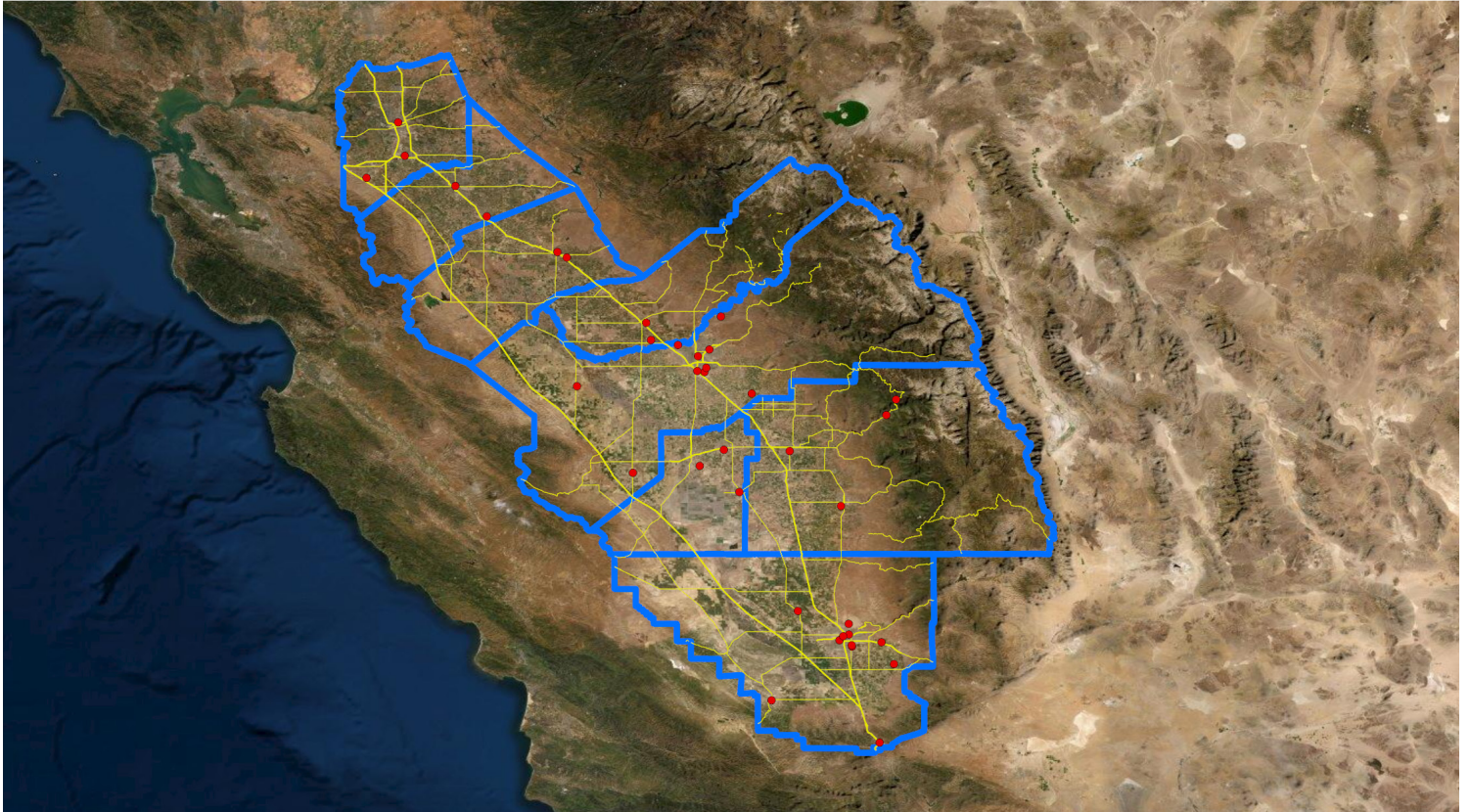




**San Joaquin Valley**  
AIR POLLUTION CONTROL DISTRICT

# 2022 Air Monitoring Network Plan



**San Joaquin Valley Air Pollution Control District**

**2022 Air Monitoring Network Plan**

**August 1, 2022**

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## TABLE OF CONTENTS

The District’s Core Values Exhibited in the Air Monitoring Network .....	vi
<b>EXECUTIVE SUMMARY</b> .....	1
<b>AIR MONITORING NETWORK PLAN REQUIREMENTS</b> .....	3
Monitoring Objectives, Site Types, and Spatial Scales .....	7
Meteorology .....	8
State of the Air Monitoring Network.....	8
<b>POLLUTANT MONITORING REQUIREMENTS</b> .....	11
Ozone .....	11
Photochemical Assessment Monitoring Stations .....	12
Nitrogen Dioxide.....	14
Carbon Monoxide.....	15
Sulfur Dioxide.....	16
Reactive Nitrogen Compounds (NO <sub>y</sub> ).....	17
Toxics.....	17
Detailed Site Information – Gaseous Monitors.....	17
Particulate Matter (PM) .....	20
Detailed Site Information – PM Monitors.....	21
PM Collocation Requirements.....	21
Public Review of Changes to the PM <sub>2.5</sub> Monitoring Network .....	21
PM <sub>10</sub> Monitoring Requirements.....	22
PM <sub>2.5</sub> Chemical Speciation Site Requirements.....	27
NCore.....	30
Non-EPA Federal Monitors .....	31
<b>IMPROVEMENTS AND PLANNED CHANGES TO THE DISTRICT’S AIR MONITORING NETWORK</b> .....	38
<b>DATA SUBMISSION REQUIREMENTS</b> .....	41
<b>ACRONYMS AND ABBREVIATIONS</b> .....	42

## **APPENDICES**

Appendix A: Monitoring Site Descriptions

Appendix B: Detailed Site Information

Appendix C: Nearby Activities and Impacts to Bakersfield-Planz Air Monitoring Site

Appendix D: Notice of Public Comment Period

Appendix E: Comments and Responses

## LIST OF FIGURES

Figure 1	Map of Air Monitoring Sites in the San Joaquin Valley .....	2
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## LIST OF TABLES

Table 1	– Types of Air Monitoring Stations, Monitors, and Networks .....	3
Table 2	– San Joaquin Valley Areas of Representation .....	5
Table 3	– Site Identification .....	5
Table 4	– San Joaquin Valley 2021 Population .....	7
Table 5	– Pollutant Parameters Monitored in the San Joaquin Valley .....	9
Table 6	– Meteorological Parameters Monitored in the San Joaquin Valley .....	10
Table 7	– SLAMS Minimum Ozone Monitoring Requirements .....	11
Table 8	– Ozone Monitoring Requirements for the Valley .....	12
Table 9	– San Joaquin Valley PAMS Network .....	13
Table 10	– San Joaquin Valley SO <sub>2</sub> PWEI Values for 2021 .....	16
Table 11	– Gaseous Monitors .....	18
Table 12	– Gaseous Monitors Monitor Type .....	19
Table 13	– Minimum PM <sub>10</sub> Monitoring Requirements* .....	22
Table 14	– PM <sub>10</sub> Monitoring Requirements for the Valley .....	23
Table 15	– 24-Hour PM <sub>10</sub> highest concentrations at each site^ .....	24
Table 16	– Minimum PM <sub>2.5</sub> Monitoring Requirements.....	25
Table 17	– PM <sub>2.5</sub> Monitoring Requirements for the Valley* .....	25
Table 18	– 24-Hour and Annual PM <sub>2.5</sub> Maximum Design Values.....	26
Table 19	– PM <sub>2.5</sub> Speciation Monitors.....	27
Table 20	– PM Monitors .....	28
Table 21	– PM Monitors Monitor Type .....	29
Table 22	– QA Collocated Monitors.....	30
Table 23	– Fresno-Garland NCore Site.....	31
Table 24	– Non-EPA Federal Monitors.....	31
Table 25	– SLAMS Site Type .....	33
Table 26	– SLAMS Spatial Scale .....	34
Table 27	– SLAMS Basic Monitoring Objective .....	35
Table 28	– SLAMS Current Sampling Frequency .....	36
Table 29	– SPM / Other (PM <sub>2.5</sub> Continuous).....	37
Table 30	– Summary of Proposed Changes to the Air Monitoring Network .....	40

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

### **\* Protection of Public Health \***

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

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

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

### **\* Outstanding Customer Service \***

#### **\* Accountability to the public \***

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

### **\* Open and transparent public processes \***

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

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

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

### **\* Ingenuity and innovation \***

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

### **\* Continuous improvement \***

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

### **\* Recognition of the uniqueness of the San Joaquin Valley \***

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

### **\* Effective and efficient use of public funds \***

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

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## EXECUTIVE SUMMARY

The San Joaquin Valley Air Pollution Control District (SJVAPCD or District) operates an extensive network of air 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 District's ValleyAir mobile app, 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.

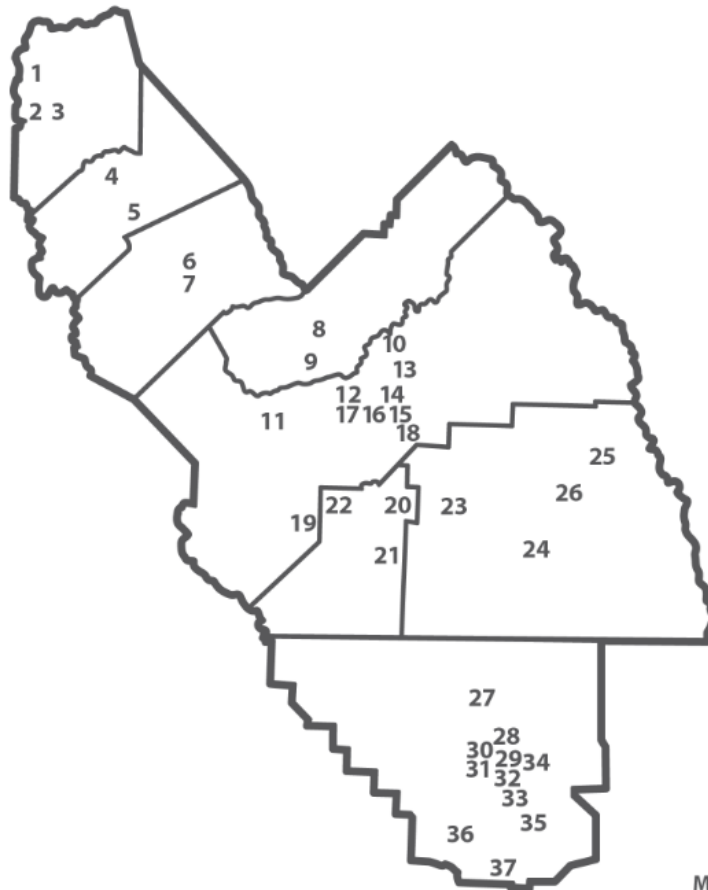
The Valley covers an area of 23,490 square miles, and is prone to one of the most challenging air quality problems in the nation. The Valley is home to over 4,000,000 residents and includes several major metropolitan areas, vast expanses of agricultural land, industrial sources, highways, and schools. The Valley is designated as an attainment area for the federal Lead (Pb), Nitrogen Dioxide (NO<sub>2</sub>), Sulfur Dioxide (SO<sub>2</sub>), and Carbon Monoxide (CO) National Ambient Air Quality Standards (NAAQS or standards), and EPA has found that the Valley has attained the 1997 24-hour PM<sub>2.5</sub> NAAQS for the 2018-2020 period. In addition, the Valley is designated as an attainment/maintenance area for the PM<sub>10</sub> NAAQS (particulate matter less than 10 microns in diameter). The Valley is designated as a nonattainment area for the federal 1997 annual and 2006/2012 PM<sub>2.5</sub> standards and the federal 8-hour ozone (O<sub>3</sub>) 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 two 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 Sites in Operation**



**SAN JOAQUIN COUNTY<sup>^</sup>**

- 1 Stockton-University Park: G, P, F, M, T
- ★ 2 Tracy-Airport: G, M, P, F
- ★ 3 Manteca: P, F, M

**STANISLAUS COUNTY**

- 4 Modesto-14th St: G, M, P, F
- ★ 5 Turlock: G, M, P, F

**MERCED COUNTY**

- ★ 6 Merced-M St: P, F
- ★ 7 Merced-Coffee: G, F, M

**MADERA COUNTY**

- ★ 8 Madera City: G, P, F, M
- ★ 9 Madera-Pump Yard: G, M

**FRESNO COUNTY**

- Other<sup>1</sup>:**  
 Monache Tribe/Foothill Yokut Indians
- ▲ 10 Table Mountain AMS<sup>+</sup>: G, F, P, M
  - ★ 11 Tranquillity: G, F, M
  - ★ 12 Fresno-Sky Park: G, M
  - ★ 13 Clovis: G, M, P, F
  - 14 Fresno-Garland: G, M, P, F, T, N
  - ★ 15 Fresno-Pacific: F
  - ★ 16 Fresno-Drummond: G, P, M
  - ★ 17 Fresno-Foundry: G, M, F
  - ★ 18 Parlier: G, M
  - ★ 19 Huron: F, M

**KINGS COUNTY**

- ★ 20 Hanford: G, F, M, P
- ★ 21 Corcoran: F, M, P

**Other<sup>1</sup>:**

- Tachi Yokut Tribe
- ▲ 22 Santa Rosa Rancheria: G, M, P

**TULARE COUNTY\***

- 23 Visalia-W. Ashland Ave: G, P, F, M
- ★ 24 Porterville: G, F, M

**Other<sup>2</sup>:**

- ▲ 25 Lower Kaweah: A, G, M
- ▲ 26 Ash Mountain: A, G, M, F

**KERN COUNTY**

- 27 Shafter: G, M
- 28 Oildale: G, M, P
- ★ 29 Bakersfield-Golden/M St: F, P
- ★ 30 Bakersfield-Westwind: G, M
- 31 Bakersfield-California: G, M, P, F, T
- ★ 32 Bakersfield-Muni: G, M
- 33 Bakersfield-Airport (Planz): F
- 34 Edison: G, M
- 35 Arvin-Di-Giorgio: G, M
- ★ 36 Maricopa: G, M
- ★ 37 Lebec: F, M

**MONITORING DESIGNATIONS**

- F Fine Particulate (PM2.5)
- G Gaseous
- M Meteorological
- P Particulate (PM10)
- N National Core
- T Toxins

**MONITORING OPERATION**

- ★ Sites operated by the District
- Sites operated by the District & CARB
- Sites operated by CARB
- ▲ Sites operated by other agencies
  - Other<sup>1</sup> Tribal
  - Other<sup>2</sup> National Park Service
- + Air Monitoring Station (AMS)
- <sup>^</sup> Stockton-University Park replaced Stockton-Hazelton
- \* Visalia-W.Ashland Ave replaced Visalia-Church St

As of July 2022



## 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 comment 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	PM <sub>2.5</sub> 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 PM<sub>2.5</sub> monitoring:

- The monitoring network plan must identify which sites are suitable and which are not suitable for comparison against the annual PM<sub>2.5</sub> NAAQS as described in 40 CFR Section 58.30 (see *PM<sub>2.5</sub> Monitors* section of this document).
- The plan must also document how the District provides for public review of changes to the PM<sub>2.5</sub> monitoring network when the change impacts the location of a violating PM<sub>2.5</sub> monitor, or the creation/change to a community monitoring zone.
- The District should submit any public comments received on PM<sub>2.5</sub> 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 PM<sub>2.5</sub> 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 PM<sub>2.5</sub> NAAQS.

**Table 2 – San Joaquin Valley Areas of Representation**

<b>TITLE</b>	<b>CODE</b>
<b>Combined Statistical Area (CSA)</b>	<b>Combined Statistical Area (CSA) Code</b>
Fresno-Madera	260
<b>Metropolitan Statistical Area (MSA)</b>	<b>Core-Based Statistical Area (CBSA) Code</b>
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**

<b>MSA/CBSA: Stockton-Lodi</b>		
<b>County: San Joaquin</b>		
<b>Site Name</b>	<b>AQS ID</b>	<b>Operating Agency</b>
Stockton-Hazelton	06-077-1002	CARB
Stockton-University Park	06-077-1003	CARB
Tracy-Airport	06-077-3005	SJVAPCD
Manteca	06-077-2010	SJVAPCD
<b>MSA/CBSA: Modesto</b>		
<b>County: Stanislaus</b>		
<b>Site Name</b>	<b>AQS ID</b>	<b>Operating Agency</b>
Modesto-14th St	06-099-0005	CARB
Turlock	06-099-0006	SJVAPCD
<b>MSA/CBSA: Merced</b>		
<b>County: Merced</b>		
<b>Site Name</b>	<b>AQS ID</b>	<b>Operating Agency</b>
Merced-M St	06-047-2510	SJVAPCD
Merced-Coffee	06-047-0003	SJVAPCD
<b>MSA/CBSA: Madera</b>		
<b>County: Madera</b>		
<b>Site Name</b>	<b>AQS ID</b>	<b>Operating Agency</b>
Madera-City	06-039-2010	SJVAPCD
Madera-Pump Yard	06-039-0004	SJVAPCD

Table 3 – Site Identification (continued)

<b>MSA/CBSA: Fresno</b>		
<b>County: Fresno</b>		
<b>Site Name</b>	<b>AQS ID</b>	<b>Operating Agency</b>
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
<b>MSA/CBSA: Hanford-Corcoran</b>		
<b>County: Kings</b>		
<b>Site Name</b>	<b>AQS ID</b>	<b>Operating Agency</b>
Hanford-Irwin	06-031-1004	SJVAPCD
Corcoran-Patterson	06-031-0004	SJVAPCD
<b>MSA/CBSA: Visalia-Porterville</b>		
<b>County: Tulare</b>		
<b>Site Name</b>	<b>AQS ID</b>	<b>Operating Agency</b>
Visalia-Church St	06-107-2002	CARB
Visalia-W. Ashland Avenue	06-107-2003	CARB
Porterville	06-107-2010	SJVAPCD
Sequoia-Ash Mountain	06-107-0009	NPS
Sequoia-Lower Kaweah	06-107-0006	NPS
<b>MSA/CBSA: Bakersfield</b>		
<b>County: Kern (Valley Portion)</b>		
<b>Site Name</b>	<b>AQS ID</b>	<b>Operating Agency</b>
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 2021 Population\*

County	Total County Population	Major Urban Area Pop > 100,000	Urban Area Pop < 100,000 and > 50,000
San Joaquin	783,534	Stockton	Lodi, Manteca, Tracy
Stanislaus	555,968	Modesto	Turlock
Merced	284,836	—	Merced
Madera	158,474	—	Madera
Fresno	1,026,681	Fresno, Clovis	—
Kings	152,543	—	Hanford
Tulare	481,733	Visalia	Porterville, Tulare
Kern	Valley Portion**	Bakersfield	Delano
	Entire County		
<b>San Joaquin Valley Total***</b>		<b>4,357,962</b>	

\* Data from California Department of Finance E-1 Population Estimates for Cities, Counties and the State, January 1, 2021, Released May 7, 2021

\*\* 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" population includes the "Kern (Valley Portion)" population only.

### 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 location 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 and efforts that are affected by weather. Such activities include air quality forecasting, PAMS, exceptional events, long-term planning, and pollutant trend assessment. These activities help protect public health, and have increased the public's and media's awareness 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 2021. Additionally, changes that the District may initiate through December 2022 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	✓	✓	✓		✓	✓						✓
Stockton-University Park	✓	✓	✓		✓	✓						✓
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	✓	✓	✓		✓						✓	
Visalia-W. Ashland Avenue	✓	✓	✓		✓							
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	✓	✓	✓	✓		
Stockton-University Park	✓	✓	✓	✓		
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	✓	✓	✓	✓		
Visalia-W. Ashland Avenue	✓	✓	✓	✓		
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 make the area conducive to the formation of elevated ozone levels. Furthermore, winds at ground level or at higher altitudes transport pollutants from other air basins into the Valley, from 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 $\geq$ 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

\* 2015 8-hour ozone NAAQS (70 ppb) is the most stringent for comparison. 85% of 70 ppb is 60 ppb.

**Table 8 – Ozone Monitoring Requirements for the Valley**

MSA	County	2021 Population	Exceptional Event Impacts Included*		Exceptional Event Impacts Removed**		Number of SLAMS required	SLAMS in MSA
			Max 2021 8-hour Ozone Design Value in MSA	≥85% of any ozone NAAQS	Max 2021 8-hour Ozone Design Value in MSA	≥85% of any ozone NAAQS		
Stockton-Lodi	San Joaquin	783,534	68	Yes	68	Yes	2	2
Modesto	Stanislaus	555,968	80	Yes	78	Yes	2	2
Merced	Merced	284,836	76	Yes	75	Yes	1	1
Madera	Madera	158,474	81	Yes	78	Yes	1	2
Fresno	Fresno	1,026,681	84	Yes	79	Yes	2	6
Hanford-Corcoran	Kings	152,543	78	Yes	73	Yes	1	1
Visalia-Porterville	Tulare	481,733	90	Yes	84	Yes	2	4
Bakersfield *	Kern	777,064	93	Yes	83	Yes	2	7

\* Ozone monitoring requirements for the Valley based on data impacted by exceptional events but not representing ambient air quality conditions in the Valley

\*\* Ozone monitoring requirements for the Valley based on data not impacted by exceptional events and representing expected ambient air quality conditions in the Valley

\*\*\* Bakersfield MSA population represents the population within the Valley Air Basin portion of Kern County and is based on census tract data.

## 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 (NO<sub>2</sub>), oxides of nitrogen (NO<sub>x</sub>), and non-methane hydrocarbon (NMH) as well as meteorology. Although the Valley does not exceed federal or state standards for NO<sub>2</sub>, NO<sub>x</sub> 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 forecast 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, NO<sub>2</sub>, 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

\*PAMS equipment may be installed 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. The California 2019 Enhanced Monitoring Plan satisfied the requirements of paragraph 5(h) of Appendix D to 40 CFR part 58. CARB is expected to reassess the EMP as part of the next 5-year network assessment required under 40 CFR 58.10(d).

## Nitrogen Dioxide

As stated in 40 CFR Part 50, the annual average NO<sub>2</sub> standard is 53 ppb, and the 1-hour NO<sub>2</sub> standard is 100 ppb. Within the NO<sub>2</sub> network, one microscale, near-road NO<sub>2</sub> 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 for representing NO<sub>2</sub> concentrations 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) Near-road NO<sub>2</sub> Monitoring Requirement

Per Section 4 of Appendix D in 40 CFR Part 58, one microscale, near-road NO<sub>2</sub> 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 PM<sub>2.5</sub> monitor and one CO monitor be collocated at a near-road NO<sub>2</sub> site.

In order to meet this requirement, the District proactively established two near-road NO<sub>2</sub> monitoring stations in the air monitoring network. One of near-road stations 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 PM<sub>2.5</sub> analyzer to further meet EPA's requirements for near-road air monitoring. Both analyzers became operational in December 2019.

The other near-road NO<sub>2</sub> 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 PM<sub>2.5</sub> analyzers as per EPA's requirements.

### (2) Area-wide NO<sub>2</sub> Monitoring Requirement

Even though the District is not required to have an area-wide NO<sub>2</sub> monitor, the District and CARB operate an extensive NO<sub>2</sub> monitoring network consisting of 18 monitors, including one near-road NO<sub>2</sub> monitor in Fresno and a second near-road NO<sub>2</sub> monitor in Bakersfield. The District locates NO<sub>2</sub> analyzers as required at PAMS sites and generally collocates NO<sub>2</sub> analyzers wherever an ozone monitor is required. Currently, all of the Valley's NO<sub>2</sub> monitors are in compliance with the federal NO<sub>2</sub> standards, including the Fresno and Bakersfield near-road NO<sub>2</sub> monitoring stations, which are focused on capturing peak NO<sub>2</sub> concentrations from heavily trafficked roadways.

### (3) Regional Administrator Required Monitoring

In addition to the minimum NO<sub>2</sub> monitoring requirements, at least 40 additional NO<sub>2</sub> monitors must be placed across the nation as determined and required by the Regional Administrators in collaboration with States. The primary focus is to place the additional

NO<sub>2</sub> monitors in locations to protect susceptible and vulnerable populations. The Regional Administrators may require monitor placement in locations inside or outside of CBSAs where:

- Existing near-road NO<sub>2</sub> monitoring are representative of areas where NO<sub>2</sub> concentrations may be nearing or exceeding the NAAQS
- NO<sub>2</sub> monitoring is not required but NO<sub>2</sub> concentrations may be nearing or exceeding the NAAQS
- Area-wide NO<sub>2</sub> monitoring objectives are not being met due to insufficiency of the minimum monitoring requirements for area-wide NO<sub>2</sub> monitors

Currently, the Parlier site in the Fresno CBSA, and the Bakersfield-Muni site in the Bakersfield CBSA are the sites within the District's network that are designated to meet this requirement. 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.
- CO must be monitored at PAMS Type 2 sites with a trace-level CO monitor.
- One CO monitor is required to be placed at a near-road NO<sub>2</sub> 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.

The District and CARB continue CO monitoring to meet the requirement at the PAMS Type 2 sites (Clovis-Villa and Bakersfield-Muni), and the NCore site (Fresno-Garland) and to supplement related meteorological and criteria pollutant data. Additionally, the District monitors CO at the Fresno-Foundry site since Fresno is the only CBSA within the District that is comprised of more than 1,000,000 people.

## Sulfur Dioxide

In 2010, EPA revised the NAAQS and monitoring requirements for SO<sub>2</sub> 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 SO<sub>2</sub> 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 SO<sub>2</sub> emissions data in the National Emissions Inventory for the counties in each CBSA. The population of a CBSA is multiplied with the total amount of SO<sub>2</sub> 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 – San Joaquin Valley SO<sub>2</sub> PWEI Values for 2021**

County	Total County 2021 Population	SO <sub>2</sub> Tons per Year*	PWEI
San Joaquin	783,534	629	493
Stanislaus	555,968	372	207
Merced	284,836	159	45
Madera	158,474	415	66
Fresno	1,026,681	1,220	1,253
Kings	152,543	111	17
Tulare	481,733	4312	2,077
Kern (Entire Valley)**	914,193	1,319	1,206

\* Source: EPA National Emissions Inventory (2017 National Emissions Inventory: January 2021 Updated Release) <https://www.epa.gov/air-emissions-inventories/2017-national-emissions-inventory-nei-data>

\*\* The National Emissions Inventory contains emissions data at the entire county level; therefore, the entire county population was used for the PWEI and represents a higher, more conservative PWEI value.

As per 40 CFR Part 58, Appendix D to Part 58 – Network Design Criteria of Ambient Air Quality Monitoring, Section 4.4, at least three SO<sub>2</sub> monitors are required in CBSAs with a PWEI value equal to or greater than 1,000,000. CBSAs with a PWEI value equal to or greater than 100,000 but less than 1,000,000, are required to have at least two SO<sub>2</sub> monitors. A minimum of one SO<sub>2</sub> monitor is required in CBSAs with a PWEI value equal to or greater than 5,000, but less than 100,000.

The highest PWEI value is 2,077 for Tulare County, which is far below the minimum PWEI value of 5,000 that would require one monitor. Incidentally, the District does not exceed the federal standard for SO<sub>2</sub> and for CBSAs that do not exceed the federal SO<sub>2</sub> standard there is no required number of SO<sub>2</sub> monitors. As a result, there are no SO<sub>2</sub> monitors required for any CBSA in the District. Regardless, there is one SO<sub>2</sub> monitor



operating within the District's network at the Fresno-Garland site to meet requirements for the NCore Network.

### **Reactive Nitrogen Compounds (NO<sub>y</sub>)**

Reactive Nitrogen Compounds (NO<sub>y</sub>) are among the precursors to ozone and PM<sub>2.5</sub>, and measuring NO<sub>y</sub> is important for understanding ozone photochemistry. As part of the National Ambient Air Monitoring Strategy (NAAMS), EPA requires NO<sub>y</sub> monitoring at 75 locations across the United States in support of a number of objectives. As such, NO<sub>y</sub> monitoring is conducted at NCore sites and in the PAMS program. NO<sub>y</sub> is currently monitored at the NCore site at Fresno-Garland within the District's network to meet this requirement.

### **Toxics**

The airborne toxics program is run by CARB. Ambient toxics measurements are collected at Stockton-Hazleton, 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	FRM	FRM	FEM		
Stockton-University Park	FRM	FRM	FEM		
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			
Visalia-W. Ashland Avenue	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 23.

**Table 12 – Gaseous Monitors Monitor Type**

Site Name	Monitor Type		
	Ozone	NO2	CO
Stockton-Hazelton	SLAMS	SLAMS	SLAMS
Stockton-University Park	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	
Visalia-W. Ashland Avenue	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 23.

## 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 (PM<sub>10</sub>) and the smaller subset that is 2.5 microns or less in diameter (PM<sub>2.5</sub>).

To better understand the influence of meteorology, natural events, and sources of emissions on the Valley's PM<sub>2.5</sub> 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) PM<sub>10</sub> sites and 50 SPM PM<sub>2.5</sub> 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.

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.

FEM monitors are often a real-time monitors that have been designated by EPA as being equivalent to FRM monitors. FEMs satisfy both the "NAAQS Comparison" objective and the "Timely/Public" objective. Beta Attenuation Monitors (BAM) and Tapered Element Oscillating Microbalance (TEOM) monitors are continuous, near real-time monitors that provide the hourly PM<sub>2.5</sub> and PM<sub>10</sub> data used in AQI forecasts, Smoke Management System (SMS) burn allocations, hazard reduction and prescribed burning allocations and, residential wood burning declarations. The hourly PM<sub>2.5</sub> 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. As such these monitors are designated as Non-FEM. The District operates four PM<sub>2.5</sub> monitors

(parameter code 88502) as non-FEM Special Purpose Monitors (SPMs). These analyzers have not been certified by EPA as comparable to the PM<sub>2.5</sub> 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 (SCC) PM<sub>2.5</sub> inlet instead of a Very Sharp Cut Cyclone (VSCC) PM<sub>2.5</sub> inlet. Finally, some of these monitors do not support the approved software to operate in a manner comparable to the NAAQS. While these monitors are non-FEMs, they produce valuable data that is of sufficient quality for their intended purposes. All other required PM<sub>2.5</sub> 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 PM<sub>2.5</sub> NAAQS.

The four Non-FEM PM<sub>2.5</sub> monitors operating 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). 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.

### **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, and Table 22 contains details on those monitors.

### **Public Review of Changes to the PM<sub>2.5</sub> Monitoring Network**

Public input is required whenever the District proposes to move an existing violating PM<sub>2.5</sub> 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 PM<sub>2.5</sub>

network. The public is provided 30 days to comment on the Air Monitoring Network Plan and any PM<sub>2.5</sub> 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 PM<sub>2.5</sub> network that occur outside the Air Monitoring Network Plan process, the District will post the required documentation on its website and seek public comment.

## PM<sub>10</sub> Monitoring Requirements

The San Joaquin Valley has been redesignated to attainment for PM<sub>10</sub>, and the District's 2007 PM<sub>10</sub> Maintenance Plan and ongoing PM<sub>10</sub> monitoring ensure continued compliance with the federal PM<sub>10</sub> standard (150 µg/m<sup>3</sup>). All required SLAMS PM<sub>10</sub> analyzers are operated in compliance with 40 CFR Part 58, Appendix A and Appendix E and are comparable to the PM<sub>10</sub> NAAQS.

Table 13 below summarizes the requirements from Table D-4 of Appendix D to Part 58 which specifies that the minimum number of PM<sub>10</sub> monitoring stations required per MSA is based on population and the maximum observed 24-hour PM<sub>10</sub> concentration. As such, Table 14 shows that the District's PM<sub>10</sub> monitoring network meets the requirements for the San Joaquin Valley. Additionally, the 24-hour PM<sub>10</sub> highest concentrations measured at each of the PM<sub>10</sub> monitoring sites in the District's network during 2021 are provided in Table 15.

During 2021, the Valley was impacted by high wind and wildfire events that caused extreme increases in PM<sub>10</sub> concentrations that led to exceedances of the PM<sub>10</sub> NAAQS. Tables 14 and 15 show the highest measured 24-hour PM<sub>10</sub> concentrations in each MSA and by site with the exceptional events included and excluded. The District will continue to 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 13 – PM<sub>10</sub> Minimum Monitoring Requirements (# of Stations per MSA)**

Population category	High concentration > 180 µg/m <sup>3</sup>	Medium concentration ≥ 120 µg/m <sup>3</sup>	Low concentration < 120 µg/m <sup>3</sup>
>1,000,000	6-10	4-8	2-4
500,000–1,000,000	4-8	2-4	1-2
250,000–500,000	3-4	1-2	0-1
100,000–250,000	1-2	0-1	0

Table 14 – PM10 Monitoring Requirements for the Valley

MSA	County	2021 Population	PM10 ( $\mu\text{g}/\text{m}^3$ )				Number of SLAMS in MSA
			Exceptional Event Impacts Included*		Exceptional Event Impacts Removed**		
			2021 24-hour Highest concentration in MSA	Number of SLAMS required	2021 24-hour Highest concentration in MSA	Number of SLAMS required	
Stockton-Lodi	San Joaquin	783,534	201	4-8	154	2-4	3
Modesto	Stanislaus	555,968	145	2-4	87	1-2	2
Merced	Merced	284,836	86	0-1	71	0-1	1
Madera	Madera	158,474	341	1-2	136	0-1	1
Fresno	Fresno	1,026,681	280	6-10	99	2-4	3
Hanford-Corcoran	Kings	152,543	225	1-2	141	0-1	2
Visalia-Porterville	Tulare	481,733	299	3-4	118	0-1	1
Bakersfield***	Kern	777,064	437	4-8	123	2-4	3

\* PM10 monitoring requirements for the Valley based on data impacted by exceptional events but not representing ambient air quality conditions in the Valley

\*\* PM10 monitoring requirements for the Valley based on data not impacted by exceptional events and representing expected ambient air quality conditions in the Valley

\*\*\* Bakersfield MSA population represents the population within the Valley Air Basin portion of Kern County and is based on census tract data.

**Table 15 – 24-Hour PM10 highest concentrations by site**

MSA	Site Name	2021 Highest Concentration	
		Exceptional Event Impacts Included*	Exceptional Event Impacts Removed**
Stockton-Lodi	Stockton-Hazelton	198	154
	Stockton-University Park***	69	69
	Tracy-Airport	175	62
	Manteca	201	114
Modesto	Modesto-14th St	145	87
	Turlock	103	67
Merced	Merced-M St	86	71
Madera	Madera-City	341	136
Fresno	Clovis-Villa	207	99
	Fresno-Garland	280	99
	Fresno-Drummond	151	83
Hanford-Corcoran	Hanford-Irwin	191	141
	Corcoran-Patterson	225	140
Visalia-Porterville	Visalia-Church St	299	118
Bakersfield	Oildale	421	123
	Bakersfield-Golden State/M St	175	101
	Bakersfield-California	437	120

\* PM10 data impacted by exceptional events but not representing ambient air quality conditions in the Valley

\*\* PM10 data not impacted by exceptional events and representing expected ambient air quality conditions in the Valley

\*\*\* Stockton-University Park site opened in the 4<sup>th</sup> quarter of 2021; PM10 data for 2021 is only 14% complete.

## 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 2019-2021 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% 24-Hr: ≥29.8 Annual: ≥10.2	<85% 24-Hr: <29.8 Annual: <10.2
>1,000,000	3	2
500,000 - 1,000,000	2	1
50,000 - <500,000	1	0

\* 24-hour PM2.5 NAAQS is 35 µg/m<sup>3</sup>. Annual PM2.5 NAAQS is 12 µg/m<sup>3</sup>.

**Table 17 – PM2.5 Monitoring Requirements for the Valley**

MSA	County	2020 Population	Exceptional Event Impacts Included*			Exceptional Event Impacts Removed**			SLAMS in MSA	Number of Continuous PM2.5 Monitors in MSA***
			Max 2021 24-hr Design Value in MSA	Max 2021 Annual Design Value in MSA	SLAMS required	Max 2021 24-hr Design Value in MSA	Max 2021 Annual Design Value in MSA	SLAMS required		
Stockton-Lodi	San Joaquin	783,534	52	11.8	2	31	10.3	2	2	3
Modesto	Stanislaus	555,968	55	13.0	2	30	10.9	2	2	2
Merced	Merced	284,836	49	11.9	1	29	10.6	1	2	1
Madera	Madera	158,474	53	13.0	1	27	9.9	0	1	1
Fresno	Fresno	1,026,681	71	15.3	3	45	14.5	3	5	6
Hanford-Corcoran	Kings	152,543	61	15.9	1	42	12.7	1	2	2
Visalia-Porterville	Tulare	481,733	66	17.8	1	42	14.8	1	1	3
Bakersfield****	Kern	777,064	60	16.6	2	44	15.4	2	3	3

\* PM2.5 monitoring requirements for the Valley based on data impacted by exceptional events but not representing ambient air quality conditions in the Valley

\*\* PM2.5 monitoring requirements for the Valley based on data not impacted by exceptional events and representing expected ambient air quality conditions in the Valley

\*\*\* Number of continuous monitors includes regulatory and non-regulatory monitors.

\*\*\*\* Bakersfield MSA population represents the population within the Valley Air Basin portion of Kern County and is based on census tract data.

