD/YYYY)	N/A	N/A	N/A	N/A	N/A
Date of two semi-annual flow rate audits conducted in the past calendar year for PM monitors (MM/DD/YYYY, MM/DD/YYYY)	05/14/2019	11/19/2019	05/14/2019	11/19/2019	N/A
Changes planned within the next 18 months (Y/N)	Replaced the Teledyne 602	Removed 9/20/2019	Replaced the Teledyne 602	Removed 9/20/2019	N

Site Name	Madera – Pump Yard
AQS ID (XX-XXX-XXXX)	06-039-0004
Representative statistical area Name (i.e. MSA, CBSA, other)	Madera
County	Madera
Collecting (Operating) Agency	SJVAPCD
Analytical Lab (i.e. weigh lab, toxics lab, other)	Varies based on which laboratory is contracted with the SJVAPCD.
Reporting Agency	SJVAPCD
Site Start Date	07/01/1997
Pollutant Parameters	Ozone, NO2, Speciated VOC, NMH
Meteorological Parameters	Wind speed, wind direction, outdoor temperature, relative humidity, barometric pressure, solar radiation
Address	Avenue 8 and Road 29 ½, Madera, CA 93637
GPS Coordinates (decimal degrees)	36.867125 N, -120.010158 W
Distance to roadways (meters)	20 m (west)
Traffic Count/Year	2,980/2017 (Traffic count for nearest roads: Avenue 7 west of Rte 99, westbound trips per hour in 24 hours. Source: Madera County Transportation Commission 2018 Traffic Volumes Report.)
Groundcover (e.g. paved, vegetative, dirt, sand, gravel)	Dirt, paved

Madera – Pump Yard (1)					
Pollutant	**Ozone**	**NO_2**	**Speciated VOC**	**NMH**	**Meteorology**
Parameter code	44201	42602	Many	43102	Many
Spatial scale	N	N	N	N	R
Site type	HC, GB	PE	PE	PE	GB
Basic monitoring objective(s)	NC, RS, TP	NC, RS, TP	RS	RS	RS, TP
Monitor type	SLAMS	SLAMS	Other	Other	Other
Network affiliation(s), if applicable (a monitor may have none, one, or multiple)	PAMS	PAMS	PAMS	PAMS	PAMS
FRM/FEM/ARM/Other	FEM	FEM	Other	Other	Other
POC	1	1	1	1	Many
Primary / QA Collocated / Other (provide for all $PM_{2.5}$, PM_{10}, $PM_{10-2.5}$, Pb and NO_2 monitors. Non-PM, Pb, NO_2 monitors should be listed as "N/A".)	N/A	N/A	N/A	N/A	Other
Is it suitable for comparison against the annual $PM_{2.5}$? (Y/N)	N/A	N/A	N/A	N/A	N/A
Instrument manufacturer and model	Teledyne T400	Teledyne T200	Entech Instruments	Synspec Alpha 115	ITP- Hamp.Control 125-50, OT- Met One 060A-2, BP- Met One 092, RH- Vaisala HMP110A, SRD- Epply Mod. 8-48, WD- Met One 020C, WS-Met One 010C
Analysis method	UV	CL	GC	GC	Many
Method code	087	099	126	011	Many
Monitoring start date (MM/DD/YYYY)	07/01/1997	07/01/1997	07/01/1997	07/01/1997	07/01/1997
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	Hourly	Hourly	1:3	Hourly	Hourly
Sampling season (MM/DD - MM/DD)	01/01 – 12/31	01/01 – 12/31	06/01 – 8/31	01/01 – 12/31	01/01 – 12/31
Probe height (meters)	5.8 m	5.8 m	5.8 m	5.8 m	4.45 m
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	2 m	2 m	2 m	2 m	8.2 m

Pollutant	Ozone	NO_2	Speciated VOC	NMH	Meteorology
Distance from obstructions on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	N/A	N/A	N/A	N/A	N/A
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	Horiz. 20 m, Vert 0 m above	Horiz. 20 m, Vert 0 m above	Horiz. 20 m, Vert 0 m above	Horiz. 20 m, Vert 0 m above	Horiz. 20 m, Vert 0 m above
Distance from the drip line of closest tree(s)	40.5 m	40.5 m	40.5 m	40.5 m	40.5 m
Distance to furnace or incinerator flue (meters)	N/A	N/A	N/A	N/A	N/A
Distance between monitors fulfilling a QA collocation requirement (meters).	N/A	N/A	N/A	N/A	N/A
Unrestricted airflow (degrees around probe/inlet or percentage of monitoring path)	360	360	360	360	360
Probe material for reactive gases $NO/NO_2/NO_y$, SO_2, O_3; PAMS: VOCs, Carbonyls (e.g. Pyrex, stainless steel, Teflon)	Teflon/Pyrex with Borosilicate	Teflon/Pyrex with Borosilicate	Stainless steel	Stainless steel	N/A
Residence time for reactive gases $NO/NO_2/NO_y$, SO_2, O_3; PAMS: VOCs, Carbonyls (seconds)	10.85	11.18	9.71	9.88	N/A
Frequency of one-point QC check for gaseous instruments	Daily	Daily	Daily	Daily	N/A
Frequency of flow rate verification for manual PM samplers, including Pb samplers (routine checks)	N/A	N/A	N/A	N/A	N/A
Frequency of flow rate verification for automated PM analyzers (routine checks)	N/A	N/A	N/A	N/A	N/A
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the lovol? If yes, please list distance (meters) and instrument(s).	N/A	N/A	N/A	N/A	N/A

Pollutant	Ozone	NO_2	Speciated VOC	NMH	Meteorology
For high volume PM instrument (flow rate > 200 liters/minute), is any PM instrument within 2m of the hivol? If yes, please list distance (meters) and instrument(s).	N/A	N/A	N/A	N/A	N/A
Date of Annual Performance Evaluation conducted in the past calendar year for gaseous parameters (MM/DD/YYYY)	11/14/2019	11/14/2019	N/A	N/A	N/A
Date of two semi-annual flow rate audits conducted in the past calendar year for PM monitors (MM/DD/YYYY, MM/DD/YYYY)	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	Tranquillity
AQS ID (XX-XXX-XXXX)	06-019-2009
Representative statistical area Name (i.e. MSA, CBSA, other)	Fresno
County	Fresno
Collecting (Operating) Agency	SJVAPCD
Analytical Lab (i.e. weigh lab, toxics lab, other)	N/A
Reporting Agency	SJVAPCD
Site Start Date	09/01/2009
Pollutant Parameters	Ozone, PM2.5 FEM
Meteorological Parameters	Wind speed, wind direction, outdoor temperature, barometric pressure
Address	32650 W. Adams, Tranquillity, CA 93668
GPS Coordinates (decimal degrees)	36.634225 N, -120.382331 W
Distance to roadways (meters)	200m (south)
Traffic Count/Year	2,292/2018 (Raw traffic count for nearest roads: Northbound Derrick Avenue between W. Nebraska Avenue and West Mountain View Avenue, Source: Fresno COG Traffic Counts, 2007-2019 Kittelson & Associates, Inc.)
Groundcover (e.g. paved, vegetative, dirt, sand, gravel)	Dirt, vegetative

Tranquillity (1)			
Pollutant	**Ozone**	**PM2.5**	**Meteorology**
Parameter code	44201	88101	Many
Spatial scale	U	U	U
Site type	PE	PE	PE
Basic monitoring objective(s)	NC, RS, TP	NC, RS, TP	TP
Monitor type	SLAMS	SLAMS	Other
Network affiliation(s), if applicable (a monitor may have none, one, or multiple)	None	None	None
FRM/FEM/ARM/Other	FEM	FEM	Other
POC	1	3	1
Primary / QA Collocated / Other (provide for all $PM_{2.5}$, PM_{10}, $PM_{10-2.5}$, Pb and NO_2 monitors. Non-PM, Pb, NO_2 monitors should be listed as "N/A".)	Primary	Primary	Other
Is it suitable for comparison against the annual $PM_{2.5}$? (Y/N)	N/A	Y	N/A
Instrument manufacturer and model	Teledyne 400E (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	Many
Method code	087	170	Many
Monitoring start date (MM/DD/YYYY)	10/30/2009	10/30/2009	10/30/2009
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	Hourly	Hourly	Hourly
Sampling season (MM/DD - MM/DD)	01/01 – 12/31	01/01 – 12/31	01/01 – 12/31
Probe height (meters)	4.6 m	4.9 m	10.6m
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	1.8 m	2.1 m	10.6 m
Distance from obstructions on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	N/A	N/A	N/A
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	82.8 m	76.8 m	76.7m
Distance from the drip line of closest tree(s)	63.7 m	66.1 m	63.7m
Distance to furnace or incinerator flue (meters)	N/A	N/A	N/A

Pollutant	Ozone	PM2.5	Meteorology
Distance between monitors fulfilling a QA collocation requirement (meters).	N/A	N/A	N/A
Unrestricted airflow (degrees around probe/inlet or percentage of monitoring path)	359	359	360
Probe material for reactive gases NO/NO_2/NO_y, SO_2, O_3; PAMS: VOCs, Carbonyls (e.g. Pyrex, stainless steel, Teflon)	Teflon/Pyrex with Borosilicate	N/A	N/A
Residence time for reactive gases NO/NO_2/NO_y, SO_2, O_3; PAMS: VOCs, Carbonyls (seconds)	7.51	N/A	N/A
Frequency of one-point QC check for gaseous instruments	Daily	N/A	N/A
Frequency of flow rate verification for manual PM samplers, including Pb samplers (routine checks)	N/A	N/A	N/A
Frequency of flow rate verification for automated PM analyzers (routine checks)	N/A	Bi-Weekly	N/A
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the lovol? If yes, please list distance (meters) and instrument(s).	N/A	No	N/A
For high volume PM instrument (flow rate > 200 liters/minute), is any PM instrument within 2m of the hivol? If yes, please list distance (meters) and instrument(s).	N/A	No	N/A
Date of Annual Performance Evaluation conducted in the past calendar year for gaseous parameters (MM/DD/YYYY)	11/21/2019	N/A	N/A
Date of two semi-annual flow rate audits conducted in the past calendar year for PM monitors (MM/DD/YYYY, MM/DD/YYYY)	N/A	05/16/2019, 11/21/2019	N/A
Changes planned within the next 18 months (Y/N)	N	N	N

Site Name	Fresno – Sierra Sky Park
AQS ID (XX-XXX-XXXX)	06-019-0242
Representative statistical area Name (i.e. MSA, CBSA, other)	Fresno
County	Fresno
Collecting (Operating) Agency	SJVAPCD
Analytical Lab (i.e. weigh lab, toxics lab, other)	N/A
Reporting Agency	SJVAPCD
Site Start Date	7/1/1986
Pollutant Parameters	Ozone, NO2
Meteorological Parameters	Wind speed, wind direction, outdoor temperature
Address	4508 Chenault Ave., Fresno, CA 93722
GPS Coordinates (decimal degrees)	36.8405 N, -119.8740 W
Distance to roadways (meters)	12m (west)
Traffic Count/Year	15,626 / 2018 (Raw traffic count in a 24-hour period for nearest roads: Spruce Avenue east of Milburn Avenue. Source: Fresno COG Traffic Counts, 2007-2019 Kittelson & Associates, Inc.)
Groundcover (e.g. paved, vegetative, dirt, sand, gravel)	Gravel, dirt

Fresno – Sierra Sky Park (1)			
Pollutant	**Ozone**	**NO_2**	**Meteorology**
Parameter code	44201	42602	Many
Spatial scale	N	N	N
Site type	HC, PE, RT	PE	GB
Basic monitoring objective(s)	NC, RS, TP	NC, RS, TP	RS, TP
Monitor type	SLAMS	SLAMS	Other
Network affiliation(s), if applicable (a monitor may have none, one, or multiple)	N/A	N/A	N/A
FRM/FEM/ARM/Other	FEM	FEM	Other
POC	1	1	1
Primary / QA Collocated / Other (provide for all $PM_{2.5}$, PM_{10}, $PM_{10-2.5}$, Pb and NO_2 monitors. Non-PM, Pb, NO_2 monitors should be listed as "N/A".)	N/A	N/A	Other
Is it suitable for comparison against the annual $PM_{2.5}$? (Y/N)	N/A	N/A	N/A
Instrument manufacturer and model	Teledyne API T265	Teledyne T200	ITP- BA-512-A-A-3-B, OT- Met One 060A-2, WD- Met One 020C, WS- Met One 010C
Analysis method	Chem.	CL	Many
Method code	199	574	Many
Monitoring start date (MM/DD/YYYY)	07/01/1986	07/01/1986	07/01/1986
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	Hourly	Hourly	Hourly
Sampling season (MM/DD - MM/DD)	01/01 – 12/31	01/01 – 12/31	01/01 – 12/31
Probe height (meters)	5.5 m	5.5 m	5.6 m
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	2.3 m	2.3 m	2.3 m
Distance from obstructions on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	N/A	N/A	N/A
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	N/A	N/A	N/A
Distance from the drip line of closest tree(s)	2.2 m	2.2 m	1.2 m

Pollutant	Ozone	NO_2	Meteorology
Distance to furnace or incinerator flue (meters)	N/A	N/A	N/A
Distance between monitors fulfilling a QA collocation requirement (meters).	N/A	N/A	N/A
Unrestricted airflow (degrees around probe/inlet or percentage of monitoring path)	280	280	280
Probe material for reactive gases $NO/NO_2/NO_y$, SO_2, O_3; PAMS: VOCs, Carbonyls (e.g. Pyrex, stainless steel, Teflon)	Teflon/Pyrex with Borosilicate	Teflon/Pyrex with Borosilicate	N/A
Residence time for reactive gases $NO/NO_2/NO_y$, SO_2, O_3; PAMS: VOCs, Carbonyls (seconds)	12.93	12.08	N/A
Frequency of one-point QC check for gaseous instruments	Daily	Daily	N/A
Frequency of flow rate verification for manual PM samplers, including Pb samplers (routine checks)	N/A	N/A	N/A
Frequency of flow rate verification for automated PM analyzers (routine checks)	N/A	N/A	N/A
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the lovol? If yes, please list distance (meters) and instrument(s).	N/A	N/A	N/A
For high volume PM instrument (flow rate > 200 liters/minute), is any PM instrument within 2m of the hivol? If yes, please list distance (meters) and instrument(s).	N/A	N/A	N/A
Date of Annual Performance Evaluation conducted in the past calendar year for gaseous parameters (MM/DD/YYYY)	03/13/2019	03/13/2019	N/A
Date of two semi-annual flow rate audits conducted in the past calendar year for PM monitors (MM/DD/YYYY, MM/DD/YYYY)	N/A	N/A	N/A
Changes planned within the next 18 months (Y/N)	N	N	N

Site name	Clovis – Villa		
AQS ID (XX-XXX-XXXX)	06-019-5001		
Representative statistical area Name (i.e. MSA, CBSA, other)	Fresno		
County	Fresno		
Collecting (Operating) Agency	SJVAPCD		
Analytical Lab (i.e. weigh lab, toxics lab, other)	Varies based on which laboratory is contracted with the SJVAPCD: Speciated VOC	CARB: PM10 FRM, PM2.5 FRM	
Reporting Agency	SJVAPCD: PM2.5 FRM, PM2.5 FEM, PM10 FRM, PM10 FEM, Ozone, CO, NO_2, NMH, Speciated VOC, Meteorology	CARB: PM10 FRM, PM2.5 FRM	SJVAPCD contracts out so Reporting lab varies from year to year: Speciated VOC
Site Start Date	09/01/1990		
Pollutant Parameters	Ozone, PM10 FRM, PM10 FEM, PM2.5 FEM, PM2.5 FRM, CO, NO_2, NMH, Speciated VOC		
Meteorological Parameters	Wind speed, wind direction, outdoor temperature, relative humidity, barometric pressure, solar radiation		
Address	908 N. Villa Ave., Clovis CA 93612		
GPS Coordinates (decimal degrees)	36.8194 N, -119.7160 W		
Distance to roadways (meters)	260 m (east)		
Traffic Count/Year	6,480/2008 (Raw traffic count in a 24-hour period: Northbound Villa Avenue south of Bullard Avenue. Source: Fresno COG Fresno County Regional Traffic Monitoring Report 2013 (latest available))		
Groundcover (e.g. paved, vegetative, dirt, sand, gravel)	Paved		

Clovis – Villa (1)								
Pollutant	**Ozone**	**PM10**	**PM2.5**	**PM2.5**	**PM10 LC**	**PM10 LC**	**PM10 STP**	**PM10 STP**
Parameter Code	44201	81102	88101	88101	85101	85101	81102	81102
Spatial scale	N	N	N	N	N	N	N	N
Site type	Max PEI, HC	PE	HC	HC	HC	HC	HC	HC
Basic monitoring objective(s)	NC, RS, TP	NC, RS	NC, RS, TP	NC, RS, TP	RS, TP	RS, TP	NC, RS, TP	NC, RS, TP
Monitor type	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS
Network affiliation(s), if applicable (a monitor may have none, one, or multiple)	PAMS	None	None	None	None	None	None	None
FRM/FEM/ARM/Other	FRM	FRM	FEM	FEM	FEM	FEM	FEM	FEM
POC	1	1	3	3	3	3	3	3
Primary / QA Collocated / Other (provide for all $PM_{2.5}$, PM_{10}, $PM_{10-2.5}$, Pb and NO_2 monitors. Non-PM, Pb, NO_2 monitors should be listed as "N/A".)	N/A	Primary	Primary	Primary	Other	Other	Other	Other
Is it suitable for comparison against the annual $PM_{2.5}$? (Y/N)	N/A	N/A	Y	Y	N/A	N/A	N/A	N/A
Instrument manufacturer and model	Teledyne API T265	Ecotech HiVol 3000	Teledyne 602	METOne BAM 1022	Teledyne 602	METOne BAM 1020	Teledyne 602	METOne BAM 1020
Analysis method	Chem.	Gravimetric	Beta Attenuation	Beta Attenuation	Beta Attenuation	Beta Attenuation	Beta Attenuation	Beta Attenuation
Method code	199	162	205	209	204	122	204	122
Monitoring start date (MM/DD/YYYY)	05/01/2017	04/01/2015	01/01/2017	01/01/2020	01/01/2017	01/01/2020	01/01/2017	01/01/2020
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	Hourly	1:6	Hourly	Hourly	Hourly	Hourly	Hourly	Hourly
Sampling season (MM/DD - MM/DD)	01/01 - 12/31	01/01 - 12/31	01/01 - 12/31	01/01 - 12/31	01/01 - 12/31	01/01 - 12/31	01/01 - 12/31	01/01 - 12/31

Pollutant	Ozone	PM10	PM2.5	PM2.5	PM10 LC	PM10 LC	PM10 STP	PM10 STP
Probe height (meters)	5.7 m	5.5 m	6.1 m	6.2 m	6.4 m	5.9 m	6.4 m	5.9 m
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	1.9 m	1.6 m	1.9 m	2.1 m	2.2 m	1.8 m	2.2 m	1.8 m
Distance from obstructions on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Distance from the drip line of closest tree(s)	15 m	15 m	17.5 m	17.5 m	17.5 m	17.5 m	17.5 m	17.5 m
Distance to furnace or incinerator flue (meters)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Distance between monitors fulfilling a QA collocation requirement (meters).	N/A	N/A	2.1 m	2.0 m	2.1 m	2.1 m	2.1 m	2.1 m
Unrestricted airflow (degrees around probe/inlet or percentage of monitoring path)	360	355	360	360	360	360	360	360
Probe material for reactive gases $NO/NO_2/NO_y$, SO_2, O_3; PAMS: VOCs, Carbonyls (e.g. Pyrex, stainless steel, Teflon)	Teflon/Pyrex with Borosilicate	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Pollutant	Ozone	PM10	PM2.5	PM2.5	PM10 LC	PM10 LC	PM10 STP	PM10 STP
Residence time for reactive gases $NO/NO_2/NO_y$, SO_2, O_3; PAMS: VOCs, Carbonyls (seconds)	10.34	N/A	N/A	N/A	N/A	N/A	N/A	N/A
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the lovol? If yes, please list distance (meters) and instrument(s).	N/A	No	No	No	No	No	No	No
For high volume PM instrument (flow rate > 200 liters/minute), is any PM instrument within 2m of the hivol? If yes, please list distance (meters) and instrument(s).	N/A	No	No	No	No	No	No	No
Frequency of flow rate verification for manual PM samplers, including Pb samplers (routine checks)	N/A	Monthly	N/A	N/A	N/A	N/A	N/A	N/A

Pollutant	Ozone	PM10	PM2.5	PM2.5	PM10 LC	PM10 LC	PM10 STP	PM10 STP
Frequency of flow rate verification for automated PM analyzers (routine checks)	N/A	N/A	Bi-weekly	Bi-weekly	Bi-weekly	Bi-weekly	Bi-weekly	Bi-weekly
Frequency of one-point QC check for gaseous instruments	Daily	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Date of Annual Performance Evaluation conducted in the past calendar year for gaseous parameters (MM/DD/YYYY)	03/14/2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Date of two semi-annual flow rate audits conducted in the past calendar year for PM monitors (MM/DD/YYYY, MM/DD/YYYY)	N/A	03/14/2019, 08/20/2019	03/14/2019, 08/20/2019	N/A	03/14/2019, 08/20/2019	N/A	03/14/2019, 08/20/2019	N/A
Changes planned within the next 18 months (Y/N)	N	N	Removed 12/31/2019	Replaced the Teledyne 602	Removed 12/31/2019	Replaced the Teledyne 602	Removed 12/31/2019	Replaced the Teledyne 602

Clovis – Villa (2)						
Pollutant	**PM2.5**	**CO**	**NO_2**	**Speciated VOC**	**NMH**	**Meteorology**
Parameter code	88101	42101	42602	Many	43102	Many
Spatial scale	N	N	N	N	N	R
Site type	HC	Max PEI, PE	HC	PE	HC	Other
Basic monitoring objective(s)	NC, RS	NC, RS, TP	NC, RS, TP	RS	RS	RS, TP
Monitor type	SLAMS	SLAMS	SLAMS	Other	Other	Other

Pollutant	PM2.5	CO	NO_2	Speciated VOC	NMH	Meteorology
Network affiliation(s), if applicable (a monitor may have none, one, or multiple)	None	PAMS	PAMS	PAMS	PAMS	PAMS
FRM/FEM/ARM/Other	FRM	FEM	FEM	Other	Other	Other
POC	1	1	1	1	1	1
Primary / QA Collocated / Other (provide for all $PM_{2.5}$, PM_{10}, $PM_{10-2.5}$, Pb and NO_2 monitors. Non-PM, Pb, NO_2 monitors should be listed as "N/A".)	QA Collocated	N/A	N/A	N/A	N/A	Other
Is it suitable for comparison against the annual $PM_{2.5}$? (Y/N)	Y	N/A	N/A	N/A	N/A	N/A
Instrument manufacturer and model	Thermo Partisol 2025i	Themo 48i	Teledyne T200	Entech Instruments 1900	Synpec Alpha 115	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	Gravimetric	IR	Chem.	GC / UV Absorption	Flame Ionization	Many
Method code	145	554	099	177 / 202	011	Many
Monitoring start date (MM/DD/YYYY)	09/06/2012	01/01/1990	01/01/2016	01/01/1990	01/01/1990	01/01/1990
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	1:3	Hourly	Hourly	1:3	Hourly	Hourly
Sampling season (MM/DD - MM/DD)	01/01 - 12/31	01/01 – 12/31	01/01 – 12/31	06/01 – 08/31	01/01 – 12/31	01/01 – 12/31
Probe height (meters)	6.0 m	5.66 m	5.66 m	5.66 m	5.66 m	10 m
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	2m	1.85 m	1.85 m	1.85 m	1.85 m	7.5 m

Pollutant	PM2.5	CO	NO_2	Speciated VOC	NMH	Meteorology
Distance from obstructions on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	N/A	N/A	N/A	N/A	N/A	N/A
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	N/A	N/A	N/A	N/A	N/A	29.5 m
Distance from the drip line of closest tree(s)	37.5 m	15 m	15 m	15 m	15 m	25.5 m
Distance to furnace or incinerator flue (meters)	N/A	16.0 m	16.0 m	13.5 m	16.0 m	N/A
Distance between monitors fulfilling a QA collocation requirement (meters).	2.5	N/A	N/A	N/A	N/A	N/A
Unrestricted airflow (degrees around probe/inlet or percentage of monitoring path)	360	360	360	360	360	360
Probe material for reactive gases $NO/NO_2/NO_y$, SO_2, O_3; PAMS: VOCs, Carbonyls (e.g. Pyrex, stainless steel, Teflon)	N/A	Teflon/Pyrex with Borosilicate	Teflon/Pyrex with Borosilicate	Stainless steel	Teflon/Pyrex with Borosilicate	N/A
Residence time for reactive gases $NO/NO_2/NO_y$, SO_2, O_3; PAMS: VOCs, Carbonyls (seconds)	N/A	11.50	10.42	5.0	9.36	N/A
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the lovol? If yes, please list distance (meters) and instrument(s).	No	N/A	N/A	N/A	N/A	N/A
For high volume PM instrument (flow rate > 200 liters/minute), is any PM instrument within 2m of the hivol? If yes, please list distance (meters) and instrument(s).	No	N/A	N/A	N/A	N/A	N/A
Frequency of flow rate verification for manual PM samplers, including Pb samplers (routine checks)	Monthly	N/A	N/A	N/A	N/A	N/A

Pollutant	PM2.5	CO	NO_2	Speciated VOC	NMH	Meteorology
Frequency of flow rate verification for automated PM analyzers (routine checks)	N/A	N/A	N/A	N/A	N/A	N/A
Frequency of one-point QC check (gaseous)	N/A	Daily	Daily	N/A	Daily	N/A
Date of Annual Performance Evaluation conducted in the past calendar year for gaseous parameters (MM/DD/YYYY)	N/A	03/14/2019	03/14/2019	N/A	N/A	N/A
Date of two semi-annual flow rate audits conducted in the past calendar year for PM monitors (MM/DD/YYYY, MM/DD/YYYY)	03/14/2019, 08/20/2019	N/A	N/A	N/A	N/A	N/A
Changes planned within the next 18 months (Y/N)	N	N	N	N	N	N

Site Name	Fresno – Garland
AQS ID (XX-XXX-XXXX)	06-019-0011
Representative statistical area Name (i.e. MSA, CBSA, other)	Fresno
County	Fresno
Collecting (Operating) Agency	CARB
Analytical Lab (i.e. weigh lab, toxics lab, other)	CARB
Reporting Agency	CARB
Site Start Date	12/31/2011
Pollutant Parameters	Ozone, PM10 STP FEM, PM2.5 FEM, PM2.5 FRM, PM2.5 Speciation (STN), CO, NO_2, NOy, SO_2, Toxics
	$PM_{10-2.5}$: (2) PM10 FEMs + (2) PM2.5 FEMs = (2) $PM_{10-2.5}$ FEMs. There are 2 pairs of analyzers - 1 pair is collocated. The (4) analyzers render (6) datasets. Each dataset has (3) method codes.
Meteorological Parameters	Wind speed, wind direction, outdoor temperature, barometric pressure, relative humidity
Address	3727 N. First St., Ste.104, Fresno CA 93726
GPS Coordinates (decimal degrees)	36.7853 N, -119.7732 W
Distance to roadways (meters)	30 m (south)
Traffic Count/Year	7,520/2011 (Raw traffic count in a 24-hour period: First Street near Dakota Avenue. Source: Fresno COG Fresno County Regional Traffic Monitoring Report 2013. (latest available))
Groundcover (e.g. paved, vegetative, dirt, sand, gravel)	Paved