Table 18 – 24-Hour and Annual PM<sub>2.5</sub> Maximum Design Values

MSA	Site Name	Exceptional Events Included*		Exceptional Events Excluded**		Exceptional Events Included*	
		2019-2021 24-Hour Design Value	2019-2021 Annual Design Value	2019-2021 24-Hour Design Value	2019-2021 Annual Design Value	Max Site in MSA	
						24-Hour	Annual
Stockton-Lodi	Stockton-Hazelton	46	11.8	35	10.3	✓	✓
	Stockton-University Park***	40	17.1	40	17.1		
	Manteca	44	11.6	27	9.8		
Modesto	Modesto-14th St	46	12.4	30	10.2		
	Turlock	49	13.0	30	10.9	✓	✓
Merced	Merced-M St	49	12.1	29	10.6	✓	✓
	Merced-Coffee	47	11.7	25	10.0		
Madera	Madera-City	53	13.0	27	9.9	✓	✓
Fresno	Tranquility	47	8.8	18	8.8		
	Clovis-Villa	59	14.5	30	11.5	✓	
	Fresno-Garland	58	15.4	39	12.4		
	Fresno-Pacific	56	14.5	37	11.7		
	Fresno-Foundry	59	18.7	45	14.5		✓
Hanford-Corcoran	Hanford-Irwin	57	15.9	42	12.7		✓
	Corcoran-Patterson	59	15.4	36	12.2	✓	
Visalia-Porterville	Visalia-Church St	66	17.8	42	14.8	✓	✓
Bakersfield	Bakersfield-Golden / M St	59	16.6	41	13.9		
	Bakersfield-California	60	16.1	44	13.7	✓	
	Bakersfield-Airport (Planz)	53	17.8	41	15.4		✓

\* 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

\*\*\* Stockton-University Park opened in the 4<sup>th</sup> quarter of 2021, and as such only has a 14% overall completeness for the 2021 calendar year.

## 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 State Implement Plans (SIP). 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/Other	Site Type	Spatial Scale	Basic Monitoring Objective	Current Sampling Frequency	QA Collocated
Modesto-14th St	CSN Supplemental	SLAMS	Other	PE	N	RS	1:12	
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	CSN, 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 23.

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<sup>^</sup>

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

cont. – Continuous man. – Manual QA - Quality Assurance

<sup>^</sup> Monitoring method and monitor collocation information for the Fresno-Garland NCore site is provided in Table 23.

\* The PM10 FRM monitors at Turlock, Merced-M St, Fresno-Drummond, and Bakersfield-Golden/M St were removed and replaced with FEM continuous monitors in Quarter 1 2022.

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				
Stockton-University Park		SLAMS		SLAMS				
Tracy-Airport		SPM		SLAMS				
Manteca		SLAMS		SLAMS				
Modesto-14th St		SLAMS		SLAMS				
Turlock*		SLAMS	SLAMS					
Merced-M St*		SLAMS	SLAMS					
Merced-Coffee		SLAMS						
Madera-City		SLAMS		SLAMS				
Tranquillity		SLAMS						
Clovis-Villa		SLAMS	SLAMS	SLAMS				
Fresno-Pacific		SLAMS						
Fresno-Drummond*	SLAMS		SLAMS				SLAMS	
Fresno-Foundry		SLAMS						
Huron		SPM						
Hanford-Irwin		SLAMS	SLAMS	SLAMS				
Corcoran-Patterson	SLAMS	SLAMS		SLAMS		SLAMS		
Visalia-Church St	SLAMS	OTHER		SLAMS	SLAMS			
Visalia-Ashland Avenue		SLAMS		SLAMS				
Porterville		SPM						
Oildale				SLAMS				
Bakersfield-Golden / M St*	SLAMS	SLAMS	SLAMS					
Bakersfield-California	SLAMS	OTHER	SLAMS	SLAMS	SLAMS		SLAMS	
Bakersfield-Airport (Planz)	SLAMS							
Lebec		SPM						

cont. – Continuous man. – Manual QA = Quality Assurance

Monitor information for the QA Collocated sites is provided in Table 22.

Monitor information for the Fresno-Garland NCore site is provided in Table 23.

\* The PM10 FRM monitors at Turlock, Merced-M St, Fresno-Drummond, and Bakersfield-Golden/M St were removed and replaced with FEM continuous monitors in Quarter 1 2022.

Table 22 – QA Collocated Monitors

Site Name	Pollutant	Monitor Type	FRM/FEM/Other	Site Type	Spatial Scale	Basic Monitoring Objective	Sampling Frequency
Fresno-Garland	PM2.5 (man.)	SLAMS	FRM	PE, QA	N	NC,RS	1:3
Fresno-Drummond	PM10 (man.)	SLAMS	FRM	PE, QA	N	NC, RS	1:6
Bakersfield-California	PM2.5 (man.)	SLAMS	FRM	HC, PE, QA	N	NC, RS	1:12
	PM10 (man.)	SLAMS	FRM	PE, QA	N	NC, RS	1:6

cont. – Continuous man. – Manual PE – Population Exposure HC – Highest Concentration

GB – General Background N – Neighborhood RS – Research NC – NAAQS Comparison

TP – Timely/Public QA – Quality Assurance 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 1:12 = 1 in 12 day sampling

Note: The Corcoran-Patterson PM2.5 FRM was removed in mid-January 2021. There is no further collocation.

## 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 23 and Appendix B.

Table 23 – Fresno-Garland NCore Site

Pollutant	Monitor Type	FRM/FEM/Other	Site Type	Spatial Scale	Basic Monitoring Objective	Current Sampling Frequency	QA Collocation
Ozone	SLAMS	FEM	PE	U	NC,RS	Hourly	
NO <sub>2</sub>	SLAMS	FRM	Max PEI	U	NC,RS	Hourly	
CO	SLAMS	FRM	PE	U	NC,RS	Hourly	
SO <sub>2</sub>	SLAMS	FEM	PE	U	NC,RS	Hourly	
NO <sub>y</sub>	SLAMS	Other	PE	U	NC,RS	Hourly	
Toxics	SLAMS	Other	PE	N	RS,TP	Hourly	
PM <sub>2.5</sub> (man.)	SLAMS	FRM	PE, QA	N	NC,RS	1:3	✓
PM <sub>2.5</sub> (cont.)	SLAMS	FEM	PE	N	NC,RS	Hourly	
PM <sub>2.5</sub> Speciation (STN)	Other	Other	PE	N,U	RS	1:3	
	Other	Other	PE	N,U	RS	1:3	
PM <sub>10</sub> STP (cont.)	SLAMS	FEM	PE	N	NC,RS	Hourly	
PM <sub>10-2.5</sub> (cont.)	SLAMS	FEM	GB	N	NC,RS	Hourly	

cont. – Continuous    man. – Manual    PE – Population Exposure Neighborhood    U – Urban  
 RS – Research    Max PEI – Max Precursor Emissions Impact    NC – NAAQS Comparison    TP – Timely/Public  
 STP – Standard Temperature and Pressure    1:3 = 1 in 3 day sampling    Hourly = One sample every hour

### 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 24 and Appendix B.

Table 24 – Non-EPA Federal Monitors

Parameter	Site Type	FRM/FEM/Other	Spatial Scale	Network affiliation	Basic Monitoring Objective	Current Sampling Frequency
<b>Sequoia-Ash Mountain</b>						
Ozone	HC, RT	Other	R	CASTNET	NC, RS, TP	Hourly
PM <sub>2.5</sub> (continuous)	HC	FEM	R	IMPROVE	RS, TP	Hourly
Meteorology	GB	Other	R	CASTNET	RS, TP	Hourly
<b>Sequoia-Lower Kaweah</b>						
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 25 through 30 as well as in Appendix B of this network plan.



Table 25 – 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	
Stockton-University Park	HC, PE		HC, PE		HC	PE	PE	
Tracy-Airport	RT				RT	RT		
Manteca			HC		HC			
Modesto-14th St	HC, PE		PE		PE		PE	
Turlock	HC, PE		HC, PE	PE		PE		
Merced-M St	HC, PE		HC, PE	HC, PE				
Merced-Coffee	HC, PE		PE			PE		
Madera-City	HC, GB		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	PE	HC	HC	Max PEI, PE	HC
Fresno-Pacific		PE						
Fresno-Drummond*	PE, HC, RT			PE, QA	HC	HC		
Fresno-Foundry			HC			HC	HC	
Parlier	HC, RT					PE		PE
Hanford-Irwin	HC, PE		PE	PE	PE	PE		
Corcoran-Patterson		HC	HC, PE, QA		HC, PE			
Visalia-Church St	GB	HC, PE			PE	PE		
Visalia-W. Ashland Ave	GB	HC, PE	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, QA	HC, PE	PE, QA	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  
Max PEI – Max Precursor Emissions Impact

Site Type information for the QA Collocated sites is provided in Table 22.

Site Type information for the Fresno-Garland NCore site is provided in Table 23.

Table 26 – SLAMS Spatial Scale

Site Name	Ozone	PM2.5 (man.)	PM2.5 (cont.)	PM10 (man.)	PM10 (cont.)	NO2	CO	NMH
Stockton-Hazelton	N		N		N	N	N	
Stockton-University Park	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
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		
Visalia-W. Ashland Ave	N		N		N	N		
Porterville	N							
Shafter	N					N		N
Oildale	U				MD			
Bakersfield-Golden / M St		N		N				
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 QA Collocated sites is provided in Table 22.

Spatial Scale information for the Fresno-Garland NCore site is provided in Table 23.

Table 27 – SLAMS Basic Monitoring Objective

Site Name	Ozone	PM2.5 (man.)	PM2.5 (cont.)	PM10 (man.)	PM10 (cont.)	NO2	CO	NMH
Stockton-Hazelton	NC,RS TP		NC,RS,TP		NC,RS,TP	NC, RS, TP	NC, RS, TP	
Stockton-University Park	NC,RS TP		NC,RS,TP		NC,RS,TP	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,TP		NC,RS,TP		NC, RS, TP	
Turlock	NC,RS,TP		NC,RS,TP	NC,RS	NC, RS, TP	NC, RS, TP		
Merced-M St			NC, RS, TP	NC RS	NC, RS, TP			
Merced-Coffee	NC,RS,TP		NC,RS,TP			NC, RS,TP		
Madera-City	NC,RS,TP		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,TP	NC,RS	NC,RS,TP	NC,RS, TP	NC, RS, TP	RS
Fresno-Pacific			NC, RS, TP					
Fresno-Drummond	NC,RS,TP			NC, RS	NC, RS, TP	NC,RS,TP		
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		
Visalia-W. Ashland Ave	NC,RS,TP		NC,RS,TP		NC,RS,TP	NC,RS,TP		
Porterville	NC,RS,TP							
Shafter	NC,RS,TP					NC, RS,TP		RS
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		NC, RS	NC, RS, TP	NC, RS, TP		
Bakersfield-Muni	NC,RS,TP					NC, RS, TP	NC,RS, TP	RS

**Table 27 – SLAMS Basic Monitoring Objective (cont'd)**

Site Name	Ozone	PM2.5 (man.)	PM2.5 (cont.)	PM10 (man.)	PM10 (cont.)	NO2	CO	NMH
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 QA Collocated sites is provided in Table 22.  
 Basic Monitor Objective information for the Fresno-Garland NCore site is provided in Table 23.

**Table 28 – SLAMS Current Sampling Frequency**

Site Name	Ozone	PM2.5 (man.)	PM2.5 (cont.)	PM10 (man.)	PM10 (cont.)	NO2	CO	NMH
Stockton-Hazelton	Hourly		Hourly		Hourly	Hourly	Hourly	
Stockton-University Park	Hourly		Hourly		Hourly	Hourly	Hourly	
Tracy-Airport	Hourly				Hourly	Hourly		
Manteca			Hourly		Hourly			
Modesto-14th St	Hourly		Hourly		Hourly		Hourly	
Turlock	Hourly		Hourly	1:6	Hourly	Hourly		
Merced-M St			Hourly	1:6	Hourly			
Merced-Coffee	Hourly		Hourly			Hourly		
Madera-City	Hourly		Hourly		Hourly			
Madera-Pump Yard	Hourly					Hourly		Hourly
Tranquillity	Hourly		Hourly					
Fresno-Sky Park	Hourly					Hourly		
Clovis-Villa	Hourly		Hourly	1:6	Hourly	Hourly	Hourly	Hourly
Fresno-Pacific			Hourly					
Fresno-Drummond	Hourly			1:6	Hourly	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		Hourly		Hourly	Hourly		

**Table 28 – SLAMS Current Sampling Frequency (cont'd)**

Site Name	Ozone	PM2.5 (man.)	PM2.5 (cont.)	PM10 (man.)	PM10 (cont.)	NO2	CO	NMH
Visalia-W. Ashland Ave	Hourly		Hourly		Hourly	Hourly		
Porterville	Hourly							
Shafter	Hourly					Hourly		Hourly
Oildale	Hourly				Hourly			
Bakersfield-Golden / M St			Hourly	1:6	Hourly			
Bakersfield-Westwind						Hourly		
Bakersfield-California	Hourly	1:1		1:6	Hourly	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 QA Collocated sites is provided in Table 22.

Current Sampling Frequency information for the Fresno-Garland NCore site is provided in Table 23

**Table 29 – 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
Bakersfield-California*	PE	N	RS, TP	Hourly
Lebec	PE	N	TP	Hourly

PE – Population Exposure    RT – Regional Transport    N – Neighborhood    R – Regional

TP - Timely/Public    Hourly – One sample every hour

\* Other

## **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 future 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 changes to sites in 2021 and 2022 to-date, along with planned changes to the District's air monitoring network are discussed below and provided in Table 31 below.

### **Merced-M St, Fresno-Pacific, & Bakersfield-Golden/M St**

Following the closure of the CARB laboratory on December 7, 2020, the PM2.5 FRM filter samplers at the Merced-M St, Fresno-Pacific, and Bakersfield-Golden/M St air monitoring sites were removed in December 2020. These sites began PM2.5 sampling with continuous FEM BAM 1022 samplers on January 1, 2021. The BAM 1022 samplers were then replaced with BAM 1020 samplers in 2022.

In addition, in early 2022, the PM10 FRM samplers operating at the Merced-M St and Bakersfield-Golden/M air monitoring sites were replaced with real-time BAM 1020 samplers.

### **Turlock and Fresno-Drummond**

In early 2022, the PM10 FRM samplers operating at the Turlock and Fresno-Drummond air monitoring sites were replaced with real-time BAM 1020 samplers.

### **Stockton-Hazelton / Stockton-University Park**

The CARB air monitoring site at Stockton-Hazelton was shut-down in November 2021. The site was replaced by the Stockton-University Park air monitoring site during the same month (November 2021).

### **Modesto-14<sup>th</sup> St**

Following the closure of the CARB laboratory on December 7, 2020, the PM2.5 FRM filter sampler was removed in January 2021. This collocation is no longer required within the PQAO.

### **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 does not meet 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. Appropriate qualifier code/s will be applied to all gaseous data in the EPA AQS database to inform data users of the siting issues. (The qualifier code 'SX - Does not meet siting criteria' is currently being used). The District will continue to make efforts to resolve the siting issues with adjacent land owners.

### **Fresno-Garland**

PM2.5 FRMs were idled by the closure of the CARB lab on December 7, 2020. After the lab started up again in 2021, the following changes were made to the PM10-2.5 analyzers: One pair of BAM10/BAM2.5 analyzers was removed. The remaining PM2.5 BAM1020 analyzer was designated as the primary PM2.5 analyzer. One PM2.5 FRM analyzer was removed. The remaining PM2.5 FRM analyzer was designated as collocated, and its sampling interval was reduced to 1 in 3 days.

### **Visalia-Church St / Visalia-W. Ashland Ave.**

At the request of the property owner, the CARB Visalia-Church Street air monitoring station was shut-down in December 2021. The new site, Visalia-W. Ashland Avenue began operating in January 2022.

### **Bakersfield-California**

A continuous PM10 FEM BAM was installed and designated as primary in April 2021. The previously operating Hi-Vols have been removed.

### **Bakersfield-Airport (Planz)**

CARB and the District are in the process of evaluating siting challenges at the Bakersfield-Airport (Planz) air monitoring site and reviewing the PM2.5 data collected to determine if the site should remain comparable to the annual PM2.5 NAAQS. The PM2.5 monitor is sited at the Bakersfield Municipal Airport and preliminary analysis of nearby activity and monitoring data from the Planz site and surrounding PM2.5 monitors suggests that airport activity (aircraft idling/taxiing, helicopter landings/take-offs) is impacting the Planz monitor and causing elevated PM2.5 concentrations that are not being observed at other nearby monitors, and therefore not representative of PM2.5 air quality in Bakersfield area. Further technical analysis is being completed to identify whether the local impacts to the Planz monitor indicate that the site is not meeting siting requirements. CARB's recommendations on the provisions of 40 CFR Part 58.30 and the potential to move the site to a location that meets siting criteria will be made available for public comment prior to any request for approval is submitted to EPA. Any changes to the monitoring network will be reflected in future Air Monitoring Network Plans.

**Arvin-Di Giorgio**

CARB plans to install a new, permanent monitoring shelter within the next 18 months.

**Table 30 – Summary of Proposed Changes to the Air Monitoring Network**

<b>CBSA: Stockton</b>		<b>County: San Joaquin</b>	
<b>Site Name</b>	<b>Operating Agency</b>	<b>Planned Changes</b>	
Stockton-Hazelton	CARB	The site closed on 11/5/2021	
Stockton-University Park	CARB	The site became operational on 11/8/2021	
Tracy-Airport	SJVAPCD	None	
Manteca	SJVAPCD	None	
<b>CBSA: Modesto</b>		<b>County: Stanislaus</b>	
<b>Site Name</b>	<b>Operating Agency</b>	<b>Planned Changes</b>	
Modesto-14th St	CARB	None	
Turlock	SJVAPCD	None	
<b>CBSA: Merced</b>		<b>County: Merced</b>	
<b>Site Name</b>	<b>Operating Agency</b>	<b>Planned Changes</b>	
Merced-M St	SJVAPCD	None	
Merced-Coffee	SJVAPCD	None	
<b>CBSA: Madera</b>		<b>County: Madera</b>	
<b>Site Name</b>	<b>Operating Agency</b>	<b>Planned Changes</b>	
Madera-City	SJVAPCD	None	
Madera-Pump Yard	SJVAPCD	None	
<b>CBSA: Fresno</b>		<b>County: Fresno</b>	
<b>Site Name</b>	<b>Operating Agency</b>	<b>Planned Changes</b>	
Tranquillity	SJVAPCD	None	
Fresno-Sky Park	SJVAPCD	"SX" qualifier code being applied to data in AQS due to siting conditions not met (trees obstructing airflow at the site).	
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	
<b>CBSA: Kings</b>		<b>County: Kings</b>	
<b>Site Name</b>	<b>Operating Agency</b>	<b>Planned Changes</b>	
Hanford-Irwin	SJVAPCD	None	
Corcoran-Patterson	SJVAPCD	None	



**Table 31 – Summary of Proposed Changes to the Air Monitoring Network (cont'd)**

<b>CBSA: Visalia-Porterville</b>		<b>County: Tulare</b>
<b>Site Name</b>	<b>Operating Agency</b>	<b>Planned Changes</b>
Visalia-Church St	CARB	The site closed on 12/15/2021 and was replaced by Visalia-W. Ashland Ave.
Visalia-W. Ashland Avenue	CARB	The site replaced Visalia-Church and became operational on 1/11/2022
Porterville	SJVAPCD	None
Sequoia-Ash Mountain	NPS	None
Sequoia-Lower Kaweah	NPS	None
<b>CBSA: Bakersfield</b>		<b>County: Kern (Valley Portion Only)</b>
<b>Site Name</b>	<b>Operating Agency</b>	<b>Planned Changes</b>
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	CARB/District completing analysis and technical review of applicability of the Planz monitor to the annual PM2.5 NAAQS under the provisions of 40 CFR 58.30
Edison	CARB	None
Arvin-Di Giorgio	CARB	CARB plans are to install a new, permanent monitoring shelter within the next 18 months.
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 2021 data on April 29, 2022.

**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
NO <sub>2</sub> :	Nitrogen Dioxide
NO <sub>x</sub> :	Oxides of Nitrogen
NO <sub>y</sub> :	Reactive Nitrogen
NPS:	National Park Service
O <sub>3</sub> :	Ozone
PAMS:	Photochemical Assessment Monitoring Station
PM:	Particulate Matter
PM <sub>2.5</sub> :	Particulate Matter 2.5 microns or less in diameter
PM <sub>10</sub> :	Particulate Matter 10 microns or less in diameter
SIP:	State Implementation Plan
SLAMS:	State and Local Air Monitoring Station
SJVAPCD:	San Joaquin Valley Air Pollution Control District
SMS:	Smoke Management System
SO <sub>2</sub> :	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**

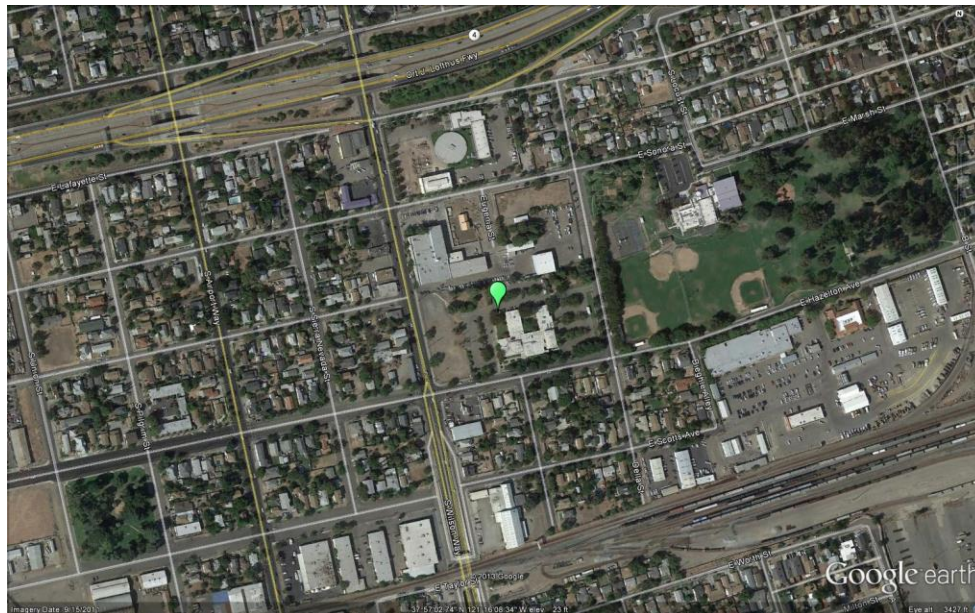
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**Stockton-Hazelton**

The Stockton-Hazelton monitoring site was located in the Stockton, CA metropolitan area, and operated by the California Air Resources Board (CARB) from January 1976 through early-November 2021. The purpose of the site was to monitor representative concentrations of ozone, PM2.5, and PM10 in an urban area. The site also monitored CO, NO2, toxics, and meteorology. The Stockton-Hazelton site was replaced with the Stockton-University Park site in early-November 2021.

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):	4,600; 2019*
Ground Cover:	Paved
Representative Statistical Area (CBSA):	Stockton-Lodi

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



### Stockton-University Park

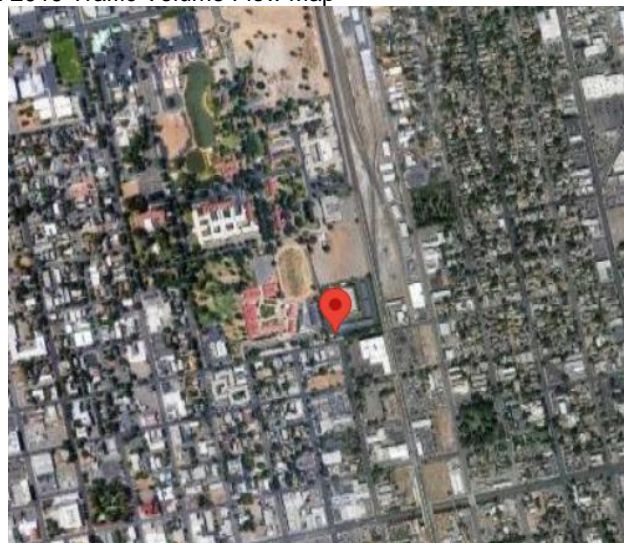
The Stockton-University Park monitoring site is operated by the California Air Resources Board (CARB) and is located in the Stockton, CA metropolitan area. It began operating in November 2021. The purpose of the site is to monitor representative concentrations of ozone, PM2.5, and PM10 in an urban area. The site also monitors CO, NO2, toxics, and meteorology. The Stockton-University Park site replaced the Stockton-Hazelton site in early-November 2021.

Site name:	Stockton-University Park
AQS ID:	06-077-1003
County:	San Joaquin
Street Address:	702 N. Aurora Street, Stockton CA 95202
Geographic Coordinates:	37.9158 N, -121.28141 W
Distance to road (meters):	60 m (north)
Traffic Count (AADT; Year):	4,000; 2019
Ground Cover:	Paved
Representative Statistical Area (CBSA):	Stockton-Lodi

Traffic count for nearest cross road: Park St



Source: City of Stockton 2019 Traffic Volume Flow Map

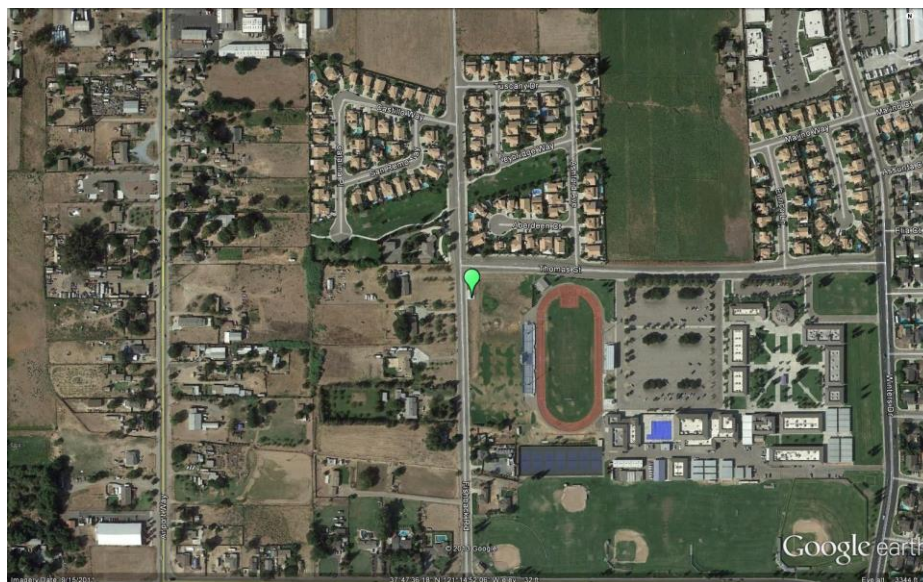


**Manteca**

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):	20,487; 2020*
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, 2020 Monitoring and Conformance Report



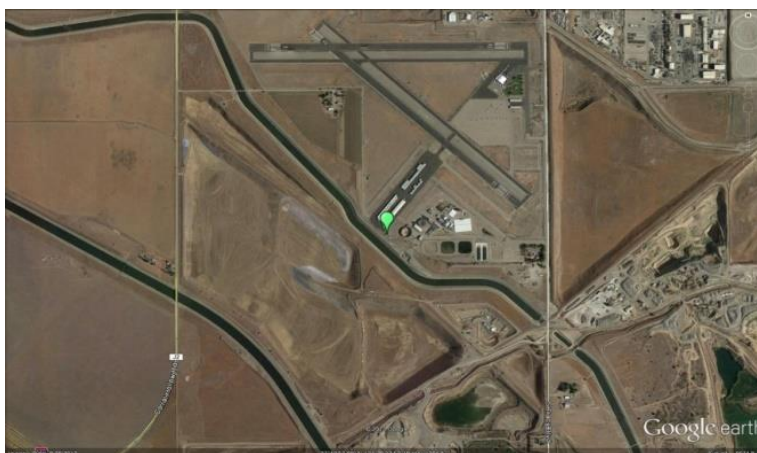


### Tracy-Airport

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, NO<sub>2</sub>, PM<sub>2.5</sub>, and PM<sub>10</sub> 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):	5,113; 2020*
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, 2020 Monitoring and Conformance Report

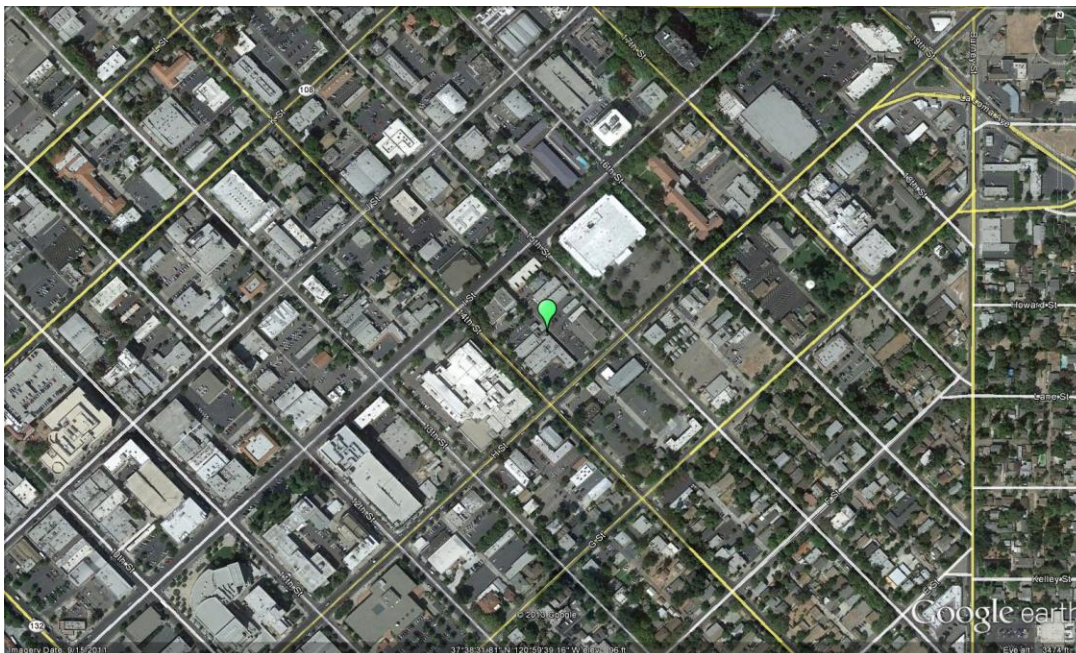


**Modesto-14<sup>th</sup> St**

The Modesto-14<sup>th</sup> 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-14 <sup>th</sup> 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):	131,800; 2019*
Ground Cover:	Paved
Representative Statistical Area (CBSA):	Modesto

\* Traffic count for nearest roads: H Street / CA Route 99. Source: Caltrans 2019 AADT

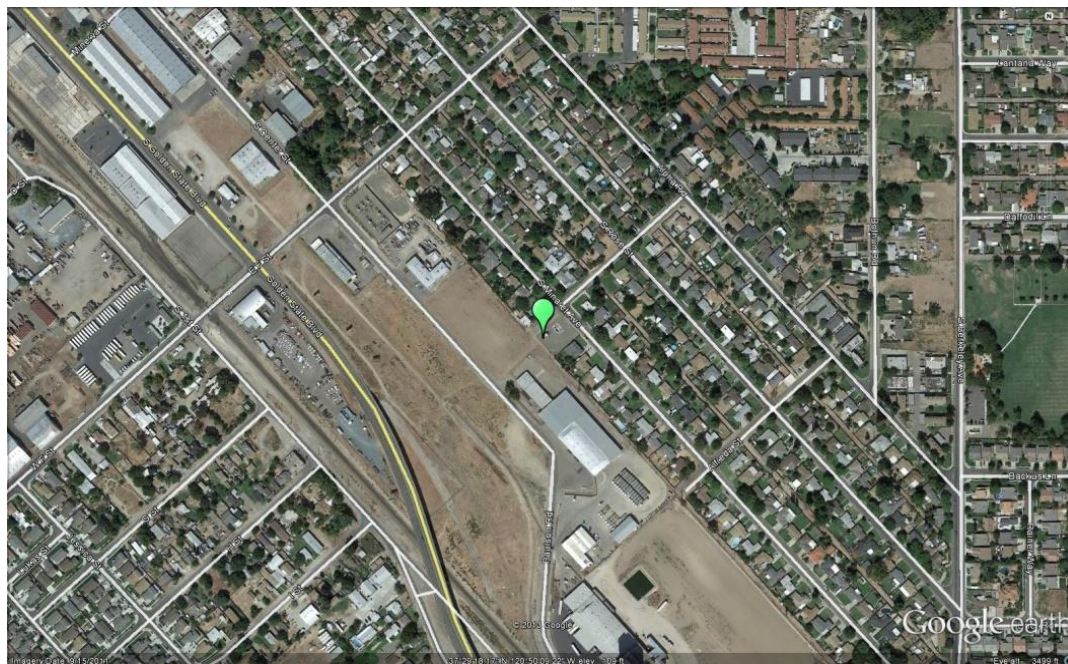


**Turlock**

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

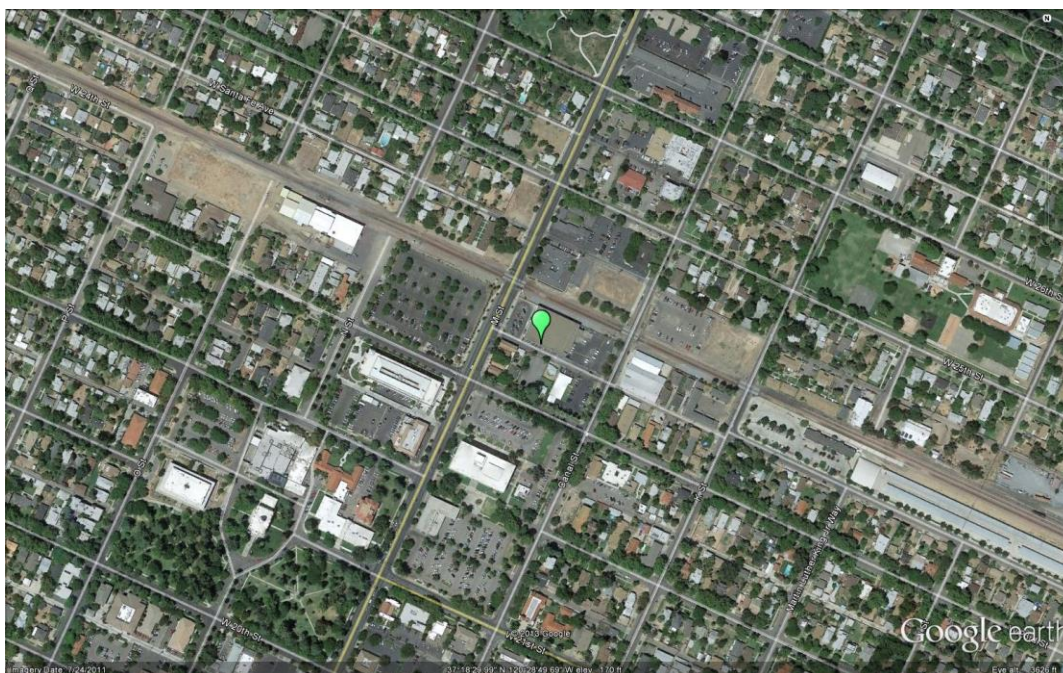
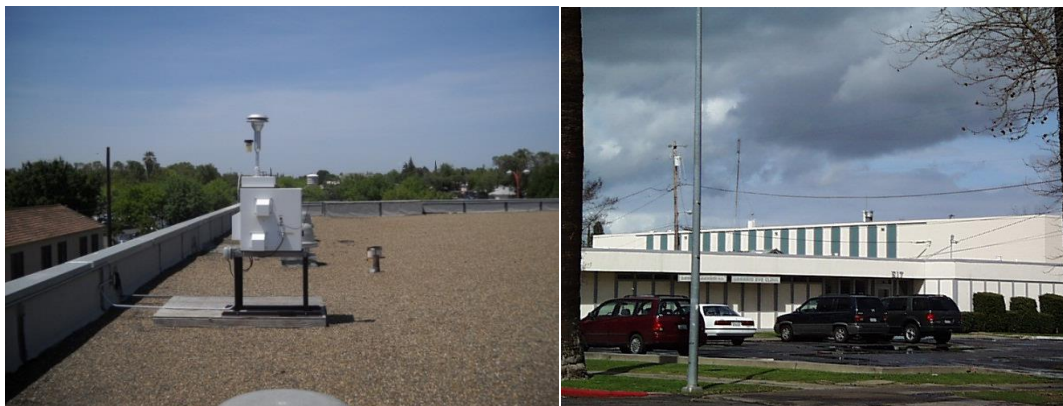


**Merced-M St**

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; 2019*
Ground Cover:	Paved, gravel
Representative Statistical Area (CBSA):	Merced

\*Traffic count for nearest roads: R St / CA Route 99. Source: Caltrans 2019 AADT

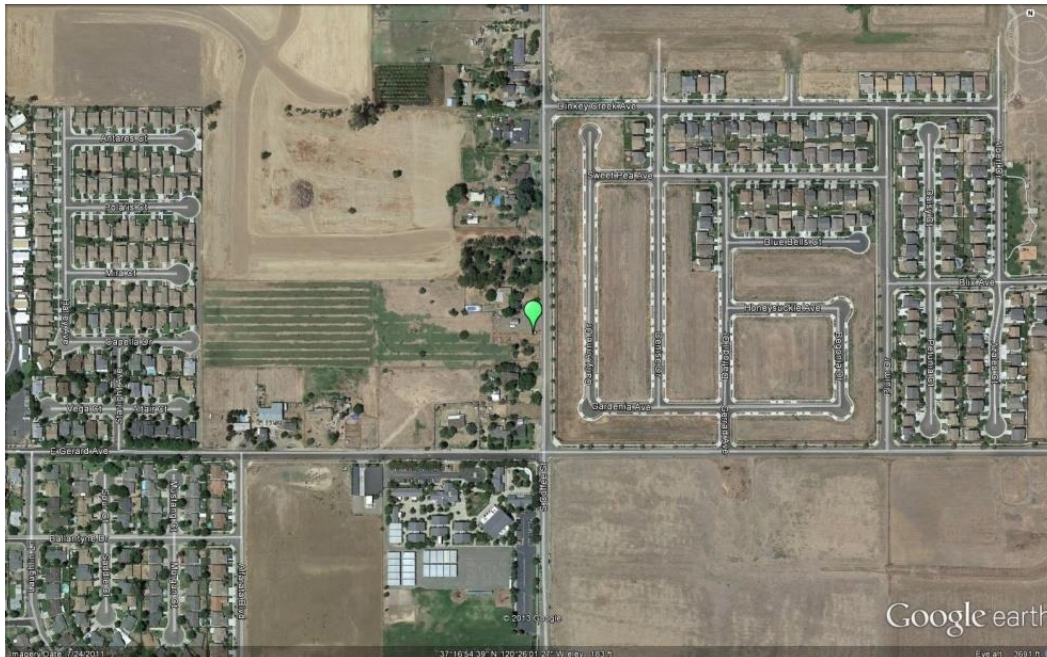


**Merced-Coffee**

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; 2019*
Ground Cover:	Vegetative, dirt and gravel
Representative Statistical Area (CBSA):	Merced

\*Traffic count for nearest roads: Childs Ave / CA Route 99. Source: Caltrans 2019 AADT

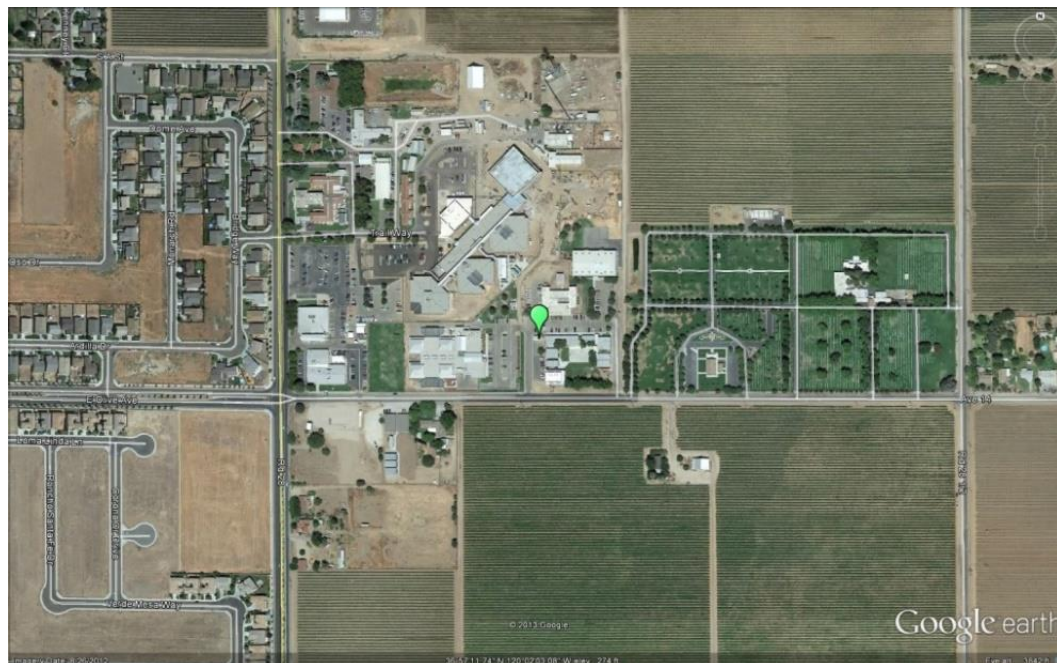


**Madera-City**

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 2020 Traffic Volumes Report.

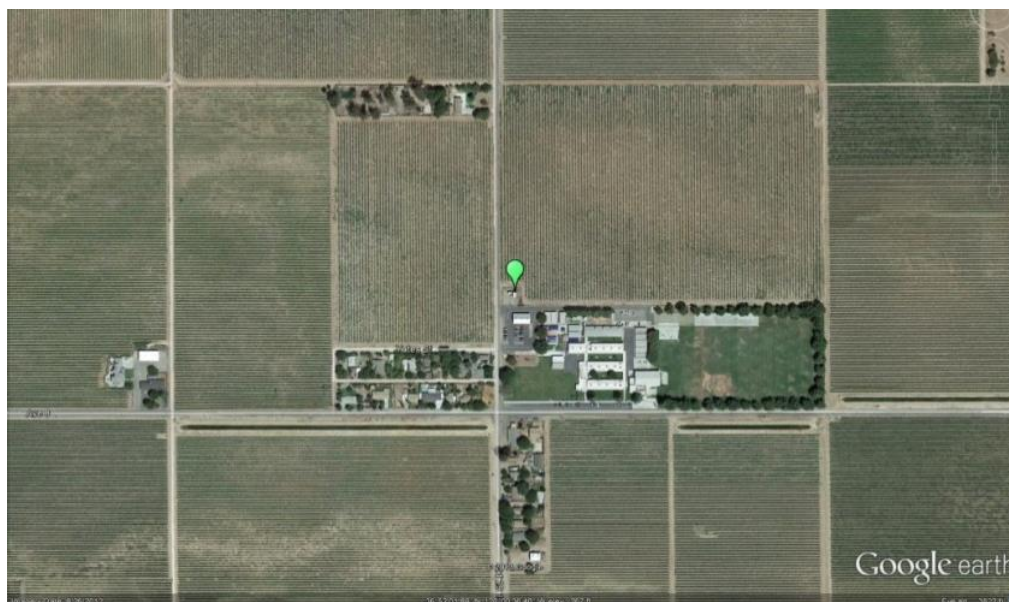


### Madera-Pump Yard

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, NO<sub>2</sub>, 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 2020 Traffic Volumes Report.

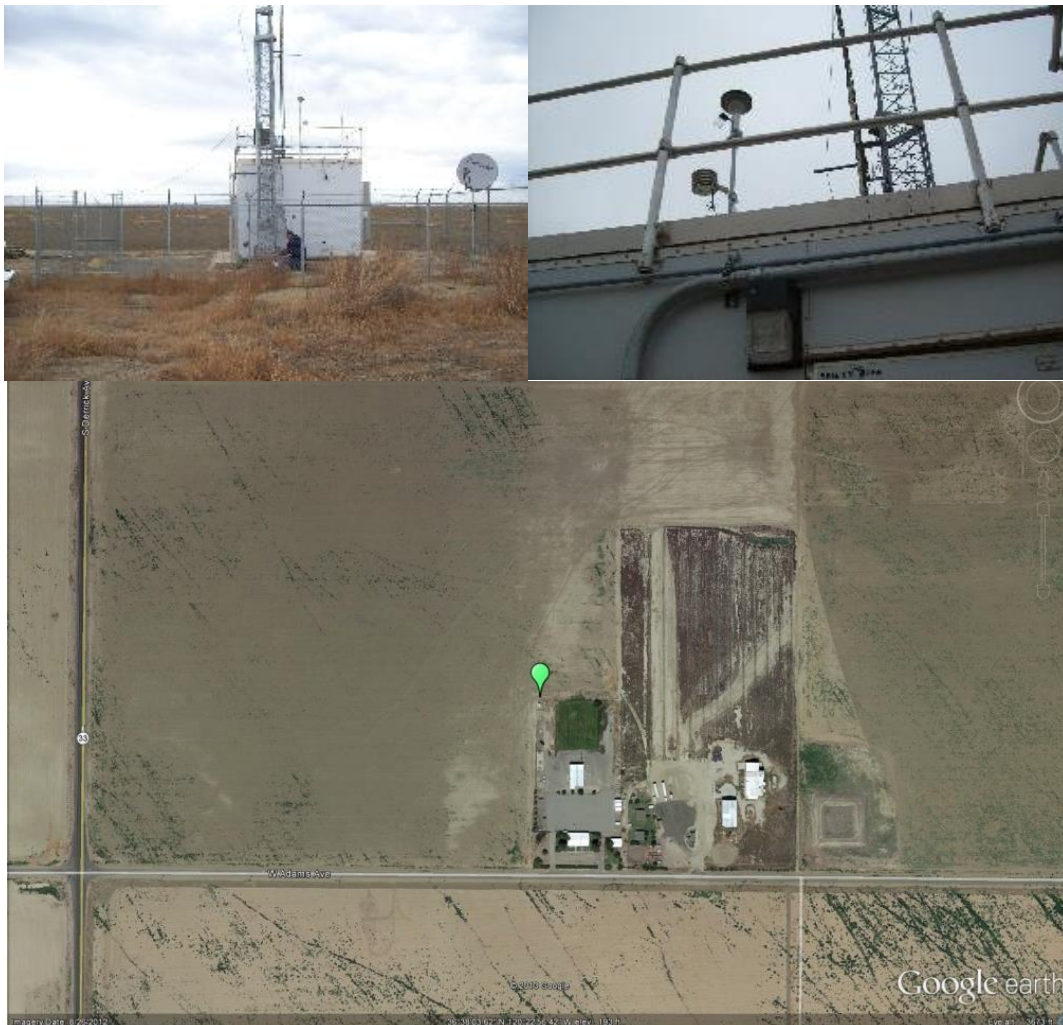


### Tranquillity

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):	1,750; 2019*
Ground Cover:	Dirt, vegetative
Representative Statistical Area (CBSA):	Fresno

\* Raw traffic count for nearest roads: Adams Avenue and Route 33 (S. Derrick Avenue)  
 Source: Caltrans 2019



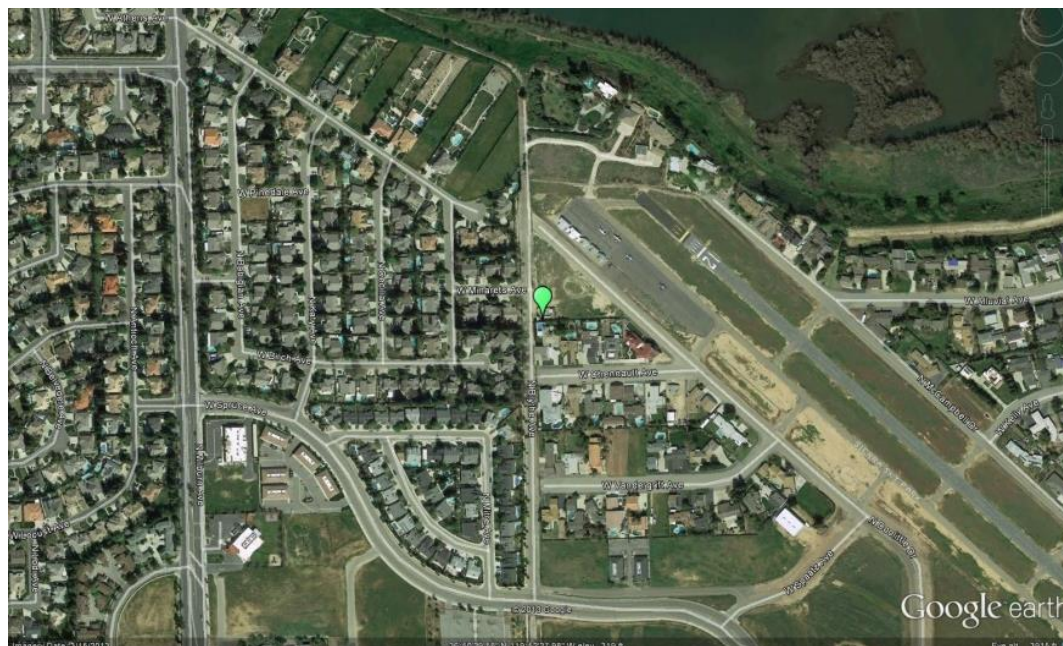


### Fresno-Sierra Sky Park

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.

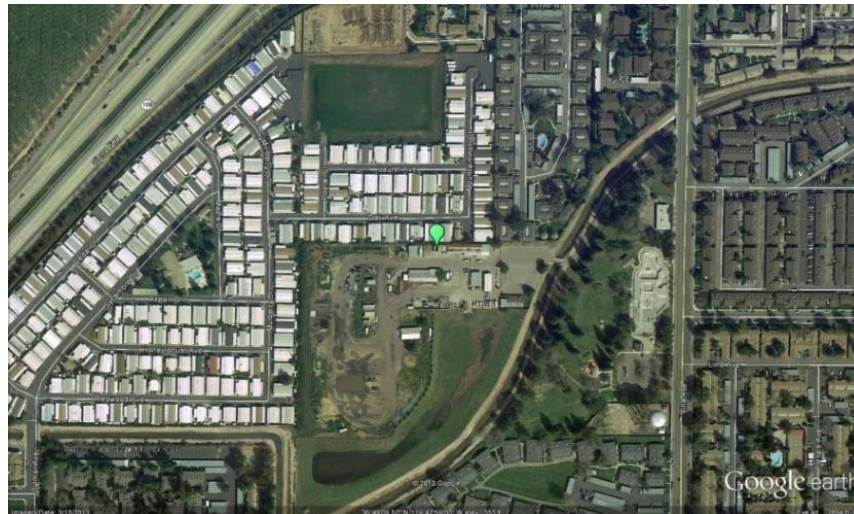


**Clovis-Villa**

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))



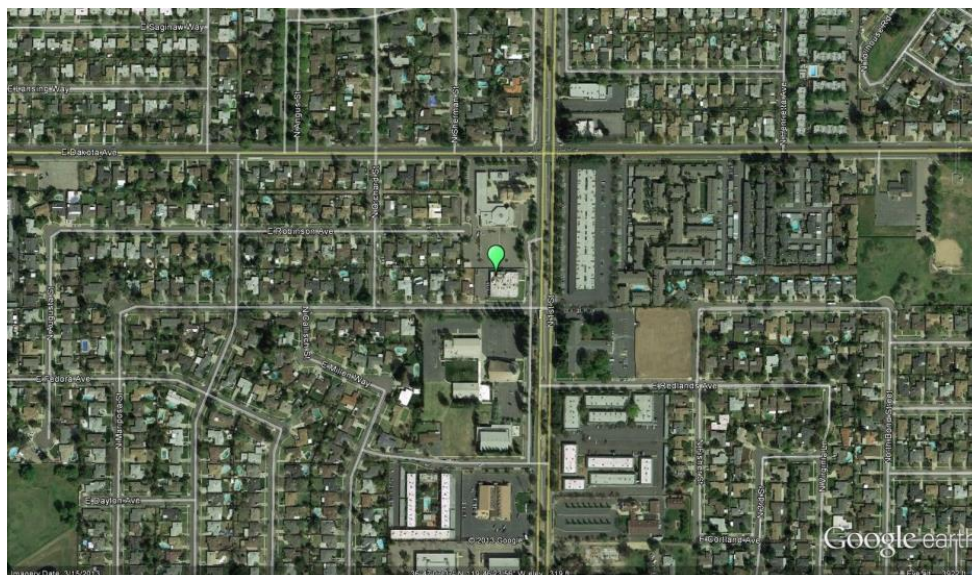
## Fresno-Garland

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, PM<sub>2.5</sub>, and PM<sub>10</sub> in an urban area. The site also monitors PM<sub>10-2.5</sub>, PM<sub>2.5</sub> Speciation, CO, NO<sub>2</sub>, NO<sub>y</sub>, SO<sub>2</sub>, 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.

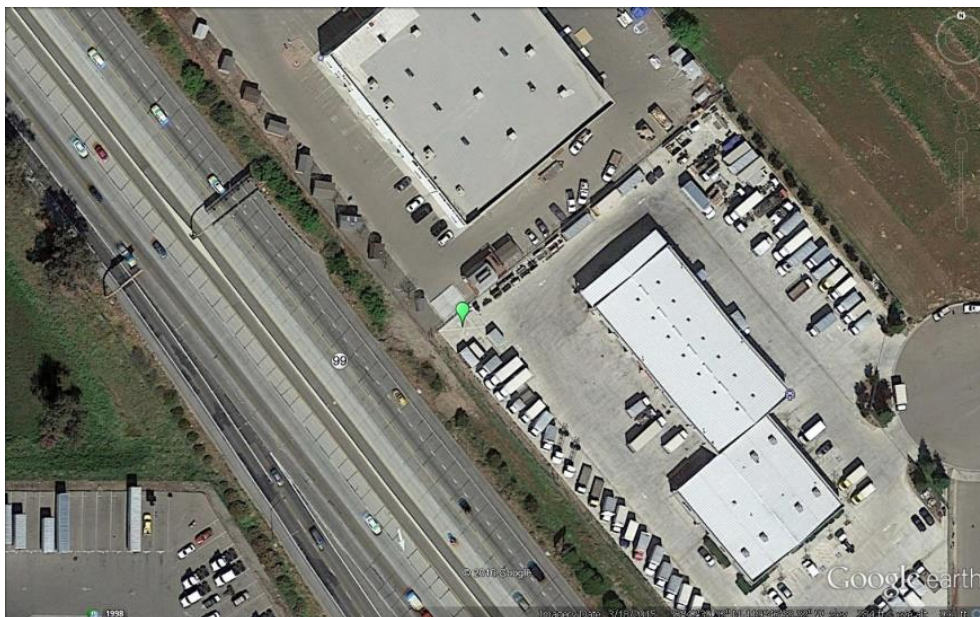


**Fresno-Foundry**

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 NO2 concentrations near a high traffic roadway in an urban area. In addition to NO2, 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):	122,000; 2019*
Ground Cover:	Paved
Representative Statistical Area (CBSA):	Fresno

\*Traffic count for nearest roads: CA Route 99 and Jensen Ave off-ramp. Source: Caltrans (2019)

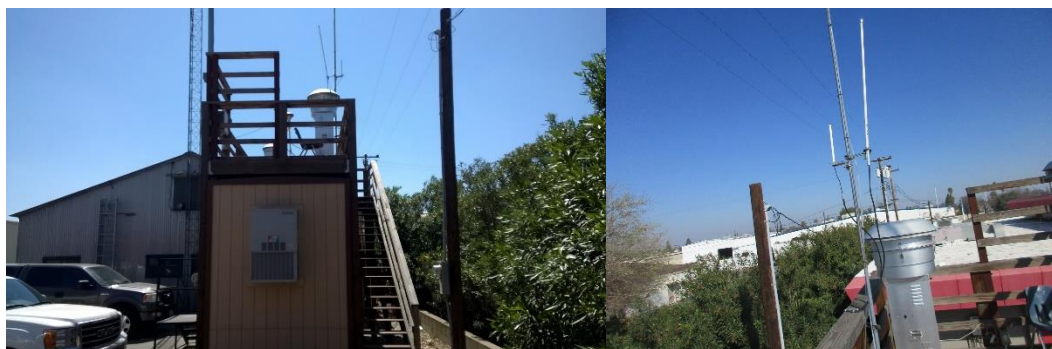


### Fresno-Drummond

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 NO<sub>2</sub>, 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):	10,150; 2009*
Ground Cover:	Dirt, vegetative
Representative Statistical Area (CBSA):	Fresno

\*Raw traffic count in a 24-hour period for nearest roads: E Manning Ave west of S Lac Jac Ave. Source: Fresno COG Traffic Report, 2007-2012.



### 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 of the site. 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 4 <sup>th</sup> St, Huron, CA 93234
Geographic Coordinates:	36.2363 N, -119.7656 W
Distance to road (meters):	100 m (north)
Traffic Count (AADT; Year):	5,400; 2019*
Ground Cover:	Paved, vegetative
Representative Statistical Area (CBSA):	Fresno

\*Traffic count for nearest roads: CA Route 269 / CA Route 198. Source: Caltrans 2019



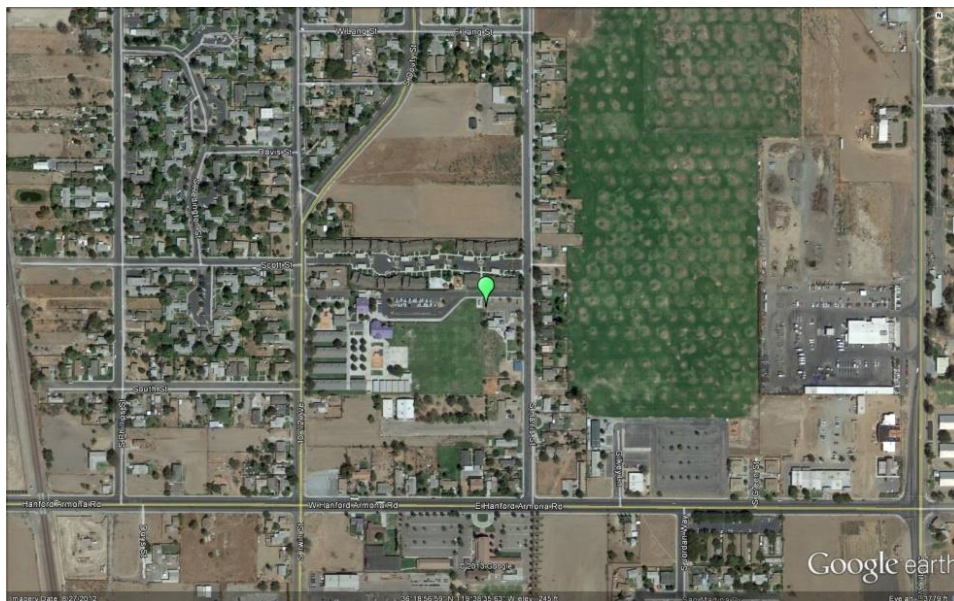


**Hanford-Irwin**

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):	2,828; 2017*
Ground Cover:	Paved, vegetative
Representative Statistical Area (CBSA):	Hanford – Corcoran

\*Traffic count for nearest roads: S. Douty Street south of E. Lang Street  
 Source: City of Hanford Public Works - Engineering, Traffic Counts Volume Summary 2017 – City of Hanford.

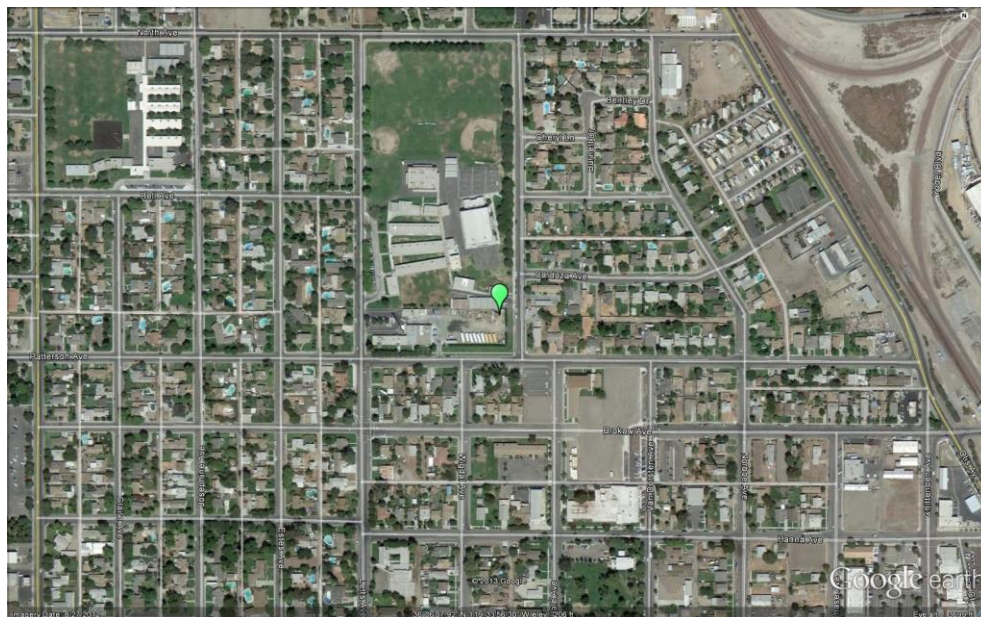


**Corcoran-Patterson**

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):	3,000; 2019*
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 2019.

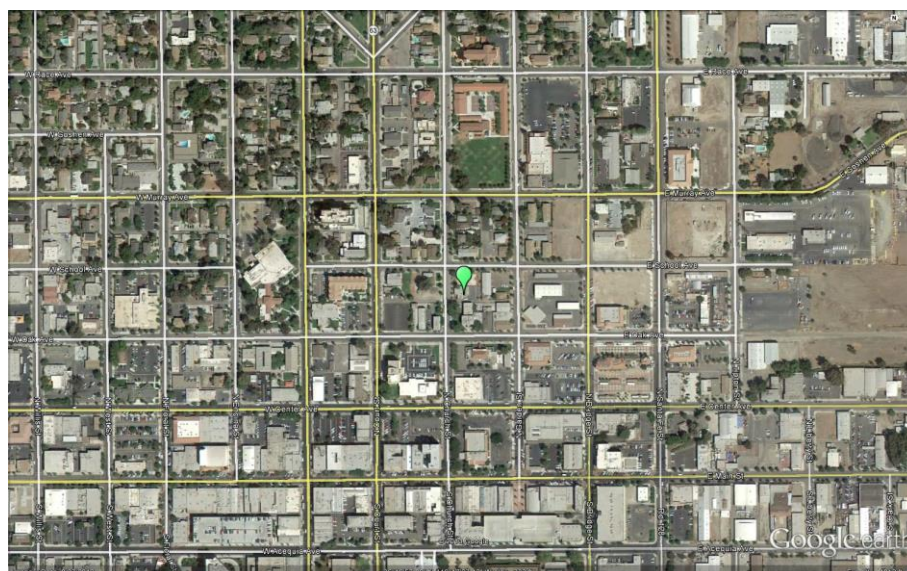


### Visalia-Church St

The Visalia-Church St monitoring site was located in Visalia, CA and operated by CARB from January 1979 through mid-December 2021. The purpose of the site was to monitor representative concentrations of ozone, PM2.5, and PM10 from upwind and nearby urban areas. The site also monitored NO2, PM2.5 Speciation, and meteorology. The Visalia-Church St site was replaced with the Visalia-W. Ashland Avenue site in January 2022.

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; 2019*
Ground Cover:	Paved
Representative Statistical Area (CBSA):	Visalia – Porterville

\*Traffic count for nearest roads: N Court St at W School Ave  
 Source: Caltrans AADT 2019.

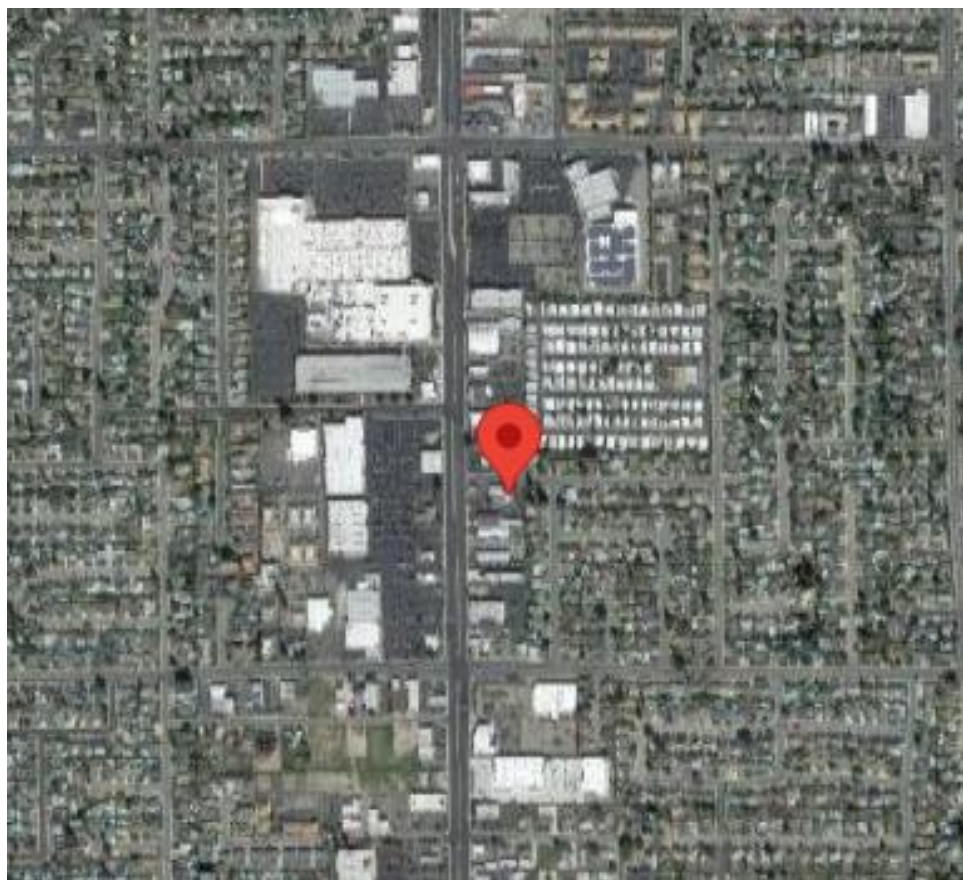


## Visalia-W. Ashland Avenue

The Visalia-W. Ashland Avenue monitoring site is operated by CARB. It began operating in January 2022. The purpose of the site is to monitor representative concentrations of ozone, PM<sub>2.5</sub>, and PM<sub>10</sub> from upwind and nearby urban areas. The site also monitors NO<sub>2</sub>, and meteorology. The Visalia-W. Ashland Avenue site replaced the Visalia-Church St site in January 2022.

Site name:	Visalia-Ashland Avenue
AQS ID:	06-107-2003
County:	Tulare
Street Address:	2005 West Ashland Avenue, Suite G, Visalia CA 93277
Geographic Coordinates:	36.30815 N, -119.31290 W
Distance to road (meters):	25 m (west)
Traffic Count (AADT; Year):	10,656; 2014*
Ground Cover:	Paved
Representative Statistical Area (CBSA):	Visalia – Porterville

\*Traffic count for nearest roads: W Whitendale Avenue and S Mooney Blvd  
Source: Tulare County Association of Governments Interactive Map.

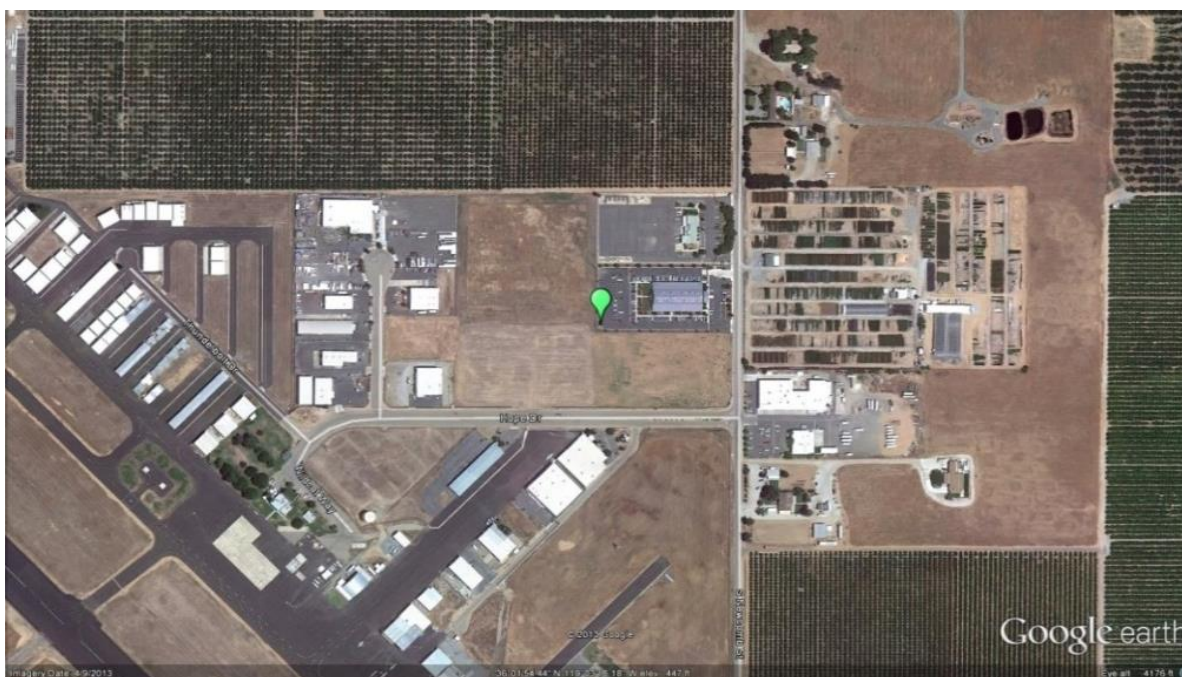


**Porterville**

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):	24,500; 2019*
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 2019.

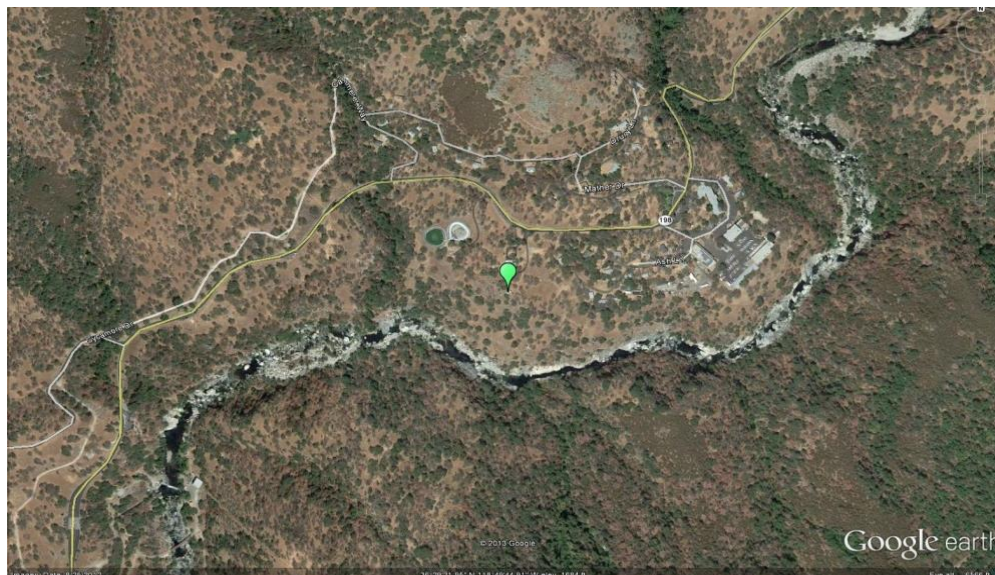
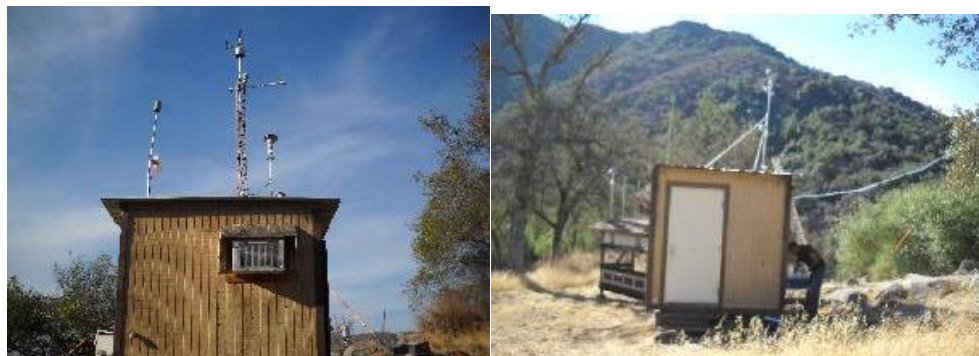


### Sequoia-Ash Mountain

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-foot 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-foot elevation. It began operating in January 1987. This is a seasonal-only site that monitors ozone and meteorology from May 31<sup>st</sup> to October 31<sup>st</sup> each year. The purpose of the site is to demonstrate the ozone concentrations in a rural, mountainous 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

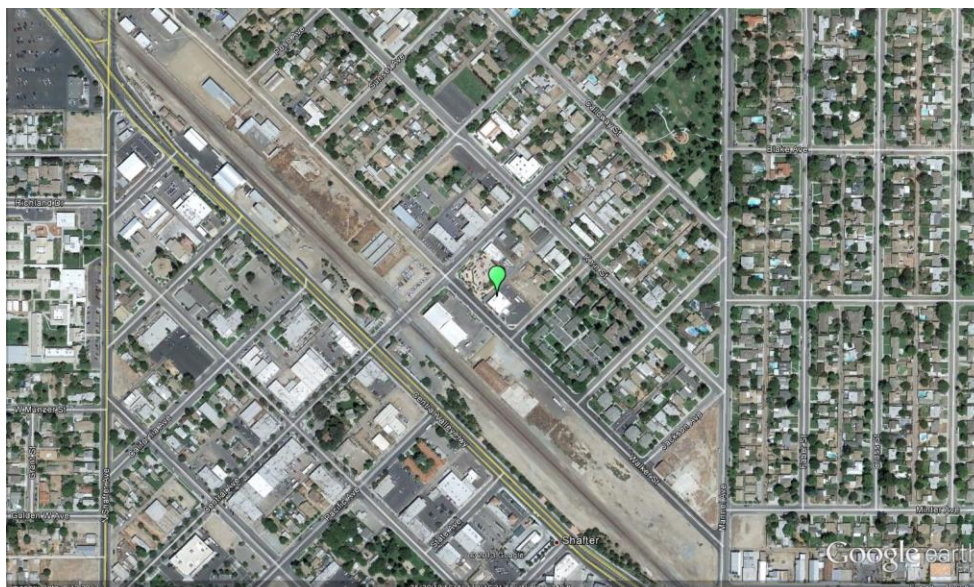


**Shafter**

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 NO<sub>2</sub>, 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):	6,028; 2020*
Ground Cover:	Paved
Representative Statistical Area (CBSA):	Bakersfield