Fresno–Garland (1)						
Pollutant	**Ozone**	**CO**	**NO_2**	**SO_2**	**NOy**	**Toxics**
Parameter code	44201	42101	42602	42401	42600	Many
Spatial scale	U	U	U	U	U	N
Site type	PE	PE	Max PEI	PE	PE	PE
Basic monitoring objective(s)	NC, RS	NC, RS	NC, RS	NC, RS	NC, RS	RS, TP
Monitor type	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS
Network affiliation	NCore	NCore	NCore	NCore	NCore	NCore
FRM/FEM/ARM/Other	FEM	FRM	FRM	FEM	Other	Other
POC	1	3	1	1	3	Many
Primary / QA Collocated / Other (provide for all $PM_{2.5}$, PM_{10}, $PM_{10-2.5}$, Pb and NO_2 monitors. Non-PM, Pb, NO_2 monitors should be listed as "N/A".)	Primary	Primary	Primary	Primary	Primary	Other
Is it suitable for comparison against the annual $PM_{2.5}$? (Y/N)	N/A	N/A	N/A	N/A	N/A	N/A
Instrument manufacturer and model	Teledyne API 400	API 300 EU	API 200E	Thermo 43	Instrumental	Xontech 924
Analysis method	UV	UV	UV	UV	Chem. Teledyne API 200EU/501	Many
Method code	087	593	099	009	699	Many
Monitoring start date (MM/DD/YYYY)	12/23/2011	01/18/2012	02/1/2012	01/18/2012	01/18/2012	12/23/2011
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	Hourly	Hourly	Hourly	Hourly	Hourly	Hourly
Sampling season (MM/DD - MM/DD)	01/01 – 12/31	01/01 – 12/31	01/01 – 12/31	01/01 – 12/31	01/01 – 12/31	01/01 – 12/31
Probe/Inlet height above ground (meters)	7.0	7.0	7.0	7.0	6.2	5.8
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	None	None	None	None	N/A	None
Distance from obstructions on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	None	None	None	None	None	None

Pollutant	Ozone	CO	NO2	SO2	NOy	Toxics
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	None	None	None	None	None	None
Distance from the drip line of closest tree(s)	None	None	None	None	None	None
Distance to furnace or incinerator flue (meters)	None	None	None	None	None	None
Distance between collocated monitors (meters)	N/A	N/A	N/A	N/A	N/A	N/A
Unrestricted airflow (degrees)	360	360	360	360	360	360
Probe material (Teflon, etc.)	Teflon	Teflon	Teflon	Teflon	Teflon	Teflon
Residence time (seconds)	7.5	7.1	6.7	7.2	< 20 seconds	N/A
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the lovol? If yes, please list distance (meters) and instrument(s).	N/A	N/A	N/A	N/A	N/A	N/A
For high volume PM instrument (flow rate > 200 liters/minute), is any PM instrument within 2m of the hivol? If yes, please list distance (meters) and instrument(s).	N/A	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	N/A
Frequency of one-point QC check (gaseous)	Nightly	Nightly	Nightly	Nightly	Nightly	N/A
Last Annual Performance Evaluation (gaseous)	3/12/19	2/7/19	3/12/19	2/719	3/12/19	3/12/19
Last two semi-annual flow rate audits for PM monitors	N/A	N/A	N/A	N/A	N/A	N/A
Changes planned within the next 18 months (Y/N)	N	N	N	N	N	N

Fresno–Garland (2)					
Pollutant	**PM2.5**	**PM2.5**	**PM10 STP / PM10 LC**	**PM2.5**	**$PM_{10-2.5}$**
Parameter code	88101	88101	81102 / 85101	88101	86101
Spatial scale	N	N	N	N	N
Site type	HC	HC, PE, QA	PE	HC, QA	PE, QA
Basic monitoring objective(s)	NC, RS	NC, RS	NC, RS	NC, RS	NC, RS
Monitor type	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS
Network affiliation	NCore	NCore	NCore	NCore	NCore
FRM/FEM/ARM/Other	FRM	FRM	FEM	FEM	FEM
POC	1	2	3 / 4	3 / 4	3 / 4
Primary / QA Collocated / Other (provide for all $PM_{2.5}$, PM_{10}, $PM_{10-2.5}$, Pb and NO_2 monitors. Non-PM, Pb, NO_2 monitors should be listed as "N/A".)	Primary	QA Collocated	Primary	QA Collocated	QA Collocated, serving as Primary
Is it suitable for comparison against the annual $PM_{2.5}$? (Y/N)	Y	Y	N/A	Y	N/A
Instrument manufacturer and model	R&P 2025	R&P 2025	Met One BAM 1020 (QTY 2)	MetOne BAM 1020 (QTY 2)	Met One BAM 1020 (QTY 2)
Analysis method	Sequential	Sequential	Beta Attenuation	Beta Attenuation	Beta Attenuation
Method code	145	145	122	170	185
Monitoring start date (MM/DD/YYYY)	1/1/2012	1/25/2012	1/1/2012	1/1/2012	10/14/2013
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	1:1	1:6	Hourly	Hourly	Hourly
Sampling season (MM/DD - MM/DD)	01/01 – 12/31	01/01 – 12/31	01/01 – 12/31	01/01 – 12/31	01/01 – 12/31
Probe/Inlet height above ground (meters)	5.9	5.9	6.2	6.4	6.3
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	None	None	N/A	None	None
Distance from obstructions on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	None	None	None	None	None
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	None	None	None	None	None

Pollutant	PM2.5	PM2.5	PM10 STP / PM10 LC	PM2.5	$PM_{10-2.5}$
Distance from the drip line of closest tree(s)	None	None	None	None	None
Distance to furnace or incinerator flue (meters)	None	None	None	None	None
Distance between collocated monitors (meters)	2.0	2.0	1.0	N/A	N/A
Unrestricted airflow (degrees)	360	360	360	360	360
Probe material (Teflon, etc.)	N/A	N/A	Aluminum	N/A	N/A
Residence time (seconds)	N/A	N/A	N/A	N/A	N/A
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the lovol? If yes, please list distance (meters) and instrument(s).	No	No	No	No	No
For high volume PM instrument (flow rate > 200 liters/minute), is any PM instrument within 2m of the hivol? If yes, please list distance (meters) and instrument(s).	N/A	N/A	N/A	N/A	N/A
Frequency of flow rate verification for manual PM samplers audit	Monthly	Monthly	Bi-weekly	Bi-weekly	Bi-weekly
Frequency of flow rate verification for automated PM analyzers audit	Monthly	Monthly	BI-weekly	BI-weekly	Bi-weekly
Frequency of one-point QC check (gaseous)	N/A	N/A	N/A	N/A	N/A
Last Annual Performance Evaluation (gaseous)	N/A	N/A	N/A	N/A	N/A
Last two semi-annual flow rate audits for PM monitors	3/12/19, 8/22/19	3/12/19, 8/22/19	3/12/19, 8/22/19	3/12/19, 8/22/19	3/12/19, 8/22/19
Changes planned within the next 18 months (Y/N)	N	N	N	N	N

Pollutant	PM2.5 Speciation	PM2.5 Speciation	Meteorology
Parameter code	Many	Many	Many
Spatial scale	N, U	N, U	U
Site type	PE	PE	GB
Monitor objective	RS	RS	RS, TP
Monitor type	Other	Other	SLAMS
Network affiliation	NCore, STN	NCore, STN	NCore
FRM/FEM/ARM/Other	Other	Other	Other
POC	5	5	Many
Primary / QA Collocated / Other (provide for all $PM_{2.5}$, PM_{10}, $PM_{10-2.5}$, Pb and NO_2 monitors. Non-PM, Pb, NO_2 monitors should be listed as "N/A".)	Primary	Primary	Other
Is it suitable for comparison against the annual $PM_{2.5}$? (Y/N)	N/A	N/A	N/A
Instrument manufacturer and model)	Met-One SASS	URG 3000-N	Vaisala HMP-155 (OT/RH), RM Young 81000 (WS/WD/3DT)
Method code	810	839	Many
Analysis method	Many	Many	Many
Monitoring start date (MM/DD/YYYY)	1/1/2012	1/1/2012	12/23/2011
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	1:3	1:3	Hourly
Sampling season (MM/DD - MM/DD)	01/01 – 12/31	01/01 – 12/31	01/01 – 12/31
Probe/Inlet above ground (meters)	5.5	5.5	4.5
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	2	2	8
Distance from obstructions on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	10	10	None
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	11	9	None
Distance from the drip line of closest tree(s)	11	9	None
Distance to furnace or incinerator flue (meters)	9	9	N/A
Distance between collocated monitors (meters)	2.5	2.5	N/A
Unrestricted airflow (degrees)	360	360	360
Probe material (Teflon, etc.)	N/A	N/A	Teflon

Pollutant	PM2.5 Speciation	PM2.5 Speciation	Meteorology
Residence time (seconds)	N/A	N/A	N/A
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the lovol? If yes, please list distance (meters) and instrument(s).	No	No	N/A
For high volume PM instrument (flow rate > 200 liters/minute), is any PM instrument within 2m of the hivol? If yes, please list distance (meters) and instrument(s).	N/A	N/A	N/A
Frequency of flow rate verification for manual PM samplers audit	Bi-weekly	Bi-weekly	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	N/A
Last Annual Performance Evaluation (gaseous)	N/A	N/A	N/A
Last two semi-annual flow rate audits for PM monitors	8/22/19	8/22/19	N/A
Changes planned within the next 18 months (Y/N)	N	N	N

Site Name	Fresno - Pacific
AQS ID (XX-XXX-XXXX)	06-019-5025
Representative statistical area Name (i.e. MSA, CBSA, other)	Fresno
County	Fresno
Collecting (Operating) Agency	SJVAPCD
Analytical Lab (i.e. weigh lab, toxics lab, other)	CARB
Reporting Agency	CARB
Site Start Date	01/01/2000
Pollutant Parameters	PM2.5 FRM
Meteorological Parameters	None
Address	1716 Winery, Fresno, CA 93727
GPS Coordinates (decimal degrees)	36.7263N, -119.7330W
Distance to roadways (meters)	40 m (east)
Traffic Count/Year	8,540 / 2018 (Raw traffic count in a 24-hour period: Butler Avenue/Winery Avenue intersection, Source: Fresno COG Traffic Counts, 2007-2019 Kittelson & Associates, Inc.)
Groundcover (e.g. paved, vegetative, dirt, sand, gravel)	Vegetative and paved

Fresno – Pacific (1)	
Pollutant	**PM2.5**
Parameter code	88101
Spatial scale	N
Site type	PE
Basic monitoring objective(s)	NC, RS
Monitor type	SLAMS
Network affiliation(s), if applicable (a monitor may have none, one, or multiple)	None
FRM/FEM/ARM/Other	FRM
POC	1
Primary / QA Collocated / Other (provide for all $PM_{2.5}$, PM_{10}, $PM_{10-2.5}$, Pb and NO_2 monitors. Non-PM, Pb, NO_2 monitors should be listed as "N/A".)	Primary
Is it suitable for comparison against the annual $PM_{2.5}$? (Y/N)	Y
Instrument manufacturer and model	Partisol 2025i
Analysis method	Gravimetric
Method code	145
Monitoring start date (MM/DD/YYYY)	01/01/2000
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	1:3
Sampling season (MM/DD - MM/DD)	01/01 – 12/31
Probe height (meters)	11.3 m
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	2.1 m
Distance from obstructions on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	None
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	53.4m NE 5.1 above vertical
Distance from the drip line of closest tree(s)	77 m
Distance to furnace or incinerator flue (meters)	None
Distance between monitors fulfilling a QA collocation requirement (meters).	N/A

Pollutant	PM2.5
Unrestricted airflow (degrees around probe/inlet or percentage of monitoring path)	360
Probe material for reactive gases NO/NO_2/NO_y, SO_2, O_3; PAMS: VOCs, Carbonyls (e.g. Pyrex, stainless steel, Teflon)	Aluminum
Residence time for reactive gases NO/NO_2/NO_y, SO_2, O_3; PAMS: VOCs, Carbonyls (seconds)	N/A
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the lovol? If yes, please list distance (meters) and instrument(s).	No
For high volume PM instrument (flow rate > 200 liters/minute), is any PM instrument within 2m of the hivol? If yes, please list distance (meters) and instrument(s).	N/A
Frequency of flow rate verification for manual PM samplers, including Pb samplers (routine checks)	Biweekly
Frequency of flow rate verification for automated PM analyzers (routine checks)	N/A
Frequency of one-point QC check for gaseous instruments	N/A
Date of Annual Performance Evaluation conducted in the past calendar year for gaseous parameters (MM/DD/YYYY)	N/A
Date of two semi-annual flow rate audits conducted in the past calendar year for PM monitors (MM/DD/YYYY, MM/DD/YYYY)	2/22/2019, 8/20/2019
Changes planned within the next 18 months (Y/N)	N

Site Name	Fresno - Drummond	
AQS ID (XX-XXX-XXXX)	06-019-0007	
Representative statistical area Name (i.e. MSA, CBSA, other)	Fresno	
County	Fresno	
Collecting (Operating) Agency	SJVAPCD	
Analytical Lab (i.e. weigh lab, toxics lab, other)	CARB	
Reporting Agency	SJVAPCD: Ozone, NO2, PM2.5	CARB: PM10 FRM
Site Start Date	07/01/1984	
Pollutant Parameters	Ozone, PM10 FRM, NO2	
Meteorological Parameters	Wind speed, wind direction, outdoor temperature, barometric pressure	
Address	4706 E. Drummond Street, Fresno, CA 93725	
GPS Coordinates (decimal degrees)	36.7055 N, -119.7410 W	
Distance to roadways (meters)	50m	
Traffic Count/Year	27,251/2018 (Raw traffic count in a 24-hour period for nearest roads: Jensen Avenue between Chestnut Avenue and Maple Avenue, Source: Fresno COG Traffic Counts, 2007-2019 Kittelson & Associates, Inc.	
Groundcover (e.g. paved, vegetative, dirt, sand, gravel)	Paved	

Fresno – Drummond (1)					
Pollutant	**Ozone**	**PM10**	**PM10**	**NO_2**	**Meteorology**
Parameter code	44201	81102	81102	42602	Many
Spatial scale	N	N	N	N	R
Site type	PE, HC, RT	PE	PE, QA	HC	GB
Basic monitoring objective(s)	NC, RS, TP	NC, RS	NC, RS	NC	RS, TP
Monitor type	SLAMS	SLAMS	SLAMS	SLAMS	Other
Network affiliation(s), if applicable (a monitor may have none, one, or multiple)	None	None	None	None	None
FRM/FEM/ARM/Other	FRM	FRM	FRM	FEM	Other
POC	1	1	2	1	1
Primary / QA Collocated / Other (provide for all $PM_{2.5}$, PM_{10}, $PM_{10-2.5}$, Pb and NO_2 monitors. Non-PM, Pb, NO_2 monitors should be listed as "N/A".)	Primary	Primary	QA Collocated	N/A	Other
Is it suitable for comparison against the annual $PM_{2.5}$? (Y/N)	N/A	N/A	N/A	N/A	N/A
Instrument manufacturer and model	Teledyne API T265	ECOTECH Hi-Vol 3000	ECOTECH Hi-Vol 3000	Teledyne API T200	ITP- HY-CAL BAAA3B, OT- Met One 060A-2, BP- Met One 092, WD- Met One 020C, WS- Met One 010C
Analysis method	Chem.	Gravimetric	Gravimetric	CL	Many
Method code	199	162	162	099	Many
Monitoring start date (MM/DD/YYYY)	05/01/2017	07/01/1984	07/01/1984	03/01/2017	07/01/1984
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	Hourly	1:6	1:6	Hourly	Hourly
Sampling season (MM/DD - MM/DD)	01/01 – 12/31	01/01 – 12/31	01/01 – 12/31	01/01 - 12/31	01/01 – 12/31
Probe height (meters)	8.0 m	5.2 m	5.2 m	8.0 m	9.8 m
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	5.1 m	1.6 m	1.6 m	5.1 m	N/A
Distance from obstructions on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	N/A	N/A	N/A	N/A	N/A

Pollutant	Ozone	PM10	PM10	NO_2	Meteorology
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	N/A	7.0 mH, 0.76 mV	3.35 mH, 0.76 mV	N/A	N/A
Distance from the drip line of closest tree(s)	15.3 m	15.3 m	18.8 m	15.3 m	17.2 m
Distance to furnace or incinerator flue (meters)	N/A	N/A	N/A	N/A	N/A
Distance between monitors fulfilling a QA collocation requirement (meters).	N/A	3.9 m	3.9 m	N/A	N/A
Unrestricted airflow (degrees around probe/inlet or percentage of monitoring path)	360	340	340	360	360
Probe material for reactive gases $NO/NO_2/NO_y$, SO_2, O_3; PAMS: VOCs, Carbonyls (e.g. Pyrex, stainless steel, Teflon)	Teflon/Pyrex with Borosilicate	N/A	N/A	Teflon/Pyrex with Borosilicate	N/A
Residence time for reactive gases $NO/NO_2/NO_y$, SO_2, O_3; PAMS: VOCs, Carbonyls (seconds)	12.97	N/A	N/A	13.26	N/A
Frequency of one-point QC check for gaseous instruments	Daily	N/A	N/A	Daily	N/A
Frequency of flow rate verification for manual PM samplers, including Pb samplers (routine checks)	N/A	Monthly	Monthly	N/A	N/A
Frequency of flow rate verification for automated PM analyzers (routine checks)	N/A	None	None	N/A	N/A
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the lovol? If yes, please list distance (meters) and instrument(s).	N/A	None	None	N/A	N/A
For high volume PM instrument (flow rate > 200 liters/minute), is any PM instrument within 2m of the hivol? If yes, please list distance (meters) and instrument(s).	N/A	No	No	N/A	N/A
Date of Annual Performance Evaluation conducted in the past calendar year for gaseous parameters (MM/DD/YYYY)	2/21/2019	N/A	N/A	2/21/2019	N/A

Pollutant	Ozone	PM10	PM10	NO_2	Meteorology
Date of two semi-annual flow rate audits conducted in the past calendar year for PM monitors (MM/DD/YYYY, MM/DD/YYYY)	N/A	2/21/2019, 8/20/2019	2/21/2019, 8/20/2019	N/A	N/A
Changes planned within the next 18 months (Y/N)	N	N	N	N	N

Site Name	Fresno - Foundry
AQS ID (XX-XXX-XXXX)	06-019-2016
Representative statistical area Name (i.e. MSA, CBSA, other)	Fresno
County	Fresno
Collecting (Operating) Agency	SJVAPCD
Analytical Lab (i.e. weigh lab, toxics lab, other)	N/A
Reporting Agency	SJVAPCD
Site Start Date	01/01/2016
Pollutant Parameters	PM2.5, CO, NO2
Meteorological Parameters	Wind speed, wind direction, outdoor temperature, barometric pressure
Address	2482 Foundry Park Ave, Fresno, CA 93706
GPS Coordinates (decimal degrees)	36.710833N, -119.7775W
Distance to roadways (meters)	16 to 19 meters
Traffic Count/Year	117,000/2016 (Rte 99 and Jensen Avenue off-ramp, Source: Caltrans 2017)
Groundcover (e.g. paved, vegetative, dirt, sand, gravel)	Paved

Fresno – Foundry (1)				
Pollutant	**PM2.5**	**CO**	**NO_2**	**Meteorology**
Parameter code	88101	42101	42602	Many
Spatial scale	MC	MC	MC	N
Site type	HC	HC	HC	PE
Basic monitoring objective(s)	NC, RS, TP	NC, RS, TP	NC, RS, TP	RS, TP
Monitor type	SLAMS	SLAMS	SLAMS	Other
Network affiliation(s), if applicable (a monitor may have none, one, or multiple)	Near-road	Near-road	Near-road	Near-road
FRM/FEM/ARM/Other	FEM	FEM	FEM	Other
POC	3	1	1	Many
Primary / QA Collocated / Other (provide for all $PM_{2.5}$, PM_{10}, $PM_{10-2.5}$, Pb and NO_2 monitors. Non-PM, Pb, NO_2 monitors should be listed as "N/A".)	Primary	N/A	Primary	Other
Is it suitable for comparison against the annual $PM_{2.5}$? (Y/N)	N/A	N/A	N/A	N/A
Instrument manufacturer and model	MET One BAM 1020	Thermo 48i	Teledyne T500U	ITP – Hamp. Control 140-100Hv, OT – MET One 060-A-2, BP – MET One 092, WD – MET One 020C, WS – METOne 010C
Analysis method	Beta Attenuation	IR	CL	Many
Method code	170	554	212	Many
Monitoring start date (MM/DD/YYYY)	12/12/2019	12/26/2019	01/01/2016	01/01/2016
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	Hourly	Hourly	Hourly	Hourly
Sampling season (MM/DD - MM/DD)	01/01 – 12/31	01/01 – 12/31	01/01 – 12/31	01/01 – 12/31
Probe height (meters)	5.1 m	5.7 m	5.7 m	5.9 m
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	2.2 m	1.8 m	1.8 m	2.0 m

Pollutant	PM2.5	CO	NO_2	Meteorology
Distance from obstructions on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	N/A	N/A	N/A	N/A
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	26.3m H (north), 4m V 37m H (east), 4m V	26.3m H (north), 4m V 37m H (east), 4m V	26.3m H (north), 4m V 37m H (east), 4m V	26.3m H (north), 4m V 37m H (east), 4m V
Distance from the drip line of closest tree(s)	9.2 m	8.45 m	8.45 m	8.5 m
Distance to furnace or incinerator flue (meters)	N/A	N/A	N/A	N/A
Distance between monitors fulfilling a QA collocation requirement (meters).	N/A	N/A	N/A	N/A
Unrestricted airflow (degrees around probe/inlet or percentage of monitoring path)	350	350	350	350
Probe material for reactive gases $NO/NO_2/NO_y$, SO_2, O_3; PAMS: VOCs, Carbonyls (e.g. Pyrex, stainless steel, Teflon)	N/A	Teflon/Pyrex with Borosilicate	Teflon/Pyrex with Borosilicate	N/A
Residence time for reactive gases $NO/NO_2/NO_y$, SO_2, O_3; PAMS: VOCs, Carbonyls (seconds)	N/A	8.27	7.84	N/A
Frequency of one-point QC check for gaseous instruments	N/A	Daily	Daily	N/A
Frequency of flow rate verification for manual PM samplers, including Pb samplers (routine checks)	N/A	N/A	N/A	N/A
Frequency of flow rate verification for automated PM analyzers (routine checks)	N/A	N/A	N/A	N/A

Pollutant	PM2.5	CO	NO_2	Meteorology
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the lovol? If yes, please list distance (meters) and instrument(s).	N/A	N/A	N/A	N/A
For high volume PM instrument (flow rate > 200 liters/minute), is any PM instrument within 2m of the hivol? If yes, please list distance (meters) and instrument(s).	N/A	N/A	N/A	N/A
Date of Annual Performance Evaluation conducted in the past calendar year for gaseous parameters (MM/DD/YYYY)	N/A	Audits for year 2020 postponed so far due to COVID-19.	Audits for year 2020 postponed so far due to COVID-19.	N/A
Date of two semi-annual flow rate audits conducted in the past calendar year for PM monitors (MM/DD/YYYY, MM/DD/YYYY)	Audits for year 2020 postponed so far due to COVID-19.	N/A	N/A	N/A
Changes planned within the next 18 months (Y/N)	N	N	N	N

Site Name	Parlier
AQS ID (XX-XXX-XXXX)	06-019-4001
Representative statistical area Name (i.e. MSA, CBSA, other)	Fresno
County	Fresno
Collecting (Operating) Agency	SJVAPCD
Analytical Lab (i.e. weigh lab, toxics lab, other)	Varies based on which laboratory is contracted with the SJVAPCD: Speciated VOC
Reporting Agency	SJVAPCD
Site Start Date	6/1/1983
Pollutant Parameters	Ozone, NO2, Speciated VOC, NMH
Meteorological Parameters	Wind speed, wind direction, outdoor temperature, relative humidity, barometric pressure, solar radiation
Address	9240 S. Riverbend Ave., Parlier, CA 93648
GPS Coordinates (decimal degrees)	36.5972 N, -119.5040 W
Distance to roadways (meters)	100 m (east)
Traffic Count/Year	21,260/2018 (Raw traffic count in a 24-hour period for nearest roads: E. Manning Avenue between S. Mendocino Avenue and S. Newmark Avenue, Source: Fresno COG Traffic Counts, 2007-2019 Kittelson & Associates, Inc.)
Groundcover (e.g. paved, vegetative, dirt, sand, gravel)	Dirt, vegetation

Pollutant	Ozone	NO_2	Speciated VOC	NMH	Meteorology
Parameter code	44201	42602	Many	43102	Many
Spatial scale	N	N	N	N	R
Site type	HC, RT	PE	PE	PE	GB
Basic monitoring objective(s)	NC, RS, TP	NC, RS, TP	RS	RS	RS, TP
Monitor type	SLAMS	SLAMS	Other	Other	Many
Network affiliation(s), if applicable (a monitor may have none, one, or multiple)	PAMS	PAMS, RA40	PAMS	PAMS	PAMS
FRM/FEM/ARM/Other	FEM	FEM	Other	Other	Other
POC	1	1	1	1	1
Primary / QA Collocated / Other (provide for all $PM_{2.5}$, PM_{10}, $PM_{10-2.5}$, Pb and NO_2 monitors. Non-PM, Pb, NO_2 monitors should be listed as "N/A".)	N/A	N/A	N/A	N/A	Other
Is it suitable for comparison against the annual $PM_{2.5}$? (Y/N)	N/A	N/A	N/A	N/A	N/A
Instrument manufacturer and model	Teledyne T265	Teledyne 200E	Entech 1900	Synspec Alpha 115	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	Chemiluminescence	CL	GC	GC	Many
Method code	199	099	126	011	Many
Monitoring start date (MM/DD/YYYY)	06/01/1983	06/01/1983	06/01/1983	06/01/1983	06/01/1983
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	Hourly	Hourly	1:3	Hourly	Hourly
Sampling season (MM/DD - MM/DD)	01/01 – 12/31	01/01 – 12/31	06/01 – 08/31	01/01 – 12/31	01/01 - 12/31

Pollutant	Ozone	NO_2	Speciated VOC	NMH	Meteorology
Probe height (meters)	8.7 m	8.7 m	8.7 m	8.7 m	9.1 m
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	2.7 m	2.7m	2.7 m	2.7 m	4.9 m
Distance from obstructions on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	None	None	None	None	None
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	39.0 m	39.0 m	39.0 m	39.0 m	38.9 m
Distance from the drip line of closest tree(s)	11.0 m	11.0 m	11.0 m	11.0 m	10.2 m
Distance to furnace or incinerator flue (meters)	N/A	N/A	N/A	N/A	N/A
Distance between monitors fulfilling a QA collocation requirement (meters).	N/A	N/A	N/A	N/A	N/A
Unrestricted airflow (degrees around probe/inlet or percentage of monitoring path)	360	360	360	360	360
Probe material for reactive gases $NO/NO_2/NO_y$, SO_2, O_3; PAMS: VOCs, Carbonyls (e.g. Pyrex, stainless steel, Teflon)	Teflon/Pyrex with Borosilicate	Teflon/Pyrex with Borosilicate	Stainless steel	Teflon/Pyrex with Borosilicate	N/A
Residence time for reactive gases $NO/NO_2/NO_y$, SO_2, O_3; PAMS: VOCs, Carbonyls (seconds)	10.3	9.98	4.69	13.97	N/A
Frequency of one-point QC check for gaseous instruments	daily	daily	daily	daily	N/A