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



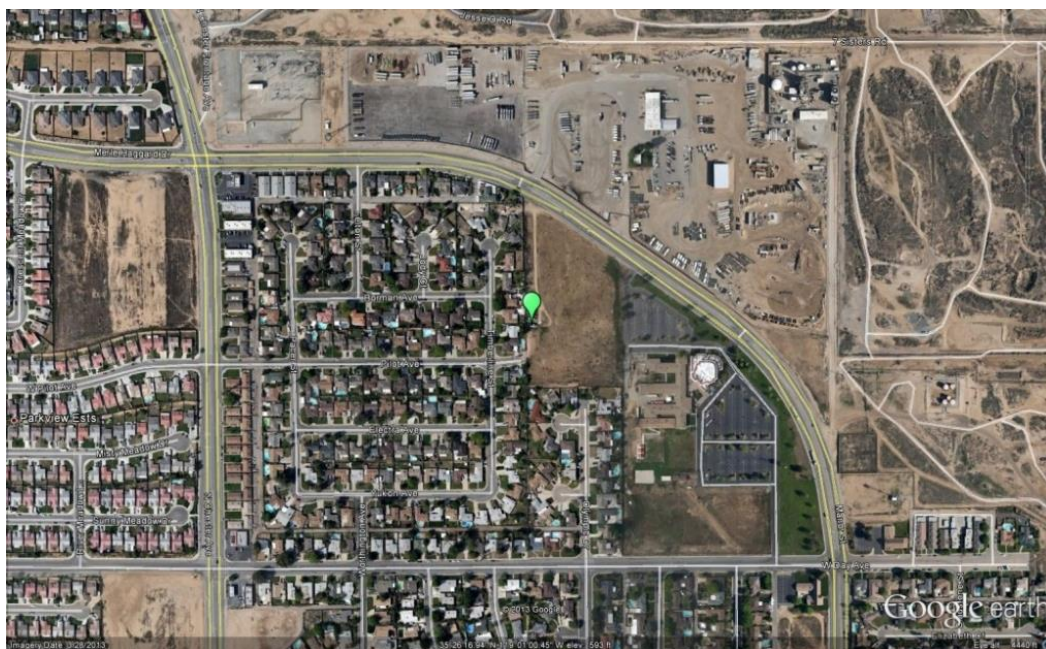


**Oildale**

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):	6,444; 2020*
Ground Cover:	Dirt, vegetative
Representative Statistical Area (CBSA):	Bakersfield

\*Traffic count for roads: Manor St near the air monitoring station. 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 1994 but was moved and began operating at the current location 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):	3,486; 2021*
Ground Cover:	Paved
Representative Statistical Area (CBSA):	Bakersfield

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



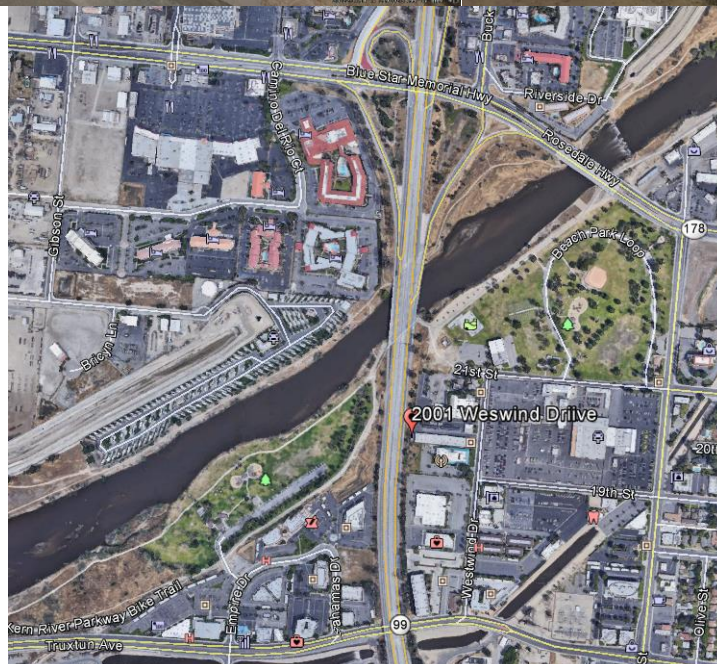
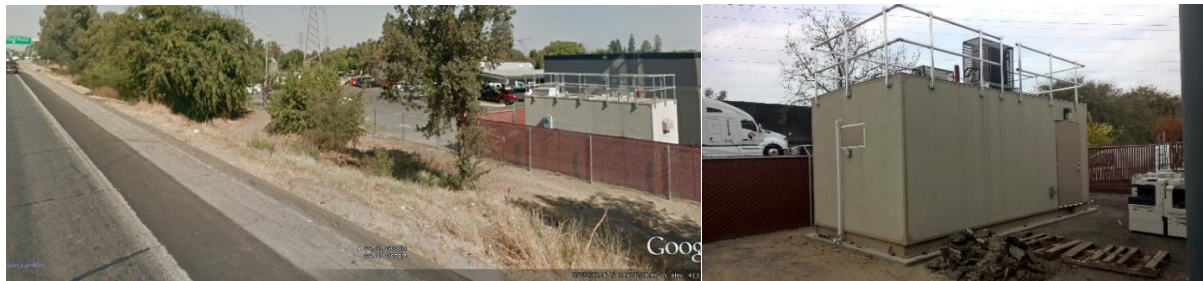
**Bakersfield-Westwind**

The Bakersfield-Westwind near-road NO2 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 NO2 concentrations near a high traffic roadway in an urban area. In addition to NO2, 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):	125,000; 2019* 2,812; 2020**
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 Westwind Drive near the air monitoring station; Source: Kern Council of Governments

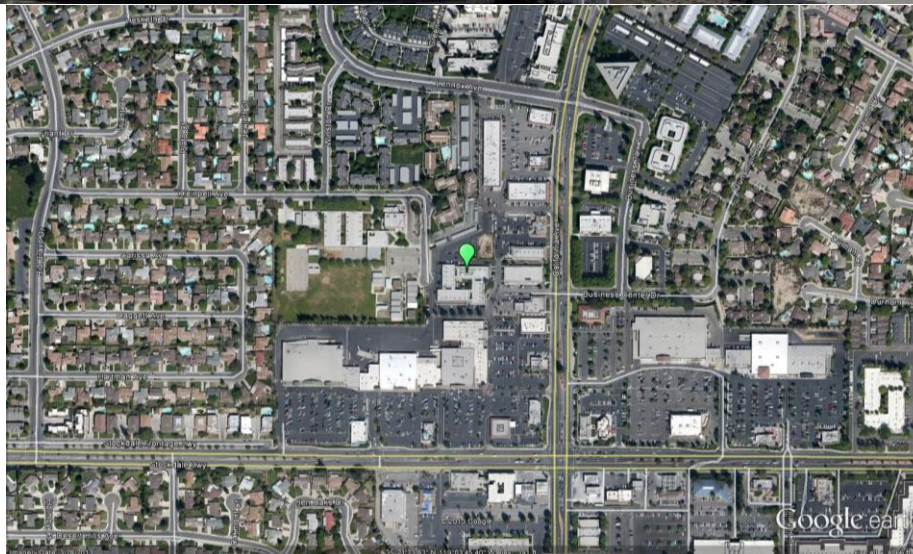


### Bakersfield-California

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):	36,207; 2020*
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, NO<sub>2</sub>, 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):	19,182; 2020* 6,868; 2020**
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



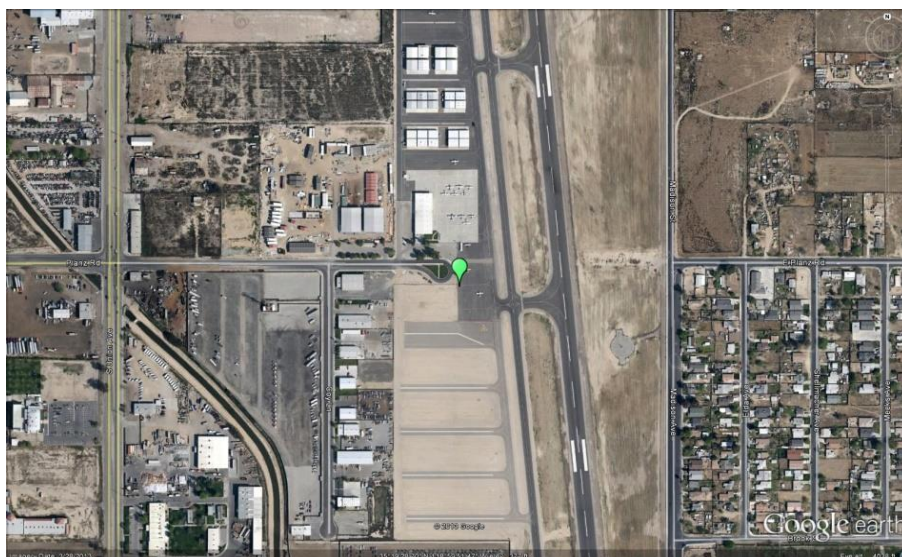
### Bakersfield-Airport (Planz)

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):	14,235; 2020* 1,334; 2020**
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

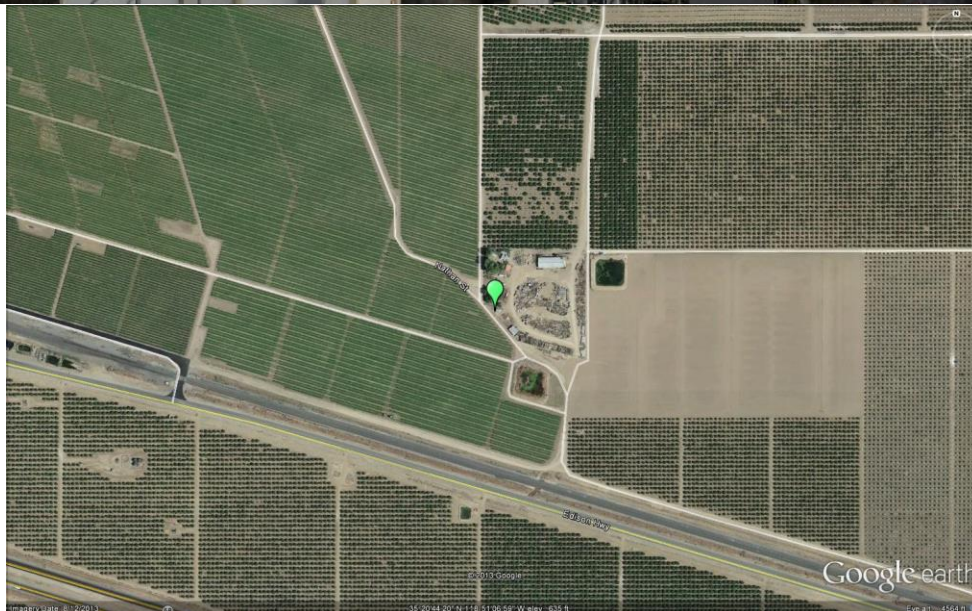


**Edison**

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, Edison CA 93320
Geographic Coordinates:	35.3456 N, -118.8518 W
Distance to road (meters):	450 m (south)
Traffic Count (AADT; Year):	2,753; 2020*
Ground Cover:	Dirt, vegetative
Representative Statistical Area (CBSA):	Bakersfield

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



**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):	394; 2020*
Ground Cover:	Dirt, vegetative
Representative Statistical Area (CBSA):	Bakersfield

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



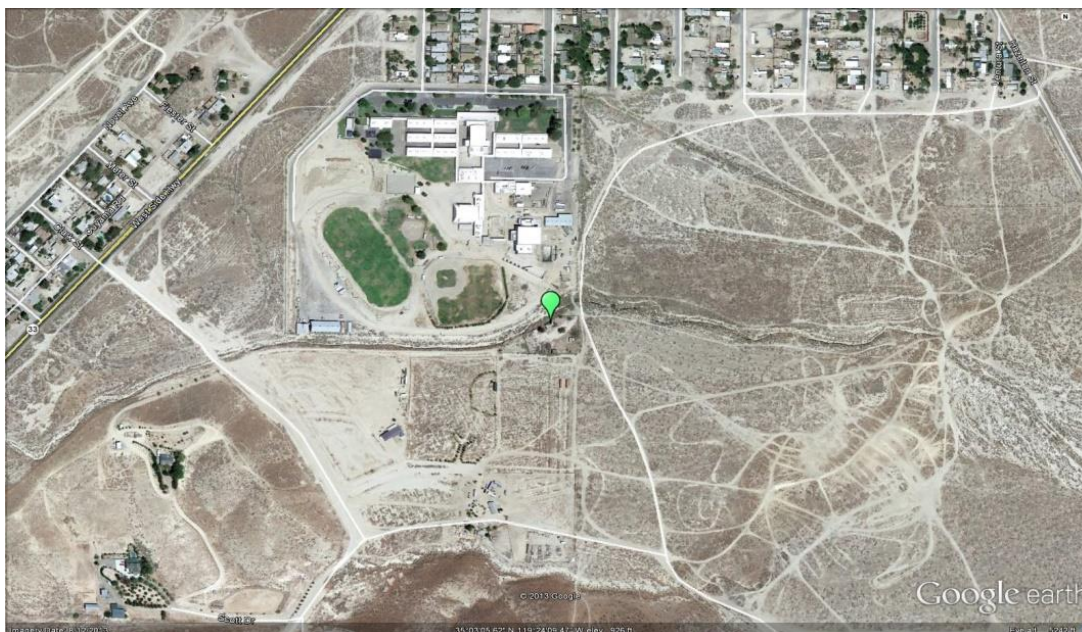
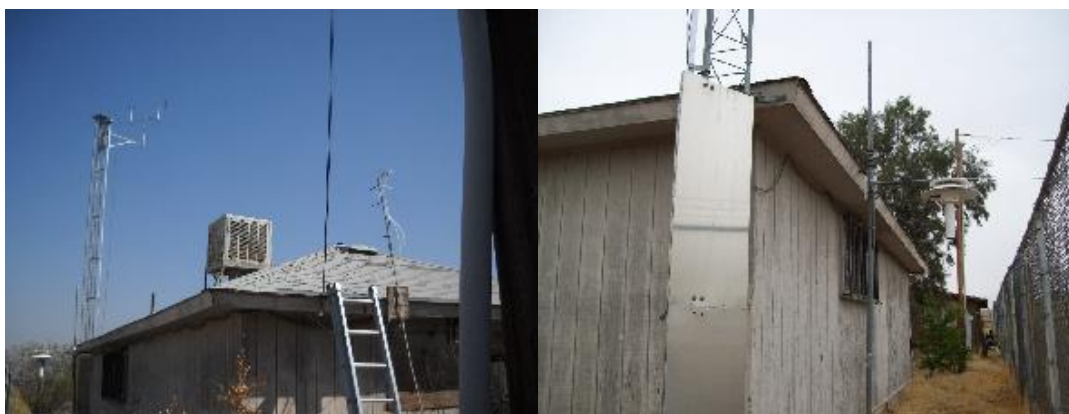


### Maricopa

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):	491; 2021*
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

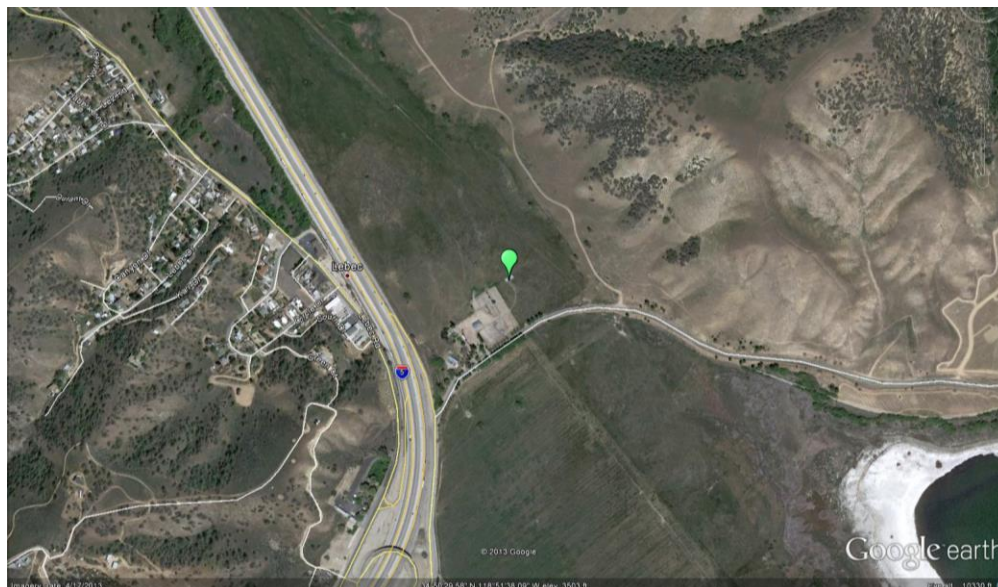


**Lebec**

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):	494; 2018*
Ground Cover:	Gravel, vegetative
Representative Statistical Area (CBSA):	Bakersfield

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



**Tribal Sites**

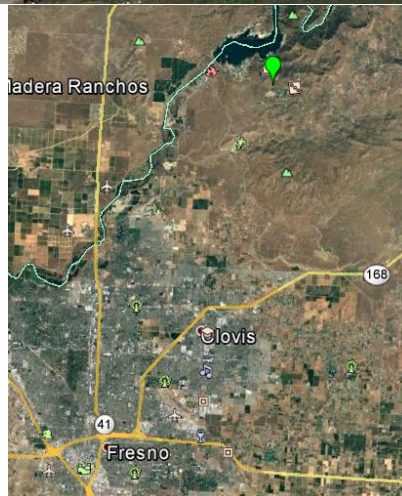
Tribal sites are operated under the Tribal Authority Rule which is essential to tribal implementation of the CAA. Since tribal sites are not part of the District’s jurisdiction, detailed site information for tribal monitors will not be provided in Appendix B.

**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):	53,000; 2019*
Ground Cover:	Dirt
Representative Statistical Area (CBSA):	Fresno-Madera

\*Traffic count for nearest roads: CA Route 41 and Friant Rd. Source: Caltrans 2019

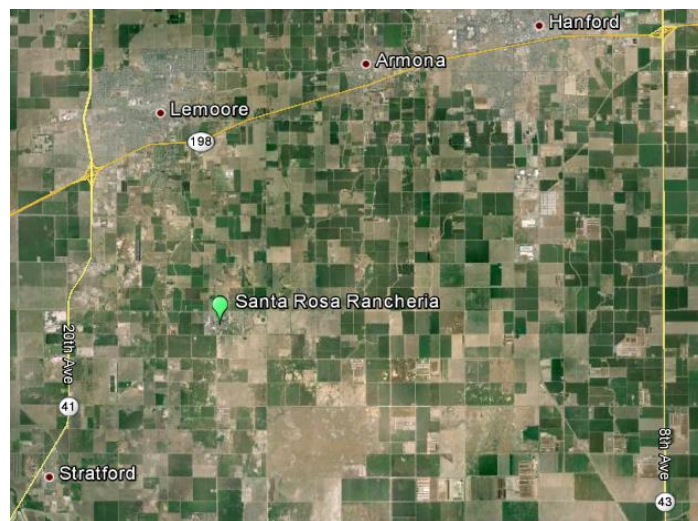
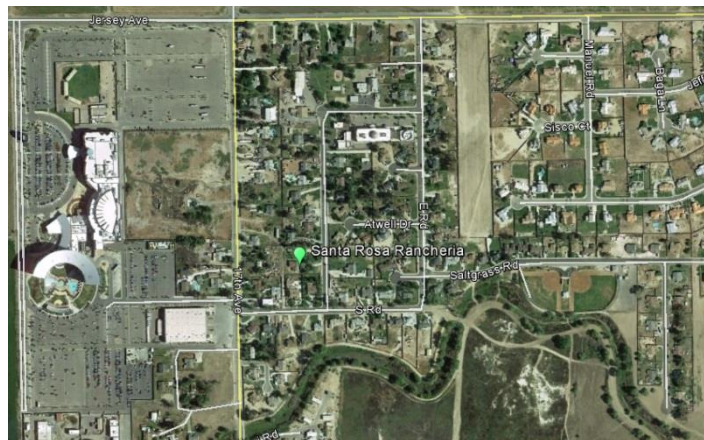


### Santa Rosa Rancheria

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

<b>Site Type</b>	
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
<b>Spatial Scale</b>	
N	Neighborhood
U	Urban
R	Regional
MC	Microscale
MD	Middle Scale
<b>Basic Monitoring Objective</b>	
NC	NAAQS Comparison
RS	Research
TP	Timely/Public
N/A	Not Applicable
AADT	Annual Average Daily Traffic

<b>Site Name</b>	<b>Stockton–Hazelton</b>
<b>AQS ID (XX-XXX-XXXX)</b>	06-077-1002
<b>Representative statistical area Name (i.e. MSA, CBSA, other)</b>	Stockton-Lodi
<b>County</b>	San Joaquin
<b>Collecting (Operating) Agency</b>	CARB
<b>Analytical Lab (i.e. weigh lab, toxics lab, other)</b>	CARB
<b>Reporting Agency</b>	CARB
<b>Site Start Date</b>	1/1/1963
<b>Pollutant Parameters</b>	Ozone, PM10 FRM, PM2.5 FEM, CO, NO <sub>2</sub> , Toxics
<b>Meteorological Parameters</b>	Outdoor temperature, Wind direction, Wind speed, Relative humidity
<b>Address</b>	1601 E. Hazelton St., Stockton CA 95205
<b>GPS Coordinates (decimal degrees)</b>	37.9507 N, -121.2689 W
<b>Distance to roadways</b>	62 m (north)
<b>Traffic Count/Year</b>	4,600/2019 (Traffic count estimated by City of Stockton Public Works Traffic Engineering Division)
<b>Groundcover (e.g. paved, vegetative, dirt, sand, gravel)</b>	Paved



<b>Stockton–Hazelton (1)</b>			
<b>Pollutant</b>	<b>Ozone</b>	<b>PM10 STP</b>	<b>PM2.5</b>
Parameter code	44201	81102	88101
Spatial scale	N	N	N
Site type	HC, PE	HC	HC, PE
Monitoring objective	NC, RS, TP	NC, RS	NC, RS, TP
Monitor type	SLAMS	SLAMS	SLAMS
Network affiliation	None	None	None
FRM/FEM/ARM/Other	FRM	FEM	FEM
POC	1	5	3
Primary / QA Collocated / Other (provide for all PM <sub>2.5</sub> , PM <sub>10</sub> , PM <sub>10-2.5</sub> , Pb and NO <sub>2</sub> monitors. Non-PM, Pb, NO <sub>2</sub> monitors should be listed as "N/A".)	N/A	Primary	Primary
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (Y/N)	N/A	N/A	Y
Instrument manufacturer and model	Teledyne API 400	Met One BAM 1020	Met One BAM 1020
Analysis method	UV	Beta Attenuation	Beta Attenuation
Method code	593	122	170
Monitoring start date (MM/DD/YYYY)	01/01/1976	01/28/2021	05/11/2010
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)	5.7 m	5.7	5.7 m
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	2.0 m	2.0	2.0 m

Pollutant	Ozone	PM10 STP	PM2.5
Distance from obstructions on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	No Obstructions	No Obstructions	No Obstructions
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	No Obstructions	No Obstructions	No Obstructions
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	N/A
Unrestricted airflow (degrees)	360	360	360
Probe material (Teflon, etc.)	Teflon	N/A	N/A
Residence time (seconds)	6.2	N/A	N/A
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the hivol? 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	No
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	Semi-Monthly	Semi-Monthly
Frequency of one-point QC check (gaseous)	Daily	N/A	N/A

Pollutant	Ozone	PM10 STP	PM2.5
Last Annual Performance Evaluation (gaseous)	8/3/2021, re-audited 10/18/2021	N/A	N/A
Last two semi-annual flow rate audits for PM monitors	N/A	2/26/2021, 8/3/2021	2/26/2021, 8/3/2021
Changes planned within the next 18 months (Y/N)	Date site closed: 11/5/2021	Date site closed: 11/5/2021	Date site closed: 11/5/2021

Stockton-Hazelton (2)					
Pollutant	NO <sub>2</sub>	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	FEM	Other	Other	Other
POC	2	3	Many	Many	Many
Primary / QA Collocated / Other (provide for all PM <sub>2.5</sub> , PM <sub>10</sub> , PM <sub>10-2.5</sub> , Pb and NO <sub>2</sub> monitors. Non-PM, Pb, NO <sub>2</sub> monitors should be listed as "N/A".)	N/A	N/A	Primary	QA Collocated	Other
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (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	067	Many	Many	066
Monitoring start date (MM/DD/YYYY)	01/01/77	04/04/13	Varies by compound	Varies by compound	01/01/95

Pollutant	NO2	CO	Toxics	Toxics	Meteorology
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	5.7	6.8	6.8	4.4
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	2.0	2.0	2.0	2.0	None
Distance from obstructions on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	No Obstructions	No Obstructions	No Obstructions	No Obstructions	No Obstructions
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	No Obstructions	No Obstructions	No Obstructions	No Obstructions	No Obstructions
Distance from the drip line of closest tree(s)	>10	>10	>10	>10	>10
Distance to furnace or incinerator flue (meters)	N/A	N/A	N/A	N/A	N/A
Distance between collocated monitors (meters)	N/A	N/A	N/A	N/A	N/A
Unrestricted airflow (degrees)	360	360	360	360	360
Probe material (Teflon, etc.)	Teflon	Teflon	Teflon	Teflon	Teflon
Residence time (seconds)	8.0	5.8	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

<b>Pollutant</b>	<b>NO2</b>	<b>CO</b>	<b>Toxics</b>	<b>Toxics</b>	<b>Meteorology</b>
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)	Daily	Daily	N/A	N/A	N/A
Last Annual Performance Evaluation (gaseous)	8/3/2021, Re-audited 10/18/2021	8/3/2021	N/A	N/A	N/A
Last two semi-annual flow rate audits for PM monitors	N/A	N/A	2/26/2021, 8/3/2021	2/26/2021, 8/3/2021	N/A
Changes planned within the next 18 months (Y/N)	Date site closed: 11/5/2021	Date site closed: 11/5/2021	Date site closed: 11/5/2021	Date site closed: 11/5/2021	Date site closed: 11/5/2021

<b>Site Name</b>	<b>Stockton–University Park</b>
<b>AQS ID (XX-XXX-XXXX)</b>	06-077-1003
<b>Representative statistical area Name (i.e. MSA, CBSA, other)</b>	Stockton-Lodi
<b>County</b>	San Joaquin
<b>Collecting (Operating) Agency</b>	CARB
<b>Analytical Lab (i.e. weigh lab, toxics lab, other)</b>	CARB
<b>Reporting Agency</b>	CARB
<b>Site Start Date</b>	10/1/2021
<b>Pollutant Parameters</b>	Ozone, PM10 FRM, PM2.5 FEM, CO, NO <sub>2</sub> , Toxics
<b>Meteorological Parameters</b>	Outdoor temperature, Relative humidity
<b>Address</b>	702 N. Aurora Street, Stockton CA 95202
<b>GPS Coordinates (decimal degrees)</b>	37.9158 N, -121.28141 W
<b>Distance to roadways</b>	60 m (north)
<b>Traffic Count/Year</b>	4,000 / 2019 (Traffic count for nearest cross road: Park St; Source: City of Stockton 2019 Traffic Volume Flow Map)
<b>Groundcover (e.g. paved, vegetative, dirt, sand, gravel)</b>	Paved

Stockton–University Park (1)					
Pollutant	Ozone	CO	NO2	PM10 STP	PM2.5
Parameter code	44201	42101	42602	81102	88101
Spatial scale	N	N	N	N	N
Site type	HC, PE	PE	PE	HC	HC, PE
Monitoring objective	NC, RS, TP	NC, RS,TP	NC, RS,TP	NC, RS,TP	NC, RS, TP
Monitor type	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS
Network affiliation	None	None	None	None	None
FRM/FEM/ARM/Other	FRM	FEM	FRM	FEM	FEM
POC	1	3	2	5	3
Primary / QA Collocated / Other (provide for all PM <sub>2.5</sub> , PM <sub>10</sub> , PM <sub>10-2.5</sub> , Pb and NO <sub>2</sub> monitors. Non-PM, Pb, NO <sub>2</sub> monitors should be listed as "N/A".)	N/A	N/A	N/A	Primary	Primary
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (Y/N)	N/A	N/A	N/A	N/A	Y
Instrument manufacturer and model	Teledyne API 400	Teledyne API 300 EU	Teledyne API 200	Met One BAM 1020	Met One BAM 1020
Analysis method	UV	Instrumental	Chemiluminescence	Beta Attenuation	Beta Attenuation
Method code	593	067	099	122	170
Monitoring start date (MM/DD/YYYY)	11/05/2021	11/05/2021	11/05/2021	11/05/2021	11/05/2021
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	Hourly	Hourly	Hourly	Hourly	Hourly

Pollutant	Ozone	CO	NO2	PM10 STP	PM2.5
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	5.7	5.7	5.7	5.7
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	2.0 m	2.0	2.0	2.0	2.0 m
Distance from obstructions on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	No Obstructions	No Obstructions	No Obstructions	No Obstructions	No Obstructions
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	No Obstructions	No Obstructions	No Obstructions	No Obstructions	No Obstructions
Distance from the drip line of closest tree(s)	>10	>10	>10	>10	>10
Distance to furnace or incinerator flue (meters)	N/A	N/A	N/A	N/A	N/A
Distance between collocated monitors (meters)	N/A	N/A	N/A	N/A	N/A
Unrestricted airflow (degrees)	360	360	360	360	360
Probe material (Teflon, etc.)	Teflon	Teflon	Teflon	N/A	N/A
Residence time (seconds)	7.6	7.6	7.6	N/A	N/A



Pollutant	Ozone	CO	NO2	PM10 STP	PM2.5
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the lo-vol? If yes, please list distance (meters) and instrument(s).	N/A	N/A	N/A	No	N/A
For high volume PM instrument (flow rate > 200 liters/minute), is any PM instrument within 2m of the hi-vol? If yes, please list distance (meters) and instrument(s).	N/A	N/A	N/A	N/A	No
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	Semi-Monthly	Semi-Monthly
Frequency of one-point QC check (gaseous)	Daily	Daily	Daily	N/A	N/A
Last Annual Performance Evaluation (gaseous)	First audits in Feb 2022	First audits in Feb 2022	First audits in Feb 2022	N/A	N/A
Last two semi-annual flow rate audits for PM monitors	N/A	N/A	N/A	First audits in Feb 2022	First audits in Feb 2022
Changes planned within the next 18 months (Y/N)	N	N	N	N	N

<b>Stockton–University Park (2)</b>			
<b>Pollutant</b>	<b>Toxics SN20021014</b>	<b>Toxics SN20021016</b>	<b>Meteorology</b>
Parameter code	Many	Many	Many
Spatial scale	N	N	R
Site type	PE	PE, QA	GB
Monitoring objective	RS, TP	RS, TP	RS, TP
Monitor type	Many	Many	Other
Network affiliation	CA Air Toxics	CA Air Toxics	None
FRM/FEM/ARM/Other	Other	Other	Other
POC	Many	Many	Many
Primary / QA Collocated / Other (provide for all PM <sub>2.5</sub> , PM <sub>10</sub> , PM <sub>10-2.5</sub> , Pb and NO <sub>2</sub> monitors. Non-PM, Pb, NO <sub>2</sub> monitors should be listed as “N/A”.)	Primary	QA Collocated	Other
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (Y/N)	N/A	N/A	N/A
Instrument manufacturer and model	Xontech 924	Xontech 924	Vaisala HMP-155 (OT/RH),
Analysis method	Many	Many	Many
Method code	Many	Many	066
Monitoring start date (MM/DD/YYYY)	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
Sampling season (MM/DD - MM/DD)	01/01 - 12/31	01/01 - 12/31	01/01 - 12/31
Probe/Inlet height above ground (meters)	6.8	6.8	4.4
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	2.0	2.0	None
Distance from obstructions on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	No Obstructions	No Obstructions	No Obstructions

Pollutant	Toxics	Toxics	Meteorology
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	No Obstructions	No Obstructions	No Obstructions
Distance from the drip line of closest tree(s)	>10	>10	>10
Distance to furnace or incinerator flue (meters)	N/A	N/A	N/A
Distance between collocated monitors (meters)	N/A	N/A	N/A
Unrestricted airflow (degrees)	360	360	360
Probe material (Teflon, etc.)	Teflon	Teflon	Teflon
Residence time (seconds)	8.0	5.8	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)	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	First audits in Feb 2022	First audits in Feb 2022	N/A
Changes planned within the next 18 months (Y/N)	N	N	N

<b>Site Name</b>	<b>Tracy - Airport</b>
<b>AQS ID (XX-XXX-XXXX)</b>	06-077-3005
<b>Representative statistical area Name (i.e. MSA, CBSA, other)</b>	Stockton-Lodi
<b>County</b>	San Joaquin
<b>Collecting (Operating) Agency</b>	SJVAPCD
<b>Analytical Lab (i.e. weigh lab, toxics lab, other)</b>	N/A
<b>Reporting Agency</b>	SJVAPCD
<b>Site Start Date</b>	01/01/2006
<b>Pollutant Parameters</b>	Ozone, PM10 FEM, PM2.5 Non-FEM, NO2
<b>Meteorological Parameters</b>	Wind speed, wind direction, outdoor temperature, barometric pressure
<b>Address</b>	5749 S. Tracy Blvd., Tracy, CA 95376
<b>GPS Coordinates (decimal degrees)</b>	37.6826 N, -121.4423 W
<b>Distance to roadways (meters)</b>	700m (east)
<b>Traffic Count/Year</b>	5,113/2020 (Traffic count for nearest roads: Linne Rd and Corral Hollow Rd) Source: San Joaquin Council of Governments, 2020 Monitoring and Conformance Report
<b>Groundcover (e.g. paved, vegetative, dirt, sand, gravel)</b>	Dirt and Gravel

Tracy – Airport (1)					
Pollutant	Ozone	PM2.5	PM10	NO <sub>2</sub>	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 <sub>2.5</sub> , PM <sub>10</sub> , PM <sub>10-2.5</sub> , Pb and NO <sub>2</sub> monitors. Non-PM, Pb, NO <sub>2</sub> monitors should be listed as "N/A".)	Primary	Primary	Primary	Other	Other
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (Y/N)	N/A	N	N/A	N/A	N/A
Instrument manufacturer and model	Teledyne T400	Met One BAM 1020	Met One BAM 1020	Teledyne T200	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	Beta-Attenuation	CL	Many
Method code	087	731	122	099	Many
Monitoring start date (MM/DD/YYYY)	01/01/2006	09/27/2006	01/01/2021	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	5.7 m	5.9 m	10 m
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	2.1 m	1.8 m	1.9 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

Pollutant	Ozone	PM2.5	PM10	NO <sub>2</sub>	Meteorology
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
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 <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; 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 <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; PAMS: VOCs, Carbonyls (seconds)	10.04	N/A	N/A	10.85	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	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 hivol? 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)	10/7/2021	N/A	N/A	10/7/2021	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	10/7/2021, 4/12/21	10/7/2021, 4/12/21	N/A	N/A
Changes planned within the next 18 months (Y/N)	N	N	N	N	N

<b>Site Name</b>	<b>Manteca</b>
<b>AQS ID (XX-XXX-XXXX)</b>	06-077-2010
<b>Representative statistical area Name (i.e. MSA, CBSA, other)</b>	Stockton-Lodi
<b>County</b>	San Joaquin
<b>Collecting (Operating) Agency</b>	SJVAPCD
<b>Analytical Lab (i.e. weigh lab, toxics lab, other)</b>	N/A
<b>Reporting Agency</b>	SJVAPCD
<b>Site Start Date</b>	11/16/2010
<b>Pollutant Parameters</b>	PM2.5 FEM; PM10 FEM
<b>Meteorological Parameters</b>	Wind speed, wind direction, outdoor temperature, barometric pressure
<b>Address</b>	530 Fishback Rd., Manteca, CA 95337
<b>GPS Coordinates (decimal degrees)</b>	37.7933 N, -121.2477 W
<b>Distance to roadways (meters)</b>	12 m (west)
<b>Traffic Count/Year</b>	20,487/2020 (Traffic count for nearest roads: Airport Way between Lathrop Rd and Hwy 120. Source: San Joaquin Council of Governments, 2020 Monitoring and Conformance Report)
<b>Groundcover (e.g. paved, vegetative, dirt, sand, gravel)</b>	Paved, vegetative

<b>Manteca</b>				
<b>Pollutant</b>	<b>PM2.5</b>	<b>PM10 LC</b>	<b>PM10 STP</b>	<b>Meteorology</b>
Parameter code	88101	85101	81102	Many
Spatial scale	N	N	N	N
Site type	HC	HC	HC	PE
Basic monitoring objective(s)	NC, RS, TP	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	3	3	3	1
Primary / QA Collocated / Other (provide for all PM <sub>2.5</sub> , PM <sub>10</sub> , PM <sub>10-2.5</sub> , Pb and NO <sub>2</sub> monitors. Non-PM, Pb, NO <sub>2</sub> monitors should be listed as "N/A".)	Primary	Other	Primary	Other
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (Y/N)	Yes	N/A	N/A	N/A
Instrument manufacturer and model	Met One BAM 1020	Met One BAM 1020	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	Beta Attenuation	Beta Attenuation	Many
Method code	170	122	122	Many
Monitoring start date (MM/DD/YYYY)	09/12/2019	09/12/2019	09/12/2019	11/16/2010
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)	3.7 m	3.6 m	3.6 m	10 m
Distance from supporting structure (meters)	1.9m	1.8 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



Pollutant	PM2.5	PM10 LC	PM10 STP	Meteorology
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)	55 m	55 m	55 m	55.5 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 <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; PAMS: VOCs, Carbonyls (e.g. Pyrex, stainless steel, Teflon)	N/A	N/A	N/A	N/A
Residence time for reactive gases NO/NO <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; PAMS: VOCs, Carbonyls (seconds)	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
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)	Biweekly	Biweekly	Biweekly	N/A
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the hivol? If yes, please list distance (meters) and instrument(s).	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

<b>Pollutant</b>	<b>PM2.5</b>	<b>PM10 LC</b>	<b>PM10 STP</b>	<b>Meteorology</b>
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
Date of two semi-annual flow rate audits conducted in the past calendar year for PM monitors (MM/DD/YYYY, MM/DD/YYYY)	10/4/2021, 4/12/2021	10/4/2021, 4/12/2021	10/4/2021, 4/12/2021	N/A
Changes planned within the next 18 months (Y/N)	N	N	N	N

<b>Site Name</b>	<b>Modesto –14<sup>th</sup> St</b>
<b>AQS ID (XX-XXX-XXXX)</b>	06-099-0005
<b>Representative statistical area Name (i.e. MSA, CBSA, other)</b>	Modesto
<b>County</b>	Stanislaus
<b>Collecting (Operating) Agency</b>	CARB
<b>Analytical Lab (i.e. weigh lab, toxics lab, other)</b>	CARB
<b>Reporting Agency</b>	CARB
<b>Site Start Date</b>	01/01/81
<b>Pollutant Parameters</b>	Ozone, PM10 FEM, PM2.5 FRM, PM2.5 FEM, CO, PM2.5 Speciation (CSN Supplemental)
<b>Meteorological Parameters</b>	Wind speed, wind direction, outdoor temperature, relative humidity
<b>Address</b>	814 14th Street, Modesto CA 95354
<b>GPS Coordinates (decimal degrees)</b>	37.6421 N, -120.9942 W
<b>Distance to road</b>	50 m (southwest)
<b>Traffic Count/Year</b>	131,800 / 2019 (Traffic count for nearest roads: H Street / Rte 99, Source: Caltrans 2019 AADDT)
<b>Groundcover (e.g. paved, vegetative, dirt, sand, gravel)</b>	Paved

<b>Modesto –14<sup>th</sup> St (1)</b>			
<b>Pollutant</b>	<b>Ozone</b>	<b>PM10 STP</b>	<b>PM2.5</b>
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 <sub>2.5</sub> , PM <sub>10</sub> , PM <sub>10-2.5</sub> , Pb and NO <sub>2</sub> monitors. Non-PM, Pb, NO <sub>2</sub> monitors should be listed as "N/A".)	N/A	Primary	Primary
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (Y/N)	N/A	N/A	Y
Instrument manufacturer and model	Teledyne API 400	Met One BAM 1020	Met One BAM 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)	8	4.4 m	4.4 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)	No obstructions	No obstructions	No obstructions
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	No obstructions	No obstructions	No obstructions
Distance from the drip line of closest tree(s)	>10	>10	>10
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)	360	360	360
Probe material (Teflon, etc.)	Teflon	N/A	N/A

Pollutant	Ozone	PM10 STP	PM2.5
Residence time (seconds)	7.7	N/A	N/A
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the lo-vol? 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 hi-vol? 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	Semi-Monthly	Semi-Monthly
Frequency of one-point QC check (gaseous)	Daily	N/A	N/A
Last Annual Performance Evaluation (gaseous)	12/8/2021	N/A	N/A
Last two semi-annual flow rate audits for PM monitors	N/A	4/14/2021,12/8/2021	4/14/2021,12/8/2021
Changes planned within the next 18 months (Y/N)	N	N	N

Modesto –14 <sup>th</sup> St (2)			
Pollutant	PM2.5 Speciation	CO	Meteorology
Parameter code	88502	42101	Many
Spatial scale	N	N	R
Site type	PE	PE	GB
Monitoring objective(s)	RS	NC, TP	RS, TP
Monitor type	SLAMS	SLAMS	Other
Network affiliation	CSN Supplemental	None	None
FRM/FEM/ARM/Other	Other	FRM	Other
POC	5	3	Many
Primary / QA Collocated / Other (provide for all PM <sub>2.5</sub> , PM <sub>10</sub> , PM <sub>10-2.5</sub> , Pb and NO <sub>2</sub> monitors. Non-PM, Pb, NO <sub>2</sub> monitors should be listed as "N/A".)	Primary	N/A	Other
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (Y/N)	N/A	N/A	N/A
Instrument manufacturer and model	Met-One SASS	Teledyne API 300	Vaisala HMP-155 (OT/RH); RM Young 81000 (WS/WD/3DT)
Analysis method	Gravimetric	IR	N/A
Method code	143	593	Many
Monitoring start date (MM/DD/YYYY)	01/03/95	01/01/13	01/01/95
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	1:12	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)	6.1	8	8
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	2.8	2	None
Distance from obstructions on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	None	No obstructions	No obstructions

Pollutant	PM2.5 Speciation	CO	Meteorology
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	1 (Met tower)	None	None
Distance from the drip line of closest tree(s)	40	>10	>10
Distance to furnace or incinerator flue (meters)	Approx. 40 m	N/A	N/A
Distance between monitors fulfilling a QA collocation requirement (meters)	2.4 (URG 3000n) 4.5 (Partisol) 3.0 (BAM-10)	N/A	N/A
Unrestricted airflow (degrees)	Est. 350	360	360
Probe material (Teflon, etc.)	N/A	Teflon	N/A
Residence time (seconds)	N/A	6.9	N/A
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the hivol? 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	Annually	N/A	N/A
Frequency of flow rate verification for automated PM analyzers audit	N/A	N/A	N/A
Frequency of one-point QC check (gaseous)	N/A	Daily	N/A
Last Annual Performance Evaluation (gaseous)	N/A	12/8/2021	N/A
Last two semi-annual flow rate audits for PM monitors	4/14/2021	N/A	N/A
Changes planned within the next 18 months (Y/N)	N	N	N

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



Turlock						
Pollutant	Ozone	PM2.5	PM10 STP	PM10 STP/LC	NO <sub>2</sub>	Meteorology
Parameter code	44201	88101	81102	81102 / 85101	42602	Many
Spatial scale	N	N	N	N	N	R
Site type	HC, PE	HC, PE	PE	PE	PE	GB
Basic monitoring objective(s)	NC, RS, TP	NC, RS, TP	NC, RS	NC, RS, TP	NC, RS, TP	RS, TP
Monitor type	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
FRM/FEM/ARM/Other	FEM	FEM	FRM	FEM	FEM	Other
POC	1	3	1	3	1	1
Primary / QA Collocated / Other (provide for all PM <sub>2.5</sub> , PM <sub>10</sub> , PM <sub>10-2.5</sub> , Pb and NO <sub>2</sub> monitors. Non-PM, Pb, NO <sub>2</sub> monitors should be listed as "N/A".)	N/A	Primary	Primary (Removed in 2022)	Primary (Installed in 2022)	N/A	Other
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (Y/N)	N/A	Y	N/A	N/A	N/A	N/A
Instrument manufacturer and model	Teledyne T400	Met One BAM 1020	ECOTECH Hi-Vol 3000	Met One BAM 1020	Teledyne T200	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	Beta Attenuation	Chem.	Many
Method code	087	170	162	122	099	Many
Monitoring start date (MM/DD/YYYY)	04/01/2000	09/14/2006	09/14/2006	02/09/2022	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	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

Pollutant	Ozone	PM2.5	PM10	PM10 LC	NO <sub>2</sub>	Meteorology
Probe height (meters)	5.6 m	5.6 m	5.5 m	5.5 m	5.6 m	8.3 m
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	2 m	2 m	1.6 m	2.1 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	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)	21.34 m	22.88 m	21.04 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	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)	360	360	360	360	360	360
Probe material for reactive gases NO/NO <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; PAMS: VOCs, Carbonyls (e.g. Pyrex, stainless steel, Teflon)	Teflon/Pyrex with Borosilicate	N/A	N/A	N/A	Teflon/Pyrex with Borosilicate	N/A
Residence time for reactive gases NO/NO <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; PAMS: VOCs, Carbonyls (seconds)	12.06	N/A	N/A	N/A	12.94	N/A
Frequency of one-point QC check for gaseous instruments	Daily	N/A	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	N/A
Frequency of flow rate verification for automated PM analyzers (routine checks)	N/A	Bi-weekly	N/A	Bi-weekly	N/A	N/A

Pollutant	Ozone	PM2.5	PM10	PM10 LC	NO <sub>2</sub>	Meteorology
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the lo-vol? If yes, please list distance (meters) and instrument(s).	N/A	No	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	No	N/A	N/A	N/A
Date of Annual Performance Evaluation conducted in the past calendar year for gaseous parameters (MM/DD/YYYY)	11/1/2021	N/A	N/A	Installed in 2022	11/1/2021	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	11/1/2021, 4/28/2021	11/1/2021, 4/28/2021	Installed in 2022	N/A	N/A
Changes planned within the next 18 months (Y/N)	N	N	Y Removed from service in 2022. Replaced with FEM on 2/2022	N Installed in 2022	N	N

<b>Site Name</b>	<b>Merced-M St</b>
<b>AQS ID (XX-XXX-XXXX)</b>	06-047-2510
<b>Representative statistical area Name (i.e. MSA, CBSA, other)</b>	Merced
<b>County</b>	Merced
<b>Collecting (Operating) Agency</b>	SJVAPCD
<b>Analytical Lab (i.e. weigh lab, toxics lab, other)</b>	SJVAPCD
<b>Reporting Agency</b>	SJVAPCD
<b>Site Start Date</b>	04/01/1999
<b>Pollutant Parameters</b>	PM10 FRM, PM2.5 FEM
<b>Meteorological Parameters</b>	None
<b>Address</b>	2334 M Street, Merced, CA 95340
<b>GPS Coordinates (decimal degrees)</b>	37.3086 N, -120.4800 W
<b>Distance to roadways (meters)</b>	55 m (northwest)
<b>Traffic Count/Year</b>	51,000/2019 (Traffic count for nearest roads: R Street/Rte 99, Source: Caltrans 2019 AADT)
<b>Groundcover (e.g. paved, vegetative, dirt, sand, gravel)</b>	Paved, gravel

Merced-M St				
Pollutant	PM10 STP	PM10 PST / LC	PM2.5	PM2.5
Parameter code	81102	81102 / 85101	88101	88101
Spatial scale	N	N	N	N
Site type	HC, PE	HC, PE	HC, PE	HC, PE
Basic monitoring objective(s)	NC, RS	NC, RS, TP	NC, RS	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	FRM	FEM	FEM	FEM
POC	1	3	3	3
Primary / QA Collocated / Other (provide for all PM <sub>2.5</sub> , PM <sub>10</sub> , PM <sub>10-2.5</sub> , Pb and NO <sub>2</sub> monitors. Non-PM, Pb, NO <sub>2</sub> monitors should be listed as "N/A".)	Primary (Removed in 2022)	Primary (Installed in 2022)	Primary (Removed 3/2022)	Primary
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (Y/N)	N/A	N/A	Y	Y
Instrument manufacturer and model	ECOTECH Hi-Vol 3000	Met One BAM 1020	Met One BAM 1022	Met One BAM 1020
Analysis method	Gravimetric	Beta Attenuation	Beta Attenuation	Beta Attenuation
Method code	162	122	209	170
Monitoring start date (MM/DD/YYYY)	4/01/1999	03/04/2022	1/1/2021	03/04/2022
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	1:6	Hourly	Hourly	Hourly

<b>Pollutant</b>	<b>PM10</b>	<b>PM10 LC</b>	<b>PM2.5</b>	<b>PM2.5</b>
Sampling season (MM/DD - MM/DD)	1/1 – 12/31	01/01-12/31	1/1 – 12/31	01/01 – 12/31
Probe height (meters)	8.1 m	9.2 m	8.4 m	9.3 m
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	1.7 m	2.1 m	2.0 m	2.2 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
Distance from the drip line of closest tree(s)	13.3 m	30 m	14.7 m	30 m
Distance to furnace or incinerator flue (meters)	39.1 m	46.5 m	44.3 m	46 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
<b>Pollutant</b>	<b>PM10</b>	<b>PM10 LC</b>	<b>PM2.5</b>	<b>PM2.5</b>

Probe material for reactive gases NO/NO <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; PAMS: VOCs, Carbonyls (e.g. Pyrex, stainless steel, Teflon)	N/A	N/A	N/A	N/A
Residence time for reactive gases NO/NO <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; PAMS: VOCs, Carbonyls (seconds)	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
Frequency of flow rate verification for manual PM samplers, including Pb samplers (routine checks)	Monthly	N/A	N/A	N/A
Frequency of flow rate verification for automated PM analyzers (routine checks)	N/A	Bi-weekly	Monthly	Bi-weekly
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the loval? If yes, please list distance (meters) and instrument(s).	N/A	No	No	No

Pollutant	PM10	PM10 LC	PM2.5	PM2.5
For high volume PM instrument (flow rate > 200 liters/minute), is any PM instrument within 2m of the hi-vol? If yes, please list distance (meters) and instrument(s).	No	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
Date of two semi-annual flow rate audits conducted in the past calendar year for PM monitors (MM/DD/YYYY, MM/DD/YYYY)	11/2/2021, 4/13/2021	N/A	11/2/2021, 4/13/2021	N/A
Changes planned within the next 18 months (Y/N)	Y Removed FRM to replace with FEM on 3/2022	N Installed in 2022	Y Removed to be replaced with BAM-1020 on 3/2022	N



<b>Site Name</b>	<b>Merced-Coffee</b>
<b>AQS ID (XX-XXX-XXXX)</b>	06-047-0003
<b>Representative statistical area Name (i.e. MSA, CBSA, other)</b>	Merced
<b>County</b>	Merced
<b>Collecting (Operating) Agency</b>	SJVAPCD
<b>Analytical Lab (i.e. weigh lab, toxics lab, other)</b>	N/A
<b>Reporting Agency</b>	SJVAPCD
<b>Site Start Date</b>	10/1/1991
<b>Pollutant Parameters</b>	Ozone, PM2.5 FEM, NO2
<b>Meteorological Parameters</b>	Wind speed, wind direction, outdoor temperature
<b>Address</b>	385 S. Coffee St., Merced, CA 95340
<b>GPS Coordinates (decimal degrees)</b>	37.2816 N, -120.4340 W
<b>Distance to roadways (meters)</b>	15 m (east)
<b>Traffic Count/Year</b>	42,500/2019 (Traffic count for nearest roads: Childs Avenue/Rte 99, Source: Caltrans 2019 AADT)
<b>Groundcover (e.g. paved, vegetative, dirt, sand, gravel)</b>	Vegetative, dirt and gravel

Merced-Coffee				
Pollutant	Ozone	PM2.5	NO <sub>2</sub>	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 <sub>2.5</sub> , PM <sub>10</sub> , PM <sub>10-2.5</sub> , Pb and NO <sub>2</sub> monitors. Non-PM, Pb, NO <sub>2</sub> monitors should be listed as "N/A".)	N/A	Primary	N/A	Other
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (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

Pollutant	Ozone	PM2.5	NO <sub>2</sub>	Meteorology
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)	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 <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; 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 <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; PAMS: VOCs, Carbonyls (seconds)	13.06	N/A	13.81	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 hivol? 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)	11/2/2021	N/A	11/2/2021	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	11/2/2021, 4/13/2021	N/A	N/A
Changes planned within the next 18 months (Y/N)	N	N	N	N

<b>Site Name</b>	<b>Madera-City</b>
<b>AQS ID (XX-XXX-XXXX)</b>	06-039-2010
<b>Representative statistical area Name (i.e. MSA, CBSA, other)</b>	Madera
<b>County</b>	Madera
<b>Collecting (Operating) Agency</b>	SJVAPCD
<b>Analytical Lab (i.e. weigh lab, toxics lab, other)</b>	CARB: PM2.5 FRM
<b>Reporting Agency</b>	SJVAPCD
<b>Site Start Date</b>	7/16/2010
<b>Pollutant Parameters</b>	Ozone, PM10 FEM, PM2.5 FEM, PM2.5 FRM
<b>Meteorological Parameters</b>	Wind speed, wind direction, outdoor temperature, relative humidity, barometric pressure, solar radiation.
<b>Address</b>	28261 Avenue 14, Madera, CA 93638
<b>GPS Coordinates (decimal degrees)</b>	36.9532 N, -120.0342 W
<b>Distance to roadways (meters)</b>	70 m (south)
<b>Traffic Count/Year</b>	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.)
<b>Groundcover (e.g. paved, vegetative, dirt, sand, gravel)</b>	Paved, dirt, and vegetative

<b>Madera-City</b>					
<b>Pollutant</b>	<b>Ozone</b>	<b>PM2.5</b>	<b>PM10 LC</b>	<b>PM10 STP</b>	<b>Meteorology</b>
Parameter code	44201	88101	85101	81102	Many
Spatial scale	N	N	N	N	N
Site type	HC, GB	PE	PE	PE	GB
Basic monitoring objective(s)	NC, RS, TP	NC, RS, TP	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	1	3	3	3	1
Primary / QA Collocated / Other (provide for all PM <sub>2.5</sub> , PM <sub>10</sub> , PM <sub>10-2.5</sub> , Pb and NO <sub>2</sub> monitors. Non-PM, Pb, NO <sub>2</sub> monitors should be listed as "N/A".)	N/A	Primary	Other	Other	Other
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (Y/N)	N/A	Y	N/A	N/A	N/A
Instrument manufacturer and model	TAPI T265	Met One BAM 1020	Met One BAM 1020	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	Chem	Beta Attenuation	Beta Attenuation	Beta Attenuation	Many
Method code	199	170	122	122	Many
Monitoring start date (MM/DD/YYYY)	12/01/2020	09/20/2019	09/20/2019	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
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)	5.1 m	3.7 m	3.6 m	3.6 m	10 m
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	2 m	1.9 m	1.8 m	1.8 m	7 m

Pollutant	Ozone	PM2.5	PM10 LC	PM10 STP	Meteorology
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)	16.0 m	18.1 m	16.2 m	16.2 m	14.5 m
Distance to furnace or incinerator flue (meters)	53m	53 m	53 m	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 <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; PAMS: VOCs, Carbonyls (e.g. Pyrex, stainless steel, Teflon)	Teflon/Pyrex with Borosilicate	N/A	N/A	N/A	N/A
Residence time for reactive gases NO/NO <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; NPAMS: VOCs, Carbonyls (seconds)	9.60	N/A	N/A	N/A	N/A
Frequency of one-point QC check for gaseous instruments	Daily	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)	N/A	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 hivol? If yes, please list distance (meters) and instrument(s).	N/A	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)	11/1/2021	N/A	N/A	N/A	N/A

Pollutant	Ozone	PM2.5	PM10 LC	PM10 STP	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	11/1/2021, 4/28/2021	11/1/2021, 4/28/2021	11/1/2021, 4/28/2021	N/A
Changes planned within the next 18 months (Y/N)	N	N	N	N	N

<b>Site Name</b>	<b>Madera-Pump Yard</b>
<b>AQS ID (XX-XXX-XXXX)</b>	06-039-0004
<b>Representative statistical area Name (i.e. MSA, CBSA, other)</b>	Madera
<b>County</b>	Madera
<b>Collecting (Operating) Agency</b>	SJVAPCD
<b>Analytical Lab (i.e. weigh lab, toxics lab, other)</b>	Varies based on which laboratory is contracted with the SJVAPCD.
<b>Reporting Agency</b>	SJVAPCD
<b>Site Start Date</b>	07/01/1997
<b>Pollutant Parameters</b>	Ozone, NO <sub>2</sub> , Speciated VOC, NMH
<b>Meteorological Parameters</b>	Wind speed, wind direction, outdoor temperature, relative humidity, barometric pressure, solar radiation
<b>Address</b>	Avenue 8 and Road 29 ½, Madera, CA 93637
<b>GPS Coordinates (decimal degrees)</b>	36.867125 N, -120.010158 W
<b>Distance to roadways (meters)</b>	20 m (west)
<b>Traffic Count/Year</b>	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.)
<b>Groundcover (e.g. paved, vegetative, dirt, sand, gravel)</b>	Dirt, paved



Madera-Pump Yard					
Pollutant	Ozone	NO <sub>2</sub>	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 <sub>2.5</sub> , PM <sub>10</sub> , PM <sub>10-2.5</sub> , Pb and NO <sub>2</sub> monitors. Non-PM, Pb, NO <sub>2</sub> 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 <sub>2.5</sub> ? (Y/N)	N/A	N/A	N/A	N/A	N/A
Instrument manufacturer and model	Teledyne T265	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	Chem.	CL	GC	GC	Many
Method code	199	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 <sub>2</sub>	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 <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; 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 <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; PAMS: VOCs, Carbonyls (seconds)	12.12	12.38	9.71	12.58	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

Pollutant	Ozone	NO <sub>2</sub>	Speciated VOC	NMH	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	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)	10/6/2021	10/6/2021	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

<b>Site Name</b>	<b>Tranquillity</b>
<b>AQS ID (XX-XXX-XXXX)</b>	06-019-2009
<b>Representative statistical area Name (i.e. MSA, CBSA, other)</b>	Fresno
<b>County</b>	Fresno
<b>Collecting (Operating) Agency</b>	SJVAPCD
<b>Analytical Lab (i.e. weigh lab, toxics lab, other)</b>	N/A
<b>Reporting Agency</b>	SJVAPCD
<b>Site Start Date</b>	09/01/2009
<b>Pollutant Parameters</b>	Ozone, PM2.5 FEM
<b>Meteorological Parameters</b>	Wind speed, wind direction, outdoor temperature, barometric pressure
<b>Address</b>	32650 W. Adams, Tranquillity, CA 93668
<b>GPS Coordinates (decimal degrees)</b>	36.634225 N, -120.382331 W
<b>Distance to roadways (meters)</b>	200m (south)
<b>Traffic Count/Year</b>	1,750/2019 Raw traffic count for nearest roads: Adams Avenue and Route 33 (S. Derrick Avenue) Source: Caltrans 2019
<b>Groundcover (e.g. paved, vegetative, dirt, sand, gravel)</b>	Dirt, vegetative

<b>Tranquillity</b>			
<b>Pollutant</b>	<b>Ozone</b>	<b>PM2.5</b>	<b>Meteorology</b>
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 <sub>2.5</sub> , PM <sub>10</sub> , PM <sub>10-2.5</sub> , Pb and NO <sub>2</sub> monitors. Non-PM, Pb, NO <sub>2</sub> monitors should be listed as "N/A".)	Primary	Primary	Other
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (Y/N)	N/A	Y	N/A
Instrument manufacturer and model	Teledyne T400	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

Pollutant	Ozone	PM2.5	Meteorology
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
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 <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; PAMS: VOCs, Carbonyls (e.g. Pyrex, stainless steel, Teflon)	Teflon/Pyrex with Borosilicate	N/A	N/A
Residence time for reactive gases NO/NO <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; PAMS: VOCs, Carbonyls (seconds)	6.5	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 hivol? 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)	11/4/2021	N/A	N/A

<b>Pollutant</b>	<b>Ozone</b>	<b>PM2.5</b>	<b>Meteorology</b>
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	11/4/2021, 4/27/2021	N/A
Changes planned within the next 18 months (Y/N)	N	N	N

<b>Site Name</b>	<b>Fresno-Sierra Sky Park</b>
<b>AQS ID (XX-XXX-XXXX)</b>	06-019-0242
<b>Representative statistical area Name (i.e. MSA, CBSA, other)</b>	Fresno
<b>County</b>	Fresno
<b>Collecting (Operating) Agency</b>	SJVAPCD
<b>Analytical Lab (i.e. weigh lab, toxics lab, other)</b>	N/A
<b>Reporting Agency</b>	SJVAPCD
<b>Site Start Date</b>	1/1/1987
<b>Pollutant Parameters</b>	Ozone, NO2
<b>Meteorological Parameters</b>	Wind speed, wind direction, outdoor temperature
<b>Address</b>	4508 Chenault Ave., Fresno, CA 93722
<b>GPS Coordinates (decimal degrees)</b>	36.8405 N, -119.8740 W
<b>Distance to roadways (meters)</b>	12m (west)
<b>Traffic Count/Year</b>	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.)
<b>Groundcover (e.g. paved, vegetative, dirt, sand, gravel)</b>	Gravel, dirt



Fresno-Sierra Sky Park			
Pollutant	Ozone	NO <sub>2</sub>	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 <sub>2.5</sub> , PM <sub>10</sub> , PM <sub>10-2.5</sub> , Pb and NO <sub>2</sub> monitors. Non-PM, Pb, NO <sub>2</sub> monitors should be listed as "N/A".)	N/A	N/A	Other
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (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

Pollutant	Ozone	NO <sub>2</sub>	Meteorology
Distance from the drip line of closest tree(s)	2.2 m	2.2 m	1.2 m
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 <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; 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 <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; PAMS: VOCs, Carbonyls (seconds)	17.28	16.58	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 hivol? 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)	11/9/2021	11/9/2021	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)	"SX" flag being applied to data due to trees obstructing airflow at the site.	"SX" flag being applied to data due to trees obstructing airflow at the site.	"SX" flag being applied to data due to trees obstructing airflow at the site.

<b>Site name</b>	<b>Clovis-Villa</b>		
<b>AQS ID (XX-XXX-XXXX)</b>	06-019-5001		
<b>Representative statistical area Name (i.e. MSA, CBSA, other)</b>	Fresno		
<b>County</b>	Fresno		
<b>Collecting (Operating) Agency</b>	SJVAPCD		
<b>Analytical Lab (i.e. weigh lab, toxics lab, other)</b>	Varies based on which laboratory is contracted with the SJVAPCD: Speciated VOC	CARB: PM10 FRM, PM2.5 FRM	
<b>Reporting Agency</b>	SJVAPCD: PM2.5 FRM, PM2.5 FEM, PM10 FRM, PM10 FEM, Ozone, CO, NO <sub>2</sub> , NMH, Speciated VOC, Meteorology	CARB: PM10 FRM, PM2.5 FRM	SJVAPCD contracts out so Reporting lab varies from year to year: Speciated VOC
<b>Site Start Date</b>	09/01/1990		
<b>Pollutant Parameters</b>	Ozone, PM10 FRM, PM10 FEM, PM2.5 FEM, PM2.5 FRM, CO, NO <sub>2</sub> , NMH, Speciated VOC		
<b>Meteorological Parameters</b>	Wind speed, wind direction, outdoor temperature, relative humidity, barometric pressure, solar radiation		
<b>Address</b>	908 N. Villa Ave., Clovis CA 93612		
<b>GPS Coordinates (decimal degrees)</b>	36.8194 N, -119.7160 W		
<b>Distance to roadways (meters)</b>	260 m (east)		
<b>Traffic Count/Year</b>	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))		
<b>Groundcover (e.g. paved, vegetative, dirt, sand, gravel)</b>	Paved		

Clovis-Villa (1)					
Pollutant	Ozone	PM2.5	PM10	PM10 LC	PM10 STP
Parameter Code	44201	88101	81102	85101	81102
Spatial scale	N	N	N	N	N
Site type	Max PEI, HC	HC	PE	HC	HC
Basic monitoring objective(s)	NC, RS, TP	NC, RS, TP	NC, RS	RS, TP	NC, RS, TP
Monitor type	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS
Network affiliation(s), if applicable (a monitor may have none, one, or multiple)	PAMS	None	None	None	None
FRM/FEM/ARM/Other	FRM	FEM	FRM	FEM	FEM
POC	1	3	1	3	3
Primary / QA Collocated / Other (provide for all PM <sub>2.5</sub> , PM <sub>10</sub> , PM <sub>10-2.5</sub> , Pb and NO <sub>2</sub> monitors. Non-PM, Pb, NO <sub>2</sub> monitors should be listed as "N/A".)	N/A	Primary	Primary	Primary	Primary
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (Y/N)	N/A	Y	N/A	N/A	N/A
Instrument manufacturer and model	Teledyne API T265	Met One BAM 1020	Ecotech HiVol 3000	Met One BAM 1020	Met One BAM 1020
Analysis method	Chem.	Beta Attenuation	Gravimetric	Beta Attenuation	Beta Attenuation
Method code	199	170	162	122	122
Monitoring start date (MM/DD/YYYY)	05/01/2017	07/01/2020	04/01/2015	01/01/2020	01/01/2020
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)	5.7 m	5.9 m	5.5 m	5.9 m	5.9 m
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	1.9 m	1.8 m	1.6 m	1.8 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

Pollutant	Ozone	PM2.5	PM10	PM10 LC	PM10 STP
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	17.5 m	15 m	17.5 m	17.5 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	2.0 m	N/A	2.1 m	2.1 m
Unrestricted airflow (degrees around probe/inlet or percentage of monitoring path)	360	360	355	360	360
Probe material for reactive gases NO/NO <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; PAMS: VOCs, Carbonyls (e.g. Pyrex, stainless steel, Teflon)	Teflon/Pyrex with Borosilicate	N/A	N/A	N/A	N/A
Residence time for reactive gases NO/NO <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; PAMS: VOCs, Carbonyls (seconds)	12.42	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
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

Pollutant	Ozone	PM2.5	PM10	PM10 LC	PM10 STP
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	Bi-weekly	Bi-weekly
Frequency of one-point QC check for gaseous instruments	Daily	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)	11/8/2021	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	11/8/2021, 4/27/2021	11/8/2021, 4/27/2021	11/8/2021, 4/27/2021	11/8/2021, 4/27/2021
Changes planned within the next 18 months (Y/N)	N	N	Y Removed from service 12/31/21	N	N

Clovis-Villa (2)					
Pollutant	CO	NO <sub>2</sub>	Speciated VOC	NMH	Meteorology
Parameter code	42101	42602	Many	43102	Many
Spatial scale	N	N	N	N	R
Site type	Max PEI, PE	HC	PE	HC	Other
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	1
Primary / QA Collocated / Other (provide for all PM <sub>2.5</sub> , PM <sub>10</sub> , PM <sub>10-2.5</sub> , Pb and NO <sub>2</sub> monitors. Non-PM, Pb, NO <sub>2</sub> 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 <sub>2.5</sub> ? (Y/N)	N/A	N/A	N/A	N/A	N/A
Instrument manufacturer and model	Thermo 48i-TLE	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	IR	Chem.	GC / UV Absorption	Flame Ionization	Many
Method code	554	099	177 / 202	011	Many
Monitoring start date (MM/DD/YYYY)	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)	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)	5.66 m	5.66 m	5.66 m	5.66 m	10 m

Pollutant	CO	NO <sub>2</sub>	Speciated VOC	NMH	Meteorology
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	1.85 m	1.85 m	1.85 m	1.85 m	7.5 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
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	29.5 m
Distance from the drip line of closest tree(s)	15 m	15 m	15 m	15 m	25.5 m
Distance to furnace or incinerator flue (meters)	16.0 m	16.0 m	13.5 m	16.0 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 <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; 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 <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; PAMS: VOCs, Carbonyls (seconds)	13.65	12.50	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).	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, including Pb samplers (routine checks)	N/A	N/A	N/A	N/A	N/A



Pollutant	CO	NO <sub>2</sub>	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
Frequency of one-point QC check (gaseous)	Daily	Daily	N/A	Daily	N/A
Date of Annual Performance Evaluation conducted in the past calendar year for gaseous parameters (MM/DD/YYYY)	11/8/2021	11/8/2021	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

<b>Site Name</b>	<b>Fresno-Garland</b>
<b>AQS ID (XX-XXX-XXXX)</b>	06-019-0011
<b>Representative statistical area Name (i.e. MSA, CBSA, other)</b>	Fresno
<b>County</b>	Fresno
<b>Collecting (Operating) Agency</b>	CARB
<b>Analytical Lab (i.e. weigh lab, toxics lab, other)</b>	CARB
<b>Reporting Agency</b>	CARB
<b>Site Start Date</b>	12/23/2011
<b>Pollutant Parameters</b>	Ozone, PM10 STP FEM, PM2.5 FEM, PM2.5 FRM, PM2.5 Speciation (STN), CO, NO <sub>2</sub> , NO <sub>y</sub> , SO <sub>2</sub> , Toxics <b>PM10-2.5:</b> (1) PM10 FEM + (1) PM2.5 FEM = (1) PM10-2.5 FEM.
<b>Meteorological Parameters</b>	Wind speed, wind direction, outdoor temperature, barometric pressure, relative humidity
<b>Address</b>	3727 N. First St., Ste.104, Fresno CA 93726
<b>GPS Coordinates (decimal degrees)</b>	36.7853 N, -119.7732 W
<b>Distance to roadways (meters)</b>	30 m (south)
<b>Traffic Count/Year</b>	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))
<b>Groundcover (e.g. paved, vegetative, dirt, sand, gravel)</b>	Paved

Fresno-Garland (1)						
Pollutant	Ozone	CO	NO <sub>2</sub>	SO <sub>2</sub>	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 <sub>2.5</sub> , PM <sub>10</sub> , PM <sub>10-2.5</sub> , Pb and NO <sub>2</sub> monitors. Non-PM, Pb, NO <sub>2</sub> monitors should be listed as "N/A".)	Primary	Primary	Primary	Primary	Primary	Other
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (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)	17.4	12.9	17.6	13.8	< 20 seconds	N/A
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the hivol? 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)	12/9/2021	12/9/2021	12/9/2021	12/9/2021	not audited by CARB-QAS	4/26/2021
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	PM10 STP / PM10 LC	PM2.5	PM10-2.5
Parameter code	88101	81102 / 85101	88101	86101
Spatial scale	N	N	N	N
Site type	PE, QA	PE	PE	GB
Basic monitoring objective(s)	NC, RS	NC, RS, TP / RS, TP	NC, RS	NC, RS
Monitor type	SLAMS	SLAMS	SLAMS	SLAMS
Network affiliation	NCore	NCore	NCore	NCore
FRM/FEM/ARM/Other	FRM	FEM	FEM	FEM
POC	2	3	3	3
Primary / QA Collocated / Other (provide for all PM <sub>2.5</sub> , PM <sub>10</sub> , PM <sub>10-2.5</sub> , Pb and NO <sub>2</sub> monitors. Non-PM, Pb, NO <sub>2</sub> monitors should be listed as "N/A".)	QA Collocated	Primary	Primary	Other
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (Y/N)	Y	N/A	Y	N/A
Instrument manufacturer and model	R&P 2025	Met One BAM 1020	Met One BAM 1020	Met One BAM 1020
Analysis method	Sequential	Beta Attenuation	Beta Attenuation	Beta Attenuation
Method code	145	122	170	185
Monitoring start date (MM/DD/YYYY)	1/25/2012	1/1/2012	1/18/2012	1/1/2012
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	1:3	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/Inlet height above ground (meters)	5.9	6.2	6.4	6.3
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	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

Pollutant	PM2.5	PM10 STP / PM10 LC	PM2.5	PM10-2.5
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)	2.0	1.0	N/A	N/A
Unrestricted airflow (degrees)	360	360	360	360
Probe material (Teflon, etc.)	N/A	Aluminum	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 hivol? If yes, please list distance (meters) and instrument(s).	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
Frequency of flow rate verification for manual PM samplers audit	Monthly	Bi-weekly	Bi-weekly	Bi-weekly
Frequency of flow rate verification for automated PM analyzers audit	Monthly	BI-weekly	BI-weekly	Bi-weekly
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	4/26/2021, 12/9/2021	4/26/2021, 12/9/2021	4/26/2021, 12/9/2021	N/A
Changes planned within the next 18 months (Y/N)	N	N	N	N

Fresno-Garland (3)			
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 <sub>2.5</sub> , PM <sub>10</sub> , PM <sub>10-2.5</sub> , Pb and NO <sub>2</sub> monitors. Non-PM, Pb, NO <sub>2</sub> monitors should be listed as "N/A".)	Primary	Primary	Other
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (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

Pollutant	PM2.5 Speciation	PM2.5 Speciation	Meteorology
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
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 hivol? 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	4/26/2021, 12/9/21	4/26/2021, 12/9/2021	N/A
Changes planned within the next 18 months (Y/N)	N	N	N



<b>Site Name</b>	<b>Fresno-Pacific</b>
<b>AQS ID (XX-XXX-XXXX)</b>	06-019-5025
<b>Representative statistical area Name (i.e. MSA, CBSA, other)</b>	Fresno
<b>County</b>	Fresno
<b>Collecting (Operating) Agency</b>	SJVAPCD
<b>Analytical Lab (i.e. weigh lab, toxics lab, other)</b>	SJVAPCD
<b>Reporting Agency</b>	SJVAPCD
<b>Site Start Date</b>	12/31/1999
<b>Pollutant Parameters</b>	PM2.5 FEM
<b>Meteorological Parameters</b>	None
<b>Address</b>	1716 Winery, Fresno, CA 93727
<b>GPS Coordinates (decimal degrees)</b>	36.7263N, -119.7330W
<b>Distance to roadways (meters)</b>	40 m (east)
<b>Traffic Count/Year</b>	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.)
<b>Groundcover (e.g. paved, vegetative, dirt, sand, gravel)</b>	Vegetative and paved

<b>Fresno-Pacific</b>		
<b>Pollutant</b>	<b>PM2.5</b>	<b>PM2.5</b>
Parameter code	88101	88101
Spatial scale	N	N
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	FEM	FEM
POC	3	3
Primary / QA Collocated / Other (provide for all PM <sub>2.5</sub> , PM <sub>10</sub> , PM <sub>10-2.5</sub> , Pb and NO <sub>2</sub> monitors. Non-PM, Pb, NO <sub>2</sub> monitors should be listed as "N/A".)	Primary (Replaced with BAM1020 3/11/2022)	Primary
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (Y/N)	Y	Y
Instrument manufacturer and model	Met One BAM 1022	Met One BAM 1020
Analysis method	Beta Attenuation	Beta Attenuation
Method code	209	170
Monitoring start date (MM/DD/YYYY)	1/1/2021	3/11/2022
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)	11.3 m	12.7 m
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	2.1 m	2.1 m
Distance from obstructions on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	None	None

Pollutant	PM2.5	PM2.5
Distance from obstructions not on roof. Include horizontal distance + vertical height above probe for obstructions nearby. (meters)	53.4 m NE 5.1 m above vertical	53.4 m NE 5.1 m above vertical
Distance from the drip line of closest tree(s)	77 m	77 m
Distance to furnace or incinerator flue (meters)	None	None
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 <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; PAMS: VOCs, Carbonyls (e.g. Pyrex, stainless steel, Teflon)	Aluminum	Aluminum
Residence time for reactive gases NO/NO <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; PAMS: VOCs, Carbonyls (seconds)	N/A	N/A
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the inlet? 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 inlet? If yes, please list distance (meters) and instrument(s).	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	Monthly