Pollutant	Ozone	NO_2	Speciated VOC	NMH	Meteorology
Frequency of flow rate verification for manual PM samplers, including Pb samplers (routine checks)	N/A	N/A	N/A	N/A	N/A
Frequency of flow rate verification for automated PM analyzers (routine checks)	N/A	N/A	N/A	N/A	N/A
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the lovol? If yes, please list distance (meters) and instrument(s).	N/A	N/A	N/A	N/A	N/A
For high volume PM instrument (flow rate > 200 liters/minute), is any PM instrument within 2m of the hivol? If yes, please list distance (meters) and instrument(s).	N/A	N/A	N/A	N/A	N/A
Date of Annual Performance Evaluation conducted in the past calendar year for gaseous parameters (MM/DD/YYYY)	10/24/2019	10/24/2019	N/A	N/A	N/A
Date of two semi-annual flow rate audits conducted in the past calendar year for PM monitors (MM/DD/YYYY, MM/DD/YYYY)	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	Huron
AQS ID (XX-XXX-XXXX)	06-019-2008
Representative statistical area Name (i.e. MSA, CBSA, other)	Fresno
County	Fresno
Collecting (Operating) Agency	SJVAPCD
Analytical Lab (i.e. weigh lab, toxics lab, other)	N/A
Reporting Agency	SJVAPCD
Site Start Date	09/01/09
Pollutant Parameters	PM2.5 Non-FEM
Meteorological Parameters	Barometric Pressure
Address	16875 4th St, Huron, CA 93234
GPS Coordinates (decimal degrees)	36.2363 N, -119.7656 W
Distance to roadways (meters)	100 m (north)
Traffic Count/Year	3,300/2017 (Traffic count for nearest roads: Rte 269/Rte 198, Source: Caltrans 2017)
Groundcover (e.g. paved, vegetative, dirt, sand, gravel)	Paved, vegetative

Huron (1)		
Pollutant	**PM2.5**	**Meteorology**
Parameter code	88502	64101
Spatial scale	N	N
Site type	PE	PE
Basic monitoring objective(s)	TP	TP
Monitor type	SPM	Other
Network affiliation(s), if applicable (a monitor may have none, one, or multiple)	None	None
FRM/FEM/ARM/Other	Non-FEM	Other
POC	3	1
Primary / QA Collocated / Other (provide for all $PM_{2.5}$, PM_{10}, $PM_{10-2.5}$, Pb and NO_2 monitors. Non-PM, Pb, NO_2 monitors should be listed as "N/A".)	N/A	N/A
Is it suitable for comparison against the annual $PM_{2.5}$? (Y/N)	N	N/A
Instrument manufacturer and model	MET One BAM 1020	OTP – Hy-Cal BA-512-A-A-3-B, BP – Met One 092
Analysis method	Beta-Attenuation	Many
Method code	731	014
Monitoring start date (MM/DD/YYYY)	09/12/2009	02/01/2010
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	Hourly	Hourly
Sampling season (MM/DD - MM/DD)	01/01 – 12/31	01/01 – 12/31
Probe height (meters)	6.42 m	5.5 m
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	1.14 m	N/A
Distance from obstructions on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	N/A	N/A
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	N/A	N/A
Distance from the drip line of closest tree(s)	41.5 m	N/A
Distance to furnace or incinerator flue (meters)	N/A	N/A
Distance between monitors fulfilling a QA collocation requirement (meters).	N/A	N/A

Pollutant	PM2.5	Meteorology
Unrestricted airflow (degrees around probe/inlet or percentage of monitoring path)	360	360
Probe material for reactivity gases NO/NO_2/NO_y, SO_2, O_3; PAMS: VOCs, Carbonyls (e.g. Pyrex, stainless steel, Teflon)	N/A	N/A
Residence time for reactive gases NO/NO_2/NO_y, SO_2, O_3; PAMS: VOCs, Carbonyls (seconds)	N/A	N/A
Frequency of one-point QC check for gaseous instruments	N/A	N/A
Frequency of flow rate verification for manual PM samplers, including Pb samplers (routine checks)	N/A	N/A
Frequency of flow rate verification for automated PM analyzers (routine checks)	Bi-Weekly	N/A
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the lovol? If yes, please list distance (meters) and instrument(s).	None	N/A
For high volume PM instrument (flow rate > 200 liters/minute), is any PM instrument within 2m of the hivol? If yes, please list distance (meters) and instrument(s).	None	N/A
Date of Annual Performance Evaluation conducted in the past calendar year for gaseous parameters (MM/DD/YYYY)	N/A	N/A
Date of two semi-annual flow rate audits conducted in the past calendar year for PM monitors (MM/DD/YYYY, MM/DD/YYYY)	05/15/2019, 11/21/2019	N/A
Changes planned within the next 18 months (Y/N)	N	N

Site Name	Hanford – Irwin	
AQS ID (XX-XXX-XXXX)	06-031-1004	
Representative statistical area Name (i.e. MSA, CBSA, other)	Hanford-Corcoran	
County	Kings	
Collecting (Operating) Agency	SJVAPCD	
Analytical Lab (i.e. weigh lab, toxics lab, other)	CARB: PM10 FRM	
Reporting Agency	SJVAPCD: Ozone, PM10 FEM, PM2.5 FEM, NO2, Meteorology	CARB: PM10 FRM
Site Start Date	10/11/1993	
Pollutant Parameters	Ozone, PM10 FRM, PM10 FEM, PM2.5 FEM, NO2	
Meteorological Parameters	Wind speed, wind direction, outdoor temperature, barometric pressure	
Address	807 S. Irwin St., Hanford, CA 93230	
GPS Coordinates (decimal degrees)	36.3147 N, -119.6440 W	
Distance to roadways (meters)	60 m (east)	
Traffic Count/Year	9,647/2016 (Traffic count for nearest roads: Hanford-Armona Rd east of S. Williams St., Source: City of Hanford Public Works - Engineering, Traffic Counts Volume Summary 2017 – City of Hanford.)	
Groundcover (e.g. paved, vegetative, dirt, sand, gravel)	Paved, vegetative	

Hanford – Irwin (1)				
Pollutant	**Ozone**	**PM2.5**	**NO_2**	**Meteorology**
Parameter code	44201	88101	42602	Many
Spatial scale	N	N	N	N
Site type	HC, PE	PE	PE	PE
Basic monitoring objective(s)	NC, RS, TP	NC, RS, TP	NC, RS, TP	RS, TP
Monitor type	SLAMS	SLAMS	SLAMS	Many
Network affiliation(s), if applicable (a monitor may have none, one, or multiple)	None	None	None	None
FRM/FEM/ARM/Other	FEM	FEM	FEM	Other
POC	1	3	1	Many
Primary / QA Collocated / Other (provide for all $PM_{2.5}$, PM_{10}, $PM_{10-2.5}$, Pb and NO_2 monitors. Non-PM, Pb, NO_2 monitors should be listed as "N/A".)	N/A	Primary	N/A	Other
Is it suitable for comparison against the annual $PM_{2.5}$? (Y/N)	N/A	Y	N/A	N/A
Instrument manufacturer and model	Teledyne 400E	Teledyne 602	Teledyne 200E	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	CL	Many
Method code	087	204	099	Many
Monitoring start date (MM/DD/YYYY)	02/25/2010	11/01/2017	02/25/2010	02/25/2010
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	Hourly	Hourly	Hourly	Hourly
Sampling season (MM/DD - MM/DD)	01/01 – 12/31	01/01 – 12/31	01/01 – 12/31	01/01 – 12/31
Probe height (meters)	4.7 m	4.5 m	4.7 m	9.7 m
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	1.8 m	1.8 m	1.8 m	N/A

Pollutant	Ozone	PM2.5	NO_2	Meteorology
Distance from obstructions on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	N/A	N/A	N/A	N/A
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	24.2 mV, 2.5 mH	26.5 mV, 2.5 mH	24.2 mV, 2.5 mH	N/A
Distance from the drip line of closest tree(s)	26.5 m	29.5 m	26.5 m	26.6 m
Distance to furnace or incinerator flue (meters)	23.5 m	23.3 m	23.5 m	N/A
Distance between monitors fulfilling a QA collocation requirement (meters).	N/A	N/A	N/A	N/A
Unrestricted airflow (degrees around probe/inlet or percentage of monitoring path)	353.2	353.2	353.2	360
Probe material for reactive gases $NO/NO_2/NO_y$, SO_2, O_3; PAMS: VOCs, Carbonyls (e.g. Pyrex, stainless steel, Teflon)	Teflon/Pyrex with Borosilicate	N/A	Teflon/Pyrex with Borosilicate	N/A
Residence time for reactive gases $NO/NO_2/NO_y$, SO_2, O_3; PAMS: VOCs, Carbonyls (seconds)	14.41	N/A	15.06	N/A
Frequency of one-point QC check for gaseous instruments	Daily	N/A	Daily	N/A
Frequency of flow rate verification for manual PM samplers, including Pb samplers (routine checks)	N/A	N/A	N/A	N/A
Frequency of flow rate verification for automated PM analyzers (routine checks)	N/A	Biweekly	N/A	N/A
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the lovol? If yes, please list distance (meters) and instrument(s).	N/A	No	N/A	N/A

Pollutant	Ozone	PM2.5	NO_2	Meteorology
For high volume PM instrument (flow rate > 200 liters/minute), is any PM instrument within 2m of the hivol? If yes, please list distance (meters) and instrument(s).	N/A	No	N/A	N/A
Date of Annual Performance Evaluation conducted in the past calendar year for gaseous parameters (MM/DD/YYYY)	10/23/2019	N/A	10/23/2019	N/A
Date of two semi-annual flow rate audits conducted in the past calendar year for PM monitors (MM/DD/YYYY, MM/DD/YYYY)	N/A	05/21/2019, 10/23/2019	N/A	N/A
Changes planned within the next 18 months (Y/N)	N	N	N	N

Hanford – Irwin (2)			
Pollutant	**PM10 LC**	**PM10 STP**	**PM10 STP**
Parameter code	85101	81102	81102
Spatial scale	N	N	N
Site type	PE	PE	PE
Basic monitoring objective(s)	RS, TP	NC, RS, TP	NC, RS
Monitor type	Other	SLAMS	SLAMS
Network affiliation(s), if applicable (a monitor may have none, one, or multiple)	None	None	None
FRM/FEM/ARM/Other	FEM	FEM	FRM
POC	3	3	1
Primary / QA Collocated / Other (provide for all $PM_{2.5}$, PM_{10}, $PM_{10-2.5}$, Pb and NO_2 monitors. Non-PM, Pb, NO_2 monitors should be listed as "N/A".)	Other	Other	Primary
Is it suitable for comparison against the annual $PM_{2.5}$? (Y/N)	N	N	N/A
Instrument manufacturer and model	Teledyne 602	Teledyne 602	ECOTECH Hi-Vol 3000

Pollutant	PM10 LC	PM10 STP	PM10 STP
Analysis method	Beta Attenuation	Beta Attenuation	Gravimetric
Method code	205	205	162
Monitoring start date (MM/DD/YYYY)	11/01/2017	11/01/2017	04/01/2015
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	Hourly	Hourly	1:6
Sampling season (MM/DD - MM/DD)	01/01 – 12/31	01/01 – 12/31	01/01 – 12/31
Probe height (meters)	4.6 m	4.8 m	4.5 m
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	1.8 m	2.0 m	1.8 m
Distance from obstructions on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	N/A	N/A	N/A
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	24.3 mV, 2.5mH	24.3 mV, 2.5mH	24.3 mV, 2.5mH
Distance from the drip line of closest tree(s)	26.6 m	26.6 m	26.6 m
Distance to furnace or incinerator flue (meters)	22.8 m	22.8 m	22.8 m
Distance between monitors fulfilling a QA collocation requirement (meters).	N/A	N/A	N/A
Unrestricted airflow (degrees around probe/inlet or percentage of monitoring path)	353.2	353.2	353.2
Probe material for reactive gases NO/NO_2/NO_y, SO_2, O_3; PAMS: VOCs, Carbonyls (e.g. Pyrex, stainless steel, Teflon)	N/A	N/A	N/A
Residence time for reactive gases NO/NO_2/NO_y, SO_2, O_3; PAMS: VOCs, Carbonyls (seconds)	N/A	N/A	N/A
Frequency of one-point QC check for gaseous instruments	N/A	N/A	N/A

Pollutant	PM10 LC	PM10 STP	PM10 STP
Frequency of flow rate verification for manual PM samplers, including Pb samplers (routine checks)	N/A	N/A	Monthly
Frequency of flow rate verification for automated PM analyzers (routine checks)	Biweekly	Biweekly	N/A
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the lovol? If yes, please list distance (meters) and instrument(s).	No	No	No
For high volume PM instrument (flow rate > 200 liters/minute), is any PM instrument within 2m of the hivol? If yes, please list distance (meters) and instrument(s).	No	No	No
Date of Annual Performance Evaluation conducted in the past calendar year for gaseous parameters (MM/DD/YYYY)	N/A	N/A	N/A
Date of two semi-annual flow rate audits conducted in the past calendar year for PM monitors (MM/DD/YYYY, MM/DD/YYYY)	05/21/2019, 10/23/2019	05/21/2019, 10/23/2019	05/21/2019, 10/23/2019
Changes planned within the next 18 months (Y/N)	N	N	N

Site Name	Corcoran-Patterson
AQS ID (XX-XXX-XXXX)	06-031-0004
Representative statistical area Name (i.e. MSA, CBSA, other)	Hanford-Corcoran
County	Kings
Collecting (Operating) Agency	SJVAPCD
Analytical Lab (i.e. weigh lab, toxics lab, other)	CARB: PM2.5 FRM
Reporting Agency	CARB: PM2.5 FRM | SJVAPCD: PM2.5 FEM, PM10 FEM, Meteorology
Site Start Date	10/1/1996
Pollutant Parameters	PM2.5 FRM, PM2.5 FEM, PM10 FEM
Meteorological Parameters	Wind speed, wind direction, outdoor temperature
Address	1520 Patterson Ave., Corcoran, CA 93212
GPS Coordinates (decimal degrees)	36.1022 N, -119.5660 W
Distance to roadways (meters)	30 m (east)
Traffic Count/Year	2,900/2017 (Traffic count for nearest roads: JCT. Rte 43/Rte 137, Source: Caltrans 2017.)
Groundcover (e.g. paved, vegetative, dirt, sand, gravel)	Paved

Corcoran-Patterson (1)					
Pollutant	**PM2.5**	**PM2.5**	**PM10 LC**	**PM10 STP**	**Meteorology**
Parameter code	88101	88101	85101	81102	Many
Spatial scale	N	N	N	N	N
Site type	HC	HC, PE	HC, PE	HC, PE	GB
Basic monitoring objective(s)	NC, RS	NC, RS, TP	RS, TP	NC, RS, TP	RS, TP
Monitor type	SLAMS	SLAMS	Other	SLAMS	Other
Network affiliation(s), if applicable (a monitor may have none, one, or multiple)	None	None	None	None	None
FRM/FEM/ARM/Other	FRM	FEM	FEM	FEM	Other
POC	1	3	7	7	1
Primary / QA Collocated / Other (provide for all $PM_{2.5}$, PM_{10}, $PM_{10-2.5}$, Pb and NO_2 monitors. Non-PM, Pb, NO_2 monitors should be listed as "N/A".)	Primary	Other	Primary	Primary	Other
Is it suitable for comparison against the annual $PM_{2.5}$? (Y/N)	Y	Y	N	N	N/A
Instrument manufacturer and model	Thermo Partisol 2025i	Teledyne 602	Teledyne 602	Teledyne 602	ITP- Hampshire Controls Corp. 125-50HLV, OT- Met One 060A-2, WD- Met One 020C, WS-Met One 010C
Analysis method	Gravimetric	Beta Attenuation	Beta Attenuation	Beta Attenuation	Many
Method code	145	204	205	205	Many
Monitoring start date (MM/DD/YYYY)	01/01/2016	01/01/2017	01/01/2017	01/01/2017	01/01/2017
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	1:3	Hourly	Hourly	Hourly	Hourly
Sampling season (MM/DD - MM/DD)	01/01 – 12/31	01/01 – 12/31	01/01 – 12/31	01/01 – 12/31	01/01 – 12/31
Probe height (meters)	6.3 m	6.2 m	6.6 m	6.6 m	5.6 m

Pollutant	PM2.5	PM2.5	PM10 LC	PM10 STP	Meteorology
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	2.1 m	2.0 m	2.4 m	2.4 m	N/A
Distance from obstructions on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	N/A	N/A	N/A	N/A	N/A
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	115.7 m H, 1.5 m V	118.1 m H, 1.5 m V	118.1 m H, 1.5 m V	118.11 m H, 1.5 m V	118.6 m H, 1.5 m V
Distance from the drip line of closest tree(s)	62.5 m E 65.2 m S	63.7 m E, 65.9 m S	63.7 m E, 65.9 m S	63.7 m E, 65.9 m S	65.5 m E, 66.3 m S
Distance to furnace or incinerator flue (meters)	79.1 m	76.6 m	76.6 m	76.6 m	76.8 m
Distance between monitors fulfilling a QA collocation requirement (meters).	2.7 m	2.7 m	2.9 m	2.9 m	N/A
Unrestricted airflow (degrees around probe/inlet or percentage of monitoring path)	365	365	365	365	365
Probe material for reactive gases NO/NO_2/NO_y, SO_2, O_3; PAMS: VOCs, Carbonyls (e.g. Pyrex, stainless steel, Teflon)	N/A	N/A	N/A	N/A	N/A
Residence time for reactive gases NO/NO_2/NO_y, SO_2, O_3; PAMS: VOCs, Carbonyls (seconds)	N/A	N/A	N/A	N/A	N/A
Frequency of one-point QC check for gaseous instruments	N/A	N/A	N/A	N/A	N/A
Frequency of flow rate verification for manual PM samplers, including Pb samplers (routine checks)	Monthly	N/A	N/A	N/A	N/A

Pollutant	PM2.5	PM2.5	PM10 LC	PM10 STP	Meteorology
Frequency of flow rate verification for automated PM analyzers (routine checks)	N/A	Biweekly	Biweekly	Biweekly	N/A
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the lovol? If yes, please list distance (meters) and instrument(s).	No.	No.	No	No.	N/A
For high volume PM instrument (flow rate > 200 liters/minute), is any PM instrument within 2m of the hivol? If yes, please list distance (meters) and instrument(s).	N/A	N/A	N/A	N/A	N/A
Date of Annual Performance Evaluation conducted in the past calendar year for gaseous parameters (MM/DD/YYYY)	N/A	N/A	N/A	N/A	N/A
Date of two semi-annual flow rate audits conducted in the past calendar year for PM monitors (MM/DD/YYYY, MM/DD/YYYY)	5/15/2019, 11/20/2019	5/15/2019, 11/20/2019	5/15/2019, 11/20/2019	5/15/2019, 11/20/2019	N/A
Changes planned within the next 18 months (Y/N)	N	N	N	N	N

Site Name	Visalia – Church St
AQS ID (XX-XXX-XXXX)	06-107-2002
Representative statistical area Name (i.e. MSA, CBSA, other)	Visalia–Porterville
County	Tulare
Collecting (Operating) Agency	CARB
Analytical Lab (i.e. weigh lab, toxics lab, other)	CARB
Reporting Agency	CARB
Site Start Date	1/1/1979
Pollutant Parameters	Ozone, PM10 FEM, PM2.5 FRM, PM2.5 Non-FEM, PM2.5 Speciation (CSN Supplemental), NO_2
Meteorological Parameters	Wind speed, wind direction, outdoor temperature, relative humidity
Address	310 N. Church St., Visalia CA 93291
GPS Coordinates (decimal degrees)	36.3325 N, -119.2909 W
Distance to road	25 m (west)
Traffic Count/Year	10,000/2017(Traffic count for nearest roads: N Court St and W School Ave Source: Caltrans AADT 2017)
Ground Cover	Paved

Visalia–Church St (1)				
Pollutant	**Ozone**	**NO_2**	**PM10 STP / PM10 LC**	**PM2.5**
Parameter code	44201	42602	81102, 85101	88101
Spatial scale	N	N	N	N
Site type	GB	PE	PE	PE, HC
Basic monitoring objective(s)	NC, RS,TP	NC, RS, TP	NC, RS,TP / RS,TP	NC, RS
Monitor type	SLAMS	SLAMS	SLAMS	SLAMS
Network affiliation(s), if applicable (a monitor may have none, one, or multiple)	None	None	None	None
FRM/FEM/ARM/Other	FEM	FRM	FEM	FRM
POC	1	1	5	1
Primary / QA Collocated / Other (provide for all $PM_{2.5}$, PM_{10}, $PM_{10-2.5}$, Pb and NO_2 monitors. Non-PM, Pb, NO_2 monitors should be listed as "N/A".)	Primary	Primary	Primary	Primary
Is it suitable for comparison against the annual $PM_{2.5}$? (Y/N)	N/A	N/A	N/A	Y
Instrument manufacturer and model	Teledyne API 400	Teledyne API 200E	Met One 1020	R&P 2025
Analysis method	UV	Gas phase Chem.	Beta attenuation	Gravimetric
Method code	087	099	122	145
Monitoring start date (MM/DD/YYYY)	1/1/1979	1/1/1979	8/1/2015	1/3/1999
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	Hourly	Hourly	Hourly	1:3
Sampling season (MM/DD - MM/DD)	01/01 -12/31	01/01 -12/31	01/01 -12/31	01/01 -12/31
Probe/Inlet height above ground (meters)	6.7	6.7	6.2	5.9
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	2.8	2.8	2.3	2.1
Distance from obstructions on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	None	None	None	None
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	None	None	None	None
Distance from the drip line of closest tree(s)	None	None	None	None
Distance to furnace or incinerator flue (meters)	None	None	None	None
Distance between collocated monitors (meters)	None	None	N/A	2.3
Unrestricted airflow (degrees)	360	360	360	360

Pollutant	Ozone	NO_2	PM10 STP / LC	PM2.5
Probe material (Teflon, etc.)	Teflon	Teflon	N/A	N/A
Residence time (seconds)	9.62	10.01	N/A	N/A
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the lovol? If yes, please list distance (meters) and instrument(s).	N/A	N/A	No	No
For high volume PM instrument (flow rate > 200 liters/minute), is any PM instrument within 2m of the hivol? If yes, please list distance (meters) and instrument(s).	N/A	N/A	N/A	N/A
Frequency of flow rate verification for manual PM samplers audit	N/A	N/A	N/A	Monthly
Frequency of flow rate verification for automated PM analyzers audit	N/A	N/A	Monthly	N/A
Frequency of one-point QC check (gaseous)	5x/week	5x/week	N/A	N/A
Last Annual Performance Evaluation (gaseous)	11/13/2019	11/13/2019	N/A	N/A
Last two semi-annual flow rate audits for PM monitors	N/A	N/A	05/20/2019, 11/13/2019	05/20/2019, 11/13/2019
Changes planned within the next 18 months (Y/N)	Yes. The site will be relocated as soon as possible.	Yes. The site will be relocated as soon as possible.	Yes. The site will be relocated as soon as possible.	Yes. The site will be relocated as soon as possible.

Visalia – Church St (2)			
Pollutant	**PM2.5**	**PM2.5 Speciation**	**Meteorology**
Parameter code	88502	Many	Many
Spatial scale	N	N	R
Site type	RT, PE	PE	GB
Basic monitoring objective(s)	RS, TP	RS	RS, TP
Monitor type	Other	SLAMS	Other
Network affiliation(s), if applicable (a monitor may have none, one, or multiple)	None	CSN Supplemental	None
FRM/FEM/ARM/Other	Non-FEM	FRM	Other
POC	3	5	1
Primary / QA Collocated / Other (provide for all $PM_{2.5}$, PM_{10}, $PM_{10-2.5}$, Pb and NO_2 monitors. Non-PM, Pb, NO_2 monitors should be listed as "N/A".)	Primary	Primary	Other

Pollutant	PM2.5	PM2.5 Speciation	Meteorology
Is it suitable for comparison against the annual $PM_{2.5}$? (Y/N)	N	N/A	N/A
Instrument manufacturer and model	Met One 1020	Many	Vaisala HMP-155 (OT/RH) RM Young 81000 (WS/WD/3DT)
Analysis method	Beta attenuation	Many	Many
Method Code	731	Many	Many
Monitoring start date (MM/DD/YYYY)	11/01/2001	01/14/2002	01/01/1995
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	Hourly	1:3	Hourly
Sampling season (MM/DD - MM/DD)	01/01 -12/31	01/01 -12/31	01/01 -12/31
Probe height (meters)	6.0	5.9	11.9
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	2.2	None	None
Distance from obstructions on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	None	None	None
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	None	None	None
Distance from the drip line of closest tree(s)	None	None	None
Distance to furnace or incinerator flue (meters)	None	None	None
Distance between collocated monitors (meters)	2.3	None	None
Unrestricted airflow (degrees)	360	360	360
Probe material (Teflon, etc.)	N/A	N/A	N/A
Residence time (seconds)	N/A	N/A	N/A
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the lovol? If yes, please list distance (meters) and instrument(s).	No	No	N/A
For high volume PM instrument (flow rate > 200 liters/minute), is any PM instrument within 2m of the hivol? If yes, please list distance (meters) and instrument(s).	N/A	N/A	N/A
Frequency of flow rate verification for manual PM samplers audit	N/A	N/A	N/A

Pollutant	PM2.5	PM2.5 Speciation	Meteorology
Frequency of flow rate verification for automated PM analyzers audit	Monthly	N/A	N/A
Frequency of one-point QC check (gaseous)	N/A	N/A	N/A
Last Annual Performance Evaluation (gaseous)	N/A	N/A	N/A
Last two semi-annual flow rate audits for PM monitors	05/20/2019, 11/13/2019	N/A	N/A
Changes planned within the next 18 months (Y/N)	Yes. The site will be relocated as soon as possible.	Yes. The site will be relocated as soon as possible.	Yes. The site will be relocated as soon as possible.