<b>Pollutant</b>	<b>PM2.5</b>	<b>PM2.5</b>
Frequency of one-point QC check for gaseous instruments	N/A	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)	9/22/2021, 4/27/2021	N/A
Changes planned within the next 18 months (Y/N)	Y, Replaced with BAM-1022	N

<b>Site Name</b>	<b>Fresno-Drummond</b>	
<b>AQS ID (XX-XXX-XXXX)</b>	06-019-0007	
<b>Representative statistical area Name (i.e. MSA, CBSA, other)</b>	Fresno	
<b>County</b>	Fresno	
<b>Collecting (Operating) Agency</b>	SJVAPCD	
<b>Analytical Lab (i.e. weigh lab, toxics lab, other)</b>	CARB	
<b>Reporting Agency</b>	SJVAPCD: Ozone, NO2	CARB: PM10 FRM
<b>Site Start Date</b>	07/01/1984	
<b>Pollutant Parameters</b>	Ozone, PM10 FRM, NO2	
<b>Meteorological Parameters</b>	Wind speed, wind direction, outdoor temperature, barometric pressure	
<b>Address</b>	4706 E. Drummond Street, Fresno, CA 93725	
<b>GPS Coordinates (decimal degrees)</b>	36.7055 N, -119.7410 W	
<b>Distance to roadways (meters)</b>	50m	
<b>Traffic Count/Year</b>	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.	
<b>Groundcover (e.g. paved, vegetative, dirt, sand, gravel)</b>	Paved	

Fresno-Drummond						
Pollutant	Ozone	PM10	PM10	PM10 STP / LC	NO <sub>2</sub>	Meteorology
Parameter code	44201	81102	81102	81102 / 85101	42602	Many
Spatial scale	N	N	N	N	N	R
Site type	PE, HC, RT	PE	PE, QA	HC	HC	GB
Basic monitoring objective(s)	NC, RS, TP	NC, RS	NC, RS	NC, RS, TP	NC,RS,TP	RS, TP
Monitor type	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
FRM/FEM/ARM/Other	FRM	FRM	FRM	FEM	FEM	Other
POC	1	1	2	3	1	1
Primary / QA Collocated / Other (provide for all PM <sub>2.5</sub> , PM <sub>10</sub> , PM <sub>10-2.5</sub> , Pb and NO <sub>2</sub> monitors. Non-PM, Pb, NO <sub>2</sub> monitors should be listed as "N/A".)	Primary	Primary (Removed 1/1/2022)	QA Collocated (Removed 1/1/2022)	Primary	N/A	Other
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (Y/N)	N/A	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	Met One BAM 1020	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	Beta Attenuation	CL	Many
Method code	199	162	162	122	099	Many
Monitoring start date (MM/DD/YYYY)	05/01/2017	07/01/1984	07/01/1984	01/01/2022	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	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 height (meters)	8.0 m	5.2 m	5.2 m	5.7 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	2.1 m	5.1 m	N/A

Pollutant	Ozone	PM10	PM10	PM10 STP / LC	NO2	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	7.0 mH, 0.76 mV	3.35 mH, 0.76 mV	N/A	N/A	N/A
Distance from the drip line of closest tree(s)	15.3 m	15.3 m	18.8 m	17.8 m	15.3 m	17.2 m
Distance to furnace or incinerator flue (meters)	N/A	N/A	N/A	N/A	N/A	N/A
Distance between monitors fulfilling a QA collocation requirement (meters).	N/A	3.9 m	3.9 m	N/A	N/A	N/A
Unrestricted airflow (degrees around probe/inlet or percentage of monitoring path)	360	340	340	360	360	360
Probe material for reactive gases NO/NO2/NOy, SO2, O3; PAMS: VOCs, Carbonyls (e.g. Pyrex, stainless steel, Teflon)	Teflon/Pyrex with Borosilicate	N/A	N/A	N/A	Teflon/Pyrex with Borosilicate	N/A
Residence time for reactive gases NO/NO2/NOy, SO2, O3; PAMS: VOCs, Carbonyls (seconds)	10.39	N/A	N/A	N/A	10.35	N/A
Frequency of one-point QC check for gaseous instruments	Daily	N/A	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	N/A
Frequency of flow rate verification for automated PM analyzers (routine checks)	N/A	None	None	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	None	None	None	N/A	N/A

Pollutant	Ozone	PM10	PM10	PM10 STP / LC	NO2	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	No	No	N/A	N/A
Date of Annual Performance Evaluation conducted in the past calendar year for gaseous parameters (MM/DD/YYYY)	9/22/21	N/A	N/A	N/A	9/22/2021	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	9/22/2021, 4/27/2021	9/22/2021, 4/27/2021	N/A	N/A	N/A
Changes planned within the next 18 months (Y/N)	N	Y Removed FRM and replaced with FEM on 1/1/2022	Y Removed FRM and replaced with FEM on 1/1/2022	N	N	N



<b>Site Name</b>	<b>Fresno-Foundry</b>
<b>AQS ID (XX-XXX-XXXX)</b>	06-019-2016
<b>Representative statistical area Name (i.e. MSA, CBSA, other)</b>	Fresno
<b>County</b>	Fresno
<b>Collecting (Operating) Agency</b>	SJVAPCD
<b>Analytical Lab (i.e. weigh lab, toxics lab, other)</b>	N/A
<b>Reporting Agency</b>	SJVAPCD
<b>Site Start Date</b>	01/01/2016
<b>Pollutant Parameters</b>	NO2, PM2.5 FEM, CO
<b>Meteorological Parameters</b>	Wind speed, wind direction, outdoor temperature, barometric pressure
<b>Address</b>	2482 Foundry Park Ave, Fresno, CA 93706
<b>GPS Coordinates (decimal degrees)</b>	36.710833N, -119.7775W
<b>Distance to roadways (meters)</b>	16 to 19 meters
<b>Traffic Count/Year</b>	122,000/2016 (Rte 99 and Jensen Avenue off-ramp, Source: Caltrans 2019 )
<b>Groundcover (e.g. paved, vegetative, dirt, sand, gravel)</b>	Paved

Fresno-Foundry				
Pollutant	PM2.5	CO	NO <sub>2</sub>	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 <sub>2.5</sub> , PM <sub>10</sub> , PM <sub>10-2.5</sub> , Pb and NO <sub>2</sub> monitors. Non-PM, Pb, NO <sub>2</sub> monitors should be listed as "N/A".)	Primary	N/A	Primary	Other
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (Y/N)	N	N/A	N/A	N/A
Instrument manufacturer and model	Met One BAM 1020	Thermo 48i-TLE	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)	1/1/2020	1/1/2020	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 <sub>2</sub>	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 <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; 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 <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; PAMS: VOCs, Carbonyls (seconds)	N/A	9.75	7.78	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 <sub>2</sub>	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	12/10/2021	Audit procedure not established for method	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)	12/10/2021	N/A	N/A	N/A
Changes planned within the next 18 months (Y/N)	N	N	N	N

<b>Site Name</b>	<b>Parlier</b>
<b>AQS ID (XX-XXX-XXXX)</b>	06-019-4001
<b>Representative statistical area Name (i.e. MSA, CBSA, other)</b>	Fresno
<b>County</b>	Fresno
<b>Collecting (Operating) Agency</b>	SJVAPCD
<b>Analytical Lab (i.e. weigh lab, toxics lab, other)</b>	Varies based on which laboratory is contracted with the SJVAPCD: Speciated VOC
<b>Reporting Agency</b>	SJVAPCD
<b>Site Start Date</b>	6/1/1983
<b>Pollutant Parameters</b>	Ozone, NO2, Speciated VOC, NMH
<b>Meteorological Parameters</b>	Wind speed, wind direction, outdoor temperature, relative humidity, barometric pressure, solar radiation
<b>Address</b>	9240 S. Riverbend Ave., Parlier, CA 93648
<b>GPS Coordinates (decimal degrees)</b>	36.5972 N, -119.5040 W
<b>Distance to roadways (meters)</b>	100 m (east)
<b>Traffic Count/Year</b>	1,050/2009 (Raw traffic count in a 24-hour period for nearest roads: E. Manning Avenue *Raw traffic count in a 24-hour period for nearest roads: E Manning Ave west of S Lac Jac Ave. Source: Fresno COG Traffic Report, 2007-2012.
<b>Groundcover (e.g. paved, vegetative, dirt, sand, gravel)</b>	Dirt, vegetation

Parlier					
Pollutant	Ozone	NO <sub>2</sub>	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 <sub>2.5</sub> , PM <sub>10</sub> , PM <sub>10-2.5</sub> , Pb and NO <sub>2</sub> monitors. Non-PM, Pb, NO <sub>2</sub> 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 <sub>2.5</sub> ? (Y/N)	N/A	N/A	N/A	N/A	N/A
Instrument manufacturer and model	Teledyne T265	Teledyne T200	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
Probe height (meters)	8.7 m	8.7 m	8.7 m	8.7 m	9.1 m

Pollutant	Ozone	NO <sub>2</sub>	Speciated VOC	NMH	Meteorology
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 <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; 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 <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; PAMS: VOCs, Carbonyls (seconds)	11.50	10.66	4.69	8.67	N/A
Frequency of one-point QC check for gaseous instruments	daily	daily	daily	daily	N/A
Pollutant	Ozone	NO <sub>2</sub>	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 hivol? 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)	10/2//2021	10/28/2021	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



<b>Site Name</b>	<b>Huron</b>
<b>AQS ID (XX-XXX-XXXX)</b>	06-019-2008
<b>Representative statistical area Name (i.e. MSA, CBSA, other)</b>	Fresno
<b>County</b>	Fresno
<b>Collecting (Operating) Agency</b>	SJVAPCD
<b>Analytical Lab (i.e. weigh lab, toxics lab, other)</b>	N/A
<b>Reporting Agency</b>	SJVAPCD
<b>Site Start Date</b>	09/01/09
<b>Pollutant Parameters</b>	PM2.5 Non-FEM
<b>Meteorological Parameters</b>	Barometric Pressure
<b>Address</b>	16875 4 <sup>th</sup> St, Huron, CA 93234
<b>GPS Coordinates (decimal degrees)</b>	36.2363 N, -119.7656 W
<b>Distance to roadways (meters)</b>	100 m (north)
<b>Traffic Count/Year</b>	5,400/2019 (Traffic count for nearest roads: Rte 269/Rte 198, Source: Caltrans 2019)
<b>Groundcover (e.g. paved, vegetative, dirt, sand, gravel)</b>	Paved, vegetative

<b>Huron</b>		
<b>Pollutant</b>	<b>PM2.5</b>	<b>Meteorology</b>
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 <sub>2.5</sub> , PM <sub>10</sub> , PM <sub>10-2.5</sub> , Pb and NO <sub>2</sub> monitors. Non-PM, Pb, NO <sub>2</sub> monitors should be listed as "N/A".)	N/A	N/A
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (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 <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; PAMS: VOCs, Carbonyls (e.g. Pyrex, stainless steel, Teflon)	N/A	N/A
Residence time for reactive gases NO/NO <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; 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 hivol? 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)	11/4/2021, 4/27/2021	N/A
Changes planned within the next 18 months (Y/N)	N	N

<b>Site Name</b>	<b>Hanford-Irwin</b>	
<b>AQS ID (XX-XXX-XXXX)</b>	06-031-1004	
<b>Representative statistical area Name (i.e. MSA, CBSA, other)</b>	Hanford-Corcoran	
<b>County</b>	Kings	
<b>Collecting (Operating) Agency</b>	SJVAPCD	
<b>Analytical Lab (i.e. weigh lab, toxics lab, other)</b>	CARB: PM10 FRM	
<b>Reporting Agency</b>	SJVAPCD: Ozone, PM10 FEM, PM2.5 FEM, NO2, Meteorology	CARB: PM10 FRM
<b>Site Start Date</b>	09/01/1993	
<b>Pollutant Parameters</b>	Ozone, PM10 FRM, PM10 FEM, PM2.5 FEM, NO2	
<b>Meteorological Parameters</b>	Wind speed, wind direction, outdoor temperature, barometric pressure	
<b>Address</b>	807 S. Irwin St., Hanford, CA 93230	
<b>GPS Coordinates (decimal degrees)</b>	36.3147 N, -119.6440 W	
<b>Distance to roadways (meters)</b>	60 m (east)	
<b>Traffic Count/Year</b>	2,828/2017 (Traffic count for nearest roads: S. Douty Street south of E. Lang Street, Source: City of Hanford Public Works - Engineering, Traffic Counts Volume Summary 2017 – City of Hanford.)	
<b>Groundcover (e.g. paved, vegetative, dirt, sand, gravel)</b>	Paved, vegetative	

Hanford-Irwin (1)				
Pollutant	Ozone	PM2.5	NO <sub>2</sub>	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 <sub>2.5</sub> , PM <sub>10</sub> , PM <sub>10-2.5</sub> , Pb and NO <sub>2</sub> monitors. Non-PM, Pb, NO <sub>2</sub> monitors should be listed as "N/A".)	N/A	Primary	N/A	Other
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (Y/N)	N/A	Y	N/A	N/A
Instrument manufacturer and model	Teledyne T265	Met One BAM 1020	Teledyne T200	ITP- Hy-Cal 512AA3B, OT-Met One 060A-2, BP- Met One 092, WD- Met One 020C, WS-Met One 010C
Analysis method	Chem	Mass Monitor w/VSCC, BETA Attenuation	CL	Many
Method code	199	170	099	Many
Monitoring start date (MM/DD/YYYY)	1/1/2021	8/20/2020	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 <sub>2</sub>	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 <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; 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 <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; PAMS: VOCs, Carbonyls (seconds)	10.71	N/A	10.66	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 <sub>2</sub>	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)	10/27/2021	N/A	10/27/2021	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	10/27/2021, 4/13/2021	N/A	N/A
Changes planned within the next 18 months (Y/N)	N	N	N	N

<b>Hanford-Irwin (2)</b>			
<b>Pollutant</b>	<b>PM10 LC</b>	<b>PM10 STP</b>	<b>PM10 STP</b>
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	SLAMS	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 <sub>2.5</sub> , PM <sub>10</sub> , PM <sub>10-2.5</sub> , Pb and NO <sub>2</sub> monitors. Non-PM, Pb, NO <sub>2</sub> monitors should be listed as "N/A".)	Primary	Primary	Primary (Removed from service 12/31/2021)
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (Y/N)	N	N	N/A
Instrument manufacturer and model	Met One BAM 1020	Met One BAM 1020	ECOTECH Hi-Vol 3000
Analysis method	Beta Attenuation	Beta Attenuation	Gravimetric
Method code	122	122	162
Monitoring start date (MM/DD/YYYY)	8/20/2020	8/20/2020	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)	4.5 m	4.5 m	4.5 m
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	1.8 m	1.8 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



Pollutant	PM10 LC	PM10 STP	PM10 STP
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 <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; PAMS: VOCs, Carbonyls (e.g. Pyrex, stainless steel, Teflon)	N/A	N/A	N/A
Residence time for reactive gases NO/NO <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; 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
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 hivol? 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)	10/27/2021, 4/13/2021	10/27/2021,4/13/2021	10/27/2021, 4/13/2021
Changes planned within the next 18 months (Y/N)	N	N	Y Removed from service 12/31/2021

<b>Site Name</b>	<b>Corcoran-Patterson</b>
<b>AQS ID (XX-XXX-XXXX)</b>	06-031-0004
<b>Representative statistical area Name (i.e. MSA, CBSA, other)</b>	Hanford-Corcoran
<b>County</b>	Kings
<b>Collecting (Operating) Agency</b>	SJVAPCD
<b>Analytical Lab (i.e. weigh lab, toxics lab, other)</b>	CARB: PM2.5 FRM
<b>Reporting Agency</b>	CARB: PM2.5 FRM   SJVAPCD: PM2.5 FEM, PM10 FEM, Meteorology
<b>Site Start Date</b>	10/1/1996
<b>Pollutant Parameters</b>	PM2.5 FRM, PM2.5 FEM, PM10 FEM
<b>Meteorological Parameters</b>	Wind speed, wind direction, outdoor temperature
<b>Address</b>	1520 Patterson Ave., Corcoran, CA 93212
<b>GPS Coordinates (decimal degrees)</b>	36.1022 N, -119.5660 W
<b>Distance to roadways (meters)</b>	30 m (east)
<b>Traffic Count/Year</b>	3,000/2019 (Traffic count for nearest roads: JCT. Rte 43/Rte 137, Source: Caltrans 2019.)
<b>Groundcover (e.g. paved, vegetative, dirt, sand, gravel)</b>	Paved

Corcoran-Patterson						
Pollutant	PM2.5	PM2.5	PM2.5	PM10 LC	PM10 STP	Meteorology
Parameter code	88101	88101	88101	85101	81102	Many
Spatial scale	N	N	N	N	N	N
Site type	HC	HC, PE	HC, PE	HC, PE	HC, PE	GB
Basic monitoring objective(s)	NC, RS	NC, RS, TP	NC, RS, TP	RS, TP	NC, RS, TP	RS, TP
Monitor type	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
FRM/FEM/ARM/Other	FRM	FEM	FEM	FEM	FEM	Other
POC	1	8	8	8	8	1
Primary / QA Collocated / Other (provide for all PM <sub>2.5</sub> , PM <sub>10</sub> , PM <sub>10-2.5</sub> , Pb and NO <sub>2</sub> monitors. Non-PM, Pb, NO <sub>2</sub> monitors should be listed as "N/A".)	Primary (Removed on 1/12/2021)	QA Collocated (Removed on 1/12/2021)	Primary	Primary	Primary	Other
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (Y/N)	Y	Y	Y	N	N	N/A
Instrument manufacturer and model	Thermo Partisol 2025i	Teledyne 602	Met One BAM 1020	Met One BAM 1020	Met One BAM 1020	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	Beta Attenuation	Many
Method code	145	204	170	122	122	Many
Monitoring start date (MM/DD/YYYY)	01/01/2016	01/01/2017	01/13/2021	01/01/2021	01/01/2021	01/01/2017
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	1:3	Hourly	Hourly	Hourly	Hourly	Hourly

<b>Pollutant</b>	<b>PM2.5</b>	<b>PM2.5</b>	<b>PM2.5</b>	<b>PM10 LC</b>	<b>PM10 STP</b>	<b>Meteorology</b>
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 height (meters)	6.2 m	6.0 m	6.3 m	6.2 m	6.2 m	6.2 m
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	2.1 m	1.8 m	2.1 m	2.0 m	2.0 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)	115.7 m H, 1.5 m V	118.1 m H, 1.5 m V	118.1 m H, 1.5 m V	118.1 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	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	76.6 m	76.8 m
Distance between monitors fulfilling a QA collocation requirement (meters).	2.7 m	2.7 m	1.9 m	1.9 m	1.9 m	N/A
Unrestricted airflow (degrees around probe/inlet or percentage of monitoring path)	365	365	365	365	365	365

Pollutant	PM2.5	PM2.5	PM2.5	PM10 LC	PM10 STP	Meteorology
Probe material for reactive gases NO/NO <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; PAMS: VOCs, Carbonyls (e.g. Pyrex, stainless steel, Teflon)	N/A	N/A	N/A	N/A	N/A	N/A
Residence time for reactive gases NO/NO <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; PAMS: VOCs, Carbonyls (seconds)	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
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
Frequency of flow rate verification for automated PM analyzers (routine checks)	N/A	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	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

Pollutant	PM2.5	PM2.5	PM2.5	PM10 LC	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
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	11/3/2021, 4/27/2021	11/3/2021, 4/27/2021	11/3/2021, 4/27/2021	N/A
Changes planned within the next 18 months (Y/N)	Yes. Partisol analyzer was removed on 1/12/2021 in lieu of the Met One BAM 1020 replacement on 1/13/2021.	Yes. The 602 was removed on 1/12/2021 and replaced with the Met One BAM 1020 on 1/13/2021.	N	N	N	N

<b>Site Name</b>	<b>Visalia-Church St</b>
<b>AQS ID (XX-XXX-XXXX)</b>	06-107-2002
<b>Representative statistical area Name (i.e. MSA, CBSA, other)</b>	Visalia–Porterville
<b>County</b>	Tulare
<b>Collecting (Operating) Agency</b>	CARB
<b>Analytical Lab (i.e. weigh lab, toxics lab, other)</b>	CARB
<b>Reporting Agency</b>	CARB
<b>Site Start Date</b>	1/1/1979
<b>Pollutant Parameters</b>	Ozone, PM10 FEM, PM2.5 FRM, PM2.5 FEM, PM2.5 Speciation (CSN Supplemental), NO <sub>2</sub>
<b>Meteorological Parameters</b>	Wind speed, wind direction, outdoor temperature, relative humidity
<b>Address</b>	310 N. Church St., Visalia CA 93291
<b>GPS Coordinates (decimal degrees)</b>	36.3325 N, -119.2909 W
<b>Distance to road</b>	25 m (west)
<b>Traffic Count/Year</b>	10,000/2019(Traffic count for nearest roads: N Court St at W School Ave Source: Caltrans AADT 2019)
<b>Ground Cover</b>	Paved

Visalia-Church St (1)				
Pollutant	Ozone	NO <sub>2</sub>	PM10 STP / PM10 LC	PM2.5
Parameter code	44201	42602	81102, 85101	88101
Spatial scale	N	N	N	N
Site type	GB	PE	PE	HC, PE
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 <sub>2.5</sub> , PM <sub>10</sub> , PM <sub>10-2.5</sub> , Pb and NO <sub>2</sub> monitors. Non-PM, Pb, NO <sub>2</sub> monitors should be listed as "N/A".)	Primary	Primary	Primary	Primary
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (Y/N)	N/A	N/A	N/A	Y
Instrument manufacturer and model	Teledyne API 400	Teledyne API 200E	Met One BAM 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



Pollutant	Ozone	NO <sub>2</sub>	PM10 STP / LC	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)	None	None	N/A	2.3
Unrestricted airflow (degrees)	360	360	360	360
Probe material (Teflon, etc.)	Teflon	Teflon	N/A	N/A
Residence time (seconds)	10.1	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 hivol? 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)	10/5/2021	10/5/2021	N/A	N/A
Last two semi-annual flow rate audits for PM monitors	N/A	N/A	4/13/2021, 10/5/2021	
Changes planned within the next 18 months (Y/N)	The site closed on 12/15/2021.	The site closed on 12/15/2021.	The site closed on 12/15/2021.	Converted to continuous 12/2020. The site closed on 12/15/2021.

<b>Visalia-Church St (2)</b>			
<b>Pollutant</b>	<b>PM2.5</b>	<b>PM2.5 Speciation</b>	<b>Meteorology</b>
Parameter code	88501	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 PM2.5, PM10, PM10-2.5, Pb and NO2 monitors. Non-PM, Pb, NO2 monitors should be listed as "N/A".)	Primary	Primary	Other
Is it suitable for comparison against the annual PM2.5? (Y/N)	N	N/A	N/A
Instrument manufacturer and model	Met One BAM 1020	Many	Vaisala HMP-155 (OT/RH) RM Young 81000 (WSWD/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
<b>Pollutant</b>	<b>PM2.5</b>	<b>PM2.5 Speciation</b>	<b>Meteorology</b>

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 hivol? 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
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	4/13/2021, 10/5/2021	N/A	N/A
Changes planned within the next 18 months (Y/N)	The site closed on 12/15/2021.	The site closed on 12/15/2021.	The site closed on 12/15/2021.

<b>Site Name</b>	<b>Visalia-W. Ashland Avenue</b>
<b>AQS ID (XX-XXX-XXXX)</b>	06-107-2003
<b>Representative statistical area Name (i.e. MSA, CBSA, other)</b>	Visalia–Porterville
<b>County</b>	Tulare
<b>Collecting (Operating) Agency</b>	CARB
<b>Analytical Lab (i.e. weigh lab, toxics lab, other)</b>	CARB
<b>Reporting Agency</b>	CARB
<b>Site Start Date</b>	1/11/2022
<b>Pollutant Parameters</b>	Ozone, NO <sub>2</sub> , PM10 FEM, PM2.5 FEM
<b>Meteorological Parameters</b>	Wind speed, wind direction, outdoor temperature, relative humidity
<b>Address</b>	2005 West Ashland Avenue, Suite G, Visalia CA 93277
<b>GPS Coordinates (decimal degrees)</b>	36.30815 N, -119.31290 W
<b>Distance to road</b>	25 m (west)
<b>Traffic Count/Year</b>	10,656 / 2014 (Traffic count for nearest roads: W Whitendale Avenue and S Mooney Blvd; Source: Tulare County Association of Governments Interactive Map.)
<b>Ground Cover</b>	Paved

Visalia-W. Ashland Avenue (1)					
Pollutant	Ozone	NO <sub>2</sub>	PM10 STP / PM10 LC	PM2.5	Meteorology
Parameter code	44201	42602	81102 / 85101	88101	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	NC, RS,TP / 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	FRM	FEM	FEM	Other
POC	1	1	5	1	1
Primary / QA Collocated / Other (provide for all PM <sub>2.5</sub> , PM <sub>10</sub> , PM <sub>10-2.5</sub> , Pb and NO <sub>2</sub> monitors. Non-PM, Pb, NO <sub>2</sub> monitors should be listed as "N/A".)	Primary	Primary	Primary	Primary	Other
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (Y/N)	N/A	N/A	N/A	Y	N/A
Instrument manufacturer and model	Teledyne API 400	Teledyne API 200E	Met One BAM 1020	Met One BAM 1020	Vaisala HMP-155 (OT/RH) RM Young 81000 (WS/WD/3DT)
Analysis method	UV	Chemiluminescence	Beta attenuation	Beta attenuation	Many
Method code	087	074	122	170	Many
Monitoring start date (MM/DD/YYYY)	01/12/2022	01/12/2022	01/12/2022	01/12/2022	01/12/2022
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)	6.7	6.7	6.2	5.9	11.9
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	2.8	2.8	2.3	2.1	None

Pollutant	Ozone	NO <sub>2</sub>	PM10 STP / PM10 LC	PM2.5	Meteorology
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
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	N/A	2.3	None
Unrestricted airflow (degrees)	360	360	360	360	360
Probe material (Teflon, etc.)	Teflon	Teflon	N/A	N/A	N/A
Residence time (seconds)	10.1	10.01	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	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
Frequency of flow rate verification for manual PM samplers audit	N/A	N/A	N/A	Monthly	N/A
Frequency of flow rate verification for automated PM analyzers audit	N/A	N/A	Monthly	N/A	N/A
Frequency of one-point QC check (gaseous)	5x/week	5x/week	N/A	N/A	N/A
Last Annual Performance Evaluation (gaseous)	Site started 1/11/2022	Site started 1/11/2022	N/A	N/A	N/A

<b>Pollutant</b>	<b>Ozone</b>	<b>NO<sub>2</sub></b>	<b>PM10 STP / PM10 LC</b>	<b>PM2.5</b>	<b>Meteorology</b>
Last two semi-annual flow rate audits for PM monitors	N/A	N/A	Site started 1/11/2022	Site started 1/11/2022	N/A
Changes planned within the next 18 months (Y/N)	N	N	N	N	N

<b>Site Name</b>	<b>Porterville</b>
<b>AQS ID (XX-XXX-XXXX)</b>	06-107-2010
<b>Representative statistical area Name (i.e. MSA, CBSA, other)</b>	Visalia-Porterville
<b>County</b>	Tulare
<b>Collecting (Operating) Agency</b>	SJVAPCD
<b>Analytical Lab (i.e. weigh lab, toxics lab, other)</b>	N/A
<b>Reporting Agency</b>	SJVAPCD
<b>Site Start Date</b>	12/01/2009
<b>Pollutant Parameters</b>	Ozone, PM2.5 Non-FEM
<b>Meteorological Parameters</b>	Wind speed, wind direction, outdoor temperature, barometric pressure
<b>Address</b>	1839 S. Newcomb St., Porterville, CA 93257
<b>GPS Coordinates (decimal degrees)</b>	36.0310 N, -119.0550 W
<b>Distance to roadways (meters)</b>	100m (south)
<b>Traffic Count/Year</b>	24,500/2019 (Ahead AADT traffic count for nearest roads: Junction SR 190/SR 65, Source: Caltrans 2019)
<b>Groundcover (e.g. paved, vegetative, dirt, sand, gravel)</b>	Paved, vegetative



Porterville			
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 <sub>2.5</sub> , PM <sub>10</sub> , PM <sub>10-2.5</sub> , Pb and NO <sub>2</sub> monitors. Non-PM, Pb, NO <sub>2</sub> monitors should be listed as "N/A".)	N/A	Other	Other
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (Y/N)	N/A	N	N/A
Instrument manufacturer and model	Teledyne T400	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)	6.0 m	5.0 m	9.1 m
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	3.2 m	2.2 m	7.1 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)	N/A	N/A	N/A
Distance from the drip line of closest tree(s)	7 m S	4.9 m S	N/A
Distance to furnace or incinerator flue (meters)	175.5 m S	174 m S	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)	357	357	357
Probe material for reactive gases NO/NO <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; PAMS: VOCs, Carbonyls (e.g. Pyrex, stainless steel, Teflon)	Teflon/Pyrex with Borosilicate	N/A	N/A
Residence time for reactive gases NO/NO <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; PAMS: VOCs, Carbonyls (seconds)	8.2	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 hivol? 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)	10/6/202011/3/2021	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	10/6/2020, 11/18/202011/3/2021, 4/27/2021	N/A
Changes planned within the next 18 months (Y/N)	N	N	N

<b>Site name</b>	<b>Sequoia-Ash Mountain</b>
<b>AQS ID (XX-XXX-XXXX)</b>	06-107-0009
<b>Representative statistical area Name (i.e. MSA, CBSA, other)</b>	Visalia-Porterville
<b>County</b>	Tulare
<b>Collecting (Operating) Agency</b>	All equipment operated by National Park Service
<b>Analytical Lab (i.e. weigh lab, toxics lab, other)</b>	N/A
<b>Reporting Agency</b>	All data reported by NPS
<b>Site Start Date</b>	07/01/1999
<b>Pollutant Parameters</b>	Ozone, PM2.5
<b>Meteorological Parameters</b>	Wind speed, wind direction, outdoor temperature, relative humidity, solar radiation
<b>Address</b>	Ash Mountain, Sequoia National Park 47050 Generals Hwy, Three Rivers, CA 93271
<b>GPS Coordinates (decimal degrees)</b>	36.4894 N, -118.8290 W
<b>Distance to road</b>	120 m (north)
<b>Traffic Count/Year</b>	2,300/2017 (Traffic count for nearest roads: Rte 198 / Sequoia National Park boundary, Source: Caltrans Back AADT 2017)
<b>Ground Cover</b>	Dirt, vegetative

Sequoia-Ash Mountain				
Pollutant	Ozone	PM2.5	PM2.5	Meteorology
Parameter code	44201	88501	88101	Many
Spatial scale	R	R	R	R
Site type	HC, RT	HC	HC	GB
Monitor objective	NC, RS, TP	RS, TP	RS, TP	RS, TP
Monitor type	Non-EPA Federal	Non-EPA Federal	Non-EPA Federal	Non-EPA Federal
Network affiliation	CASTNET	IMPROVE	IMPROVE	CASTNET
FRM/FEM/ARM/Other	Other	Non-FEM	FEM	Other
POC	1	1	1	1
Primary / QA Collocated / Other (provide for all PM <sub>2.5</sub> , PM <sub>10</sub> , PM <sub>10-2.5</sub> , Pb and NO <sub>2</sub> monitors. Non-PM, Pb, NO <sub>2</sub> monitors should be listed as "N/A".)	N/A	Primary	Primary	Other
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (Y/N)	N/A	N	N	N/A
Instrument manufacturer and model	Thermo TECO 49, 49C	Met One BAM 1020	Met One BAM 1020	Many
Analysis method	UV	Beta Attenuation	Beta Attenuation	Many
Method code	047	170	170	Many
Monitoring start date (MM/DD/YYYY)	07/01/1999	3/19/2007	12/1/2020	10/4/2001
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)	10 m	4 m	4 m	10 m
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	3 m	1.5 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	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	N/A
Distance from the drip line of closest tree(s)	5 - 10 m	5 - 10 m	5 - 10 m	5 - 10 m
Distance to furnace or incinerator flue (meters)	305 m	305 m	305 m	305 m
Distance between monitors fulfilling a QA collocation requirement (meters).	3 m	3 m	3 m	3 m

Pollutant	Ozone	PM2.5	PM2.5	Meteorology
Unrestricted airflow (degrees around probe/inlet or percentage of monitoring path)	360	360	360	360
Probe material for reactive gases NO/NO <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; PAMS: VOCs, Carbonyls (e.g. Pyrex, stainless steel, Teflon)	Teflon	N/A	N/A	N/A
Residence time for reactive gases NO/NO <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; PAMS: VOCs, Carbonyls (seconds)	13.4	N/A	N/A	N/A
Frequency of one-point QC check for gaseous instruments	Monthly	N/A	N/A	N/A
Frequency of flow rate verification for manual PM samplers, including Pb samplers (routine checks)	N/A	Monthly	Monthly	N/A
Frequency of flow rate verification for automated PM analyzers (routine checks)	N/A	Monthly	Monthly	N/A
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the hivol? 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)	07/06/2021	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	4/10/2019,10/10/2019	11/5/2020, 4/21/2021; 9/09/2021, 4/06/2022	N/A
Changes planned within the next 18 months (Y/N)	N	Yes. Parameter code and analyzer closed and replaced with new parameter code and analyzer on 12/1/2020.	N	N

<b>Site name</b>	<b>Sequoia-Lower Kaweah</b>
<b>AQS ID (XX-XXX-XXXX)</b>	06-107-0006
<b>Representative statistical area Name (i.e. MSA, CBSA, other)</b>	Visalia-Porterville
<b>County</b>	Tulare
<b>Collecting (Operating) Agency</b>	All equipment operated by National Park Service (NPS)
<b>Analytical Lab (i.e. weigh lab, toxics lab, other)</b>	N/A
<b>Reporting Agency</b>	All data reported by NPS
<b>Site Start Date</b>	01/01/1987
<b>Pollutant Parameters</b>	Ozone
<b>Meteorological Parameters</b>	Wind speed, wind direction, outdoor temperature, relative humidity, solar radiation
<b>Address</b>	Giant Forest, Sequoia National Park, 47050 Generals Highway, Three Rivers, CA 93271
<b>GPS Coordinates (decimal degrees)</b>	36.5661 N, -118.7776 W
<b>Distance to road</b>	380 m (southeast)
<b>Traffic Count/Year</b>	2,300/2017 (Traffic count for nearest roads: Rte 198 / Sequoia National Park boundary, Source: Caltrans Back AADT 2017)
<b>Ground Cover</b>	Dirt, vegetation

Sequoia-Lower Kaweah		
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 <sub>2.5</sub> , PM <sub>10</sub> , PM <sub>10-2.5</sub> , Pb and NO <sub>2</sub> monitors. Non-PM, Pb, NO <sub>2</sub> monitors should be listed as "N/A".)	N/A	Other
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (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)	01/01 – 12/31	01/01 – 12/31
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

Pollutant	Ozone	Meteorology
Unrestricted airflow (degrees around probe/inlet or percentage of monitoring path)	360	360
Probe material for reactive gases NO/NO <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; PAMS: VOCs, Carbonyls (e.g. Pyrex, stainless steel, Teflon)	Teflon	N/A
Residence time for reactive gases NO/NO <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; PAMS: VOCs, Carbonyls (seconds)	13.9	N/A
Frequency of one-point QC check for gaseous instruments	Monthly	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 hivol? 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)	07/08/2021	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



<b>Site Name</b>	<b>Shafter</b>	
<b>AQS ID (XX-XXX-XXXX)</b>	06-029-6001	
<b>Representative statistical area Name (i.e. MSA, CBSA, other)</b>	Bakersfield	
<b>County</b>	Kern	
<b>Collecting (Operating) Agency</b>	CARB: Ozone, NO2;	SJVAPCD: Meteorology, Speciated VOC, NMH
<b>Analytical Lab (i.e. weigh lab, toxics lab, other)</b>	CARB: Ozone, NO2	Varies based on which laboratory is contracted with the SJVAPCD: Speciated VOC, NMH
<b>Reporting Agency</b>	CARB: Ozone, NO2	SJVAPCD: Speciated VOC, NMH, Meteorology
<b>Site Start Date</b>	01/01/1989	
<b>Pollutant Parameters</b>	Ozone, NO2, Speciated VOC, NMH	
<b>Meteorological Parameters</b>	Wind speed, wind direction, outdoor temperature, relative humidity, barometric pressure, solar radiation	
<b>Address</b>	578 Walker St., Shafter, CA 93263	
<b>GPS Coordinates (decimal degrees)</b>	35.5034 N, -119.2726 W	
<b>Distance to roadways (meters)</b>	10m (southwest)	
<b>Traffic Count/Year</b>	6,028/2020 (Traffic count for nearest roads: Central Ave and Walker St., Source: Kern Council of Governments.)	
<b>Groundcover (e.g. paved, vegetative, dirt, sand, gravel)</b>	Paved	

Shafter					
Pollutant	Ozone	NO <sub>2</sub>	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 <sub>2.5</sub> , PM <sub>10</sub> , PM <sub>10-2.5</sub> , Pb and NO <sub>2</sub> monitors. Non-PM, Pb, NO <sub>2</sub> monitors should be listed as "N/A".)	Primary	Primary	Other	Other	Other
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (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 <sub>2</sub>	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 <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; 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 <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; PAMS: VOCs, Carbonyls (seconds)	18.3	15.8	2.79	14.38 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 hivol? 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 <sub>2</sub>	Speciated VOC	NMH	Meteorology
Date of Annual Performance Evaluation conducted in the past calendar year for gaseous parameters (MM/DD/YYYY)	12/9/2021	not audited in 2021	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. MET was shut down on 11/16/18 due to safety concerns regarding the railing. CARB has been working with their facilities dept. to have it raised to be able to access it safely and resume. Still pending.

<b>Site Name</b>	<b>Oildale</b>
<b>AQS ID (XX-XXX-XXXX)</b>	06-029-0232
<b>Representative statistical area Name (i.e. MSA, CBSA, other)</b>	Bakersfield
<b>County</b>	Kern
<b>Collecting (Operating) Agency</b>	CARB
<b>Analytical Lab (i.e. weigh lab, toxics lab, other)</b>	CARB
<b>Reporting Agency</b>	CARB
<b>Site Start Date</b>	01/01/1980
<b>Pollutant Parameters</b>	Ozone, PM10 FEM
<b>Meteorological Parameters</b>	Wind speed, wind direction, outdoor temperature, sonic temperature, relative humidity
<b>Address</b>	3311 Manor St, Oildale CA 93308
<b>GPS Coordinates (decimal degrees)</b>	35.4380 N, -119.0167 W
<b>Distance to road</b>	150 m (northwest)
<b>Traffic Count/Year</b>	6,444/2020 (Traffic count for roads: Manor St. near the air monitoring station. Source: Kern Council of Governments.)
<b>Ground Cover</b>	Dirt, vegetative

Oildale			
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 / 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 <sub>2.5</sub> , PM <sub>10</sub> , PM <sub>10-2.5</sub> , Pb and NO <sub>2</sub> monitors. Non-PM, Pb, NO <sub>2</sub> monitors should be listed as "N/A".)	Primary	Primary	Other
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (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

<b>Pollutant</b>	<b>Ozone</b>	<b>PM10 STP / LC</b>	<b>Meteorology</b>
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)	12.4	N/A	N/A
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the hivol? 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)	10/15/2021	N/A	N/A
Last two semi-annual flow rate audits for PM monitors	N/A	4/28/2021 10/15/2021	N/A
Changes planned within the next 18 months (Y/N)	N	N	N

<b>Site Name</b>	<b>Bakersfield-Golden/M St</b>
<b>AQS ID (XX-XXX-XXXX)</b>	06-029-0010
<b>Representative statistical area Name (i.e. MSA, CBSA, other)</b>	Bakersfield
<b>County</b>	Kern
<b>Collecting (Operating) Agency</b>	SJVAPCD
<b>Analytical Lab (i.e. weigh lab, toxics lab, other)</b>	SJVAPCD
<b>Reporting Agency</b>	SJVAPCD
<b>Site Start Date</b>	06/01/1994
<b>Pollutant Parameters</b>	PM10 FEM and PM2.5 FEM
<b>Meteorological Parameters</b>	None
<b>Address</b>	2820 M St., Bakersfield, CA 93301
<b>GPS Coordinates (decimal degrees)</b>	35.385574 N, -119.015009 W
<b>Distance to roadways (meters)</b>	13 M
<b>Traffic Count/Year</b>	3,486/2021 (Traffic count for nearest roads: 30th St. at Golden State Ave., Source: Kern Council of Governments.)
<b>Groundcover (e.g. paved, vegetative, dirt, sand, gravel)</b>	Paved



Bakersfield-Golden/M St				
Pollutant	PM10 STP	PM10 STP	PM2.5	PM2.5
Parameter code	81102	81102	88101	88101
Spatial scale	N	N	N	N
Site type	PE	PE	PE	PE
Basic monitoring objective(s)	NC, RS	NC, RS	NC, RS	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	FRM	FEM	FEM	FEM
POC	1	3	4	3
Primary / QA Collocated / Other (provide for all PM <sub>2.5</sub> , PM <sub>10</sub> , PM <sub>10-2.5</sub> , Pb and NO <sub>2</sub> monitors. Non-PM, Pb, NO <sub>2</sub> monitors should be listed as "N/A".)	Primary (Removed from service 1/2022)	Primary	Primary	Primary
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (Y/N)	N/A	N/A	Y	Y
Instrument manufacturer and model	Hi Vol SSI Ecotech Model 3000	Met One BAM 1020	Met One BAM 1022	Met One BAM 1020
Analysis method	Gravimetric	Beta Attenuation	Beta Attenuation	Beta Attenuation
Method code	162	122	209	170
Monitoring start date (MM/DD/YYYY)	04/01/2015	1/20/2022	1/1/2021	01/20/2022
Required sampling frequency (e.g. 1:3 excluding exceptional events/1:1 including exceptional events)	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
Probe height (meters)	5.9 m	6.9 m	5.9 m	7.0 m
Distance from supporting structure (vertical and horizontal, if applicable, should be provided)	1.8 m	2.8 m	1.8 m	2.9 m

Pollutant	PM10 STP	PM10 STP	PM2.5	PM2.5
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
Distance from the drip line of closest tree(s)	12m WSW	12 m WSW	11m WSW	11.5 m WSW
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
Pollutant	PM10 STP	PM10 STP	PM2.5	PM2.5
Unrestricted airflow (degrees around probe/inlet or percentage of monitoring path)	340	360	340	360
Probe material for reactive gases NO/NO2/NOy, SO2, O3; PAMS: VOCs, Carbonyls (e.g. Pyrex, stainless steel, Teflon)	N/A	N/A	N/A	N/A
Residence time for reactive gases NO/NO2/NOy, SO2, O3; PAMS: VOCs, Carbonyls (seconds)	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
Frequency of flow rate verification for manual PM samplers, including Pb samplers (routine checks)	Monthly	N/A	N/A	N/A
Frequency of flow rate verification for automated PM analyzers (routine checks)	N/A	Bi-weekly	Bi-weekly	Bi-weekly

Pollutant	PM10 STP	PM10 STP	PM2.5	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).	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).	No	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	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)	10/14/2021, 4/29/2021	Installed on 1/2022	10/14/2021, 4/29/2021	Installed on 1/2022
Changes planned within the next 18 months (Y/N)	Y Removed from service. Replaced with FEM on 1/2022	N	Y Removed from service. Replaced with BAM-1020	N

<b>Site Name</b>	<b>Bakersfield-Westwind</b>
<b>AQS ID (XX-XXX-XXXX)</b>	06-019-2019
<b>Representative statistical area Name (i.e. MSA, CBSA, other)</b>	Kern
<b>County</b>	Kern
<b>Collecting (Operating) Agency</b>	SJVAPCD
<b>Analytical Lab (i.e. weigh lab, toxics lab, other)</b>	N/A
<b>Reporting Agency</b>	SJVAPCD
<b>Site Start Date</b>	01/01/2019
<b>Pollutant Parameters</b>	NO2
<b>Meteorological Parameters</b>	Wind speed, wind direction, outdoor temperature, barometric pressure
<b>Address</b>	2001 Westwind Drive, Bakersfield, CA 93301
<b>GPS Coordinates (decimal degrees)</b>	35.37695278N -119.04388889W
<b>Distance to roadways (meters)</b>	16 to 19 meters
<b>Traffic Count/Year</b>	125,000; 2019* Traffic count for road adjacent to monitoring station: CA Route 99 and JCT. RTE 58 West / JCT. RTE. 178 East Source: Caltrans (2019) 2,812; 2020** Westwind Drive near the air monitoring station. Source: Kern Council of Governments
<b>Groundcover (e.g. paved, vegetative, dirt, sand, gravel)</b>	Paved

Bakersfield-Westwind		
Pollutant	NO <sub>2</sub>	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 <sub>2.5</sub> , PM <sub>10</sub> , PM <sub>10-2.5</sub> , Pb and NO <sub>2</sub> monitors. Non-PM, Pb, NO <sub>2</sub> monitors should be listed as "N/A".)	Primary	Other
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (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	CAPS (Cavity Attenuated Phase Shift Spectroscopy)	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

Pollutant	NO <sub>2</sub>	Meteorology
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
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 <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; PAMS: VOCs, Carbonyls (e.g. Pyrex, stainless steel, Teflon)	Teflon/Pyrex with Borosilicate	N/A
Residence time for reactive gases NO/NO <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; PAMS: VOCs, Carbonyls (seconds)		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 hivol? 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)	Audit procedure not established for method	N/A

<b>Pollutant</b>	<b>NO<sub>2</sub></b>	<b>Meteorology</b>
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

<b>Site Name</b>	<b>Bakersfield-California</b>
<b>AQS ID (XX-XXX-XXXX)</b>	06-029-0014
<b>Representative statistical area Name (i.e. MSA, CBSA, other)</b>	Bakersfield
<b>County</b>	Kern
<b>Collecting (Operating) Agency</b>	CARB
<b>Analytical Lab (i.e. weigh lab, toxics lab, other)</b>	CARB
<b>Reporting Agency</b>	CARB
<b>Site Start Date</b>	03/01/1994
<b>Pollutant Parameters</b>	Ozone, PM10 FRM, PM2.5 FRM, PM2.5 Non-FEM, NO <sub>2</sub> , Toxics, PM2.5 Speciation (STN, CSN Supplemental)
<b>Meteorological Parameters</b>	Wind speed, wind direction, outdoor temperature, sonic temperature, relative humidity
<b>Address</b>	5558 California Ave., Bakersfield CA 93309
<b>GPS Coordinates (decimal degrees)</b>	35.3566 N, -119.0626 W
<b>Distance to road</b>	300 m (south)
<b>Traffic Count/Year</b>	36,207/2020 (Traffic count for roads: California Ave between Stockdale Hwy and Business Center Dr., Source: Kern Council of Governments.)
<b>Ground Cover</b>	Paved



Bakersfield-California (1)						
Pollutant	Ozone	PM10 STP	PM10 STP	PM10 STP	PM2.5	PM2.5
Parameter code	44201	81102	81102	81102	88101	88101
Spatial scale	N	N	N	N	N	N
Site type	HC, GB	PE	PE, QA	PE	HC, PE	HC, PE, QA
Basic monitoring objective(s)	NC, RS, TP	NC, RS	NC, RS	NC, RS, TP	NC, RS	NC, RS
Monitor type	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS
Network affiliation(s), if applicable (a monitor may have none, one, or multiple)	None	None	None	None	None	None
FRM/FEM/ARM/Other	FEM	FRM	FRM	FEM	FRM	FRM
POC	1	1	2	7	1	2
Primary / QA Collocated / Other (provide for all PM <sub>2.5</sub> , PM <sub>10</sub> , PM <sub>10-2.5</sub> , Pb and NO <sub>2</sub> monitors. Non-PM, Pb, NO <sub>2</sub> monitors should be listed as "N/A".)	Primary	Primary	QA Collocated	Primary	Primary	QA Collocated
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (Y/N)	N/A	N/A	N/A	N/A	Y	Y
Instrument manufacturer and model	Teledyne API 400E	SA/GMW 1200	SA/GMW 1200	Met One BAM 1020	Thermo 2025i	Thermo 2025i
Analysis method	UV	Gravimetric	Gravimetric	Beta Attenuation	Gravimetric	Gravimetric
Method code	087	063	063	122	145	145
Monitoring start date (MM/DD/YYYY)	3/1/1994	4/1/1994	1/3/2003	2/1/2021	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	Hourly	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	01/01 - 12/31

Pollutant	Ozone	PM10 STP	PM10 STP	PM10 STP	PM2.5	PM2.5
Probe/Inlet height above ground (meters) (ground to rooftop = 4.1m)	7.2	5.62	5.62	5.62	6.23	6.23
Distance from supporting structure (above rooftop) (meters)	3.1	1.52	1.52	1.52	2.13	2.13
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	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	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 Samplers raised to parapet line negating parapet in line of site, raising dripline.	10.5	10	10	9.5 Samplers raised to parapet line negating parapet in line of site, raising dripline.	11.5 Samplers raised to parapet line negating parapet in line of site, raising dripline.
Distance to furnace or incinerator flue (meters)	3	3	2.8	2.8	2.7	3.5
Distance between collocated monitors (meters)	N/A	3.5	3.5	3.5	2.3	2.3
Unrestricted airflow (degrees)	360	360	360	360	360	360
Probe material (Teflon, etc.)	Teflon	N/A	N/A	N/A	N/A	N/A
Residence time (seconds)	9.1	N/A	N/A	N/A	N/A	N/A

Pollutant	Ozone	PM10 STP	PM10 STP	PM10 STP	PM2.5	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	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	No	N/A	N/A
Frequency of flow rate verification for manual PM samplers audit	N/A	Monthly	Monthly	Monthly	Monthly	Monthly
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)	Daily	N/A	N/A	N/A	N/A	N/A
Last Annual Performance Evaluation (gaseous)	10/13/2021	N/A	N/A	N/A	N/A	N/A
Last two semi-annual flow rate audits for PM monitors	N/A	4/29/2021, 10/13/2021	4/29/2021, 10/13/2021	4/29/2021, 10/13/2021	4/29/2021, 10/13/2021	4/29/2021, 10/13/2021
Changes planned within the next 18 months (Y/N)	N	Sampling suspended 12/2020. Change for 2021: Continuous BAM installed, designated primary 4/2021, Hi Vols terminated.	Removed after switch to continuous	N	N	N

<b>Bakersfield-California (2)</b>				
<b>Pollutant</b>	<b>PM2.5</b>	<b>PM2.5 Speciation</b>	<b>PM2.5 Speciation</b>	<b>PM2.5 Speciation</b>
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 <sub>2.5</sub> , PM <sub>10</sub> , PM <sub>10-2.5</sub> , Pb and NO <sub>2</sub> monitors. Non-PM, Pb, NO <sub>2</sub> monitors should be listed as "N/A".)	Primary	Primary & QA Collocated	Primary	QA Collocated
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (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
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

Pollutant	PM2.5	PM2.5 Speciation	PM2.5 Speciation	PM2.5 Speciation
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 level? If yes, please list distance (meters) and instrument(s).	No	No	No	No
For high volume PM instrument (flow rate > 200 liters/minute), is any PM instrument within 2m of the level? 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

Pollutant	PM2.5	PM2.5 Speciation	PM2.5 Speciation	PM2.5 Speciation
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. Status unchanged.	N	N

<b>Bakersfield-California (3)</b>				
<b>Pollutant</b>	<b>NO<sub>2</sub></b>	<b>Toxics</b>	<b>Toxics</b>	<b>Meteorology</b>
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
Primary / QA Collocated / Other (provide for all PM <sub>2.5</sub> , PM <sub>10</sub> , PM <sub>10-2.5</sub> , Pb and NO <sub>2</sub> monitors. Non-PM, Pb, NO <sub>2</sub> monitors should be listed as "N/A".)	Primary	Primary	QA Collocated	Other
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (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

Pollutant	NO <sub>2</sub>	Toxics	Toxics	Meteorology
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 Samplers raised to parapet line negating parapet in line of site, raising dripline.	14	15	None
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)	9.6	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 hivol? 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



<b>Pollutant</b>	<b>NO<sub>2</sub></b>	<b>Toxics</b>	<b>Toxics</b>	<b>Meteorology</b>
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)	10/13/2021	N/A	N/A	N/A
Last two semi-annual flow rate audits for PM monitors	N/A	4/29/2021	4/29/2021	N/A
Changes planned within the next 18 months (Y/N)	N	N	N	N

<b>Site Name</b>	<b>Bakersfield-Muni</b>
<b>AQS ID (XX-XXX-XXXX)</b>	06-029-2012
<b>Representative statistical area Name (i.e. MSA, CBSA, other)</b>	Bakersfield
<b>County</b>	Kern
<b>Collecting (Operating) Agency</b>	SJVAPCD
<b>Analytical Lab (i.e. weigh lab, toxics lab, other)</b>	Varies based on which laboratory is contracted with the SJVAPCD: Speciated VOC
<b>Reporting Agency</b>	SJVAPCD
<b>Site Start Date</b>	06/01/2012
<b>Pollutant Parameters</b>	Ozone , CO, NO2, Speciated VOC, NMH
<b>Meteorological Parameters</b>	Wind speed, wind direction, outdoor temperature, relative humidity, barometric pressure, solar radiation
<b>Address</b>	2000 South Union Ave., Bakersfield, CA 93307
<b>GPS Coordinates (decimal degrees)</b>	35.3313 N, -119.0000 W
<b>Distance to roadways (meters)</b>	280m (west)
<b>Traffic Count/Year</b>	19,182 / 2020 (Traffic count for monitoring station's street address: S Union Ave between E Casa Loma Dr and Watts Dr. Source: Kern Council of Governments) 6.868 / 2020 (Traffic count for road adjacent to monitoring station: Watts Dr between S Union Ave and Short St. Source: Kern Council of Governments)
<b>Groundcover (e.g. paved, vegetative, dirt, sand, gravel)</b>	Paved

Bakersfield-Muni						
Pollutant	Ozone	CO	NO <sub>2</sub>	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 <sub>2.5</sub> , PM <sub>10</sub> , PM <sub>10-2.5</sub> , Pb and NO <sub>2</sub> monitors. Non-PM, Pb, NO <sub>2</sub> 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 <sub>2.5</sub> ? (Y/N)	N/A	N/A	N/A	N/A	N/A	N/A
Instrument manufacturer and model	Teledyne API T265	Thermo 48i TLE	TeledyneT 200	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 <sub>2</sub>	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 <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; 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 <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; PAMS: VOCs, Carbonyls (seconds)	12.82	13.23	12.85	4	13.08	N/A
Frequency of one-point QC check for gaseous instruments	Daily	Daily	Daily	N/A	Daily	N/A

Pollutant	Ozone	CO	NO <sub>2</sub>	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 hivol?	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)	10/14/2021	10/14/2021	10/14/2021	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

<b>Site Name</b>	<b>Bakersfield-Airport (Planz)</b>
<b>AQS ID (XX-XXX-XXXX)</b>	06-029-0016
<b>Representative statistical area Name (i.e. MSA, CBSA, other)</b>	Bakersfield
<b>County</b>	Kern
<b>Collecting (Operating) Agency</b>	CARB
<b>Analytical Lab (i.e. weigh lab, toxics lab, other)</b>	CARB
<b>Reporting Agency</b>	CARB
<b>Site Start Date</b>	02/18/2000
<b>Pollutant Parameters</b>	PM2.5 FRM
<b>Meteorological Parameters</b>	None
<b>Address</b>	401 E. Planz Rd., Bakersfield CA 93307
<b>GPS Coordinates (decimal degrees)</b>	35.3246 N, -118.9976 W
<b>Distance to road</b>	500 m (west)
<b>Traffic Count/Year</b>	14,235 / 2020 (Traffic count for nearest cross street): S. Union Ave between E. Planz Rd and E White Lane Source: Kern Council of Governments 1,334 / 2020 (Traffic count for monitoring station's street address) Source: Kern Council of Governments)
<b>Ground Cover</b>	Paved

<b>Bakersfield-Airport (Planz)</b>	
<b>Pollutant</b>	<b>PM2.5</b>
Parameter code	88101
Spatial scale	N
Site type	HC, 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 <sub>2.5</sub> , PM <sub>10</sub> , PM <sub>10-2.5</sub> , Pb and NO <sub>2</sub> monitors. Non-PM, Pb, NO <sub>2</sub> monitors should be listed as "N/A".)	Primary
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (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

Pollutant	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
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	4/29/2021, 10/13/2021
Changes planned within the next 18 months (Y/N)	Y. CARB and District in the process of evaluating siting challenges at the Bakersfield-Airport (Planz) air monitoring site and reviewing the PM2.5 data to determine if the site should remain comparable to the annual PM2.5 NAAQS.



<b>Site Name</b>	<b>Edison</b>
<b>AQS ID (XX-XXX-XXXX)</b>	06-029-0007
<b>Representative statistical area Name (i.e. MSA, CBSA, other)</b>	Bakersfield
<b>County</b>	Kern
<b>Collecting (Operating) Agency</b>	CARB
<b>Analytical Lab (i.e. weigh lab, toxics lab, other)</b>	N/A
<b>Reporting Agency</b>	CARB
<b>Site Start Date</b>	01/01/1980
<b>Pollutant Parameters</b>	Ozone, NO <sub>2</sub>
<b>Meteorological Parameters</b>	Wind speed, wind direction, outside temperature, relative humidity
<b>Address</b>	Johnston Farm, Edison, CA 93320
<b>GPS Coordinates (decimal degrees)</b>	35.34561 N, -118.85183 W
<b>Distance to road</b>	450 m (south)
<b>Traffic Count/Year</b>	2,753/2020 (Traffic count for nearest roads: Edison Hwy. and Comanche Dr., Source: Kern Council of Governments)
<b>Ground Cover</b>	Dirt, vegetative

<b>Edison</b>			
<b>Pollutant</b>	<b>Ozone</b>	<b>NO<sub>2</sub></b>	<b>Meteorology</b>
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 <sub>2.5</sub> , PM <sub>10</sub> , PM <sub>10-2.5</sub> , Pb and NO <sub>2</sub> monitors. Non-PM, Pb, NO <sub>2</sub> monitors should be listed as "N/A".)	Primary	Primary	Other
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (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 <sub>2</sub>	Meteorology
Probe material (Teflon, etc.)	Teflon	Teflon	N/A
Residence time (seconds)	8.5	14.5	N/A
For low volume PM instruments (flow rate < 200 liters/minute), is any PM instrument within 1 m of the hivol? 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)	12/07/2021	N/A	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)	Changes proposed: External only, to install stair access to roof/railing. Completed 1/2021.	Changes proposed: External only, to install stair access to roof/railing. Completed 1/2021.	Changes proposed: External only, to install stair access to roof/railing. Completed 1/2021.

<b>Site Name</b>	<b>Arvin-Di Giorgio</b>
<b>AQS ID (XX-XXX-XXXX)</b>	06-029-5002
<b>Representative statistical area Name (i.e. MSA, CBSA, other)</b>	Bakersfield
<b>County</b>	Kern
<b>Collecting (Operating) Agency</b>	CARB
<b>Analytical Lab (i.e. weigh lab, toxics lab, other)</b>	N/A
<b>Reporting Agency</b>	CARB
<b>Site Start Date</b>	11/16/2009
<b>Pollutant Parameters</b>	Ozone
<b>Meteorological Parameters</b>	Outdoor temperature, wind speed, wind direction, sonic temperature, relative humidity
<b>Address</b>	19405 Buena Vista Blvd, Arvin CA 93203
<b>GPS Coordinates (decimal degrees)</b>	35.2391 N, -118.7886 W
<b>Distance to road</b>	10 m (east)
<b>Traffic Count/Year</b>	394 / 2020 (Traffic count for Buena Vista Blvd east of Tejon Hwy., Source: Kern Council of Governments.)
<b>Ground Cover</b>	Dirt, vegetative

Arvin-Di Giorgio		
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 <sub>2.5</sub> , PM <sub>10</sub> , PM <sub>10-2.5</sub> , Pb and NO <sub>2</sub> monitors. Non-PM, Pb, NO <sub>2</sub> monitors should be listed as "N/A".)	Primary	Other
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (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)	5.6	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)	10/26/2021	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)	Plans are to install a new, permanent monitoring shelter within the next 18 months.	Plans are to install a new, permanent monitoring shelter within the next 18 months.

<b>Site Name</b>	<b>Maricopa</b>
<b>AQS ID (XX-XXX-XXXX)</b>	06-029-0008
<b>Representative statistical area Name (i.e. MSA, CBSA, other)</b>	Bakersfield
<b>County</b>	Kern
<b>Collecting (Operating) Agency</b>	SJVAPCD
<b>Analytical Lab (i.e. weigh lab, toxics lab, other)</b>	N/A
<b>Reporting Agency</b>	SJVAPCD
<b>Site Start Date</b>	1/1/1988
<b>Pollutant Parameters</b>	Ozone
<b>Meteorological Parameters</b>	Wind speed, wind direction, outdoor temperature, barometric pressure
<b>Address</b>	755 Stanislaus St., Maricopa, CA 93252
<b>GPS Coordinates (decimal degrees)</b>	35.0515 N, -119.4026 W
<b>Distance to roadways (meters)</b>	500 (northwest)
<b>Traffic Count/Year</b>	491/2021 (Traffic count for nearest roads: Union St. at California St., Source: Kern Council of Governments.)
<b>Groundcover (e.g. paved, vegetative, dirt, sand, gravel)</b>	Gravel, dirt, vegetative

<b>Maricopa</b>		
<b>Pollutant</b>	<b>Ozone</b>	<b>Meteorology</b>
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 <sub>2.5</sub> , PM <sub>10</sub> , PM <sub>10-2.5</sub> , Pb and NO <sub>2</sub> monitors. Non-PM, Pb, NO <sub>2</sub> monitors should be listed as "N/A".)	N/A	Other
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (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)	4.1 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



Pollutant	Ozone	Meteorology
Unrestricted airflow (degrees around probe/inlet or percentage of monitoring path)	350	360
Probe material for reactive gases NO/NO <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; PAMS: VOCs, Carbonyls (e.g. Pyrex, stainless steel, Teflon)	Teflon/Pyrex with Borosilicate	N/A
Residence time for reactive gases NO/NO <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; PAMS: VOCs, Carbonyls (seconds)	8.78	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 hivol? 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)	12/8/2021	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

<b>Site Name</b>	<b>Lebec</b>
<b>AQS ID (XX-XXX-XXXX)</b>	06-029-2009
<b>Representative statistical area Name (i.e. MSA, CBSA, other)</b>	Bakersfield
<b>County</b>	Kern
<b>Collecting (Operating) Agency</b>	SJVAPCD
<b>Analytical Lab (i.e. weigh lab, toxics lab, other)</b>	N/A
<b>Reporting Agency</b>	SJVAPCD
<b>Site Start Date</b>	1/01/2009
<b>Pollutant Parameters</b>	PM2.5 Non-FEM
<b>Meteorological Parameters</b>	Wind speed, wind direction, outdoor temperature, barometric pressure
<b>Address</b>	1277 Beartrap Road, Lebec, CA 93243
<b>GPS Coordinates (decimal degrees)</b>	34.8415N, -118.8610W
<b>Distance to roadways (meters)</b>	300 m (west)
<b>Traffic Count/Year</b>	494/2018 (Traffic count for nearest roads: Lebec Rd near Interstate 5, Source: Kern Council of Governments.)
<b>Groundcover (e.g. paved, vegetative, dirt, sand, gravel)</b>	Gravel, vegetative

<b>Lebec</b>		
<b>Pollutant</b>	<b>PM2.5</b>	<b>Meteorology</b>
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 <sub>2.5</sub> , PM <sub>10</sub> , PM <sub>10-2.5</sub> , Pb and NO <sub>2</sub> monitors. Non-PM, Pb, NO <sub>2</sub> monitors should be listed as "N/A".)	Primary	Other
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (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

<b>Pollutant</b>	<b>PM2.5</b>	<b>Meteorology</b>
Unrestricted airflow (degrees around probe/inlet or percentage of monitoring path)	360	360
Probe material for reactive gases NO/NO <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; PAMS: VOCs, Carbonyls (e.g. Pyrex, stainless steel, Teflon)	N/A	N/A
Residence time for reactive gases NO/NO <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; 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 hivol? 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)	10/26/2021, 4/20/2021	N/A
Changes planned within the next 18 months (Y/N)	N	N

**SJV 2022 Air Monitoring Network Plan**  
**Nearby Activities and Impacts to Bakersfield-Planz Air Monitoring Site**  
**Draft**

*[Prepared by CARB and District Staff]*

## Contents

Executive Summary .....	3
Background.....	4
Air Quality Monitoring in Bakersfield.....	5
Longstanding Issues with Planz Site.....	6
Siting and Localized Emissions Sources Concerns.....	6
Security and Reliability Concerns.....	7
Observations and concerns about Planz PM2.5 reading prior to 2021 .....	9
Comparison of Bakersfield Sites.....	10
Planz Has Higher PM2.5 Levels than Other Sites .....	10
Planz Historically Correlates Well with Other Sites, But Consistently Higher.....	12
Unusual Data in 2021 .....	13
Observations at Bakersfield-Planz.....	15
Recent Real-Time Data.....	26
Finding a Better Site to Monitor Community Air .....	36
Proposed Action Plan.....	36
Unsuitability of Planz for Comparison to the Annual PM2.5 Standard.....	37
Conclusion .....	38

## Executive Summary

Air quality monitoring that provides accurate and representative data is critical to helping improve air quality and public health in the San Joaquin Valley (Valley) and to provide residents with reliable information about the air they breathe. Bakersfield, at the southern end of the San Joaquin Valley Air Basin (air basin), has some of the highest levels of fine particulate matter (PM<sub>2.5</sub>) in the region, as measured at three PM<sub>2.5</sub> air quality monitoring sites located within the city at Bakersfield-Planz (Planz), Bakersfield-California (California), and Bakersfield-Golden (Golden). The monitors are deployed and operated by the California Air Resources Board (CARB) and the San Joaquin Valley Air Pollution Control District (District) using standard procedures described in the Code of Federal Regulations (CFR), and are necessary for demonstrating attainment of the National Ambient Air Quality Standards (standards) for PM<sub>2.5</sub>.

Planz and the other two Bakersfield sites are meant to represent overall air quality conditions within the region, in alignment with the CFR which indicates that neighborhood-scale monitoring is the most effective way to characterize PM<sub>2.5</sub> emissions for comparison to the annual PM<sub>2.5</sub> standard. Analysis by CARB and the District, however, shows that Planz, despite being intended to reflect air quality on the neighborhood or regional scale, is instead being adversely impacted by localized emissions sources due to the site's location. Some of these impacts are longstanding and have been observed by CARB and the District for years. Recent analysis of 2021 and 2022 data seems to indicate that impacts from localized emissions sources may have changed significantly in 2021, further reducing the site's ability to represent neighborhood air quality.

Based on these analyses, CARB and the District propose that Planz should no longer be classified as a neighborhood-scale site suitable for collecting data to be used for comparison to the annual PM<sub>2.5</sub> standard (its current status). Instead, due to the localized impacts, and unique sources of emissions near the monitor, the site represents microscale air quality and should be classified accordingly and not be considered comparable to the annual standard.

CARB and the District also propose that it is imperative to find a more suitable monitoring site to replace Planz that can provide data which are accurate, representative of community- or neighborhood-scale air quality conditions, and appropriate for comparison to the annual standard and the 24-hour standard. Bakersfield is a region of high air quality concern within the Valley and should have air quality monitoring which better serves the community and provides CARB, the District, and the public with useful data that will help move the region towards attainment of the PM2.5 standards. The CARB and District analysis summarized in this document demonstrates the need and forms the foundation for successfully finding a more suitable site. Further study and public input are needed in the coming steps.

## Background

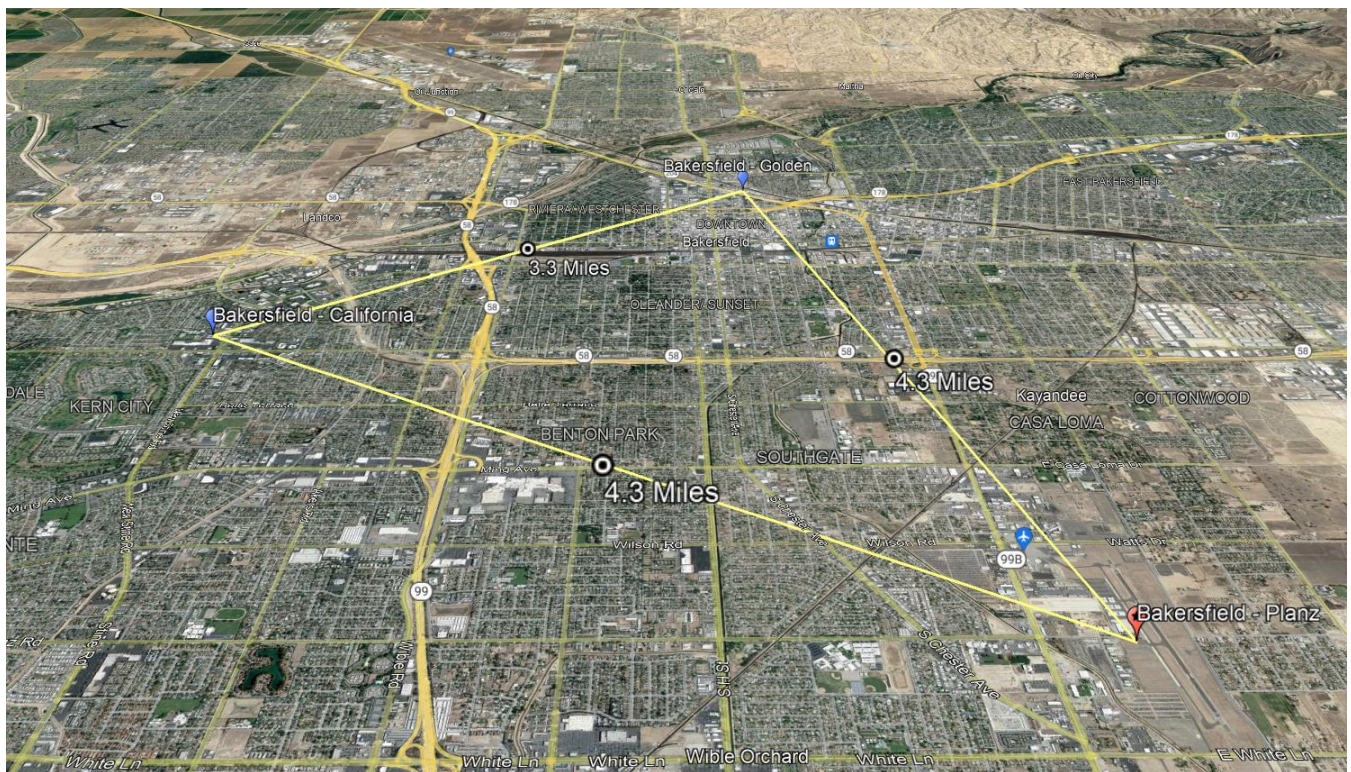
The Valley experiences some of the most challenging air quality conditions in the nation. The region, bounded on three sides by mountains and frequently experiencing stagnant weather conditions that trap pollutants on the Valley floor, is nonattainment for multiple federal air quality standards for ozone and particulate matter, pollutants that have significant harmful impacts on the health of Valley residents. Bakersfield, at the southern end of the air basin where air pollution tends to accumulate, experiences some of the worst air quality, with PM2.5 levels often higher there than anywhere else in the Valley. Despite these challenges, the Valley has made significant progress over the years. Through successful implementation of District and CARB control strategies to reduce both PM2.5 and ozone, the Valley is now in attainment of multiple federal standards in which the Valley was designated as nonattainment, including the federal 1-hour ozone standard, and the federal 1997 24-hour PM2.5 standard. In addition, at this point, and outside of wildfire impacts, the entire San Joaquin Valley is attaining the 1997 annual PM2.5 standard, except for the Bakersfield-Planz monitor, which has been impacted by nearby sources of emissions for many years, as detailed in this document.



## Air Quality Monitoring in Bakersfield

CARB and the District operate a network of air quality monitoring sites throughout the Valley. In the city of Bakersfield, three sites collect PM<sub>2.5</sub> data: Golden, California, and Planz. Golden is located at 2820 M Street, near the Golden State Highway, in a mixed commercial and residential area just north of downtown Bakersfield, 650 feet from the nearest residences. California is located at 5558 California Avenue, in a mixed commercial and residential area in West Bakersfield, 250 feet from the nearest residences. Planz is located at 410 E. Planz Road, on the grounds of the Bakersfield Municipal Airport in South Bakersfield, 1,100 feet from the nearest residences. The District operates the Golden site while CARB operates the California and Planz sites. The three sites are located within 5 miles of one another (Figure 1).

**Figure 1. Map of PM<sub>2.5</sub> Monitoring Sites in Bakersfield**



## Longstanding Issues with Planz Site

Planz began collecting PM2.5 data in 2000. When the site was originally established, it was meant to represent neighborhood- or regional-scale air quality conditions. In the two decades that Planz has operated, CARB and the District have continually experienced challenges conducting PM2.5 air quality monitoring at the site. The challenges include issues with the overall siting and vulnerability of the monitor to localized emissions sources as well as concerns about site security and reliability.

### Siting and Localized Emissions Sources Concerns

- **The monitor is located near the airport runway.** The nearby runway introduces unique emissions from daily plane take-offs and landings along with wind and combustion emissions from aircraft taxiing near the filter site.
- **The monitor is placed on a pallet directly on the ground near a large unpaved, dusty area.** The Planz sampler is subject to ground-level dust coming from the open space around the airport. In general, monitors are located 2-15 meters (6.5 – 50 feet) above the ground to avoid undue influence from localized emissions sources at ground level.
- **The monitor is located near a helicopter landing area.** Helicopters landing and taking off cause dust to be picked up from the ground and suspended in the air (Figure 2).
- **The monitor is adjacent to a flight training and aircraft refueling facility.** The facility, which began its operation approximately 2 years ago, provides service to aircraft landing and taxiing near the monitor to refuel and take-off. Fuel trucks from the facility also drive by the monitor to refuel aircraft and helicopters on the landing pad. This aircraft and vehicle activity contributes to dust suspension and fuel combustion emissions in the air around the monitor that can directly contribute to PM2.5. Similar activity was present at this location prior to the current business.

Figure 2. Helicopter Activity near Planz Monitor



### Security and Reliability Concerns

- **The monitor is powered by an extension cord that runs exposed along the ground and connects to an electrical outlet on a light pole on the public side of the airport property fence.** The cord was accidentally cut in February 2022, and is vulnerable to being unplugged and rendered inoperable.
- **The monitor is on the ground next to a turnaround at the end of E. Planz Road.** In March 2022, a vehicle ran into the airport fence next to the turnaround, barely missing the sampler (Figure 3).

**Figure 3. Fencing near Planz Monitor Damaged by Accident**



Historically, CARB and the District have had limited ability to resolve these issues due to airport safety restrictions (which, for example, until 2022, prevented adding other monitors at the site to better understand the causes of the high PM<sub>2.5</sub> levels) and U.S. Environmental Protection Agency (U.S. EPA) requirements surrounding moving an established site. However, the agencies, with input from U.S. EPA, have explored opportunities for improving or moving the site multiple times to enable collection of data not impacted by the localized emissions sources and other issues outlined above.