Site Name	Porterville
AQS ID (XX-XXX-XXXX)	06-107-2010
Representative statistical area Name (i.e. MSA, CBSA, other)	Visalia-Porterville
County	Tulare
Collecting (Operating) Agency	SJVAPCD
Analytical Lab (i.e. weigh lab, toxics lab, other)	N/A
Reporting Agency	SJVAPCD
Site Start Date	03/08/2010
Pollutant Parameters	Ozone, PM2.5 Non-FEM
Meteorological Parameters	Wind speed, wind direction, outdoor temperature, barometric pressure
Address	1839 S. Newcomb St., Porterville, CA 93257
GPS Coordinates (decimal degrees)	36.0310 N, -119.0550 W
Distance to roadways (meters)	100m (south)
Traffic Count/Year	24,800/2076 (Ahead AADT traffic count for nearest roads: Junction SR 190/SR 65, Source: Caltrans 2017)
Groundcover (e.g. paved, vegetative, dirt, sand, gravel)	Paved, vegetative

Porterville (1)			
Pollutant	**Ozone**	**PM2.5**	**Meteorology**
Parameter code	44201	88502	Many
Spatial scale	N	N	N
Site type	HC, PE	PE	PE
Basic monitoring objective(s)	NC, RS, TP	TP	TP
Monitor type	SLAMS	SPM	Other
Network affiliation(s), if applicable (a monitor may have none, one, or multiple)	None	None	None
FRM/FEM/ARM/Other	FEM	Non-FEM	Other
POC	1	3	1
Primary / QA Collocated / Other (provide for all $PM_{2.5}$, PM_{10}, $PM_{10-2.5}$, Pb and NO_2 monitors. Non-PM, Pb, NO_2 monitors should be listed as "N/A".)	N/A	Other	Other
Is it suitable for comparison against the annual $PM_{2.5}$? (Y/N)	N/A	N	N/A
Instrument manufacturer and model	Teledyne API 400E	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	Many
Method code	087	731	Many
Monitoring start date (MM/DD/YYYY)	03/08/2010	03/08/2010	03/08/2010
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	Hourly	Hourly	Hourly
Sampling season (MM/DD - MM/DD)	01/01 -12/31	01/01 -12/31	01/01 -12/31
Probe height (meters)	5.3 m	4.3 m	9.1 m
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	7.1 m	1.8 m	7.1 m
Distance from obstructions on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	2.1 mH, 0.0mV	3.5mH, 0.0 mV	None
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	N/A	N/A	N/A
Distance from the drip line of closest tree(s)	11.5 m N	14.3 m N	14.9 m N
Distance to furnace or incinerator flue (meters)	175.5 m S	174 m S	175.8 m S

Pollutant	Ozone	PM2.5	Meteorology
Distance between monitors fulfilling a QA collocation requirement (meters).	N/A	N/A	N/A
Unrestricted airflow (degrees around probe/inlet or percentage of monitoring path)	357	357	357
Probe material for reactive gases NO/NO_2/NO_y, SO_2, O_3; PAMS: VOCs, Carbonyls (e.g. Pyrex, stainless steel, Teflon)	Teflon/Pyrex with Borosilicate	N/A	N/A
Residence time for reactive gases NO/NO_2/NO_y, SO_2, O_3; PAMS: VOCs, Carbonyls (seconds)	12.09	N/A	N/A
Frequency of one-point QC check for gaseous instruments	Daily	N/A	N/A
Frequency of flow rate verification for manual PM samplers, including Pb samplers (routine checks)	N/A	N/A	N/A
Frequency of flow rate verification for automated PM analyzers (routine checks)	N/A	Biweekly	N/A
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the lovol? If yes, please list distance (meters) and instrument(s).	N/A	No	N/A
For high volume PM instrument (flow rate > 200 liters/minute), is any PM instrument within 2m of the hivol? If yes, please list distance (meters) and instrument(s).	N/A	N/A	N/A
Date of Annual Performance Evaluation conducted in the past calendar year for gaseous parameters (MM/DD/YYYY)	11/20/2019	N/A	N/A
Date of two semi-annual flow rate audits conducted in the past calendar year for PM monitors (MM/DD/YYYY, MM/DD/YYYY)	N/A	05/15/2019, 11/20/2019	N/A
Changes planned within the next 18 months (Y/N)	N	N	N

Site name	Sequoia–Ash Mountain
AQS ID (XX-XXX-XXXX)	06-107-0009
Representative statistical area Name (i.e. MSA, CBSA, other)	Visalia-Porterville
County	Tulare
Collecting (Operating) Agency	All equipment operated by NPS
Analytical Lab (i.e. weigh lab, toxics lab, other)	N/A
Reporting Agency	All data reported by NPS
Site Start Date	07/01/1999
Pollutant Parameters	Ozone, PM2.5
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
GPS Coordinates (decimal degrees)	36.4894 N, -118.8290 W
Distance to road	120 m (north)
Traffic Count/Year	2,300/2017 (Traffic count for nearest roads: Rte 198 / Sequoia National Park boundary, Source: Caltrans Back AADT 2017)
Ground Cover	Dirt, vegetative

Sequoia–Ash Mountain (1)			
Pollutant	**Ozone**	**PM2.5**	**Meteorology**
Parameter code	44201	88501	Many
Spatial scale	R	R	R
Site type	HC, RT	HC	GB
Monitor objective	NC, RS, TP	RS, TP	RS, TP
Monitor type	Non-EPA Federal	Non-EPA Federal	Non-EPA Federal
Network affiliation	CASTNET	None	CASTNET
FRM/FEM/ARM/Other	Other	Non-FEM	Other
POC	1	1	1
Primary / QA Collocated / Other (provide for all $PM_{2.5}$, PM_{10}, $PM_{10-2.5}$, Pb and NO_2 monitors. Non-PM, Pb, NO_2 monitors should be listed as "N/A".)	N/A	Primary	Other
Is it suitable for comparison against the annual $PM_{2.5}$? (Y/N)	N/A	N	N/A
Instrument manufacturer and model	Thermo TECO 49, 49C	MET One BAM 1020	Many
Analysis method	UV	Beta Attenuation	Many
Method code	047	170	Many
Monitoring start date (MM/DD/YYYY)	07/01/1999	3/19/2007	10/4/2001
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	Hourly	Hourly	Hourly
Sampling season (MM/DD - MM/DD)	01/01 – 12/31	01/01 – 12/31	01/01 – 12/31
Probe height (meters)	10 m	4 m	10 m
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	3 m	1.5 m	3 m
Distance from obstructions on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	5 m	N/A	5 m
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	N/A	N/A	N/A
Distance from the drip line of closest tree(s)	15 m	15 m	15 m
Distance to furnace or incinerator flue (meters)	305 m	305 m	305 m
Distance between monitors fulfilling a QA collocation requirement (meters).	3 m	3 m	3 m
Unrestricted airflow (degrees around probe/inlet or percentage of monitoring path)	360	360	360
Probe material for reactive gases $NO/NO_2/NO_y$, SO_2, O_3; PAMS: VOCs, Carbonyls (e.g. Pyrex, stainless steel, Teflon)	Teflon	N/A	N/A
Residence time for reactive gases $NO/NO_2/NO_y$, SO_2, O_3; PAMS: VOCs, Carbonyls (seconds)	13.4	N/A	N/A

Pollutant	Ozone	PM2.5	Meteorology
Frequency of one-point QC check for gaseous instruments	Daily	N/A	N/A
Frequency of flow rate verification for manual PM samplers, including Pb samplers (routine checks)	N/A	N/A	N/A
Frequency of flow rate verification for automated PM analyzers (routine checks)	N/A	Monthly	N/A
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the lovol? If yes, please list distance (meters) and instrument(s).	N/A	N/A	N/A
For high volume PM instrument (flow rate > 200 liters/minute), is any PM instrument within 2m of the hivol? If yes, please list distance (meters) and instrument(s).	N/A	N/A	N/A
Date of Annual Performance Evaluation conducted in the past calendar year for gaseous parameters (MM/DD/YYYY)	10/10/2019	N/A	N/A
Date of two semi-annual flow rate audits conducted in the past calendar year for PM monitors (MM/DD/YYYY, MM/DD/YYYY)	N/A	4/10/2019, 10/10/2019	N/A
Changes planned within the next 18 months (Y/N)	N	N	N

Site name	Sequoia–Lower Kaweah
AQS ID (XX-XXX-XXXX)	06-107-0006
Representative statistical area Name (i.e. MSA, CBSA, other)	Visalia-Porterville
County	Tulare
Collecting (Operating) Agency	All equipment operated by NPS
Analytical Lab (i.e. weigh lab, toxics lab, other)	N/A
Reporting Agency	All data reported by NPS
Site Start Date	01/01/1987
Pollutant Parameters	Ozone
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
GPS Coordinates (decimal degrees)	36.5661 N, -118.7776 W
Distance to road	380 m (southeast)
Traffic Count/Year	2,300/2017 (Traffic count for nearest roads: Rte 198 / Sequoia National Park boundary, Source: Caltrans Back AADT 2017)
Ground Cover	Dirt, vegetation

Sequoia–Lower Kaweah (1)		
Pollutant	**Ozone**	**Meteorology**
Parameter code	44201	Many
Spatial scale	R	R
Site type	RT	GB
Monitor objective	NC, RS, TP	RS, TP
Monitor type	Non-EPA Federal	Non-EPA Federal
Network affiliation	None	None
FRM/FEM/ARM/Other	Other	Other
POC	1	1
Primary / QA Collocated / Other (provide for all $PM_{2.5}$, PM_{10}, $PM_{10-2.5}$, Pb and NO_2 monitors. Non-PM, Pb, NO_2 monitors should be listed as "N/A".)	N/A	Other
Is it suitable for comparison against the annual $PM_{2.5}$? (Y/N)	N/A	N/A
Instrument manufacturer and model	Thermo TECO 49, 49C	Many
Analysis method	UV	Many
Method code	047	Many
Monitoring start date (MM/DD/YYYY)	01/01/1987	04/01/1987
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	Hourly	Hourly
Sampling season (MM/DD - MM/DD)	05/01 – 10/31 (Seasonal only)	05/01 – 10/31 (Seasonal only)
Probe height (meters)	5	5
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	1.5	10
Distance from obstructions on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	1	N/A
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	N/A	N/A
Distance from the drip line of closest tree(s)	5-10 m Location heavily forested. Cutting trees not possible. NPS* working to get inlet moved to platform closer to station's shelter.	5-10 m Location heavily forested. Cutting trees not possible. NPS* working to get inlet moved to platform closer to station's shelter.
Distance to furnace or incinerator flue (meters)	457 m	457 m
Distance between monitors fulfilling a QA collocation requirement (meters)	5-10 m	10-15 m

*NPS – National Park Service

Pollutant	Ozone	Meteorology
Unrestricted airflow (degrees around probe/inlet or percentage of monitoring path)	360	360
Probe material for reactive gases NO/NO_2/NO_y, SO_2, O_3; PAMS: VOCs, Carbonyls (e.g. Pyrex, stainless steel, Teflon)	Teflon	N/A
Residence time for reactive gases NO/NO_2/NO_y, SO_2, O_3; PAMS: VOCs, Carbonyls (seconds)	13.9	N/A
Frequency of one-point QC check for gaseous instruments	Daily	N/A
Frequency of flow rate verification for manual PM samplers, including Pb samplers (routine checks)	N/A	N/A
Frequency of flow rate verification for automated PM analyzers (routine checks)	N/A	N/A
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the lovol? If yes, please list distance (meters) and instrument(s).	N/A	N/A
For high volume PM instrument (flow rate > 200 liters/minute), is any PM instrument within 2m of the hivol? If yes, please list distance (meters) and instrument(s).	N/A	N/A
Date of Annual Performance Evaluation conducted in the past calendar year for gaseous parameters (MM/DD/YYYY)	10/10/2019	N/A
Date of two semi-annual flow rate audits conducted in the past calendar year for PM monitors (MM/DD/YYYY, MM/DD/YYYY)	N/A	N/A
Changes planned within the next 18 months (Y/N)	N	N

Site Name	Shafter	
AQS ID (XX-XXX-XXXX)	06-029-6001	
Representative statistical area Name (i.e. MSA, CBSA, other)	Bakersfield	
County	Kern	
Collecting (Operating) Agency	CARB: Ozone, NO2;	SJVAPCD: Meteorology, Speciated VOC, NMH
Analytical Lab (i.e. weigh lab, toxics lab, other)	CARB: Ozone, NO2	Varies based on which laboratory is contracted with the SJVAPCD: Speciated VOC, NMH
Reporting Agency	CARB: Ozone, NO2	SJVAPCD: Speciated VOC, NMH, Meteorology
Site Start Date	01/01/1989	
Pollutant Parameters	Ozone, NO2, Speciated VOC, NMH	
Meteorological Parameters	Wind speed, wind direction, outdoor temperature, relative humidity, barometric pressure, solar radiation	
Address	578 Walker St., Shafter, CA 93263	
GPS Coordinates (decimal degrees)	35.5034 N, -119.2726 W	
Distance to roadways (meters)	10m (southwest)	
Traffic Count/Year	4,002/2018 (Traffic count for nearest roads: Central Ave and Walker St., Source: Kern Council of Governments.)	
Groundcover (e.g. paved, vegetative, dirt, sand, gravel)	Paved	

Shafter (1)					
Pollutant	**Ozone**	**NO_2**	**Speciated VOC**	**NMH**	**Meteorology**
Parameter code	44201	42602	Many	43102	Many
Spatial scale	N	N	N	N	R
Site type	GB, PE	PE	HC	PE	GB
Basic monitoring objective(s)	NC, RS, TP	NC, RS, TP	RS	RS	RS, TP
Monitor type	SLAMS	SLAMS	Other	Other	Other
Network affiliation(s), if applicable (a monitor may have none, one, or multiple)	PAMS	PAMS	PAMS	PAMS	PAMS
FRM/FEM/ARM/Other	FEM	FRM	Other	Other	Other
POC	1	1	1	1	1
Primary / QA Collocated / Other (provide for all $PM_{2.5}$, PM_{10}, $PM_{10-2.5}$, Pb and NO_2 monitors. Non-PM, Pb, NO_2 monitors should be listed as "N/A".)	Primary	Primary	Other	Other	Other
Is it suitable for comparison against the annual $PM_{2.5}$? (Y/N)	N/A	N/A	N/A	N/A	N/A
Instrument manufacturer and model	Teledyne 400E (ARB)	Teledyne API 200E	Xontech 910/912	Synspec Alpha 115	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	UV	CL	Preconc. GC/FID/MSD	Flame Ionization	Many
Method code	087	099	177	011	Many
Monitoring start date (MM/DD/YYYY)	07/01/1989	07/01/1989	07/25/2001	01/01/2016	01/01/1989
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	Hourly	Hourly	1:3	Hourly	Hourly
Sampling season (MM/DD - MM/DD)	01/01 – 12/31	01/01 – 12/31	06/01 – 08/31	01/01 – 12/31	01/01 – 12/31
Probe height (meters)	7.3	7.3	7.0	7.0	10 m
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	2.6	2.6	2.4	2.4	None
Distance from obstructions on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	None	None	None	None	None

Pollutant	Ozone	NO_2	Speciated VOC	NMH	Meteorology
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	None	None	19m H, 2m V (Tree)	19m H, 2m V (Tree)	N/A
Distance from the drip line of closest tree(s)	None	None	19m N, 70m SE	19m N, 70m SE	70m SE
Distance to furnace or incinerator flue (meters)	None	None	N/A	N/A	N/A
Distance between monitors fulfilling a QA collocation requirement (meters).	None	None	N/A	N/A	N/A
Unrestricted airflow (degrees around probe/inlet or percentage of monitoring path)	360	360	355	350	360
Probe material for reactive gases $NO/NO_2/NO_y$, SO_2, O_3; PAMS: VOCs, Carbonyls (e.g. Pyrex, stainless steel, Teflon)	TEFLON	TEFLON	Stainless Steel	Teflon/Pyrex with Borosilicate	N/A
Residence time for reactive gases $NO/NO_2/NO_y$, SO_2, O_3; PAMS: VOCs, Carbonyls (seconds)	15.8	15.8	2.79	10.6 sec.	N/A
Frequency of one-point QC check for gaseous instruments	Daily	Daily	N/A	Daily	N/A
Frequency of flow rate verification for manual PM samplers, including Pb samplers (routine checks)	N/A	N/A	N/A	N/A	N/A
Frequency of flow rate verification for automated PM analyzers (routine checks)	N/A	N/A	N/A	N/A	N/A
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the lovol? If yes, please list distance (meters) and instrument(s).	N/A	N/A	N/A	N/A	N/A
For high volume PM instrument (flow rate > 200 liters/minute), is any PM instrument within 2m of the hivol? If yes, please list distance (meters) and instrument(s).	N/A	N/A	N/A	N/A	N/A

Pollutant	Ozone	NO_2	Speciated VOC	NMH	Meteorology
Date of Annual Performance Evaluation conducted in the past calendar year for gaseous parameters (MM/DD/YYYY)	10/30/2019	10/30/2019	N/A	N/A	N/A
Date of two semi-annual flow rate audits conducted in the past calendar year for PM monitors (MM/DD/YYYY, MM/DD/YYYY)	N/A	N/A	N/A	N/A	N/A
Changes planned within the next 18 months (Y/N)	N	N	N	N	Yes. Installation of meteorological sensors to collect resultant wind speed and direction, relative humidity, and outside temperature. MET was shut down on 11/16/18 due to safety reasons. CARB is planning to install an RM Young 81000 sensor upon improvements to the roof.

Site Name	Oildale
AQS ID (XX-XXX-XXXX)	06-029-0232
Representative statistical area Name (i.e. MSA, CBSA, other)	Bakersfield
County	Kern
Collecting (Operating) Agency	CARB
Analytical Lab (i.e. weigh lab, toxics lab, other)	CARB
Reporting Agency	CARB
Site Start Date	01/01/1980
Pollutant Parameters	Ozone, PM10 FEM
Meteorological Parameters	Wind speed, wind direction, outdoor temperature, sonic temperature, relative humidity
Address	3311 Manor St, Oildale CA 93308
GPS Coordinates (decimal degrees)	35.4380 N, -119.0167 W
Distance to road	150 m (northwest)
Traffic Count/Year	6,683/2018 (Traffic count for roads: Manor St. between Day Ave and Felton St., Source: Kern Council of Governments.)
Ground Cover	Dirt, vegetative

Oildale (1)			
Pollutant	**Ozone**	**PM10 STP / PM10 LC**	**Meteorology**
Parameter code	44201	81102, 85101	Many
Spatial scale	U	MD	U
Site type	HC, RT	SO	GB
Basic monitoring objective(s)	NC, RS, TP	NC, RS, TP	NC
Monitor type	SLAMS	SLAMS	Other
Network affiliation(s), if applicable (a monitor may have none, one, or multiple)	None	None	None
FRM/FEM/ARM/Other	FEM	FEM	Other
POC	1	3	Many
Primary / QA Collocated / Other (provide for all $PM_{2.5}$, PM_{10}, $PM_{10-2.5}$, Pb and NO_2 monitors. Non-PM, Pb, NO_2 monitors should be listed as "N/A".)	Primary	Primary	Other
Is it suitable for comparison against the annual $PM_{2.5}$? (Y/N)	N/A	N/A	N/A
Instrument manufacturer and model	Teledyne API 400	MET One BAM 1020	RM Young 81000, Vaisala HMP 155
Analysis method	UV	Beta Attenuation	Many
Method code	087	122	Many
Monitoring start date (MM/DD/YYYY)	01/01/1984	06/01/2017	01/01/1999, 03/0620/04, 10/01/2005
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	Hourly	Hourly	Hourly
Sampling season (MM/DD - MM/DD)	01/01 – 12/31	01/01 – 12/31	01/01 – 12/31
Probe/Inlet height above ground (meters)	6.7	2.2	8.5
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	3.0	1.5	1.3
Distance from obstructions on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	None	None	None
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	None	None	None

Pollutant	Ozone	PM10 STP / LC	Meteorology
Distance from the drip line of closest tree(s)	10.1	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)	10.1	N/A	N/A
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the lovol? If yes, please list distance (meters) and instrument(s).	N/A	N/A	N/A
For high volume PM instrument (flow rate > 200 liters/minute), is any PM instrument within 2m of the hivol? If yes, please list distance (meters) and instrument(s).	N/A	No	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	Monthly	N/A
Frequency of one-point QC check (gaseous)	Daily	N/A	N/A
Last Annual Performance Evaluation (gaseous)	2/7/19	N/A	N/A
Last two semi-annual flow rate audits for PM monitors	N/A	2/7/29, 8/21/19	N/A
Changes planned within the next 18 months (Y/N)	N	N	N

Site Name	Bakersfield – Golden/M St
AQS ID (XX-XXX-XXXX)	06-029-0010
Representative statistical area Name (i.e. MSA, CBSA, other)	Bakersfield
County	Kern
Collecting (Operating) Agency	SJVAPCD
Analytical Lab (i.e. weigh lab, toxics lab, other)	CARB
Reporting Agency	CARB
Site Start Date	06/10/2014
Pollutant Parameters	PM10 FRM and PM2.5 FRM
Meteorological Parameters	None
Address	2820 M St., Bakersfield, CA 93301
GPS Coordinates (decimal degrees)	35.385574 N, -119.015009 W
Distance to roadways (meters)	13 M
Traffic Count/Year	3,280/2018 (Traffic count for nearest roads: 30th St. at Golden State Ave., Source: Kern Council of Governments.)
Groundcover (e.g. paved, vegetative, dirt, sand, gravel)	Paved

Bakersfield – Golden/M St (1)		
Pollutant	**PM2.5**	**PM10 STP**
Parameter code	88101	81102
Spatial scale	MC	MC
Site type	PE	PE
Basic monitoring objective(s)	NC, RS	NC, RS
Monitor type	SLAMS	SLAMS
Network affiliation(s), if applicable (a monitor may have none, one, or multiple)	None	None
FRM/FEM/ARM/Other	FRM	FRM
POC	1	1
Primary / QA Collocated / Other (provide for all $PM_{2.5}$, PM_{10}, $PM_{10-2.5}$, Pb and NO_2 monitors. Non-PM, Pb, NO_2 monitors should be listed as "N/A".)	Primary	Primary
Is it suitable for comparison against the annual $PM_{2.5}$? (Y/N)	Y	N/A
Instrument manufacturer and model	Thermo 2025i	Hi Vol SSI Ecotech Model 3000
Analysis method	Gravimetric	Gravimetric
Method code	145	162
Monitoring start date (MM/DD/YYYY)	07/02/2014	04/01/2015
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	1:3	1:6
Sampling season (MM/DD - MM/DD)	01/01 – 12/31	01/01 – 12/31
Probe height (meters)	6.2 m	5.9 m
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	2.1 m	1.8 m
Distance from obstructions on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	N/A	N/A
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	N/A	N/A
Distance from the drip line of closest tree(s)	11m WSW	12m WSW
Distance to furnace or incinerator flue (meters)	N/A	N/A
Distance between monitors fulfilling a QA collocation requirement (meters).	N/A	N/A
Unrestricted airflow (degrees around probe/inlet or percentage of monitoring path)	340	340
Probe material for reactive gases NO/NO_2/NO_y, SO_2, O_3; PAMS: VOCs, Carbonyls (e.g. Pyrex, stainless steel, Teflon)	N/A	N/A

Pollutant	PM2.5	PM10 STP
Residence time for reactive gases NO/NO_2/NO_y, SO_2, O_3; PAMS: VOCs, Carbonyls (seconds)	N/A	N/A
Frequency of one-point QC check for gaseous instruments	N/A	N/A
Frequency of flow rate verification for manual PM samplers, including Pb samplers (routine checks)	Monthly	Monthly
Frequency of flow rate verification for automated PM analyzers (routine checks)	N/A	N/A
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the lovol? If yes, please list distance (meters) and instrument(s).	No	No
For high volume PM instrument (flow rate > 200 liters/minute), is any PM instrument within 2m of the hivol? If yes, please list distance (meters) and instrument(s).	No	No
Date of Annual Performance Evaluation conducted in the past calendar year for gaseous parameters (MM/DD/YYYY)	N/A	N/A
Date of two semi-annual flow rate audits conducted in the past calendar year for PM monitors (MM/DD/YYYY, MM/DD/YYYY)	03/05/2019; 08/21/2019	03/05/2019; 08/21/2019
Changes planned within the next 18 months (Y/N)	N	N

Site Name	Bakersfield - Westwind
AQS ID (XX-XXX-XXXX)	06-019-2019
Representative statistical area Name (i.e. MSA, CBSA, other)	Kern
County	Kern
Collecting (Operating) Agency	SJVAPCD
Analytical Lab (i.e. weigh lab, toxics lab, other)	N/A
Reporting Agency	SJVAPCD
Site Start Date	01/01/2019
Pollutant Parameters	NO2
Meteorological Parameters	Wind speed, wind direction, outdoor temperature, barometric pressure
Address	2001 Westwind Drive, Bakersfield, CA 93301
GPS Coordinates (decimal degrees)	35.37695278N -119.04388889W
Distance to roadways (meters)	16 to 19 meters
Traffic Count/Year	124,000; 2017* Traffic count for road adjacent to monitoring station: CA Route 99 and JCT. RTE 58 West / JCT. RTE. 178 East Source: Caltrans (2017) 2,726; 2018** Traffic count for monitoring station's street address: Westw ind Drive; Source: Kern Council of Governments
Groundcover (e.g. paved, vegetative, dirt, sand, gravel)	Paved

Bakersfield – Westwind (1)		
Pollutant	**NO_2**	**Meteorology**
Parameter code	42602	Many
Spatial scale	MC	N
Site type	HC	PE
Basic monitoring objective(s)	NC, RS, TP	RS, TP
Monitor type	SLAMS	Other
Network affiliation(s), if applicable (a monitor may have none, one, or multiple)	Near-road	Near-road
FRM/FEM/ARM/Other	FEM	Other
POC	1	Many
Primary / QA Collocated / Other (provide for all $PM_{2.5}$, PM_{10}, $PM_{10-2.5}$, Pb and NO_2 monitors. Non-PM, Pb, NO_2 monitors should be listed as "N/A".)	Primary	Other
Is it suitable for comparison against the annual $PM_{2.5}$? (Y/N)	N/A	N/A
Instrument manufacturer and model	Teledyne T500U	ITP – Hamp. Control 140-100Hv, OT – MET One 060-A-2, BP – MET One 092, WD – MET One 020C, WS – METOne 010C
Analysis method	CL	Many
Method code	212	Many
Monitoring start date (MM/DD/YYYY)	01/01/2019	01/01/2019
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	Hourly	Hourly
Sampling season (MM/DD - MM/DD)	01/01 – 12/31	01/01 – 12/31
Probe height (meters)	N/A	N/A
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	N/A	N/A
Distance from obstructions on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	N/A	N/A
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	N/A	N/A
Distance from the drip line of closest tree(s)	N/A	N/A

Pollutant	NO_2	Meteorology
Distance to furnace or incinerator flue (meters)	N/A	N/A
Distance between monitors fulfilling a QA collocation requirement (meters).	N/A	N/A
Unrestricted airflow (degrees around probe/inlet or percentage of monitoring path)	N/A	N/A
Probe material for reactive gases $NO/NO_2/NO_y$, SO_2, O_3; PAMS: VOCs, Carbonyls (e.g. Pyrex, stainless steel, Teflon)	Teflon/Pyrex with Borosilicate	N/A
Residence time for reactive gases $NO/NO_2/NO_y$, SO_2, O_3; PAMS: VOCs, Carbonyls (seconds)	N/A	N/A
Frequency of one-point QC check for gaseous instruments	N/A	N/A
Frequency of flow rate verification for manual PM samplers, including Pb samplers (routine checks)	N/A	N/A
Frequency of flow rate verification for automated PM analyzers (routine checks)	N/A	N/A
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the lovol? If yes, please list distance (meters) and instrument(s).	N/A	N/A
For high volume PM instrument (flow rate > 200 liters/minute), is any PM instrument within 2m of the hivol? If yes, please list distance (meters) and instrument(s).	N/A	N/A
Date of Annual Performance Evaluation conducted in the past calendar year for gaseous parameters (MM/DD/YYYY)	N/A	N/A
Date of two semi-annual flow rate audits conducted in the past calendar year for PM monitors (MM/DD/YYYY, MM/DD/YYYY)	N/A	N/A
Changes planned within the next 18 months (Y/N)	N	N

Site Name	Bakersfield–California
AQS ID (XX-XXX-XXXX)	06-029-0014
Representative statistical area Name (i.e. MSA, CBSA, other)	Bakersfield
County	Kern
Collecting (Operating) Agency	CARB
Analytical Lab (i.e. weigh lab, toxics lab, other)	CARB
Reporting Agency	CARB
Site Start Date	03/01/1994
Pollutant Parameters	Ozone, PM10 FRM, PM2.5 FRM, PM2.5 Non-FEM, NO_2, Toxics, PM2.5 Speciation (STN, CSN Supplemental)
Meteorological Parameters	Wind speed, wind direction, outdoor temperature, sonic temperature, relative humidity
Address	5558 California Ave., Bakersfield CA 93309
GPS Coordinates (decimal degrees)	35.3566 N, -119.0626 W
Distance to road	300 m (south)
Traffic Count/Year	33,244/2017 (Traffic count for roads: California Ave between Stockdale Hwy and Business Center Dr., Source: Kern Council of Governments.)
Ground Cover	Paved

Bakersfield – California (1)					
Pollutant	**Ozone**	**PM10 STP**	**PM10 STP**	**PM2.5**	**PM2.5**
Parameter code	44201	81102	81102	88101	88101
Spatial scale	N	N	N	N	N
Site type	HC, GB	PE	PE, QA	HC, PE	HC, PE, QA
Basic monitoring objective(s)	NC, RS, TP	NC, RS	NC, RS	NC, RS	NC, RS
Monitor type	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS
Network affiliation(s), if applicable (a monitor may have none, one, or multiple)	None	None	None	None	None
FRM/FEM/ARM/Other	FEM	FRM	FRM	FRM	FRM
POC	1	1	2	1	2
Primary / QA Collocated / Other (provide for all $PM_{2.5}$, PM_{10}, $PM_{10-2.5}$, Pb and NO_2 monitors. Non-PM, Pb, NO_2 monitors should be listed as "N/A".)	Primary	Primary	QA Collocated	Primary	QA Collocated
Is it suitable for comparison against the annual $PM_{2.5}$? (Y/N)	N/A	N/A	N/A	Y	Y
Instrument manufacturer and model	Teledyne API 400E	SA/GMW 1200	SA/GMW 1200	Thermo 2025i	Thermo 2025i
Analysis method	UV	Gravimetric	Gravimetric	Gravimetric	Gravimetric
Method code	087	063	063	145	145
Monitoring start date (MM/DD/YYYY)	3/1/1994	4/1/1994	1/3/2003	1/1/1999	1/1/1999
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	Hourly	1:6	1:6	1:1	1:12
Sampling season (MM/DD - MM/DD)	01/01 – 12/31	01/01 – 12/31	01/01 – 12/31	01/01 – 12/31	01/01 – 12/31
Probe/Inlet height above ground (meters) (ground to rooftop = 4.1m)	7.2	5.62	5.62	6.23	6.23
Distance from supporting structure (above rooftop) (meters)	3.1	1.52	1.52	2.13	2.13

Pollutant	Ozone	PM10 STP	PM10 STP	PM2.5	PM2.5
Distance from obstructions on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	5.5 rooftop access	7 rooftop access	10 rooftop access	None	None
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	1.2 H x 4.37 D parapet	None	None	1.2 H x 3.12 D parapet	1.2 H x 3.12 D parapet
Distance from the drip line of closest tree(s)	7	10.5	10	9.5	11.5
Distance to furnace or incinerator flue (meters)	3	3	2.8	2.7	3.5
Distance between collocated monitors (meters)	N/A	3.5	3.5	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)	11.58	N/A	N/A	N/A	N/A
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the lovol? If yes, please list distance (meters) and instrument(s).	N/A	N/A	N/A	No	No
For high volume PM instrument (flow rate > 200 liters/minute), is any PM instrument within 2m of the hivol? If yes, please list distance (meters) and instrument(s).	N/A	No	No	N/A	N/A
Frequency of flow rate verification for manual PM samplers audit	N/A	Monthly	Monthly	Monthly	Monthly
Frequency of flow rate verification for automated PM analyzers audit	N/A	N/A	N/A	N/A	N/A

Pollutant	Ozone	PM10 STP	PM10 STP	PM2.5	PM2.5
Frequency of one-point QC check (gaseous)	Daily	N/A	N/A	N/A	N/A
Last Annual Performance Evaluation (gaseous)	03/06/2019	N/A	N/A	N/A	N/A
Last two semi-annual flow rate audits for PM monitors	N/A	03/06/2019, 08/21/2019	03/06/2019, 08/21/2019	03/06/2019, 08/21/2019	03/06/2019, 08/21/2019
Changes planned within the next 18 months (Y/N)	N	Yes. Upgrade to Tisch unit.	Yes. Upgrade to Tisch unit.	N	N

Bakersfield – California (2)				
Pollutant	**PM2.5**	**PM2.5 Speciation**	**PM2.5 Speciation**	**PM2.5 Speciation**
Parameter code	88502	88357	Many	Many
Spatial scale	N	N,U	N,U	N,U
Site type	PE	PE, QA	PE	PE, QA
Basic monitoring objective(s)	RS, TP	RS	RS	RS
Monitor type	Other	SLAMS	Other	Other
Network affiliation(s), if applicable (a monitor may have none, one, or multiple)	None	CSN STN	CSN STN	CSN STN
FRM/FEM/ARM/Other	Non-FEM	Other	Other	Other
POC	3	6	5	6
Primary / QA Collocated / Other (provide for all $PM_{2.5}$, PM_{10}, $PM_{10-2.5}$, Pb and NO_2 monitors. Non-PM, Pb, NO_2 monitors should be listed as "N/A".)	Primary	Primary & QA Collocated	Primary	QA Collocated
Is it suitable for comparison against the annual $PM_{2.5}$? (Y/N)	N	N/A	N/A	N/A
Instrument manufacturer and model	Met One BAM 1020	URG 3000-N	Met One SASS	Met One SASS
Analysis method	Beta Attenuation	Cyclone inlet	Many	Many
Method code	731	838	810	810
Monitoring start date (MM/DD/YYYY)	11/01/2001	05/03/2007	01/01/2001	01/01/2001

Pollutant	PM2.5	PM2.5 Speciation	PM2.5 Speciation	PM2.5 Speciation
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	Hourly	1:3	1:3	1:6
Sampling season (MM/DD - MM/DD)	01/01 – 12/31	01/01 – 12/31	01/01 – 12/31	01/01 – 12/31
Probe/Inlet height above ground (meters)	6.43	6.15	5.95	5.95
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	2.33	2.05	1.85	1.85
Distance from obstructions on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	5 rooftop access	11 & 13 rooftop access	7.5 rooftop access	9.5 rooftop access
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	1.2 H x 4.37 D	Parapet height of 1.1 m surrounding rooftop (1.2 H x 7.0 D)	1.2 H x 7.0 D	1.2 H x 7.0 D
Distance from the drip line of closest tree(s)	8.5	7 & 9	7	8
Distance to furnace or incinerator flue (meters)	1.5	5 & 7	5	6
Distance between collocated monitors (meters)	N/A	1.5 & 1.5	2	2
Unrestricted airflow (degrees)	360	360 & 360	360	360
Probe material (Teflon, etc.)	N/A	N/A	N/A	N/A
Residence time (seconds)	N/A	N/A	N/A	N/A
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the lovol? If yes, please list distance (meters) and instrument(s).	No	No	No	No

Pollutant	PM2.5	PM2.5 Speciation	PM2.5 Speciation	PM2.5 Speciation
For high volume PM instrument (flow rate > 200 liters/minute), is any PM instrument within 2m of the hivol? If yes, please list distance (meters) and instrument(s).	N/A	N/A	N/A	N/A
Frequency of flow rate verification for manual PM samplers audit	N/A	Monthly	Monthly	Monthly
Frequency of flow rate verification for automated PM analyzers audit	Monthly	N/A	N/A	N/A
Frequency of one-point QC check (gaseous)	N/A	N/A	N/A	N/A
Last Annual Performance Evaluation (gaseous)	N/A	N/A	N/A	N/A
Last two semi-annual flow rate audits for PM monitors	03/06/2019, 08/21/2019	N/A	N/A	N/A
Changes planned within the next 18 months (Y/N)	N	Yes. Replacement of P/C samplers.	N	N

Bakersfield – California (3)				
Pollutant	**NO_2**	**Toxics**	**Toxics**	**Meteorology**
Parameter code	42602	Many	Many	Many
Spatial scale	N	N	N	R
Site type	PE	PE	PE, QA	GB
Basic monitoring objective(s)	NC, RS, TP	RS, TP	RS, TP	RS, TP
Monitor type	SLAMS	Many	Many	SLAMS
Network affiliation(s), if applicable (a monitor may have none, one, or multiple)	None	CA Air Toxics	CA Air Toxics	None
FRM/FEM/ARM/Other	FRM	Other	Other	Other
POC	1	Many	Many	Many

Pollutant	NO_2	Toxics	Toxics	Meteorology
Primary / QA Collocated / Other (provide for all $PM_{2.5}$, PM_{10}, $PM_{10-2.5}$, Pb and NO_2 monitors. Non-PM, Pb, NO_2 monitors should be listed as "N/A".)	Primary	Primary	QA Collocated	Other
Is it suitable for comparison against the annual $PM_{2.5}$? (Y/N)	N/A	N/A	N/A	N/A
Instrument manufacturer and model	Teledyne API 200E	Xontech 924	Xontech 924	Vaisala HMP-155 (OT/RH) RM Young 81000 (WS/WD/3DT)
Analysis method	CL	Many	Many	Many
Method code	099	Many	Many	Many
Monitoring start date (MM/DD/YYYY)	04/01/1994	01/01/2007	01/01/2007	04/01/1994
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	Hourly	1:12	1:12	Hourly
Sampling season (MM/DD - MM/DD)	01/01 – 12/31	01/01 – 12/31	01/01 – 12/31	01/01 – 12/31
Probe/Inlet height above ground (meters)	7.2	5.7	5.7	13.8
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	3.1	1.9	1.9	None
Distance from obstructions on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	5.5	7.5	9.5	None
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	1.2 H x 4.37 D	1.2 H x 3.89 D	1.2 H x 3.89 D	None
Distance from the drip line of closest tree(s)	7	14	15	None

Pollutant	NO_2	Toxics	Toxics	Meteorology
Distance to furnace or incinerator flue (meters)	3	2	3	None
Distance between collocated monitors (meters)	N/A	N/A	N/A	N/A
Unrestricted airflow (degrees)	360	360	360	360
Probe material (Teflon, etc.)	Teflon	N/A	N/A	N/A
Residence time (seconds)	9.29	N/A	N/A	N/A
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the lovol? If yes, please list distance (meters) and instrument(s).	N/A	N/A	N/A	N/A
For high volume PM instrument (flow rate > 200 liters/minute), is any PM instrument within 2m of the hivol? If yes, please list distance (meters) and instrument(s).	N/A	N/A	N/A	N/A
Frequency of flow rate verification for manual PM samplers audit	N/A	Monthly	Monthly	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)	Daily	N/A	N/A	N/A
Last Annual Performance Evaluation (gaseous)	03/06/2019	N/A	N/A	N/A
Last two semi-annual flow rate audits for PM monitors	N/A	03/06/2019	03/06/2019	N/A
Changes planned within the next 18 months (Y/N)	N	N	N	N

Site Name	Bakersfield - Muni
AQS ID (XX-XXX-XXXX)	06-029-2012
Representative statistical area Name (i.e. MSA, CBSA, other)	Bakersfield
County	Kern
Collecting (Operating) Agency	SJVAPCD
Analytical Lab (i.e. weigh lab, toxics lab, other)	Varies based on which laboratory is contracted with the SJVAPCD: Speciated VOC
Reporting Agency	SJVAPCD
Site Start Date	06/01/2012
Pollutant Parameters	Ozone , CO, NO2, Speciated VOC, NMH
Meteorological Parameters	Wind speed, wind direction, outdoor temperature, relative humidity, barometric pressure, solar radiation
Address	2000 South Union Ave., Bakersfield, CA 93307
GPS Coordinates (decimal degrees)	35.3313 N, -119.0000 W
Distance to roadways (meters)	280m (west)
Traffic Count/Year	20,545 / 2018 (Traffic count for monitoring station's street address: S Union Ave between E Casa Loma Dr and Watts Dr. Source: Kern Council of Governments) 5,033 / 2018 (Traffic count for road adjacent to monitoring station: Watts Dr between S Union Ave and Short St. Source: Kern Council of Governments)
Groundcover (e.g. paved, vegetative, dirt, sand, gravel)	Paved

Bakersfield – Muni (1)						
Pollutant	**Ozone**	**CO**	**NO_2**	**Speciated VOC**	**NMH**	**Meteorology**
Parameter code	44201	42101	42602	Many	43102	Many
Spatial scale	N	N	N	N	N	R
Site type	HC	PE	HC	HC	PE	GB
Basic monitoring objective(s)	NC, RS, TP	NC, RS, TP	NC, RS, TP	RS	RS	RS, TP
Monitor type	SLAMS	SLAMS	SLAMS	Other	Other	Other
Network affiliation(s), if applicable (a monitor may have none, one, or multiple)	PAMS	PAMS	PAMS, RA40	PAMS	PAMS	PAMS
FRM/FEM/ARM/Other	FEM	FEM	FEM	Other	Other	Other
POC	1	1	1	1	1	1
Primary / QA Collocated / Other (provide for all $PM_{2.5}$, PM_{10}, $PM_{10-2.5}$, Pb and NO_2 monitors. Non-PM, Pb, NO_2 monitors should be listed as "N/A".)	N/A	N/A	N/A	N/A	N/A	Other
Is it suitable for comparison against the annual $PM_{2.5}$? (Y/N)	N/A	N/A	N/A	N/A	N/A	N/A
Instrument manufacturer and model	Teledyne API T265	Thermo 48i TLE	Teledyne API 200E	Entech 1900	Synspec Alpha 115	Many
Analysis method	Chemiluminescence	Non-dispersive IR	Chem.	GC / UV Absorption	TEI 55: Propane	Many
Method code	199	554	099	177 / 202	011	Many
Monitoring start date (MM/DD/YYYY)	06/01/2012	07/01/2012	07/01/2012	06/01/2012	10/01/2012	07/01/2012
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	Hourly	Hourly	Hourly	1:3	Hourly	Hourly
Sampling season (MM/DD - MM/DD)	01/01 – 12/31	01/01 – 12/31	01/01 – 12/31	06/01 – 08/31	01/01 – 12/31	01/01 – 12/31
Probe height (meters)	6.0 m	6.0 m	6.0 m	6.3 m	6.0 m	10 m

Pollutant	Ozone	CO	NO_2	Speciated VOC	NMH	Meteorology
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	2.1 m	2.1 m	2.1 m	2.4 m	2.1 m	N/A
Distance from obstructions on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	N/A	N/A	N/A	N/A	N/A	N/A
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	N/A	N/A	N/A	N/A	N/A	N/A
Distance from the drip line of closest tree(s)	Over 75 m	Over 75 m	Over 75 m	Over 75 m	Over 75 m	Over 75 m
Distance to furnace or incinerator flue (meters)	N/A	N/A	N/A	N/A	N/A	N/A
Distance between monitors fulfilling a QA collocation requirement (meters).	N/A	N/A	N/A	N/A	N/A	N/A
Unrestricted airflow (degrees around probe/inlet or percentage of monitoring path)	350	350	350	350	350	350
Probe material for reactive gases NO/NO_2/NO_y, SO_2, O_3; PAMS: VOCs, Carbonyls (e.g. Pyrex, stainless steel, Teflon)	Teflon/Pyrex with Borosilicate	Teflon/Pyrex with Borosilicate	Teflon/Pyrex with Borosilicate	Stainless Steel	Teflon/Pyrex with Borosilicate	N/A
Residence time for reactive gases NO/NO_2/NO_y, SO_2, O_3; PAMS: VOCs, Carbonyls (seconds)	12.73	13.48	12.83	4	11.09	N/A
Frequency of one-point QC check for gaseous instruments	Daily	Daily	Daily	N/A	Daily	N/A

Pollutant	Ozone	CO	NO_2	Speciated VOC	NMH	Meteorology
Frequency of flow rate verification for manual PM samplers, including Pb samplers (routine checks)	N/A	N/A	N/A	N/A	N/A	N/A
Frequency of flow rate verification for automated PM analyzers (routine checks)	N/A	N/A	N/A	N/A	N/A	N/A
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the lovol?	N/A	N/A	N/A	N/A	N/A	N/A
For high volume PM instrument (flow rate > 200 liters/minute), is any PM instrument within 2m of the hivol? If yes, please list distance (meters) and instrument(s).	N/A	N/A	N/A	N/A	N/A	N/A
Date of Annual Performance Evaluation conducted in the past calendar year for gaseous parameters (MM/DD/YYYY)	03/05/2019	03/05/2019	03/05/2019	N/A	N/A	N/A
Date of two semi-annual flow rate audits conducted in the past calendar year for PM monitors (MM/DD/YYYY, MM/DD/YYYY)	N/A	N/A	N/A	N/A	N/A	N/A
Changes planned within the next 18 months (Y/N)	N	N	N	N	N	N

Site Name	Bakersfield–Airport (Planz)
AQS ID (XX-XXX-XXXX)	06-029-0016
Representative statistical area Name (i.e. MSA, CBSA, other)	Bakersfield
County	Kern
Collecting (Operating) Agency	CARB
Analytical Lab (i.e. weigh lab, toxics lab, other)	CARB
Reporting Agency	CARB
Site Start Date	09/19/2000
Pollutant Parameters	PM2.5 FRM
Meteorological Parameters	None
Address	401 E. Planz Rd., Bakersfield CA 93307
GPS Coordinates (decimal degrees)	35.3246 N, -118.9976 W
Distance to road	500 m (west)
Traffic Count/Year	17,987 / 2018 (Traffic count for nearest cross street): S. Union Ave between E. Planz Rd and E White Lane Source: Kern Council of Governments) 1,030 / 2018 (Traffic count for monitoring station's street address) Source: Kern Council of Governments)
Ground Cover	Paved

Bakersfield–Airport (Planz) (1)	
Pollutant	**PM2.5**
Parameter code	88101
Spatial scale	N
Site type	PE, HC
Basic monitoring objective(s)	NC, RS
Monitor type	SLAMS
Network affiliation(s), if applicable (a monitor may have none, one, or multiple)	None
FRM/FEM/ARM/Other	FRM
POC	1
Primary / QA Collocated / Other (provide for all $PM_{2.5}$, PM_{10}, $PM_{10-2.5}$, Pb and NO_2 monitors. Non-PM, Pb, NO_2 monitors should be listed as "N/A".)	Primary
Is it suitable for comparison against the annual $PM_{2.5}$? (Y/N)	Y
Instrument manufacturer and model	R&P 2025
Analysis method	Gravimetric
Method code	145
Monitoring start date (MM/DD/YYYY)	09/19/2000
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	1:3
Sampling season	01/01 – 12/31
Probe Inlet height above ground (meters)	2.0
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	None
Distance from obstructions on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	None
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	None
Distance from the drip line of closest tree(s)	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
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the lovol? If yes, please list distance (meters) and instrument(s).	N/A

Pollutant	PM2.5
For high volume PM instrument (flow rate > 200 liters/minute), is any PM instrument within 2m of the hivol? If yes, please list distance (meters) and instrument(s).	N/A
Frequency of flow rate verification for manual PM samplers audit	Monthly
Frequency of flow rate verification for automated PM analyzers audit	N/A
Frequency of one-point QC check (gaseous)	N/A
Last Annual Performance Evaluation (gaseous)	N/A
Last two semi-annual flow rate audits for PM monitors	03/06/2019, 08/21/2019
Changes planned within the next 18 months (Y/N)	N

Site Name	Edison
AQS ID (XX-XXX-XXXX)	06-029-0007
Representative statistical area Name (i.e. MSA, CBSA, other)	Bakersfield
County	Kern
Collecting (Operating) Agency	CARB
Analytical Lab (i.e. weigh lab, toxics lab, other)	N/A
Reporting Agency	CARB
Site Start Date	01/01/1980
Pollutant Parameters	Ozone, NO_2
Meteorological Parameters	Wind speed, wind direction, outside temperature, relative humidity
Address	Johnston Farms-Shed Rd., Edison, CA 93320
GPS Coordinates (decimal degrees)	35.34561 N, -118.85183 W
Distance to road	450 m (south)
Traffic Count/Year	2,800/2018 (Traffic count for nearest roads: Edison Hwy. and Comanche Dr., Source: Kern Council of Governments)
Ground Cover	Dirt, vegetative

Edison (1)			
Pollutant	**Ozone**	**NO_2**	**Meteorology**
Parameter code	44201	42602	Many
Spatial scale	N	N	R
Site type	HC, RT	PE	GB
Monitoring objective	NC, RS, TP	NC, RS, TP	RS, TP
Monitor type	SLAMS	SLAMS	Other
Network affiliation	None	None	None
FRM/FEM/ARM/Other	FEM	FRM	Other
POC	1	1	1
Primary / QA Collocated / Other (provide for all $PM_{2.5}$, PM_{10}, $PM_{10-2.5}$, Pb and NO_2 monitors. Non-PM, Pb, NO_2 monitors should be listed as "N/A".)	Primary	Primary	Other
Is it suitable for comparison against the annual $PM_{2.5}$? (Y/N)	N/A	N/A	N/A
Instrument manufacturer and model	Teledyne API 400	Teledyne API 200E	RM Young 81000, Vaisala HMP 155
Analysis method	UV	CL	Many
Method code	087	099	Many
Monitoring start date (MM/DD/YYYY)	01/01/1981	01/01/1980	01/01/1995
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	Hourly	Hourly	Hourly
Sampling season (MM/DD - MM/DD)	01/01 – 12/31	01/01 – 12/31	01/01 – 12/31
Probe/Inlet height above ground (meters)	5.4	5.4	10 (OT 2.1 m)
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	1.5	1.5	None
Distance from obstructions on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	None	None	None
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	None	None	None
Distance from the drip line of closest tree(s)	16.1 (11.0 m to dripline)	16.1 (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

Pollutant	Ozone	NO_2	Meteorology
Probe material (Teflon, etc.)	Teflon	Teflon	N/A
Residence time (seconds)	11.8	14.5	N/A
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the lovol? If yes, please list distance (meters) and instrument(s).	N/A	N/A	N/A
For high volume PM instrument (flow rate > 200 liters/minute), is any PM instrument within 2m of the hivol? If yes, please list distance (meters) and instrument(s).	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	N/A	N/A	N/A
Frequency of one-point QC check (gaseous)	Daily	Daily	N/A
Last Annual Performance Evaluation (gaseous)	10/29/2019	10/29/2019	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

Site Name	Arvin–Di Giorgio
AQS ID (XX-XXX-XXXX)	06-029-5002
Representative statistical area Name (i.e. MSA, CBSA, other)	Bakersfield
County	Kern
Collecting (Operating) Agency	CARB
Analytical Lab (i.e. weigh lab, toxics lab, other)	N/A
Reporting Agency	CARB
Site Start Date	11/16/2009
Pollutant Parameters	Ozone
Meteorological Parameters	Outdoor temperature, wind speed, wind direction, sonic temperature, relative humidity
Address	19405 Buena Vista Blvd, Arvin CA 93203
GPS Coordinates (decimal degrees)	35.2391 N, -118.7886 W
Distance to road	10 m (east)
Traffic Count/Year	712/2018 (Traffic count for Buena Vista Blvd east of Tejon Hwy., Source: Kern Council of Governments.)
Ground Cover	Dirt, vegetative

Arvin–Di Giorgio (1)		
Pollutant	**Ozone**	**Meteorology**
Parameter code	44201	Many
Spatial scale	N	R
Site type	HC, PE	GB
Monitor objective	NC, RS, TP	RS, TP
Monitor type	SLAMS	SLAMS (WD, WS), Other (OT, RH)
Network affiliation	PAMS (pending)	PAMS (pending)
FRM/FEM/ARM/Other	FEM	Other
POC	1	2
Primary / QA Collocated / Other (provide for all $PM_{2.5}$, PM_{10}, $PM_{10\text{-}2.5}$, Pb and NO_2 monitors. Non-PM, Pb, NO_2 monitors should be listed as "N/A".)	Primary	Other
Is it suitable for comparison against the annual $PM_{2.5}$? (Y/N)	N/A	N/A
Instrument manufacturer and model	Teledyne API 400E	RM Young 81000, Vaisala HMP155
Analysis method	UV	Many
Method code	087	Many
Monitoring start date (MM/DD/YYYY)	11/16/2009	11/16/2009, 9/2/2015 (Vaisala)
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	Hourly	Hourly
Sampling season (MM/DD - MM/DD)	01/01 – 12/31	01/01 – 12/31
Probe height (meters)	4.4	10
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	1.8	N/A
Distance from obstructions on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	None	None
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	None	None
Distance from the drip line of closest tree(s)	>10	18.5
Distance to furnace or incinerator flue (meters)	N/A	N/A
Distance between collocated monitors (meters)	N/A	N/A
Unrestricted airflow (degrees)	360	360
Probe material (Teflon, etc.)	TEFLON	TEFLON
Residence time (seconds)	13.02	N/A

Pollutant	Ozone	Meteorology
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the lovol? If yes, please list distance (meters) and instrument(s).	N/A	N/A
For high volume PM instrument (flow rate > 200 liters/minute), is any PM instrument within 2m of the hivol? If yes, please list distance (meters) and instrument(s).	N/A	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)	10/29/2019	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	Maricopa
AQS ID (XX-XXX-XXXX)	06-029-0008
Representative statistical area Name (i.e. MSA, CBSA, other)	Bakersfield
County	Kern
Collecting (Operating) Agency	SJVAPCD
Analytical Lab (i.e. weigh lab, toxics lab, other)	N/A
Reporting Agency	SJVAPCD
Site Start Date	7/1/1987
Pollutant Parameters	Ozone
Meteorological Parameters	Wind speed, wind direction, outdoor temperature, barometric pressure
Address	755 Stanislaus St., Maricopa, CA 93252
GPS Coordinates (decimal degrees)	35.0515 N, -119.4026 W
Distance to roadways (meters)	500 (northwest)
Traffic Count/Year	499/2018 (Traffic count for nearest roads: Union St. at California St., Source: Kern Council of Governments.)
Groundcover (e.g. paved, vegetative, dirt, sand, gravel)	Gravel, dirt, vegetative

Maricopa (1)		
Pollutant	**Ozone**	**Meteorology**
Parameter code	44201	Many
Spatial scale	N	N
Site type	HC, RT	GB
Basic monitoring objective(s)	NC, RS, TP	RS, TP
Monitor type	SLAMS	Other
Network affiliation(s), if applicable (a monitor may have none, one, or multiple)	None	None
FRM/FEM/ARM/Other	FEM	Other
POC	1	1
Primary / QA Collocated / Other (provide for all $PM_{2.5}$, PM_{10}, $PM_{10-2.5}$, Pb and NO_2 monitors. Non-PM, Pb, NO_2 monitors should be listed as "N/A".)	N/A	Other
Is it suitable for comparison against the annual $PM_{2.5}$? (Y/N)	N/A	N/A
Instrument manufacturer and model	Teledyne API 400E	ITP- Hy-Cal 512AA3B, OT- Met One 060A-2, BP- Met One 092, WD- Met One 020C, WS-Met One 010C
Analysis method	UV	Many
Method code	087	Many
Monitoring start date (MM/DD/YYYY)	07/01/1987	07/01/1987
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	Hourly	Hourly
Sampling season (MM/DD - MM/DD)	01/01 – 12/31	01/01 – 12/31
Probe height (meters)	3.0 m	10 m
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	1.0 m	N/A
Distance from obstructions on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	3 m H 0.5 m V	N/A
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	17 m H 1 m V	N/A
Distance from the drip line of closest tree(s)	18 m H 8 m V	20 m
Distance to furnace or incinerator flue (meters)	N/A	N/A
Distance between monitors fulfilling a QA collocation requirement (meters).	N/A	N/A
Unrestricted airflow (degrees around probe/inlet or percentage of monitoring path)	350	360

Pollutant	Ozone	Meteorology
Probe material for reactive gases $NO/NO_2/NO_y$, SO_2, O_3; PAMS: VOCs, Carbonyls (e.g. Pyrex, stainless steel, Teflon)	Teflon/Pyrex with Borosilicate	N/A
Residence time for reactive gases $NO/NO_2/NO_y$, SO_2, O_3; PAMS: VOCs, Carbonyls (seconds)	10.59	N/A
Frequency of one-point QC check for gaseous instruments	Daily	N/A
Frequency of flow rate verification for manual PM samplers, including Pb samplers (routine checks)	N/A	N/A
Frequency of flow rate verification for automated PM analyzers (routine checks)	N/A	N/A
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the lovol? If yes, please list distance (meters) and instrument(s).	N/A	N/A
For high volume PM instrument (flow rate > 200 liters/minute), is any PM instrument within 2m of the hivol? If yes, please list distance (meters) and instrument(s).	N/A	N/A
Date of Annual Performance Evaluation conducted in the past calendar year for gaseous parameters (MM/DD/YYYY)	10/28/2019	N/A
Date of two semi-annual flow rate audits conducted in the past calendar year for PM monitors (MM/DD/YYYY, MM/DD/YYYY)	N/A	N/A
Changes planned within the next 18 months (Y/N)	N	N

Site Name	Lebec
AQS ID (XX-XXX-XXXX)	06-029-2009
Representative statistical area Name (i.e. MSA, CBSA, other)	Bakersfield
County	Kern
Collecting (Operating) Agency	SJVAPCD
Analytical Lab (i.e. weigh lab, toxics lab, other)	N/A
Reporting Agency	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
GPS Coordinates (decimal degrees)	34.8415N, -118.8610W
Distance to roadways (meters)	300 m (west)
Traffic Count/Year	1,911/2017 (Traffic count for nearest roads: Lebec Rd near Interstate 5, Source: Kern Council of Governments.)
Groundcover (e.g. paved, vegetative, dirt, sand, gravel)	Gravel, vegetative

Lebec		
Pollutant	**PM2.5**	**Meteorology**
Parameter code	88502	Many
Spatial scale	N	R
Site type	PE	GB
Basic monitoring objective(s)	TP	RS, TP
Monitor type	SPM	Other
Network affiliation(s), if applicable (a monitor may have none, one, or multiple)	None	None
FRM/FEM/ARM/Other	Non-FEM	Other
POC	3	1
Primary / QA Collocated / Other (provide for all $PM_{2.5}$, PM_{10}, $PM_{10-2.5}$, Pb and NO_2 monitors. Non-PM, Pb, NO_2 monitors should be listed as "N/A".)	Primary	Other
Is it suitable for comparison against the annual $PM_{2.5}$? (Y/N)	N	N/A
Instrument manufacturer and model	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	Many
Method code	731	Many
Monitoring start date (MM/DD/YYYY)	01/27/2009	OT, WS, WD - 12/09/2009; BP – 01/28/2010
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	Hourly	Hourly
Sampling season (MM/DD - MM/DD)	01/01 -12/31	01/01 – 12/31
Probe height (meters)	4.62 m	4.9 m
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	1.98 m	N/A
Distance from obstructions on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	N/A	N/A
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	N/A	N/A
Distance from the drip line of closest tree(s)	200 m	200 m
Distance to furnace or incinerator flue (meters)	N/A	N/A
Distance between monitors fulfilling a QA collocation requirement (meters).	N/A	N/A
Unrestricted airflow (degrees around probe/inlet or percentage of monitoring path)	360	360

Pollutant	PM2.5	Meteorology
Probe material for reactive gases NO/NO_2/NO_y, SO_2, O_3; PAMS: VOCs, Carbonyls (e.g. Pyrex, stainless steel, Teflon)	N/A	N/A
Residence time for reactive gases NO/NO_2/NO_y, SO_2, O_3; PAMS: VOCs, Carbonyls (seconds)	N/A	N/A
Frequency of one-point QC check for gaseous instruments	N/A	N/A
Frequency of flow rate verification for manual PM samplers, including Pb samplers (routine checks)	N/A	N/A
Frequency of flow rate verification for automated PM analyzers (routine checks)	Monthly	N/A
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the lovol? If yes, please list distance (meters) and instrument(s).	No	N/A
For high volume PM instrument (flow rate > 200 liters/minute), is any PM instrument within 2m of the hivol? If yes, please list distance (meters) and instrument(s).	N/A	N/A
Date of Annual Performance Evaluation conducted in the past calendar year for gaseous parameters (MM/DD/YYYY)	N/A	N/A
Date of two semi-annual flow rate audits conducted in the past calendar year for PM monitors (MM/DD/YYYY, MM/DD/YYYY)	05/28/2019, 10/21/2019	N/A
Changes planned within the next 18 months (Y/N)	N	N

APPENDIX C:

San Joaquin Valley Air Pollution Control District Notice of Public Inspection Period on the 2020 Air Monitoring Network Plan

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SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT
NOTICE OF PUBLIC INSPECTION PERIOD ON THE
DRAFT 2020 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 2020 Air Monitoring Network Plan.

Interested persons may submit comments to:

Robert Gilles
San Joaquin Valley Unified Air Pollution Control District
1990 East Gettysburg Avenue
Fresno, CA 93726
Email: robert.gilles@valleyair.org

The public inspection period begins May 27, 2020 and will end June 26, 2020.

Copies of the Draft 2020 Air Monitoring Network Plan can be obtained by calling (559) 230-6000. You may download a copy of the Draft 2020 Air Monitoring Network Plan from the District's website on or after May 27, 2020 under the Other Notices portion of the Public Notices page:

https://www.valleyair.org/notices/public_notices_idx.htm#Other%20Notices

For additional information, contact Robert Gilles by phone at (559) 230-6000.

APPENDIX D:

Enhanced Monitoring Plan

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CALIFORNIA
AIR RESOURCES BOARD

Gavin Newsom, Governor
Jared Blumenfeld, CalEPA Secretary
Mary D. Nichols, Chair

November 25, 2019

Mr. Mike Stoker
Regional Administrator
U.S. Environmental Protection Agency
Air Division, Region 9
75 Hawthorne Street
San Francisco, California 94105

Dear Mr. Stoker:

The California Air Resources Board (CARB) is submitting the enclosed *2019 California Enhanced Monitoring Plan* (EMP), as required by the Code of Federal Regulations (CFR) Title 40, Part 58, Appendix D, Section 5(h). This EMP covers 1) all federal ozone nonattainment areas that have been designated with a classification of Moderate or above for any of the 8-hour average ozone National Ambient Air Quality Standards, and 2) air districts operating NCore monitoring stations located in Metropolitan Statistical Areas (MSA) with populations exceeding 1,000,000 people.

This EMP was provided to each of the 35 air quality districts within California for review and all comments were addressed.

If you have any questions regarding this EMP, please contact me at (916) 201-8968 (mobile) or by email at michael.benjamin@arb.ca.gov. Alternatively, you may contact Mr. Ravi Ramalingam, Chief, Consumer Products and Air Quality Assessment Branch, at (916) 322-2085, or via email at ravi.ramalingam@arb.ca.gov. Copies of this letter and the enclosure are being sent electronically to the 35 air districts within California.

Sincerely,

Michael Benjamin

Dr. Michael T. Benjamin, Chief
Air Quality Planning and Science Division

Enclosure

cc: See next page.

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Ravi Ramalingam, Chief
Consumer Products and Air Quality Assessment Branch

California Air Resources Board
Air Quality Planning and Science Division
Air Quality Analysis Section

2019 Enhanced Monitoring Plan

Prepared for:
U.S. Environmental Protection Agency Region 9
75 Hawthorne Street
San Francisco, CA 94105

November 2019

Table of Contents

1.0 Introduction

1.1 Background

On October 1, 2015, the U.S. Environmental Protection Agency (U.S. EPA) revised the federal 8-hour average ozone standard from 0.075 parts per million (ppm) to 0.070 ppm. At the same time, U.S. EPA also revised monitoring requirements for the Photochemical Assessment Monitoring Station (PAMS) network and added the requirements for ozone nonattainment areas classified as Moderate or above to prepare an Enhanced Monitoring Plan (EMP).

As specified in 40 CFR 58, Appendix D, Section 5(a), "State and local agencies are required to collect and report PAMS measurements at each NCore site … located in a CBSA with a population of 1,000,000 or more, based on the latest census figures." The National Core (NCore) network is, as the name suggests, a core array of monitoring stations, covering all 50 states, which measures a set of federally defined pollutants. CBSAs, or Core-Based Statistical Areas, generally represent the more populated city areas within the U.S. and tend to be the areas with the highest ozone precursor emissions and ozone concentrations, which make them suitable for use in ozone monitoring network design. By combining the PAMS network with the NCore network, as well as limiting them to areas with a large population, U.S. EPA is providing monitoring agencies in areas with multiple PAMS with a potential mechanism to save resources through the consolidation of monitoring activities at NCore sites. A further description of the NCore and PAMS networks, monitoring requirements, and future plans are included in Sections 2 and 3, respectively.

The EMP is a new requirement that must be prepared by each state with ozone nonattainment areas that have been classified as Moderate or above for the federal 8-hour average ozone standard. The California Air Resources Board (CARB) is responsible for submitting the EMP for the entire state, including the South Coast, San Diego, and Bay Area Primary Quality Assurance Organizations (PQAO) and all air districts within the CARB PQAO that submit their own annual network plans and/or 5-year monitoring network assessments. Some of the air districts have already prepared documents considered by the agencies to be EMPs; however, U.S. EPA has made it clear that only an EMP submitted by CARB will satisfy the requirement. As a result, CARB has requested information from each of the air districts that operate PAMS for use in the preparation of this EMP. In the future, CARB will work with the districts that would like to prepare their own EMP to most effectively incorporate the District documents into the CARB EMP submittal to U.S. EPA.

Federal monitoring regulations under 40 CFR part 58, Appendix D, Section 5(h) require the EMP to include monitoring activities deemed important to understanding the ozone problems in each state. Such activities may include, but are not limited to, the following:

1) Additional ozone monitors beyond the minimum required under paragraph 4.1 of Appendix D,

2) Additional NOx or NOy monitors beyond those required under 4.3 of Appendix D,

3) Additional speciated VOC measurements including data gathered during different periods other than that required under paragraph 5(g), or locations other than those required under paragraph 5(a) of Appendix D, and

4) Enhanced upper air measurements of meteorology or pollution concentrations.

1.2 Summary of Federal 8-Hour Ozone Designations and Classifications

The U.S. EPA has promulgated three federal ozone standards based on an 8-hour average: the 1997 standard of 0.08 ppm; the 2008 standard of 0.075 ppm; and the 2015 standard of 0.070 ppm. With each standard, the U.S. EPA designated various areas of California as nonattainment and classified each area based on the magnitude of the ozone concentrations above the standard. Table 1.1 contains a listing of all the nonattainment areas for each standard and the associated classifications.

For the 0.08 ppm ozone standard, 15 areas were designated as nonattainment and 12 of them were classified as Moderate or above. Additionally, three areas were classified as Marginal, the lowest classification level possible, since they were close to meeting the standard.

For the 0.075 ppm ozone standard, 16 areas were designated as nonattainment and 11 of them were classified as Moderate or above. The remaining five areas were classified as Marginal.

Lastly, for the 0.070 ppm ozone standard, 19 areas were designated as nonattainment, but only 9 of them were classified as Moderate or above and the remaining 10 were classified as Marginal. While more areas were designated nonattainment than for either of the previous two standards, the threshold of 0.070 ppm was the lowest federal 8-hour standard ever and more than half of the areas were classified at the lowest level of Marginal. Also, two of the “new” nonattainment areas were the result of the Central and Southern Mountain County nonattainment areas being split into individual counties. Two other nonattainment areas are localized, higher elevation mountain top areas with no population or emission sources. All of this indicates that the number of high ozone concentration nonattainment areas is steadily decreasing.

California’s diligent and persistent efforts to reduce ozone concentrations across the State are evident in the increasing number of nonattainment areas below the Moderate classification level, despite the standards becoming more stringent over time and very large increases in California’s overall population and vehicle miles traveled.

Table 1.1 Moderate and Above Ozone Nonattainment Areas

Nonattainment Area	Classification		
	1997 Standard (0.08 ppm)	2008 Standard (0.075 ppm)	2015 Standard (0.070 ppm)
Central Mountain Counties	Moderate		
Amador County		Attainment/ Unclassifiable	Marginal
Calaveras County		Marginal	Marginal
Imperial County	Moderate	Moderate	Marginal
Kern County (Eastern Kern)	Moderate	Serious	Moderate
Los Angeles-San Bernardino Counties (Western Mojave Desert)	Extreme	Extreme	Extreme
Los Angeles-South Coast Air Basin	Extreme	Extreme	Extreme
Nevada County (Western Part)	Moderate	Serious	Moderate
Riverside County (Coachella Valley)	Extreme	Severe-15	Severe-15
Sacramento Metropolitan Area	Severe-15	Severe-15	Moderate
San Diego County	Moderate	Serious	Moderate
San Joaquin Valley	Extreme	Extreme	Extreme
Southern Mountain Counties	Moderate		
Mariposa County		Moderate	Marginal
Tuolumne County		Attainment/ Unclassifiable	Marginal
Ventura County	Serious	Serious	Serious

1.3 Timelines

The PAMS monitoring and EMP regulation has multiple implementation deadlines. The new PAMS monitoring was originally required to be operational by June 1, 2019. However, due to delays in equipment procurement and distribution by the U.S. EPA, on May 31, 2019, U.S. EPA delayed PAMS monitoring implementation for two years, until June 1, 2021. The update to the regulation did not change anything regarding the EMP, though.

EMPs are due either by October 1, 2019, or two years following the effective date of a designation to a classification of Moderate or above ozone nonattainment as stated in 40 CFR 58, Appendix D, Section 5(h). In addition, the EMP shall be reassessed and approved as part of the 5-year network assessments required under 40 CFR 58.10(d). The effective date of designations for the 2015 federal standard of 0.070 ppm was August 3, 2018. However, based on recent clarification from U.S. EPA, the regulation applies to any federal 8-hour ozone standard designation, meaning designations for the 1997 and 2008 standard also applied, not just the most recent 2015 standard. As discussed above, California had areas classified as Moderate and above for the 1997 and 2008 8-hour ozone standards; therefore, CARB is submitting an EMP now and then will update the EMP on the normal cycle of every five years, in conjunction with the 5-year monitoring network assessment that is due by July 1, 2020.

2.0 NCore Monitoring Sites

The NCore monitoring site network was specifically designed to include long-term sites which measure a wide-range of pollutants and produce data that are comparable across the U.S. This type of network provides data that are useful for a variety of purposes such as evaluating air quality trends, assessing regional and national model performance, and analyzing the formation, distribution, and transport of ozone and ozone precursors. With these broad applications in mind, the regulations also recommend placing NCore sites "away from direct emission sources that could substantially impact the ability to detect area-wide concentrations." Below is a discussion of California's NCore network.

2.1 California's NCore Network

NCore monitoring regulations under 40 CFR 58, Appendix D, Section 3, state that every state must operate at least one NCore site. However, states such as California, which has many metropolitan areas with ozone concentrations above the federal standards, and which are separated by complex terrain and long distances, are required to operate at least one to two additional NCore sites. The regulations also suggest that "NCore locations should be leveraged with other multipollutant air monitoring sites including PAMS, National Air Toxics Trends Stations (NATTS), CASTNET sites, and STN sites." This concept is consistent with the new PAMS monitoring regulations.

California not only meets the minimum requirements for two to three NCore sites statewide, but it exceeds the minimum with a total of seven sites that are all essential for assessing pollutants across the vastly different air basins throughout the state. Six of the sites are in the largest metropolitan areas of the State and in most of the areas with the highest ozone concentrations. The seventh site is located in the Great Basin, on the east side of the Sierra Nevada Mountains, in a remote area that experiences limited impacts from major populated areas of California. Figure 2 shows all of the

NCore monitoring locations and their locations within the various ozone nonattainment areas.

The five NCore sites in the Sacramento, South Coast, Bay Area, and San Diego areas are required to operate PAMS due to the CBSA populations exceeding 1,000,000 people. The NCore sites in Sacramento, South Coast and San Diego already have PAMS operating at them, so only minor changes will be needed to comply with the requirements in Section 2.2. The Bay Area NCore site does not have PAMS measurements; however, the BAAQMD operates two PAMS and has requested a waiver from U.S. EPA to satisfy the monitoring requirements with one of those sites instead of implementing PAMS at the NCore site.

While the BAAQMD will be required to operate PAMS at the NCore site, or alternate location, the BAAQMD is not required to prepare an EMP based due to a nonattainment area classification of Marginal. The NCore site operated by CARB in the San Joaquin Valley is in an area classified above Moderate, but the CBSA population is still below 1,000,000 people, so PAMS will not be required there yet. However, once the population of an area with NCore exceeds 1,000,000 people, then the NCore site has two years to implement PAMS measurements. Lastly, the NCore site in the Great Basin is located in an attainment area and is not within a CBSA, so PAMS will not be required there either.

2.2 Monitoring Requirements

NCore sites are required to monitor for the following parameters:

1) PM2.5 particle mass using continuous and integrated/filter-based samplers
2) Speciated PM2.5
3) PM10-2.5 particle mass
4) Ozone (O3)
5) Sulfur dioxide (SO2)
6) Carbon monoxide (CO)
7) Nitrogen oxide (NO)/total reactive nitrogen (NOY)
8) Wind speed
9) Wind direction
10) Relative humidity
11) Ambient temperature

None of these parameters changed with the new monitoring requirements; therefore, all NCore sites in California will continue to sample for all of the above listed parameters.

2.3 Future Plans

At this time, none of the air districts operating NCore sites, nor CARB, intend to make any changes to the NCore locations in the near future. The only anticipated changes will involve implementing the new PAMS requirements, leading to the addition or

removal of monitoring equipment and sampling methods for certain pollutants and meteorological parameters to meet regulatory and air monitoring program needs.

Figure 2.1 Moderate and Above Ozone Nonattainment Areas

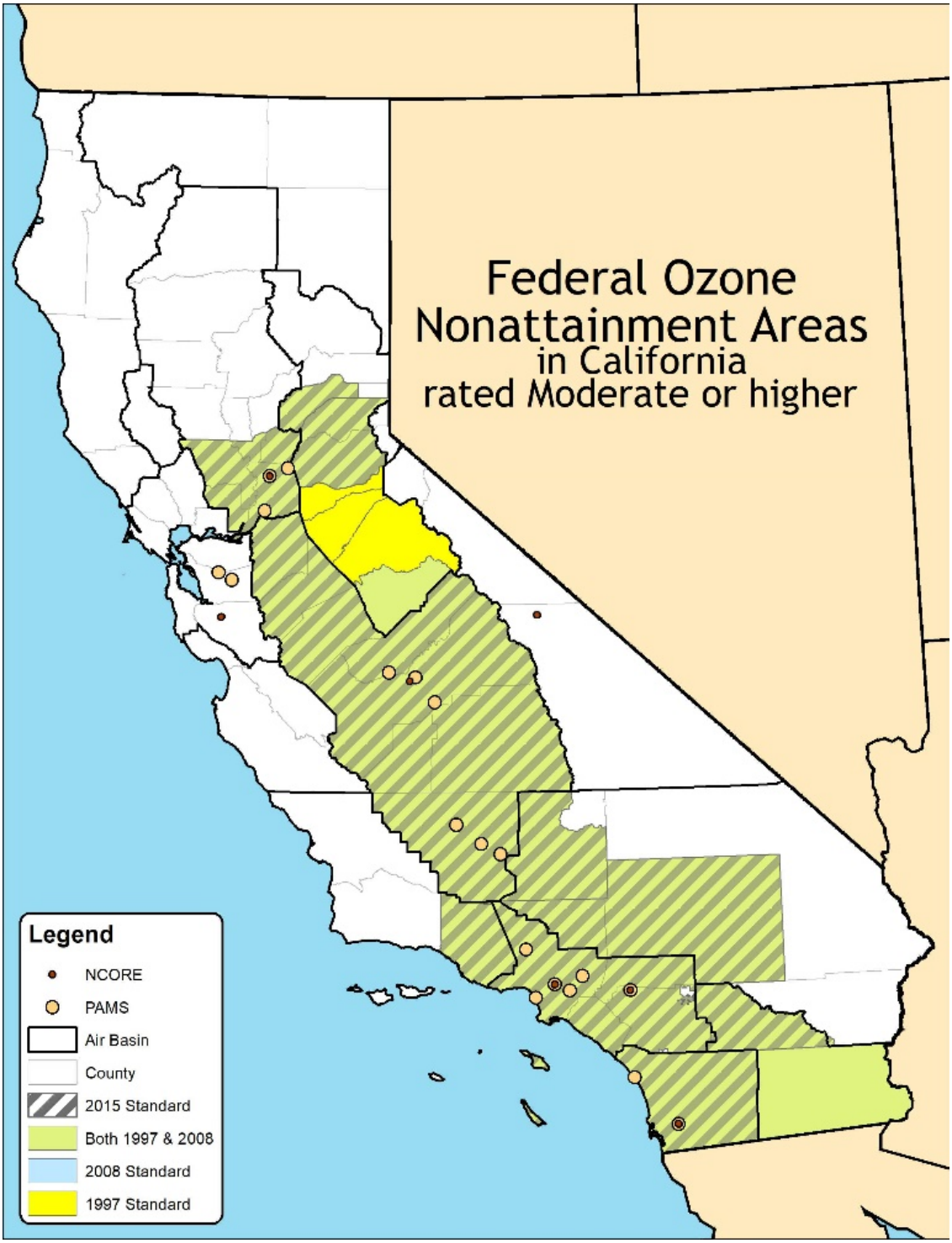


Table 2.1 NCore Sites and PAMS in California

Air District	County	Site	NCORE	PAMS
Great Basin Unified	Inyo	Bishop-Line	X	
Sacramento Metro	Sacramento	Sacramento-Del Paso Manor	X	X
Sacramento Metro	Sacramento	Elk Grove-Bruceville Road		X
Sacramento Metro	Sacramento	Folsom-Natoma Street		X
San Diego County	San Diego	El Cajon-Lexington Elementary School	X	X
San Diego County	San Diego	Camp Pendleton		X
Bay Area	Alameda	Livermore-793 Rincon Avenue		X
Bay Area	Contra Costa	San Ramon-9885 Alcosta Bl		X
Bay Area	Santa Clara	San Jose-Jackson Street	X	
San Joaquin Valley	Fresno	Parlier		X
San Joaquin Valley	Fresno	Clovis-N Villa Avenue		X
San Joaquin Valley	Fresno	Fresno-Garland	X	
San Joaquin Valley	Kern	Shafter-Walker Street		X
San Joaquin Valley	Kern	Arvin-Di Giorgio		X
San Joaquin Valley	Kern	Bakersfield-Municipal Airport		X
San Joaquin Valley	Madera	Madera-Pump Yard		X
South Coast	Los Angeles	Los Angeles-North Main Street	X	X
South Coast	Los Angeles	Azusa		X
South Coast	Los Angeles	Santa Clarita		X
South Coast	Los Angeles	Los Angeles-Westchester Parkway		X
South Coast	Los Angeles	Pico Rivera-4144 San Gabriel		X
South Coast	Riverside	Riverside-Rubidoux	X	X

3.0 PAMS

3.1 California's PAMS Network

There are currently 19 PAMS operating across California in eight different counties, as shown above in Figure 2.1 and listed in Table 2.1. Five different air districts are responsible for operating the 19 stations, namely the Sacramento Metropolitan Air Quality Management District (SMAQMD), which operates three sites; the Bay Area Air Quality Management District (BAAQMD), which operates two sites; the San Joaquin Valley Air Pollution Control District (SJVAPCD), which operates six sites; the South Coast Air Quality Management District (SCAQMD), which operates six sites; and the San Diego County Air Pollution Control District (SDCAPCD), which operates two sites.

Four of the five districts were required to implement PAMS monitoring due to the magnitude and spatial extent of ozone in the various areas of California relative to previous federal ozone standards. The BAAQMD has operated two PAMS that were not required in the past and the District will continue to operate the PAMS at both locations. The District has also requested and received a waiver to operate PAMS at the Livermore monitoring site, instead of the San Jose NCore location, to satisfy the new PAMS monitoring requirement for NCore sites. The BAAQMD's "2018 Air Monitoring Network Plan" contains a more thorough description of the District's PAMS network and includes the waiver request.

The purpose of the PAMS were to help develop a deeper understanding of ozone precursor sources, ozone formation process, and the transport of ozone and precursors within each area, as well as between areas. To do this, there were four types of PAMS:

1. Type 1 – upwind sites
2. Type 2 – maximum ozone precursor sites
3. Type 3 – maximum ozone concentrations sites
4. Type 4 – downwind sites

The new PAMS requirements no longer require any of the four PAMS types and only specify that PAMS be operated at NCore sites in nonattainment areas classified as Moderate or above and where the CBSA has at least 1,000,000 people. As noted in Section 2.1, the five NCore sites that are required to operate PAMS currently have PAMS equipment in-place or a waiver to perform PAMS monitoring at an alternate location.

3.2 Monitoring Requirements

As specified in 40 CFR 58, Appendix D, Section 5(b), PAMS monitoring sites must measure the following parameters:

1) Hourly averaged speciated volatile organic compounds (VOCs)
2) Three 8-hour averaged carbonyl samples per day on a 1-in-3 day schedule, or hourly averaged formaldehyde

3) Hourly averaged ozone
4) Hourly averaged nitrogen oxide (NO), true nitrogen dioxide (NO2), and total reactive nitrogen (NOy)
5) Hourly averaged ambient temperature
6) Hourly vector-averaged wind direction
7) Hourly vector-averaged wind speed
8) Hourly averaged atmospheric pressure
9) Hourly averaged relative humidity
10) Hourly precipitation
11) Hourly averaged mixing height
12) Hourly averaged solar radiation
13) Hourly averaged ultraviolet radiation

Of the above listed parameters, only the first item is new and requires the use of an automated gas chromatograph, which is new to most air monitoring agencies. As a result, new equipment, training, and data handling and processing procedures will be necessary to implement the requirement. These constraints are the primary reasons U.S. EPA provided a two-year extension for implementation of the new monitoring requirements, delaying them from June 1, 2019, until June 1, 2021.

To obtain the hourly averaged mixing height for item 11, most districts will use a ceilometer in the future. To measure the mixing height in the past, most air districts have operated radar wind profilers and Radio Acoustic Sounding Systems (RASS), so the data have generally been collected already. However, those systems are large, require frequent maintenance, and are costly to procure and operate; therefore, ceilometers will be operated at most NCore sites to meet to the requirement.

3.3 Future Plans

Based on the new regulatory requirements for operating PAMS, the overall network locations are already meeting the requirements; therefore, no new PAMS need to be added. CARB and the districts assess the network adequacy on a regular basis and if new PAMS are deemed necessary to fill gaps in understanding, then new sites will be implemented.

In terms of the existing PAMS, since the four types of PAMS are not required anymore and the new PAMS regulations have introduced new parameters and sampling methods, some districts are considering changes to the PAMS network. Those changes are discussed later in this EMP.

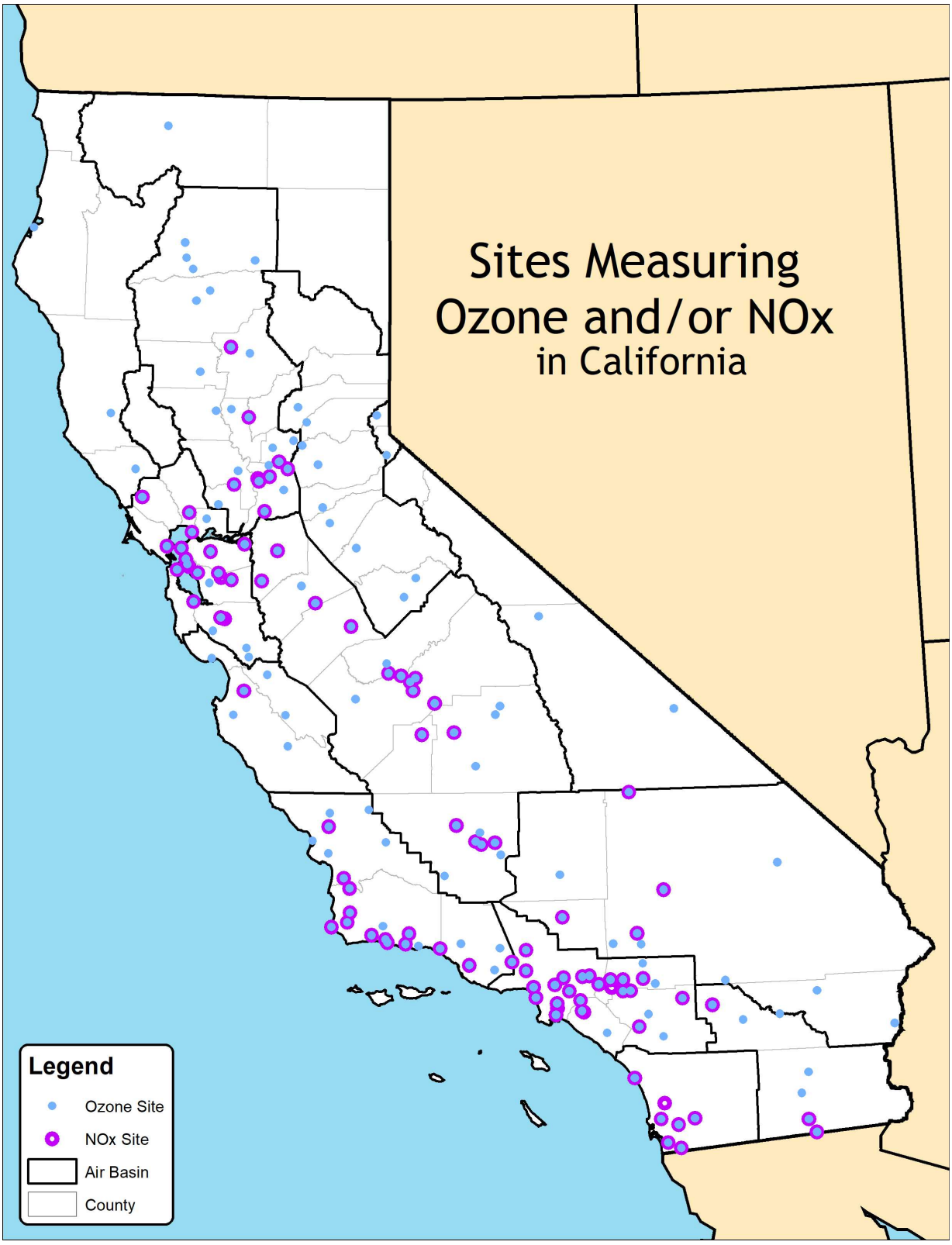
4.0 Moderate and Above Nonattainment Areas

California has one of most extensive air monitoring networks in the world that has been built up over several decades. Some of the key reasons for this large, multi-faceted network are the State's desire to fully understand sources of emissions, pollutant formation processes, and transport mechanisms so that regulations and programs can be established to protect the health of the people and ultimately bring all nonattainment areas into attainment for each of the National Ambient Air Quality Standards (NAAQS). To accomplish these goals across such a vast area with complex terrain and numerous localized meteorological patterns for ozone requires much more the minimum number of ozone and ozone precursor monitors than is required in federal regulations under 40 CFR 58, Appendix D, Section 4.

Tables A.1 and A.2 in the Appendix contain a listing of all 160+ ozone monitors and nearly 100 NOx monitors currently operating in California. Figure 4.1 is a map showing the location of all the ozone and NOx monitoring sites. This massive network is needed to help CARB and local air districts understand ozone concentrations within each nonattainment area and verify that ozone concentrations continue to meet the ozone NAAQS in attainment areas. Because of the size of the network and the wide range of pollutants measured, recent network assessments general agree that most areas of the State with ozone concerns are monitored and that there is limited need for additional monitoring sites.

Below is a discussion for each ozone nonattainment area in California that has been classified as Moderate or above for any of the federal 8-hour average ozone standards. Each section evaluates whether or not additional monitoring of ozone, ozone precursors, or meteorological parameters is needed to further our understanding of ozone formation and transport within the nonattainment areas.

Figure 4.1 Ozone and NOx Monitoring Sites in California



4.1 Amador County

The Amador County nonattainment area is included in this EMP only because of the designation to a classification of Moderate for the 1997 federal 8-hour ozone standard. Classifications for each of the ozone standards are listed in the table below.

1997 Standard (0.08 ppm)	2008 Standard (0.075 ppm)	2015 Standard (0.070 ppm)
Moderate	Attainment/Unclassifiable	Marginal

* Note: For the 1997 standard, Amador County and Calaveras County were combined into the Central Mountain Counties nonattainment area

Ozone concentrations in Amador County are overwhelmingly the result of transport from neighboring more severe nonattainment areas to the west and northwest; therefore implementing a more extensive network of ozone and ozone precursor monitors would not provide any significant additional information.

CARB operates one monitoring station in the nonattainment area (Jackson-Clinton Road) and this location continues to meet the needs of monitoring the highest ozone concentrations and population exposure.

Ozone air quality continues to improve in the nonattainment area due to the implementation of District and State programs designed to reduce local and statewide ozone precursor emissions and ozone formation; therefore, no additional ozone or ozone precursor monitoring is planned or needed for the Amador County nonattainment area at this time.

4.2 Calaveras County

The Calaveras County nonattainment area is included in this EMP only because of the designation to a classification of Moderate for the 1997 federal 8-hour ozone standard. Classifications for each of the ozone standards are listed in the table below.

1997 Standard (0.08 ppm)	2008 Standard (0.075 ppm)	2015 Standard (0.070 ppm)
Moderate	Marginal	Marginal

* Note: For the 1997 standard, Amador County and Calaveras County were combined into the Central Mountain Counties nonattainment area

Ozone concentrations in Calaveras County are overwhelmingly the result of transport from neighboring more severe nonattainment areas to the west and northwest; therefore implementing a more extensive network of ozone and ozone precursor monitors would not provide any significant additional information.

CARB operates one monitoring station in the nonattainment area (San Andreas-Gold Strike Road) and this location continues to meet the needs of monitoring the highest ozone concentrations and population exposure.

Ozone air quality continues to improve in the nonattainment area due to the implementation of District and State programs designed to reduce local and statewide ozone precursor emissions and ozone formation; therefore, no additional ozone or ozone precursor monitoring is planned or needed for the Calaveras County nonattainment area at this time.

4.3 Imperial County

The Imperial County nonattainment area is included in this EMP because of the designation to a classification of Moderate for the 1997 and 2008 federal 8-hour ozone standards. Classifications for each of the ozone standards are listed in the table below.

1997 Standard (0.08 ppm)	2008 Standard (0.075 ppm)	2015 Standard (0.070 ppm)
Moderate	Moderate	Marginal

The Imperial County Air Pollution Control District (ICAPCD) operates three monitoring sites for ozone and ozone precursors and CARB operates one site in the nonattainment area. These four locations continue to meet the needs of monitoring the highest ozone concentrations, population exposure, and transport into the nonattainment area from south of the U.S.-Mexico border, and to a much lesser extent the west, as well as transport across the populated regions of the area.

Ozone air quality continues to improve in the nonattainment area due to the implementation of District and State programs designed to reduce local and statewide ozone precursor emissions and ozone formation; therefore, no additional ozone or ozone precursor monitoring is planned or needed for the Imperial County nonattainment area at this time.

4.4 Kern County (Eastern Kern)

Eastern Kern portion of Kern County has been designated as a nonattainment area for all three federal 8-hour ozone standards and the classifications are listed in the table below.

1997 Standard (0.08 ppm)	2008 Standard (0.075 ppm)	2015 Standard (0.070 ppm)
Moderate	Serious	Moderate

Ozone concentrations in the Eastern Kern nonattainment area are overwhelmingly the result of transport from neighboring extreme nonattainment areas to the west and south.

CARB operates one monitoring station in the nonattainment area (Mojave-923 Poole Street) and this location is able to capture the transport of ozone from both directions. The monitoring site is also positioned well to measure the highest ozone concentrations and assess population exposure in the central portion of the area.

However, to more fully understand the contribution from each of the upwind nonattainment areas toward ozone concentrations at the Mojave-Poole site, additional ozone monitors along the transport paths to the west and south could potentially be beneficial. There is also a lack of upper air measurements and mixing height information in the Mojave Desert, including the Eastern Kern portion of the desert; therefore, additional air pollutant and meteorological monitoring should be considered and discussed in the future by CARB and the Eastern Kern Air Pollution Control District.

Even though there is limited ambient, ground-level pollutant monitoring and some difficulty proportioning the contribution of transported ozone into the Eastern Kern region from neighboring nonattainment areas, these factors are not critical for reducing ozone in the region because ozone concentrations in Eastern Kern are transport-dominated, rather than locally generated. Without additional understanding of ozone transport, ozone concentrations are expected to continue to gradually decrease in Eastern Kern due to the implementation of District and State programs designed to reduce local and statewide ozone precursor emissions and ozone formation.

4.5 Los Angeles-San Bernardino Counties (Western Mojave Desert)

The Western Mojave Desert has been designated as a nonattainment area for all three federal 8-hour ozone standards and the classifications are listed in the table below.

1997 Standard (0.08 ppm)	2008 Standard (0.075 ppm)	2015 Standard (0.070 ppm)
Extreme	Extreme	Extreme

Ozone concentrations in the Western Mojave Desert are overwhelmingly the result of transport from the extreme nonattainment area to the south; therefore implementing a more extensive network of ozone and ozone precursor monitors is not necessary for understanding why ozone concentrations are high in the Western Mojave Desert nonattainment area. Additional air quality and meteorological monitoring could support a better understanding of the spatial extent of ozone, more fully understanding transport mechanisms, and support modeling, but the current ozone monitoring network appears to be adequate for monitoring the highest ozone concentrations and evaluating population exposure.

Despite the extreme ozone classification, maximum 8-hour ozone concentrations and the number of exceedances continue to decline in the nonattainment area due to the implementation of District and State programs designed to reduce local and statewide ozone precursor emissions and ozone formation; therefore, no additional ozone or

ozone precursor monitoring is planned for the Western Mojave Desert nonattainment area at this time.

4.6 Los Angeles-South Coast Air Basin

The South Coast Air Basin (SoCAB) has been designated as a nonattainment area for all three federal 8-hour ozone standards and the classifications are listed in the table below.

1997 Standard (0.08 ppm)	2008 Standard (0.075 ppm)	2015 Standard (0.070 ppm)
Extreme	Extreme	Extreme

Ozone concentrations in the SoCAB are generally the result of local emissions and ozone formation and intra-regional transport. Ozone and ozone precursor monitoring has occurred in the SoCAB for many decades, providing an extensive data record for assessing air quality trends throughout the large area. In addition, the network of monitors greatly exceeds minimum requirements and the thorough spatial coverage of the network allows ozone concentrations to be monitored in all of the various zones within the SoCAB.

The SCAQMD operates two NCore sites and six PAMS to aide in the understanding of ozone formation processes and transport within the nonattainment area. The SCAQMD plans to continue running all of the sites and add monitoring equipment at the NCore sites, if needed, to meet the new requirements.

Furthermore, the District operates multiple upper-air radar wind profilers and RASS for evaluating the vertical structure of winds and temperatures within the nonattainment area. The SCAQMD has submitted a waiver request to the U.S. EPA to use these instruments and the ceilometers at the Los Angeles and Ontario international airports to assess mixing heights due to space and environmental limitations at the NCore sites. For similar reasons, the SCAQMD has also submitted a waiver request to use precipitation measurements from National Weather Service, Federal Aviation Administration, the University of Southern California, and Riverside Municipal Airport locations to meet that monitoring requirement.

Overall, no additional monitoring sites are needed within the South Coast Air Basin nonattainment area at this time to meet regulatory requirements or increase understanding of ozone formation and transport within the area.

4.7 Mariposa County

The Mariposa County nonattainment area is included in this EMP because of the designation to a classification of Moderate for the 1997 and 2008 federal 8-hour ozone standards. Classifications for each of the ozone standards are listed in the table below.

1997 Standard (0.08 ppm)	2008 Standard (0.075 ppm)	2015 Standard (0.070 ppm)
Moderate	Moderate	Marginal

* Note: For the 1997 standard, Mariposa County and Tuolumne County were combined into the Southern Mountain Counties nonattainment area

Ozone concentrations in Mariposa County are overwhelmingly the result of transport from neighboring nonattainment areas to the west; therefore implementing a more extensive network of ozone and ozone precursor monitors would not provide any significant additional information.

CARB operates one of two monitoring sites in the nonattainment area (Jerseydale-6440 Jerseydale), while the National Park Service operates the other site. The two locations continue to meet the needs of monitoring the highest ozone concentrations and population exposure across the area.

Ozone air quality continues to improve in the nonattainment area due to the implementation of District and State programs designed to reduce local and statewide ozone precursor emissions and ozone formation; therefore, no additional ozone or ozone precursor monitoring is planned or needed for the Mariposa County nonattainment area at this time.

4.8 Nevada County (Western Part)

Western Nevada County has been designated as a nonattainment area for all three federal 8-hour ozone standards and the classifications are listed in the table below.

1997 Standard (0.08 ppm)	2008 Standard (0.075 ppm)	2015 Standard (0.070 ppm)
Moderate	Serious	Moderate

Ozone concentrations in Western Nevada County are overwhelmingly the result of transport from neighboring nonattainment areas to the southwest; therefore implementing a more extensive network of ozone and ozone precursor monitors is not specifically needed to understand why there are high concentrations in the area. However, having enough monitors to understand the spatial extent of ozone, transport patterns, population exposure in various communities in a nonattainment area classified as Moderate or above is critical.

The Northern Sierra Air Quality Management District (NSAQMD) operates the only functioning monitoring site in the nonattainment area (Grass Valley-Litton Building) and this location appears to meet the needs of monitoring the highest ozone concentrations and population exposure in the largest city. CARB also has an ozone monitoring site (White Cloud Mountain) east of the NSAQMD site which operated through 2015, but

due to numerous site-related problems, the site has not been able to collect any data since that time and will not be able to return to the location due to site modifications by the property owner. CARB will try to relocate the White Cloud Mountain site to an appropriate location to provide additional data and better understand the ozone issues within this Moderate/Serious nonattainment area.

Ozone air quality had improved in the nonattainment area for many years due to the implementation of District and State programs designed to reduce local and statewide ozone precursor emissions and ozone formation. However, recent years have seen ozone concentrations remain flat or even begin to increase slightly; therefore, at a minimum, at least one additional ozone monitor is needed for the Western Nevada County nonattainment area. CARB intends to meet this need by finding a suitable replacement location for the White Cloud Mountain site.

4.9 Riverside County (Coachella Valley)

The Coachella Valley has been designated as a nonattainment area for all three federal 8-hour ozone standards and the classifications are listed in the table below.

1997 Standard (0.08 ppm)	2008 Standard (0.075 ppm)	2015 Standard (0.070 ppm)
Extreme	Severe-15	Severe-15

Ozone concentrations in the Coachella Valley are overwhelmingly the result of transport from neighboring South Coast Air Basin nonattainment area to the west; therefore implementing a more extensive network of ozone and ozone precursor monitors would not provide any significant additional information.

Ozone air quality continues to improve in the nonattainment area due to the implementation of District and State programs designed to reduce local and statewide ozone precursor emissions and ozone formation; therefore, no additional ozone or ozone precursor monitoring is planned or needed for the Coachella Valley nonattainment area at this time.

4.10 Sacramento Metropolitan Area

The Sacramento Metropolitan Area has been designated as a nonattainment area for all three federal 8-hour ozone standards and the classifications are listed in the table below.

1997 Standard (0.08 ppm)	2008 Standard (0.075 ppm)	2015 Standard (0.070 ppm)
Severe-15	Severe-15	Moderate

Ozone concentrations in the Sacramento Metropolitan Area are largely derived from local emissions and formation and transport of the ozone throughout the region is driven by local wind flow patterns and terrain. The Sacramento Metropolitan Air Quality Management District (SMAQMD), along with CARB, the Yolo-Solano Air Quality Management District, and the Placer County Air Pollution Control District operate 15 ozone monitoring sites across the area and many of those include ozone precursor monitoring as well. This network has very good spatial coverage, captures high concentrations during all typical, summertime weather patterns, and has long data records for assessing trends, all of which contribute to a thorough understanding of ozone formation and transport into and through the nonattainment area.

The SMAQMD operates one NCore site (Del Paso Manor) and three PAMS: Elk Grove-Bruceville Road, Folsom-Natoma Street, and Del Paso Manor. To meet the new PAMS requirements, the SMAQMD will only need to add hourly VOC measurements to the NCore and will operate the ceilometer at the Elk Grove site through a waiver obtained from U.S. EPA.

To offset the added demands at the NCore site and save staff time and resources, the SMAQMD plans to discontinue speciated VOC measurements at the Elk Grove and Folsom PAMS as well as reactive oxides of nitrogen at the Folsom PAMS. However, all other PAMS parameters will continue to be monitored.

4.11 San Diego County

San Diego County has been designated as a nonattainment area for all three federal 8-hour ozone standards and the classifications are listed in the table below.

1997 Standard (0.08 ppm)	2008 Standard (0.075 ppm)	2015 Standard (0.070 ppm)
Moderate	Serious	Moderate

The SDCAPCD operates ozone, ozone precursor, and meteorological monitors throughout the nonattainment area and is adequately able to capture the highest concentrations, evaluate transport mechanisms, and assess ozone concentrations and population exposure in most of the majorly populated areas.

Additionally, the District has operated two PAMS within the nonattainment area, one at the El Cajon-Lexington site to understand ozone formation and transport near the center of the main metropolitan area and another at Camp Pendleton for monitoring transport into the County from over the ocean to the west/northwest.

To meet the new PAMS monitoring requirements, the SDCAPCD plans to monitor all parameters at the Lexington NCore site, but has requested a waiver from U.S. EPA to operate the ceilometer at the soon-to-be-rebuilt Escondido monitoring site due to space limitations at the Lexington site.

4.12 San Joaquin Valley

The San Joaquin Valley has been designated as a nonattainment area for all three federal 8-hour ozone standards and the classifications are listed in the table below.

1997 Standard (0.08 ppm)	2008 Standard (0.075 ppm)	2015 Standard (0.070 ppm)
Extreme	Extreme	Extreme

Due to the severity of the ozone concentrations in the San Joaquin Valley, the SJVAPCD has operated six PAMS within the nonattainment area to help increase understanding of ozone formation and transport in the Valley. The PAMS sites are located in and around the two cities with the highest ozone concentrations, with three sites in the Fresno area and three sites in the Bakersfield area. Each area has had three sites to account for the previous PAMS types: upwind, maximum ozone concentration, and downwind.

The SJVAPCD intends to continue operating all of the PAMS sites to provide long-term data records for the wide range of parameters collected at each site.

CARB operates the NCore monitoring site (Fresno-Garland) within the San Joaquin Valley nonattainment area and does not currently have to install PAMS because the CBSA population has not officially reached 1,000,000 yet. However, it is anticipated that the population will exceed that threshold with the 2020 U.S. Census, at which time CARB will work with the SJVAPCD to determine if PAMS will be added to the NCore site or if the new required equipment will be added to one of the Fresno-area PAMS. If the second option is chosen, CARB would prepare a waiver request to U.S. EPA requesting permission to use the long-standing PAMS site to meet the monitoring requirement.

4.13 Tuolumne County

The Tuolumne County nonattainment area is included in this EMP only because of the designation to a classification of Moderate for the 1997 federal 8-hour ozone standard. Classifications for each of the ozone standards are listed in the table below.

1997 Standard (0.08 ppm)	2008 Standard (0.075 ppm)	2015 Standard (0.070 ppm)
Moderate	Attainment/Unclassifiable	Marginal

* Note: For the 1997 standard, Mariposa County and Tuolumne County were combined into the Southern Mountain Counties nonattainment area

Ozone concentrations in Tuolumne County are overwhelmingly the result of transport from neighboring nonattainment areas to the west/northwest; therefore implementing a

more extensive network of ozone and ozone precursor monitors would not provide any significant additional information.

CARB operates one monitoring site in the nonattainment area (Sonora-Barretta Street) and this location continues to meet the needs of monitoring the highest ozone concentrations and population exposure.

Ozone air quality continues to improve in the nonattainment area due to the implementation of District and State programs designed to reduce local and statewide ozone precursor emissions and ozone formation; therefore, no additional ozone or ozone precursor monitoring is planned or needed for the Tuolumne County nonattainment area at this time.

4.14 Ventura County

Ventura County has been designated as a nonattainment area for all three federal 8-hour ozone standards and the classifications are listed in the table below.

1997 Standard (0.08 ppm)	2008 Standard (0.075 ppm)	2015 Standard (0.070 ppm)
Serious	Serious	Serious

The Ventura County Air Pollution Control District (VCAPCD) has operated two PAMS for many years because the nonattainment area was classified as Serious as part of the designation process for previous ozone standards. Between these two sites and ozone, ozone precursor, and surface and upper-air meteorological measurements at sites throughout the nonattainment area, the VCAPCD was able to develop a thorough understanding of ozone formation processes and transport patterns across the County. High ozone concentrations are limited to inland valleys and are the result of local emissions in some areas and a combination of local emissions and ozone and ozone precursors from an extreme nonattainment area to the east; therefore; implementing a more extensive network of ozone and ozone precursor monitors would not provide any significant additional information or understanding.

Furthermore, due to the significant resources required to operate and maintain VOC measurements at the PAMS, the age of equipment, and changes to the monitoring regulations, the VCAPCD terminated VOC sampling at both PAMS in 2018 with U.S. EPA's approval. Ventura County does not operate a NCore site, nor does the CBSA have a population of over 1,000,000, so the only PAMS-related requirement is to prepare an EMP due to the Serious classification for the nonattainment area.

Ozone air quality continues to improve in the nonattainment area due to the implementation of District and State programs designed to reduce local and statewide ozone precursor emissions and ozone formation; therefore, no additional ozone or ozone precursor monitoring is planned or needed for the Ventura County nonattainment area at this time.

5.0 Special Studies

5.1 Additional Upper Air and VOC Speciation Measurements in California

The California Global Warming Solutions Act of 2006 (AB 32) requires CARB to report and verify the statewide greenhouse gas (GHG) emissions inventory. To support this program, CARB has been working to establish a GHG and ceilometer monitoring network throughout California to evaluate and track the trends in GHG emissions.

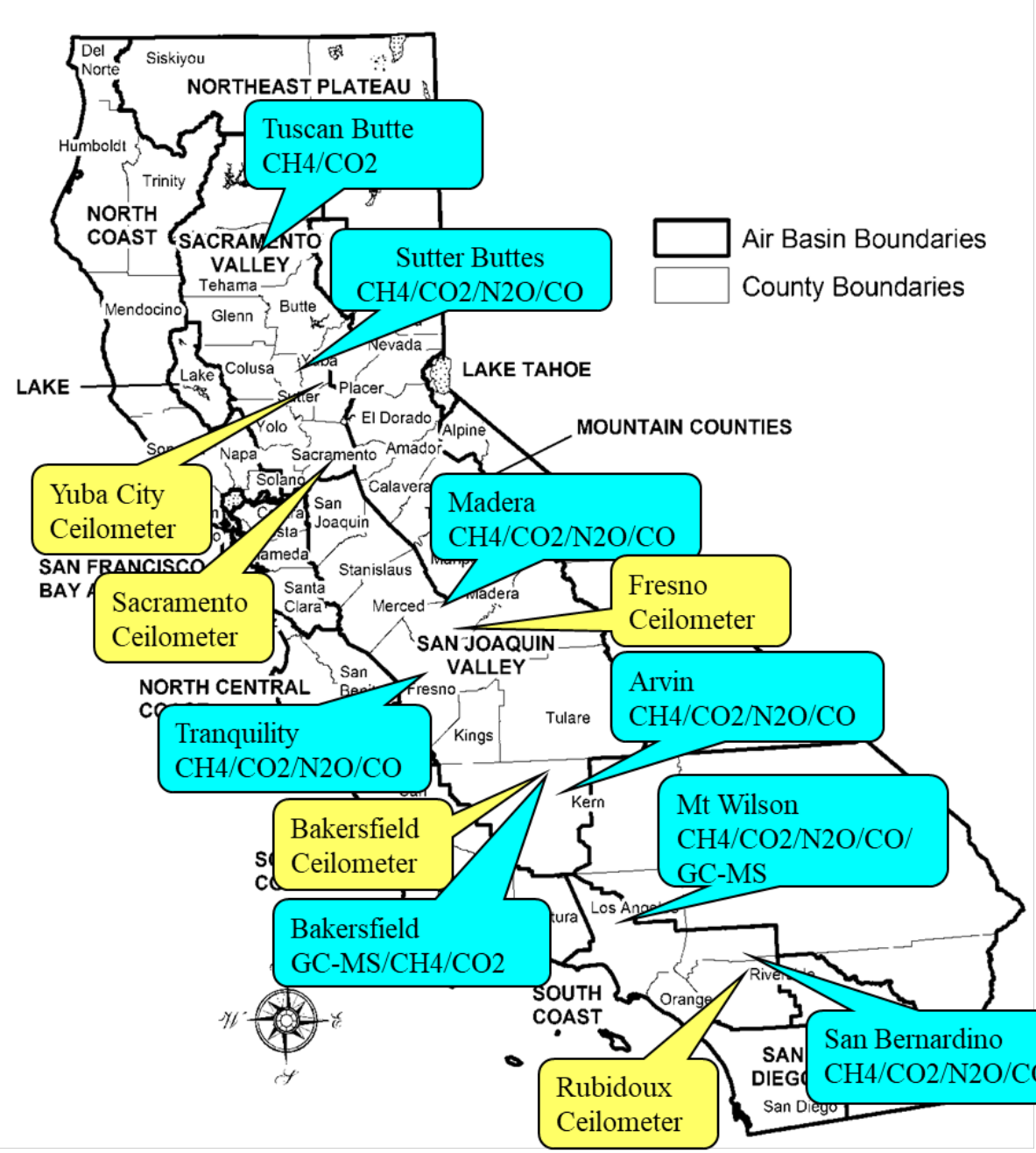
The CARB GHG monitoring network (Figure 5.1) currently has eight stations equipped with state-of-the-art instruments to measure methane, carbon dioxide, nitrous oxide, and carbon monoxide (CO). In order to better understand the statewide emissions inventory and meteorological modeling, CARB installed a network of five ceilometers throughout the state to measure planetary boundary layer heights (PBLH). Ceilometers (Figure 5.2) use LIDAR (Light Detection and Ranging) to emit short light pulses into the atmosphere which are scattered back by aerosols and air molecules. The pulse flight time and intensity of a backscattered light signal are then analyzed. Using this data as input, aerosol (PBLH) or cloud layers can be determined (Figure 5.3). The PBLH measurements are critical for improving ozone and secondary aerosol formation, GHG emissions, and meteorological modeling.

To maximize the extent of the project, CARB is working to expand the network with three new GHG stations and two ceilometer sites in San Joaquin Valley.

In addition, CARB is preparing to conduct measurements of short-lived climate pollutants (SLCPs) and a suite of VOCs with a target start time of late 2019/early 2020 at Bakersfield and Mt. Wilson sites. The Bakersfield site is selected for the first two years while CARB will review the data and determine a long-term site in central valley. Both sites will be equipped with gas chromatography-mass spectrometers (GC-MS), which simultaneously measure SLCPs and VOCs in real time. SLCPs contribute to climate change immensely per molecule emitted and can be used to track anthropogenic emission sources. SLCP measurements, mainly fluorinated and chlorinated gases (Table 5.1), will promote a better understanding of their levels and emissions in California and thus needed actions. Together with GHG and the VOC measurements (Table 5.2) will allow CARB to perform source attribution analysis and photochemical simulation modeling for ozone and secondary aerosol formation.

CARB also collaborates with multiple research institutions to expand the coverage of the GHG and VOC monitoring network in California. Collaborating agencies include the Jet Propulsion Laboratory (JPL, lead for the Megacities Carbon Project), Lawrence Berkeley National Laboratory (LBNL), California Institute of Technology (Caltech), University of California at San Diego, the National Oceanic and Atmospheric Administration (NOAA), the Lawrence Livermore National Laboratory (LLNL), and the Advanced Global Atmospheric Gases Experiment (AGAGE). Collectively, these make up a dense network of GHG and VOC measurements in California (Figures 5.1 and 5.4).

Figure 5.1 Map of GHG and ceilometer monitoring network



(Cyan labels indicate stations with GHG and VOC analyzers, while yellow labels indicate sites with ceilometers)

Figure 5.3 Ceilometer (left) along with air quality samplers in Bakersfield

Figure 5.4 Example Ceilometer Data Plot
(indicates planetary boundary layer height and clouds)

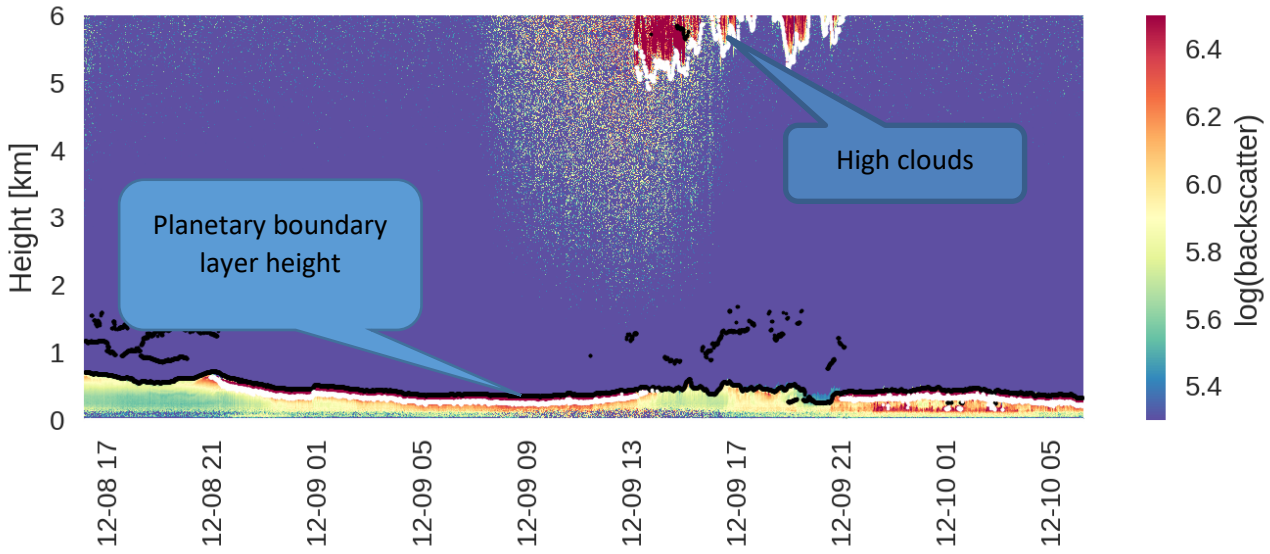


Table 5.1 List of fluorinated and chlorinated compounds to be measured using GC-MS

Type	Compound Name
Halocarbon	CH2FCF3 (HFC-134a, 1,1,1,2-tetrafluoroethane)
	CH3CCl2F (HCFC-141b, 1,1-dichloro-1-fluoroethane)
	CH3CClF2 (HCFC-142b, 1-chloro-1,1-difluoroethane)
	CHClF2 (HCFC-22)
	CBrClF2 (H-1211 bromochlorodifluoromethane)
	CCl3F (CFC-11)
	CCl2FCClF2 (CFC-113)
	CClF2CClF2 (CFC-114)
	HFC-365mfc (1,1,1,3,3-pentafluorobutane)
	HFO-1234yf (2,3,3,3-tetrafluoropropene)
	CH2ClCH2Cl (1,2-dichloroethane)
	CH3Cl (chloroform)
	CCl4 (carbon tetrachloride)
	CCl2CCl2 (tetrachloroethene)
	C2HF5 (HFC-125, pentafluoroethane)
	C2H3F3 (1,1,1-trifluoroethane, HFC-143a)
	CCl2F2 (CFC-12)
	CH3CHF2 (HFC-152a)
	C3HF5Cl2 (HCFC-225)
	CH2F2 (HFC-32) (difluoromethane)
	HFC-227ea (1,1,1,2,3,3,3 heptafluoropropane)
	HFC-236fa (1,1,1,3,3,3-hexafluoropropane)
	HFC-245fa (1,1,1,3,3-pentafluoropropane)
	C5H2F10 (HFC-43, 1,1,1,2,2,3,4,5,5,5-decafluoropentane)
	CH2Cl2 (dichloromethane, DCM)
	CH3CCl3 (1,1,1-trichloroethane, methylchloroform)
	CHClCCl2 (trichloroethylene, TEC)

Table 5.2 List of VOC compounds to be measured using GC-MS

Type	Compound Name
Straight Chain Alkane	ethane
	propane
	n-butane
	n-pentane
	n-hexane
	heptane
	octane
Branched Alkane	i-butane
	2,3-dimethybutane
	i-pentane
	i-hexane
Cyclic Alkane	cyclo-pentane
	cyclo-hexane
Aromatic	benzene
	toluene
	ethylbenzene
	m,p-xylene
	o-xylene
	styrene
	2-ethyltoluene
	3-ethyltoluene
	4-ethyltoluene
	1,2,3-trimethylbenzene
	1,2,4-trimethylbenzene
	1,3,5-trimethylbenzene
Unsaturated Hydrocarbon	ethene
	ethyne
	propene
	1,3-butadiene

Figure 5.4 Photos of GHG monitoring network stations

(upper right-Tranquility; upper left-Sutter Buttes; lower right-San Bernardino; and lower left-instrument rack at San Bernardino)

5.2 Recent Research Projects Funded by CARB

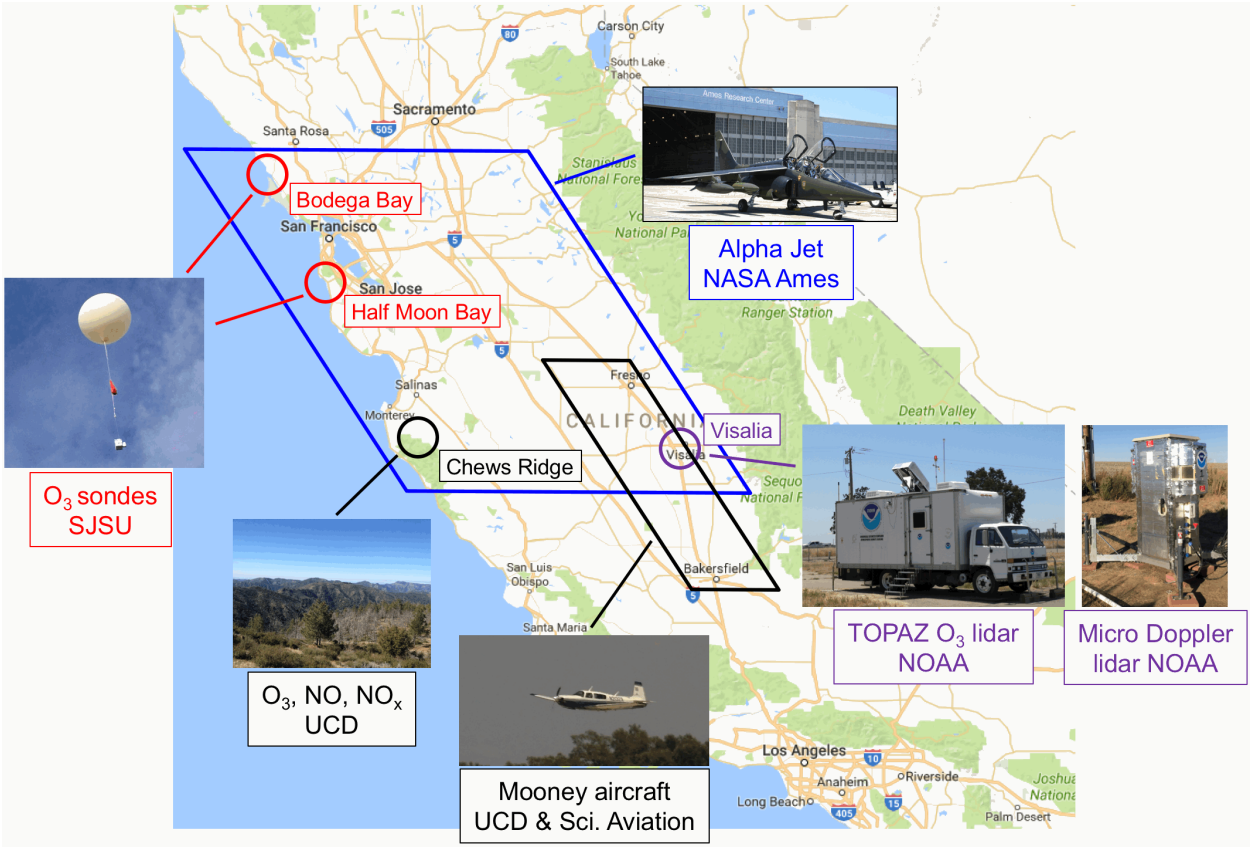
In addition to routine measurements, CARB has funded various research projects to help better understand ozone formation and transport in California. For instance, CARB funded the California Baseline Ozone Transport Study (CABOTS), which was a major air quality study in California conducted by San Jose State University (SJSU), the National Oceanic and Atmospheric Administration (NOAA), the National Aeronautic and Space Administration (NASA-Ames), the University of California Davis (UCD), and CARB. The field study took place from mid-May to mid-August of 2016. During this period ozonesondes were launched at Bodega Bay and Half Moon Bay. The ozonesondes provided daily ozone vertical profiles which will be compared with global models.

To provide ozone profiles up to 6 km above ground level in the San Joaquin Valley at the Visalia Airport, NOAA deployed a LIDAR for two 3 week periods, May 29 to June 18, 2016 and July 18 to August 7, 2016. Two NASA aircraft and two additional small planes were to collect aloft data to help characterize ozone above the San Joaquin Valley and Bay Area.

The study addressed important scientific questions on transport and air quality in California. The air quality and meteorological data collected during CABOTS will improve CARB's modeling of criteria air pollutants and precursors used in SIP development and our understanding of the atmospheric formation and transport of ozone.

CARB is also funding the ozonesonde launches at Trinidad Head for vertical ozone profiling and CalNext 2020-2021 to understand ozone sensitivity and effective control measures in the South Coast Air Basin.

Figure 5.5 California Baseline Ozone Transport Study 2016



6.0 Conclusion

All of the nonattainment areas in California meet or exceed minimum monitoring requirements for ozone and have done so for decades, which has enabled air districts and CARB staff to develop a thorough understanding of ozone formation and transport across the State. In addition, new regulatory requirements for PAMS will require minimal changes to the NCore monitoring sites because all of the sites required to operate PAMS currently have PAMS already.

There are a few areas of California, namely the Eastern Kern and the Western Nevada County nonattainment areas, where additional monitoring could provide some additional understanding and supplement the existing monitor in each area by providing continuous data records when there are operational problems and more spatial coverage during high ozone concentration periods.

CARB intends to revise this EMP, as necessary, as part of the 5-year network assessment that will be completed in mid-2020.

Appendix

Table A.1 Ozone Monitoring Sites in California

Site Name	AQS ID	Air Basin	County
White Mountain Research Station	060270002	GBV	Inyo
Death Valley Natl Monument	060270101	GBV	Inyo
Tahoe City-221 Fairway Drive	060611004	LT	Placer
Jackson-Clinton Road	060050002	MC	Amador
San Andreas-Gold Strike Road	060090001	MC	Calaveras
Cool-Highway 193	060170020	MC	El Dorado
Echo Summit	060170012	MC	El Dorado
Placerville-Gold Nugget Way	060170010	MC	El Dorado
Jerseydale - 6440 Jerseydale	060430006	MC	Mariposa
Yosemite Natl Park-Turtleback Dome	060430003	MC	Mariposa
Grass Valley-Litton Building	060570005	MC	Nevada
Colfax-City Hall	060610004	MC	Placer
Sonora-Barretta Street	061090005	MC	Tuolumne
Mojave-923 Poole Street	060290011	MD	Kern
Lancaster-43301 Division Street	060379033	MD	Los Angeles
Blythe-445 West Murphy Street	060659003	MD	Riverside
Joshua Tree National Park-Pinto Wells	060651004	MD	Riverside
Barstow	060710001	MD	San Bernardino
Hesperia-Olive Street	060714001	MD	San Bernardino
Joshua Tree NP - Black Rock	060719002	MD	San Bernardino
Mojave National Preserve	060711001	MD	San Bernardino
Phelan-Beekley Road and Phelan Road	060710012	MD	San Bernardino
Trona-Athol and Telegraph	060711234	MD	San Bernardino
Victorville-14306 Park Avenue	060710306	MD	San Bernardino
Eureka-Jacobs	060231004	NC	Humboldt
Ukiah-E Gobbi Street	060450008	NC	Mendocino
Healdsburg-Municipal Airport	060971003	NC	Sonoma
Carmel Valley-Ford Road	060530002	NCC	Monterey
King City-415 Pearl Street	060530008	NCC	Monterey
Salinas-High School	060531003	NCC	Monterey
Hollister-Fairview Road	060690002	NCC	San Benito
Pinnacles National Monument	060690003	NCC	San Benito
Santa Cruz AMS	060870007	NCC	Santa Cruz
Yreka-Foothill Drive	060932001	NEP	Siskiyou
Azusa	060370002	SC	Los Angeles

Site Name	AQS ID	Air Basin	County
Compton-700 North Bullis Road	060371302	SC	Los Angeles
Glendora-Laurel	060370016	SC	Los Angeles
Long Beach-2425 Webster Street	060374006	SC	Los Angeles
Los Angeles-North Main Street	060371103	SC	Los Angeles
Los Angeles-Westchester Parkway	060375005	SC	Los Angeles
Pasadena-S Wilson Avenue	060372005	SC	Los Angeles
Pico Rivera-4144 San Gabriel	060371602	SC	Los Angeles
Pomona	060371701	SC	Los Angeles
Reseda	060371201	SC	Los Angeles
Santa Clarita	060376012	SC	Los Angeles
West Los Angeles-VA Hospital	060370113	SC	Los Angeles
Anaheim-Pampas Lane	060590007	SC	Orange
La Habra	060595001	SC	Orange
Mission Viejo-26081 Via Pera	060592022	SC	Orange
Banning Airport	060650012	SC	Riverside
Lake Elsinore-W Flint Street	060659001	SC	Riverside
Mira Loma Van Buren	060658005	SC	Riverside
Perris	060656001	SC	Riverside
Riverside-Rubidoux	060658001	SC	Riverside
Winchester-33700 Borel Road	060650016	SC	Riverside
Crestline	060710005	SC	San Bernardino
Fontana-Arrow Highway	060712002	SC	San Bernardino
Redlands-Dearborn	060714003	SC	San Bernardino
San Bernardino-4th Street	060719004	SC	San Bernardino
Upland	060711004	SC	San Bernardino
Atascadero-Lift Station #5	060798002	SCC	San Luis Obispo
Carrisa Plains School	060798006	SCC	San Luis Obispo
Morro Bay	060793001	SCC	San Luis Obispo
Nipomo-Regional Park	060794002	SCC	San Luis Obispo
Paso Robles-Santa Fe Avenue	060790005	SCC	San Luis Obispo
Red Hills	060798005	SCC	San Luis Obispo
San Luis Obispo-3220 South Higuera St	060792006	SCC	San Luis Obispo
Carpinteria-Gobernador Road	060831021	SCC	Santa Barbara
El Capitan Beach	060830008	SCC	Santa Barbara
Nojoqui	060831018	SCC	Santa Barbara
Goleta-Fairview	060832011	SCC	Santa Barbara
Las Flores Canyon #1	060831025	SCC	Santa Barbara
Lompoc-HSandP	060831013	SCC	Santa Barbara
Lompoc-S H Street	060832004	SCC	Santa Barbara

Site Name	AQS ID	Air Basin	County
Paradise Road-Los Padres National Forest	060831014	SCC	Santa Barbara
Santa Barbara-700 East Canon Perdido	060830011	SCC	Santa Barbara
Santa Maria-906 S Broadway	060831008	SCC	Santa Barbara
Santa Ynez-Airport Road	060833001	SCC	Santa Barbara
Vandenberg Air Force Base-STS Power	060834003	SCC	Santa Barbara
El Rio-Rio Mesa School #2	061113001	SCC	Ventura
Ojai-Ojai Avenue	061111004	SCC	Ventura
Piru-3301 Pacific Avenue	061110009	SCC	Ventura
Simi Valley-Cochran Street	061112002	SCC	Ventura
Thousand Oaks-Moorpark Road	061110007	SCC	Ventura
Alpine-Victoria Drive	060731006	SD	San Diego
Camp Pendleton	060731008	SD	San Diego
Chula Vista	060730001	SD	San Diego
El Cajon-Lexington Elementary School	060731022	SD	San Diego
Otay Mesa-Donovan	060731014	SD	San Diego
San Diego-Kearny Villa Road	060731016	SD	San Diego
Berkeley-Aquatic Park	060010013	SFB	Alameda
Hayward-La Mesa	060012001	SFB	Alameda
Livermore-793 Rincon Avenue	060010007	SFB	Alameda
Oakland-9925 International Blvd	060010009	SFB	Alameda
Oakland-West	060010011	SFB	Alameda
Bethel Island Road	060131002	SFB	Contra Costa
Concord-2956-A Treat Blvd	060130002	SFB	Contra Costa
San Pablo-Rumrill Blvd	060131004	SFB	Contra Costa
San Ramon-9885 Alcosta Bl	060132007	SFB	Contra Costa
San Rafael	060410001	SFB	Marin
Napa-Valley College	060550004	SFB	Napa
San Francisco-Arkansas Street	060750005	SFB	San Francisco
Redwood City	060811001	SFB	San Mateo
Gilroy-9th Street	060850002	SFB	Santa Clara
Los Gatos	060851001	SFB	Santa Clara
San Jose-Jackson Street	060850005	SFB	Santa Clara
San Martin-Murphy Avenue	060852006	SFB	Santa Clara
Fairfield-Chadbourne Road	060950005	SFB	Solano
Vallejo-304 Tuolumne Street	060950004	SFB	Solano
Sebastopol-103 Morris Street	060970004	SFB	Sonoma
Clovis-N Villa Avenue	060195001	SJV	Fresno
Fresno-Drummond Street	060190007	SJV	Fresno
Fresno-Garland	060190011	SJV	Fresno

Site Name	AQS ID	Air Basin	County
Fresno-Sierra Skypark #2	060190242	SJV	Fresno
Parlier	060194001	SJV	Fresno
Tranquility-32650 West Adams Avenue	060192009	SJV	Fresno
Arvin-Di Giorgio	060295002	SJV	Kern
Bakersfield-5558 California Avenue	060290014	SJV	Kern
Bakersfield-Municipal Airport	060292012	SJV	Kern
Edison	060290007	SJV	Kern
Maricopa-Stanislaus Street	060290008	SJV	Kern
Oildale-3311 Manor Street	060290232	SJV	Kern
Shafter-Walker Street	060296001	SJV	Kern
Hanford-S Irwin Street	060311004	SJV	Kings
Madera-28261 Avenue 14	060392010	SJV	Madera
Madera-Pump Yard	060390004	SJV	Madera
Merced-S Coffee Avenue	060470003	SJV	Merced
Stockton-Hazelton Street	060771002	SJV	San Joaquin
Tracy-Airport	060773005	SJV	San Joaquin
Modesto-14th Street	060990005	SJV	Stanislaus
Turlock-S Minaret Street	060990006	SJV	Stanislaus
Porterville-1839 Newcomb Street	061072010	SJV	Tulare
Sequoia and Kings Canyon Natl Park	061070009	SJV	Tulare
Sequoia Natl Park-Lower Kaweah	061070006	SJV	Tulare
Visalia-N Church Street	061072002	SJV	Tulare
Calexico-Ethel Street	060250005	SS	Imperial
El Centro-9th Street	060251003	SS	Imperial
Niland-English Road	060254004	SS	Imperial
Westmorland-W 1st Street	060254003	SS	Imperial
Indio-Jackson Street	060652002	SS	Riverside
Joshua Tree NP-Cottonwood #2	060650010	SS	Riverside
Palm Springs-Fire Station	060655001	SS	Riverside
Chico-East Avenue	060070008	SV	Butte
Paradise-4405 Airport Road	060070007	SV	Butte
Colusa-Sunrise Blvd	060111002	SV	Colusa
Willows-720 N Colusa Street	060210003	SV	Glenn
Auburn-11645 Atwood Road	060610003	SV	Placer
Lincoln-2885 Moore Road	060612003	SV	Placer
Roseville-N Sunrise Blvd	060610006	SV	Placer
Elk Grove-Bruceville Road	060670011	SV	Sacramento
Folsom-Natoma Street	060670012	SV	Sacramento
North Highlands-Blackfoot Way	060670002	SV	Sacramento

Site Name	AQS ID	Air Basin	County
Sacramento-Del Paso Manor	060670006	SV	Sacramento
Sacramento-T Street	060670010	SV	Sacramento
Sloughhouse	060675003	SV	Sacramento
Anderson-North Street	060890007	SV	Shasta
Lassen Volcanic Natl Park-Manzanita Lake	060893003	SV	Shasta
Redding-Health Dept Roof	060890004	SV	Shasta
Shasta Lake-13791 Lake Blvd	060890009	SV	Shasta
Vacaville-Ulatis Drive	060953003	SV	Solano
Sutter Buttes-S Butte	061010004	SV	Sutter
Yuba City-Almond Street	061010003	SV	Sutter
Red Bluff-1834 Walnut Street	061030007	SV	Tehama
Tuscan Butte	061030004	SV	Tehama
Davis-UCD Campus	061130004	SV	Yolo
Woodland-Gibson Road	061131003	SV	Yolo

Table A.2 NOx Monitoring Sites in California

Site Name	AQS ID	Air Basin	County
Lancaster-43301 Division Street	060379033	MD	Los Angeles
Barstow	060710001	MD	San Bernardino
Trona-Athol and Telegraph	060711234	MD	San Bernardino
Victorville-14306 Park Avenue	060710306	MD	San Bernardino
Salinas-High School	060531003	NCC	Monterey
Azusa	060370002	SC	Los Angeles
Compton-700 North Bullis Road	060371302	SC	Los Angeles
Glendora-Laurel	060370016	SC	Los Angeles
Long Beach-2425 Webster Street	060374006	SC	Los Angeles
Long Beach-Route 710 Near Road	060374008	SC	Los Angeles
Los Angeles-North Main Street	060371103	SC	Los Angeles
Los Angeles-Westchester Parkway	060375005	SC	Los Angeles
Pasadena-S Wilson Avenue	060372005	SC	Los Angeles
Pico Rivera-4144 San Gabriel	060371602	SC	Los Angeles
Pomona	060371701	SC	Los Angeles
Reseda	060371201	SC	Los Angeles
Santa Clarita	060376012	SC	Los Angeles
West Los Angeles-VA Hospital	060370113	SC	Los Angeles
Anaheim-812 W Vermont Street	060590008	SC	Orange
Anaheim-Pampas Lane	060590007	SC	Orange
La Habra	060595001	SC	Orange
Banning Airport	060650012	SC	Riverside
Lake Elsinore-W Flint Street	060659001	SC	Riverside
Mira Loma Van Buren	060658005	SC	Riverside
Riverside-Rubidoux	060658001	SC	Riverside
Fontana-Arrow Highway	060712002	SC	San Bernardino
Ontario-NW Corner I-10 and Etiwanda Ave	060710026	SC	San Bernardino
Ontario-Route 60 Near Road	060710027	SC	San Bernardino
San Bernardino-4th Street	060719004	SC	San Bernardino
Upland	060711004	SC	San Bernardino
Atascadero-Lift Station #5	060798002	SCC	San Luis Obispo
Nipomo-Regional Park	060794002	SCC	San Luis Obispo
Carpinteria-Gobernador Road	060831021	SCC	Santa Barbara
El Capitan Beach	060830008	SCC	Santa Barbara
Nojoqui	060831018	SCC	Santa Barbara
Goleta-Fairview	060832011	SCC	Santa Barbara
Las Flores Canyon #1	060831025	SCC	Santa Barbara

Site Name	AQS ID	Air Basin	County
Lompoc-HSandP	060831013	SCC	Santa Barbara
Lompoc-S H Street	060832004	SCC	Santa Barbara
Paradise Road-Los Padres National Forest	060831014	SCC	Santa Barbara
Santa Maria-906 S Broadway	060831008	SCC	Santa Barbara
Vandenberg Air Force Base-STS Power	060834003	SCC	Santa Barbara
El Rio-Rio Mesa School #2	061113001	SCC	Ventura
Simi Valley-Cochran Street	061112002	SCC	Ventura
Alpine-Victoria Drive	060731006	SD	San Diego
Camp Pendleton	060731008	SD	San Diego
Chula Vista	060730001	SD	San Diego
El Cajon-Lexington Elementary School	060731022	SD	San Diego
Otay Mesa-Donovan	060731014	SD	San Diego
San Diego-11403 Rancho Carmel Dr	060731017	SD	San Diego
San Diego-Kearny Villa Road	060731016	SD	San Diego
Berkeley-Aquatic Park	060010013	SFB	Alameda
Livermore-793 Rincon Avenue	060010007	SFB	Alameda
Oakland-9925 International Blvd	060010009	SFB	Alameda
Oakland-Laney College	060010012	SFB	Alameda
Oakland-West	060010011	SFB	Alameda
Pleasanton-Owens Ct	060010015	SFB	Alameda
Bethel Island Road	060131002	SFB	Contra Costa
Concord-2956-A Treat Blvd	060130002	SFB	Contra Costa
San Pablo-Rumrill Blvd	060131004	SFB	Contra Costa
San Ramon-9885 Alcosta Bl	060132007	SFB	Contra Costa
San Rafael	060410001	SFB	Marin
Napa-Valley College	060550004	SFB	Napa
San Francisco-Arkansas Street	060750005	SFB	San Francisco
Redwood City	060811001	SFB	San Mateo
San Jose-Jackson Street	060850005	SFB	Santa Clara
San Jose-Knox Avenue	060850006	SFB	Santa Clara
Vallejo-304 Tuolumne Street	060950004	SFB	Solano
Sebastopol-103 Morris Street	060970004	SFB	Sonoma
Clovis-N Villa Avenue	060195001	SJV	Fresno
Fresno-Drummond Street	060190007	SJV	Fresno
Fresno-Garland	060190011	SJV	Fresno
Fresno-Sierra Skypark #2	060190242	SJV	Fresno
Parlier	060194001	SJV	Fresno
Bakersfield-5558 California Avenue	060290014	SJV	Kern
Bakersfield-Municipal Airport	060292012	SJV	Kern

Site Name	AQS ID	Air Basin	County
Edison	060290007	SJV	Kern
Shafter-Walker Street	060296001	SJV	Kern
Hanford-S Irwin Street	060311004	SJV	Kings
Madera-Pump Yard	060390004	SJV	Madera
Merced-S Coffee Avenue	060470003	SJV	Merced
Stockton-Hazelton Street	060771002	SJV	San Joaquin
Tracy-Airport	060773005	SJV	San Joaquin
Turlock-S Minaret Street	060990006	SJV	Stanislaus
Visalia-N Church Street	061072002	SJV	Tulare
Calexico-Ethel Street	060250005	SS	Imperial
El Centro-9th Street	060251003	SS	Imperial
Palm Springs-Fire Station	060655001	SS	Riverside
Chico-East Avenue	060070008	SV	Butte
Roseville-N Sunrise Blvd	060610006	SV	Placer
Elk Grove-Bruceville Road	060670011	SV	Sacramento
Folsom-Natoma Street	060670012	SV	Sacramento
Sacramento-Bercut Drive	060670015	SV	Sacramento
Sacramento-Del Paso Manor	060670006	SV	Sacramento
Sacramento-T Street	060670010	SV	Sacramento
Yuba City-Almond Street	061010003	SV	Sutter
Davis-UCD Campus	061130004	SV	Yolo

(Air Basins: GBV=Great Basin Valley; LT=Lake Tahoe; MC=Mountain Counties; Mojave Desert; NC=North Coast; NCC=North Central Coast; NEP=Northeast Plateau; SC=South Coast; SCC=South Central Coast; SD=San Diego; SFB=San Francisco Bay; SJV=San Joaquin Valley; SS=Salton Sea; SV=Sacramento Valley)

APPENDIX E:

Comments and Responses

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Appendix E: Comments and Responses