The issues at the Planz site have real-world implications for Valley residents. The site's proximity to highly localized and unique sources of emissions such as helicopters and airplanes means that Planz is more representative of local- or microscale air quality rather

than community- or neighborhood-scale air quality in the region. As such, the site does not contribute as meaningfully as it otherwise could to our understanding of regional air quality and an effective control strategy for sources of regional significance. Nor does the site provide reliable information about what most people in the region are breathing.

Planz is unique among California's air quality monitoring sites in having so many challenges, a reality all the more unfortunate due to the critical importance of the site in a region with some of the worst air quality in the State.

## Observations and concerns about Planz PM2.5 reading prior to 2021

- **District's 2015 Plan for the 1997 PM2.5 Standard<sup>1</sup> highlights issues and concerns with the Planz air monitoring site.** In Appendix F to the 2015 Plan, the District introduces the abnormally high concentration recorded at the Planz filter site on May 5, 2013, and provides background and analysis comparing the Planz data to surrounding data. The discussion also provides analysis of potential sources of fugitive dust in the area impacting the Planz site. The discussion, images, and figures in this Appendix to the 2015 Plan support airport activity types have remained consistent compared to the recent observations shared later in this document.
- **SJVAPCD sponsors paving and ground cover project at the Bakersfield Municipal Airport<sup>2</sup>.** At its August 18, 2016, meeting, the District Governing Board approved a \$1,100,000 project to pave 2 miles of unpaved service and perimeter roads within the municipal airport property and place wood chip ground cover over 66 acres of open ground at the airport property. The Board action represents an active effort to address dust issues at the Municipal Airport property that were impacting the Planz filter site and adversely affecting the PM2.5 concentrations. The agenda item

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<sup>1</sup> 2015 Plan for the 1997 PM2.5 Standard, SJVUAPCD, April 16, 2015;

[http://www.valleyair.org/Air\\_Quality\\_Plans/docs/PM25-2015/F.pdf](http://www.valleyair.org/Air_Quality_Plans/docs/PM25-2015/F.pdf)

<sup>2</sup> San Joaquin Valley Air Pollution Control District, August 18, 2016, Governing Board meeting, agenda item 10; [http://www.valleyair.org/Board\\_meetings/GB/agenda\\_minutes/Agenda/2016/August/final/10.pdf](http://www.valleyair.org/Board_meetings/GB/agenda_minutes/Agenda/2016/August/final/10.pdf)

outlines the view that the PM2.5 concentrations measured at the Planz monitor were not representative of PM2.5 concentrations to which Valley residents we exposed to. This agenda item includes discussions and photos documenting the airport activity at the time that was likely contributing to unique emissions and PM2.5 concentrations at the Planz monitor. This project with the airport was completed in 2017.

- **Laboratory Analysis of Filter Samples during May 5, 2013, High Wind Event.** At its December 15, 2016, meeting<sup>3</sup>, the SJVAPCD Governing Board approved \$42,000 for a special lab analysis of the filter sample that was collected during a high wind event at the Planz monitor and resulted in a PM2.5 concentration that was higher than surrounding monitors and far higher than typical concentrations to-date. The results of this laboratory analysis was presented to the SJVAPCD Governing Board on October 18, 2018<sup>4</sup>.

## Comparison of Bakersfield Sites

The three PM2.5 monitoring sites in Bakersfield are intended to capture regional air quality. Since they are located relatively near one another within the same air basin, we would expect all three sites to show similar PM2.5 data.

## Planz Has Higher PM2.5 Levels than Other Sites

Planz typically measures higher levels of PM2.5 (in micrograms per cubic meter,  $\mu\text{g}/\text{m}^3$ ) than the other two Bakersfield sites on an annual average basis. For example, in 2018,

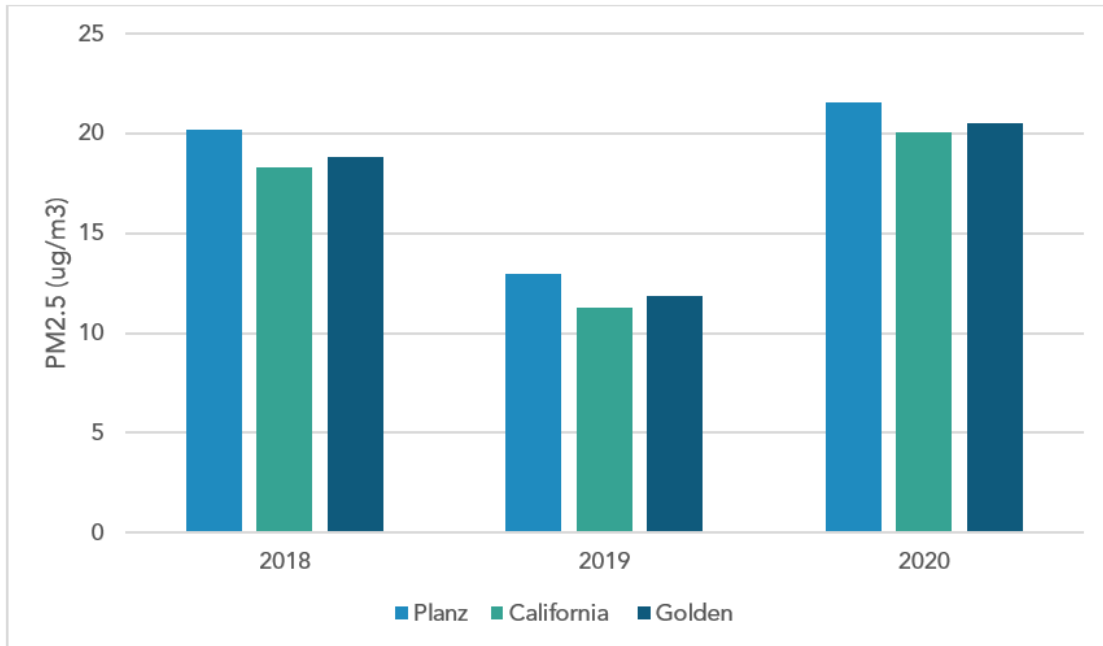
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<sup>3</sup> San Joaquin Valley Air Pollution Control District, December 15, 2016, Governing Board meeting, agenda item 09; [http://www.valleyair.org/Board\\_meetings/GB/agenda\\_minutes/Agenda/2016/December/final/09.pdf](http://www.valleyair.org/Board_meetings/GB/agenda_minutes/Agenda/2016/December/final/09.pdf)

<sup>4</sup> San Joaquin Valley Air Pollution Control District, October 18, 2018, Governing Board meeting, agenda item 13; [http://www.valleyair.org/Board\\_meetings/GB/agenda\\_minutes/Agenda/2018/October/final/13.pdf](http://www.valleyair.org/Board_meetings/GB/agenda_minutes/Agenda/2018/October/final/13.pdf)

2019, and 2020, annual average PM2.5 levels were consistently higher at Planz than at California or Golden (Figure 4).

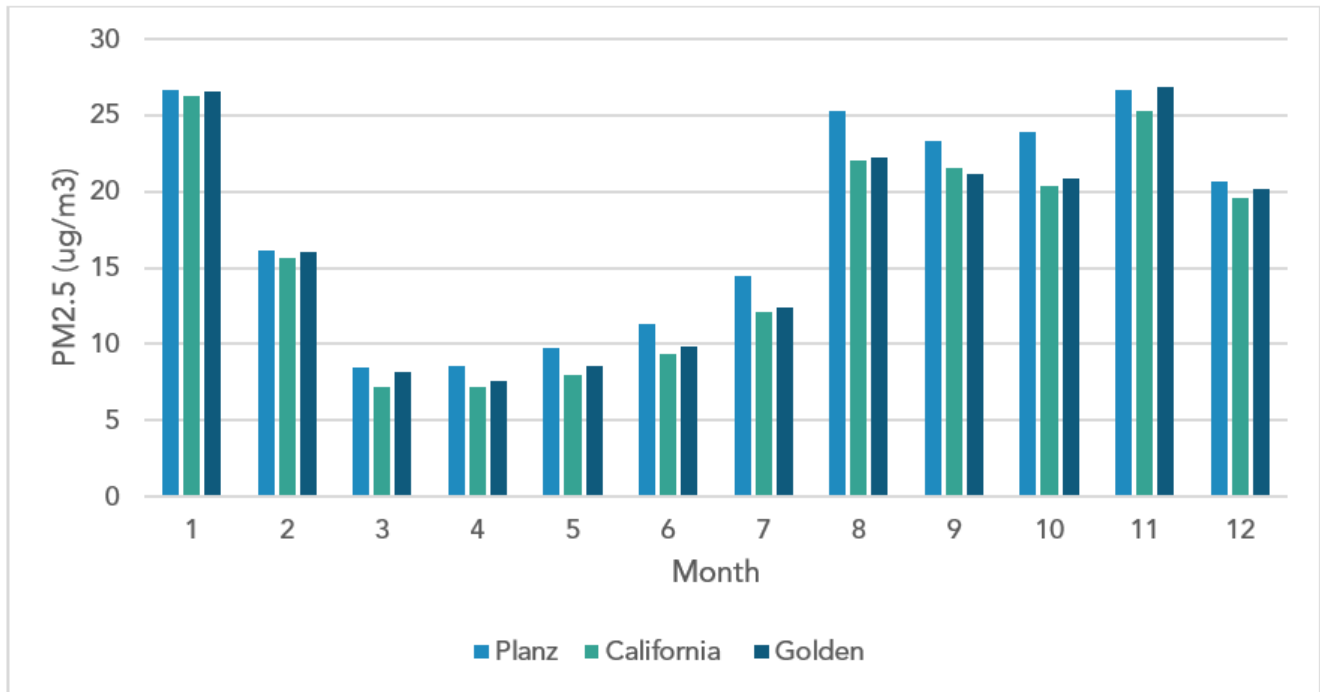
**Figure 4. Comparison of Annual Average PM2.5 Levels\***



\*Note: The data shown include impacts from wildfires.

Comparison of monthly average concentrations reveals that this difference in annual average PM2.5 is driven by the summer months. During wet winter months (November, December, January, and February), PM2.5 levels were similar across all three sites, but particularly between Planz and Golden (Figure 5). In the dry summer season, especially from April through October, PM2.5 was consistently higher at Planz while the other two sites measured concentrations similar to each other.

**Figure 5. 2018-2020 Monthly Average\***



\*Note: The data shown include impacts from wildfires.

This difference in PM2.5 levels between Planz and the other two sites could be attributed to monitor siting. As detailed above, the Planz monitor is situated on a pallet near a helicopter landing pad and an aircraft training, repair, and refueling facility. It is surrounded by dirt and subject to enhanced dust intrusion from airport activities, especially during the dry and dusty summer months. The California and Golden monitors are placed on rooftops and therefore less exposed to ground-level dust.

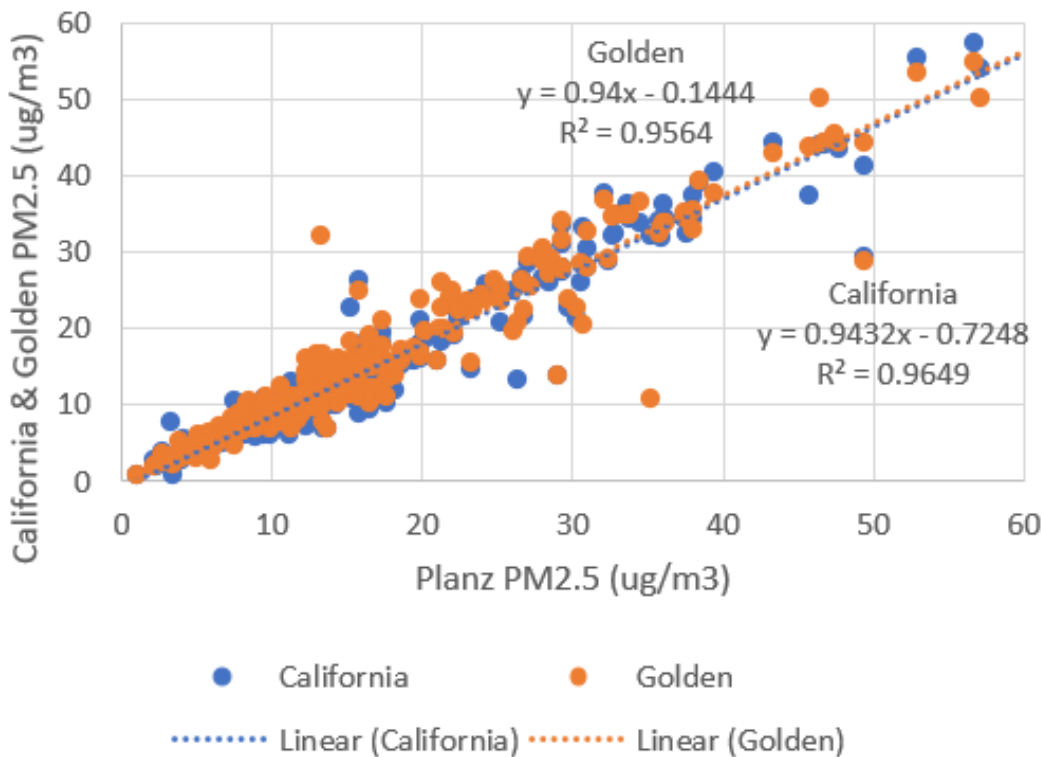
### **Planz Historically Correlates Well with Other Sites, But Consistently Higher**

While PM2.5 levels are typically higher at Planz, they have historically correlated well with those measured at California and Golden throughout the past two decades, meaning there is a good relationship between the values at the sites. Although historically the three sites have had good correlation, the Planz site has regularly been the higher of the three over a number of years, due to the nearby activities and sources of emissions from the airport



activities. In recent years, between 2018 and 2020, for example, the three sites tracked extremely closely (Figure 6) as shown in the  $R^2$  of 0.9564 and 0.9649 comparing Golden and California, respectively, to Planz. Data are determined to be correlated when the  $R^2$  is greater than 0.75.

**Figure 6. Comparison of PM2.5 Data from Planz and California/Golden, 2018-2020**



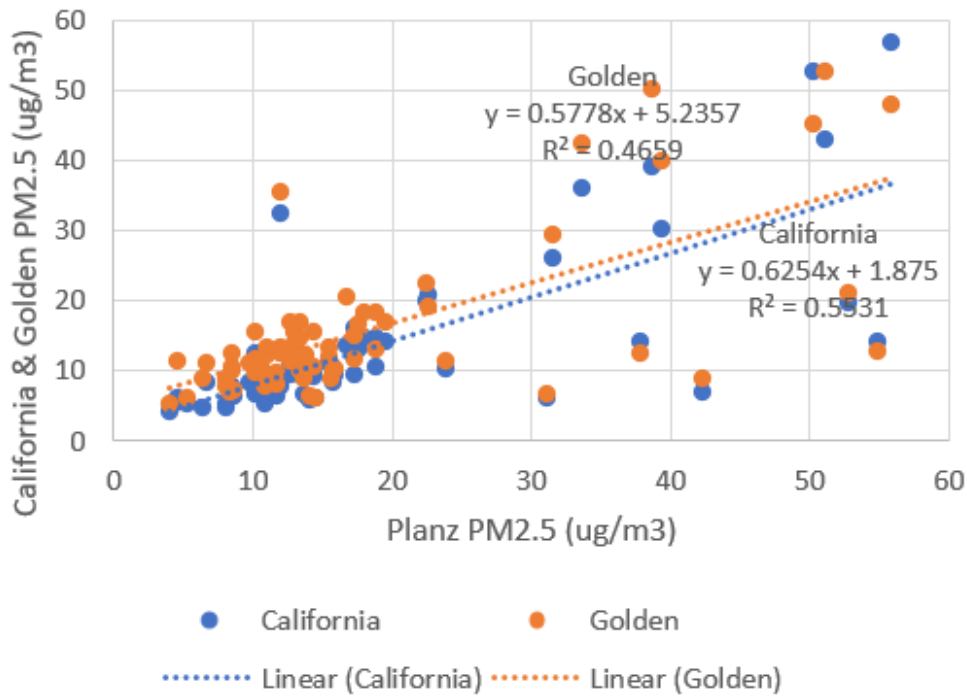
### Unusual Data in 2021

In 2021, this pattern, which had been consistent across decades, did not emerge. Both CARB and the District independently noticed that the PM2.5 data being reported from Planz were unusual and were high when the other two monitors recorded PM2.5 values that were lower and similar to each other. Whereas previously the Planz data had correlated extremely well with Golden and California, that correlation was now significantly worse in 2021 (Figure 7) with  $R^2$  values of 0.4659 and 0.5931 for Golden and California,

respectively, compared to Planz. These values are below the  $R^2$  standard of a 0.75 to determine that data are well-correlated.

In 2021, Planz PM2.5 levels were significantly higher than at the other Bakersfield sites on a number of days. These patterns were a clear break from how the data compared during previous time periods, as displayed in Figure 6. An increase in localized activities and emissions near the Planz monitor is believed to be the driving force behind the number of outlier data points in 2021.

**Figure 7. Comparison of PM2.5 Data from Planz and California/Golden, 2021**



CARB and the District continue to analyze and explore why the Planz data has been so unusual. Staff have continued to investigate and observe nearby facilities and sources, analyze newly available real-time PM2.5 data, compare PM2.5 and PM10 data across sites, analyze meteorological data, and review the technical operation of the sampler and sampling practice. Findings from these efforts are summarized below.

## Observations at Bakersfield-Planz

The Bakersfield Municipal Airport is an active airport that comprises a number of aircraft activities. As described earlier, it has long been a concern that these activities near the Bakersfield-Planz air monitoring site have impacted the PM<sub>2.5</sub> measurements, resulting in values that are not representative of ambient air quality in this part of the urban area, but rather represents localized air quality near specific emissions sources. The following sections outline recent observations of the area surrounding the Planz monitor and identify activity and emissions sources that are believed to represent a unique emissions environment and that are adversely impacting the Planz PM<sub>2.5</sub> monitoring data. With the recent placement of temporary continuous BAM instruments and a video surveillance system that records continuously in four directions (north, east, south, west), additional data and evidence is now available to enable a further understanding and proof of the unique environment at the Bakersfield Municipal Airport. Figure 8 displays the location of the Bakersfield-Planz monitor, along with potential emission sources and various activities.

**Figure 8. Location of Bakersfield-Planz monitor and surrounding area**



Source: Google Earth Pro, Imagery Date – 4/22/2021

### **Activities from Nearby Facility**

One of the nearby operations and facilities noted in the previous image, BEST Aviation LLC, is located at 410 E. Planz Road, roughly 225 feet north of the Planz monitor. This relatively new operation has been in business at this location for approximately 2 years, and offers a variety of services including aircraft rentals, maintenance, fueling, and pilot/aircraft flight training. Flight training involves aircraft taxiing down the runway, about 50-75 feet from the monitor. As aircraft land at the airport and are in need of fuel services, the aircraft taxi very close to the Planz monitor and idle for long periods as the fueling truck drives over to

refuel the aircraft, which itself is another source of combustion emissions. As helicopters land at the nearby landing pad just south and east of the monitor, a significant amount of dust is generated that directly impact the monitor.

In addition, the helicopters and airplanes can idle for long periods as the engines are powered down or up, and the combustion of aviation fuel during these periods contribute to the PM2.5 being measured at the Planz monitor. Based on conversations with the facility, BEST Aviation LLC's operations and activities have increased over the past 2 years which is consistent with an increase in poorly correlated Planz PM2.5 data. Separate from aircraft activities, regular landscape maintenance is conducted near the Planz monitor, which also increases the PM2.5 being measured at the monitor, due to dust generation and fuel combustion from the equipment being used. The combination of these varying activities affect the PM2.5 data being measured at the Planz site, and likely contributed towards the unusual data from 2021.

Figure 9. Best Aviation website showing services offered <sup>5</sup>

<https://www.bestaviationllc.com/services>

**BEST AVIATION**

Home Become a Pilot **Services** Reservations

## Available Services

- Fuel
- Hangar and Tie Down
- Passenger and Pilot Lounge
- Pilot Courtesy Car
- Concierge Services
- Aircraft Rentals and Leasing
- Certified Flight Instructors
- Commercial Pilots
- Aircraft Parts and Maintenance
- Fuel Pricing
  - Self Serve 100LL \$4.30/Gallon
  - Full Service 100LL \$4.70/Gallon
  - Jet A Full Service \$2.95/Gallon

Other Aviation Businesses located at Best Aviation are

- Aircraft Service and Parts
- Best Equipment Leasing LLC
- Best Turbines LLC
- Best Fuels Corp

**Reservation Here**

**Location**  
Our office is located at the  
BEST Aviation, LLC  
410 E. Planz Road, Bakersfield, CA 93307

**Open 7 days a week:**  
Monday-Friday 7am-5pm  
Saturday 9am-5pm  
Sundays 9am-5pm

**Call us toll free**  
661-827-1121  
info@bestaviationllc.com

**Map** **Satellite** [Link](#)

Name

Email

Phone

Type your message here...

**Submit**

© 2023 by Best Aviation LLC

<sup>5</sup> Best Aviation LLC, <https://www.bestaviationllc.com/services>, captured 6/23/2022

Figure 10. Aircraft fueling activity near Planz monitor



Source: Image captured from temporary video surveillance at Bakersfield-Planz, 5/26/2022 and 6/19/2022

**Figure 11. Small aircraft taxiing near the Planz monitor.**



Source: Image captured from temporary video surveillance Bakersfield-Planz, 5/3/2022 9:00:01AM PDT

### **Emissions from Main Runway Operations**

The main runway at Bakersfield Municipal Airport is located 450 feet to the east of the Planz site location. The 2005 report *Aviation and Emissions: A Primer* by the Federal Aviation Administration Office of Environment and Energy states–

*“Aircraft jet engines, like many other vehicle engines, produce carbon dioxide (CO<sub>2</sub>), water vapor (H<sub>2</sub>O), nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO), oxides of sulfur (SO<sub>x</sub>), unburned or partially combusted hydrocarbons (also known as volatile organic compounds (VOCs)), particulates, and other trace compounds.”*



In the same report, it is estimated that “about 10 percent of aircraft emissions of all types, except hydrocarbons and CO, are produced during airport ground level operations and during landing and takeoff.” It is approximated that about 30 percent of total hydrocarbon and CO emissions from aircraft are produced at the ground level. Ground support, vehicle activity, power sources, and construction activity also contribute to emissions at airports.

### Nitrogen Oxides

In a study by Hudda et al. (2020), concentrations of NO<sub>x</sub> were found to be higher at near-airport monitoring sites than at any other regulatory site in the Boston area – including near-road and near-highway sites. NO<sub>x</sub> is a key ingredient in the formation of ammonium nitrate in the San Joaquin Valley, which is a significant component of overall PM<sub>2.5</sub> mass in the region.

### Ultrafine Particulates

Jet engines are known to emit high rates of ultrafine particulates (UFPs) (Hudda et al., 2018). Research by Venecek (2019) found that UFP concentrations are elevated near airports. While UFPs contribute a near-negligible amount of mass to PM<sub>2.5</sub>, they may create a reactive environment for the growth and production of secondary organic aerosols, under proper relative humidity.

From the EPA document *Guideline on Speciated Particulate Monitoring-*

*“Nucleation particle lifetimes are usually less than one hour because they rapidly coagulate with larger particles or serve as nuclei for cloud or fog droplets.”*

An aqueous shell around atmospheric particles is crucial to the formation of ammonium nitrate and other secondarily created organic aerosols (Sun et al., 2018). This may explain why we see much higher concentrations of PM<sub>2.5</sub> at Planz on certain days in the winter

with site-specific meteorological conditions that may be favorable for ammonium nitrate formation.

### **Emissions from Helicopter Activity**

Helicopter take-off and landing operations occur nearly daily within less than 100 feet of the Planz monitor. Activity has increased over the past year with a recent period of daily landing/refueling by a PG&E helicopter. Wind-blown dust is present during this activity. While wind-blown dust is often associated with PM10 concentrations, a portion of fine dust particles can be detected as PM2.5. In addition, aviation fuel combustion from the helicopters operating near the Planz monitor also contribute towards the overall PM2.5 measurements at the site.

**Figure 12. Dust blown towards Planz monitor as a helicopter lands nearby**





Source: Image captured from temporary video surveillance at Bakersfield-Planz, 5/1/22 and 6/7/2022

### **Maintenance/Security Vehicle and Landscaping Activity**

The Planz monitor is located along the perimeter of the Bakersfield Municipal Airport. Security and maintenance vehicles drive directly pass the site during daily operations, where these emissions also impact the PM2.5 measurements at the site. Landscaping activity also impact the monitor when these operations are occurring.

**Figure 13. Bakersfield Municipal Airport vehicle passing by the Planz monitor**



Source: Image captured from temporary video surveillance at Bakersfield-Planz, 6/9/22 8:35:01AM PDT

**Figure 14. Landscaping Activity near the Planz monitor**



Source: Image captured from temporary video surveillance at Bakersfield-Planz, 5/16/22 7:08:10 AM PDT

## Enhanced Lab Analysis of Planz PM2.5 Filters from 2013 - 2015

The Bakersfield Municipal Airport resides in a flat, open, dirty, and dry area where the land is often disturbed by airport activity. There is little-to-no wind shield from the southeast, allowing fugitive dust to penetrate the area. Dust from wind and surrounding activity can overwhelm the PM2.5 instrument since particles larger than 2.5 micrometers can become entrained in the sampler inlet. Along these lines, a case study was completed in 2018<sup>6</sup> which reviewed an abnormally high PM2.5 concentration measured at the Planz air monitoring site on May 5, 2013<sup>7</sup>. Additional filters from 12/18/13, 1/2/14, 1/5/14, 11/1/14, 11/7/14, and 1/9/15 were also analyzed to compare summertime and wintertime PM2.5 concentrations and PM2.5 speciation at the site.

The 2018 case study concluded that particulate matter, associated with wind-blown dust, greater than 2.5 micrometers in diameter can enter the filter-based monitor and add to the weight of the sample – thus giving an erroneously high value for PM2.5. This may explain the elevated concentrations during the spring and summer months. The same study analyzed high values in the winter months and found that ammonium nitrate/sulfate may be a key contributor in the winter months. The following is a summary of the results of the study –

“...these results indicate that a heavily loaded PM<sub>2.5</sub> filter from Planz Road (May 5, 2013) was impacted by local, wind-blown dust from an atypical direction (SSE). This filter possessed a substantially greater proportion of 2.5 - 5 µm particles compared to five other filters from adjacent locations and dates. Modeling indicates this result is consistent with predictions for a normally operating PM<sub>2.5</sub> inlet challenged with a high concentration of windblown dust

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<sup>6</sup> “*Microscopy and Spectroscopy Analyses of Airborne Particulate Matter collected by PM<sub>2.5</sub> FRM Monitors in Bakersfield, California*”, California Department of Public Health, Environmental Health Laboratory Branch, 9/4/2018

<sup>7</sup> San Joaquin Valley Air Pollution Control District, October 18, 2018, Governing Board meeting, agenda item 13; [http://www.valleyair.org/Board\\_meetings/GB/agenda\\_minutes/Agenda/2018/October/final/13.pdf](http://www.valleyair.org/Board_meetings/GB/agenda_minutes/Agenda/2018/October/final/13.pdf)

particles, potentially enhanced by re-entrainment of particles from collected deposits within the inlet.”

Based on the findings from this study, it is possible and likely that the helicopter and aircraft activity are creating unique micro-scale blowing dust events near the Planz monitor that overwhelmed and challenged the PM2.5 inlet from the sampler, thereby depositing particles on the filter larger than PM2.5, and resulting in an overall mass not representing just PM2.5, but rather including larger particles.

## **Summary**

CARB and the District conclude that PM2.5 concentrations measured at the Planz monitor do not accurately reflect the ambient air quality of Bakersfield, California at the neighborhood scale. This conclusion is based on the unique activities and emissions occurring at the Bakersfield Municipal Airport and near the Planz monitor. These include an array of activity conducted by BEST Aviation LLC, frequent helicopter landings and take offs very close to the monitor, jet aircraft emissions from the main runway about 450 feet to the east, standard airport security and maintenance operations, landscape maintenance activities, and an open, dirty, and dry environment with often disturbed land.

## **Recent Real-Time Data**

### **Regulatory and Temporary Monitors in Bakersfield**

In an effort to better understand the spatial differences and the microscale nature of the measurements at the Planz site, temporary, continuous BAM monitors have been placed at the Bakersfield Municipal Airport for a better understanding of real-time concentrations at the airport and for comparison to continuous PM2.5 data from the California and Golden air monitoring sites. Table 1 summarizes the monitoring data for this analysis.

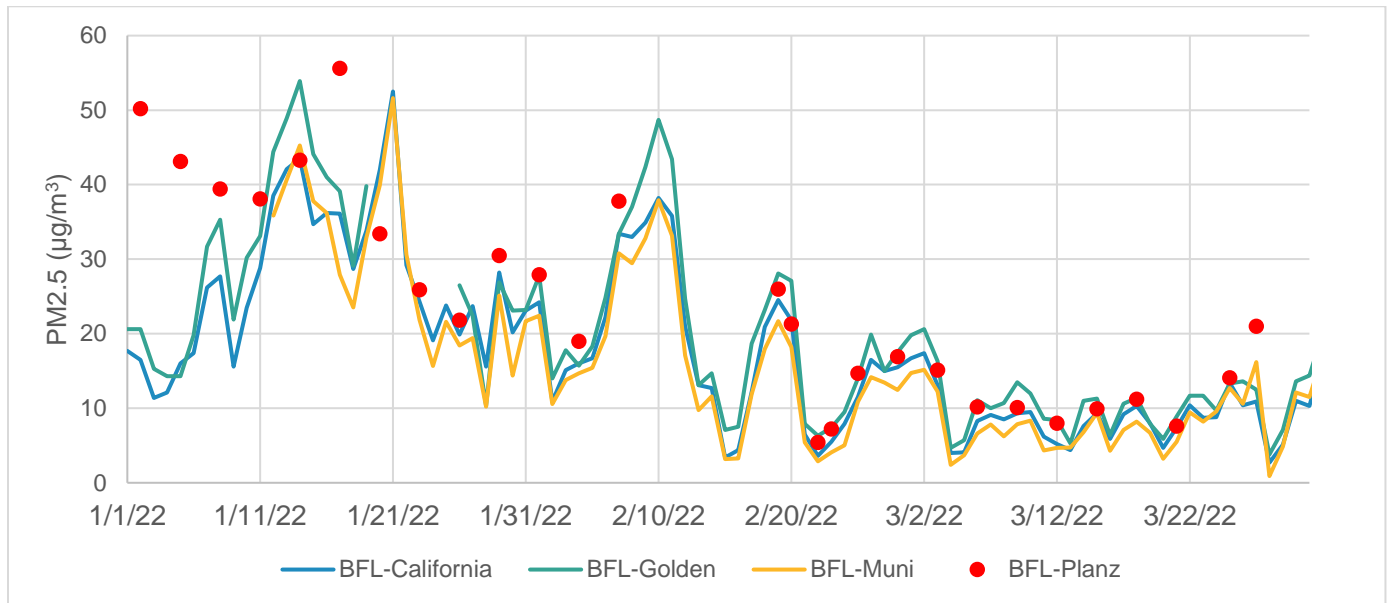
**Table 1. Available PM2.5 Data for Bakersfield in 2022**

Site Name	Designation	Monitor Type	Sampling Frequency	2022 Available Data
Bakersfield-Planz	FRM	R&P 2025	1:3	1/1/22 - 3/31/22
Bakersfield-California	FEM	BAM 1020	Hourly	1/1/22 – 6/22/22
Bakersfield-Golden	FEM	BAM 1020	Hourly	1/1/22 - 6/22/22
Bakersfield-Muni	Non-FEM, Temporary	BAM 1022	Hourly	1/12/22 - 6/22/22
Bakersfield-Muni	Non-FEM, Temporary	BAM 1020	Hourly	4/26/22 - 6/22/22
Bakersfield-Planz	Non-FEM, Temporary	BAM 1022	Hourly	4/26/22 - 6/22/22
Bakersfield-Golden	Non-FEM, Temporary	BAM 1022	Hourly	5/18/22 - 6/22/22

**January 2022 – March 2022 Analysis**

Lab analysis for the Bakersfield-Planz PM2.5 filters is complete through March 31, 2022. Figure 17 shows comparison of available PM2.5 data for the period of January 1 through March 31, 2022.

**Figure 17. Temporal chart of PM2.5 data for January through March 2022**



**Table 2 – Linear Regression Statistics January through March 2022**

Linear Regression Statistics January - March 2022			
Site Comparison	R <sup>2</sup>	Slope	y-intercept
Golden FEM vs California FEM	0.9655	1.1315	0.6933
Muni 1022 vs California FEM	0.975	0.9709	-1.0253
Muni 1022 vs Golden FEM	0.9691	0.8396	-1.1967
Planz FRM vs California FEM	0.6234	1.0117	4.7271
Planz FRM vs Golden FEM	0.603	0.9686	3.4013
Planz FRM vs Muni 1022	0.796	1.0141	3.6772



Linear regression analysis shows good agreement between the Golden FEM, California FEM, and Muni 1022 monitors during the January 2022 – March 2022 period; however, when comparing the PM<sub>2.5</sub> data from the Planz FRM monitor, the linear regression analysis shows the data do not agree as well for the same period. The R<sup>2</sup> statistic for all regression analyses with the Planz data is less than 0.75 except for the comparison of the Planz and Muni PM<sub>2.5</sub> data which resulted in an R<sup>2</sup> value of 0.79. However, this may not be an adequate comparison since data from the Muni temporary monitor began on 1/12/2022, which was after two outlier concentrations that occurred at Planz on 1/2/2022 and 1/5/2022. If these values were included in the Planz/Muni regression analysis, the R<sup>2</sup> value may have been less than 0.75. These outlier values are included in the regression analyses for the California and Golden monitors and thus those R<sup>2</sup> values are lower. Overall, the ongoing poor correlation between Planz and the other Bakersfield monitoring sites in 2022 demonstrate the ongoing microscale nature of the Planz monitor. In addition, since the correlation between the Planz and Muni sites during this period is significantly lower than the correlation to other Bakersfield sites, and since the Muni and Planz sites are only separated by 0.5 miles, this further demonstrates the microscale nature of the Planz site, representing air quality for an area much less than a neighborhood-scale designation.

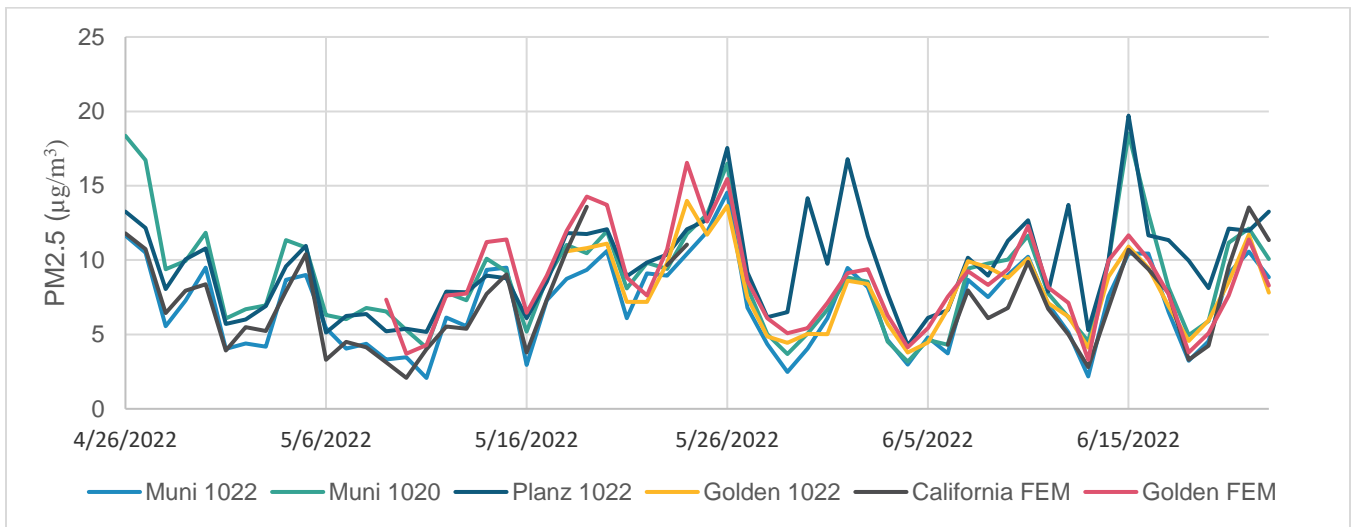
#### **April 2022 – Present Analysis**

On April 26, 2022 data from two temporary BAM monitors placed by the District in Bakersfield, California became available. These monitors were placed by the SJVAPCD – one BAM 1022 was placed parallel to the Bakersfield-Planz location, and one BAM 1020 was placed at the Bakersfield-Muni location. On May 18, 2022, data from a third temporary BAM 1022 placed by the District, parallel to the Bakersfield-Golden site, also became available.

The figures below demonstrate that during this period of additional air monitoring data, the Planz sites continues to correlate poorly with other Bakersfield air monitoring sites, even with PM<sub>2.5</sub> data being collected only 0.5 miles to the north at the Muni air

monitoring site. The time series figure below of Muni v. Planz real-time PM2.5 data shows that the values from the Planz site are consistently higher than Muni, providing evidence that the significant amount of aircraft and support activity near this monitor is contributing to the daily concentrations of PM2.5 at this location.

**Figure 18. Temporal chart of 24-hour average PM2.5 concentrations at Bakersfield for 4/26/2022 – 6/22/2022**



\* Bakersfield-California FEM data removed for 5/20/2022–6/3/2022 due to low confidence in data quality

\*\* Golden FEM data removed for 4/26/2022–5/4/2022 due to low confidence in data quality

**Table 3. R<sup>2</sup> Values for linear regression charts of all continuous monitors in Bakersfield for 4/26/2022 - 6/22/2022**

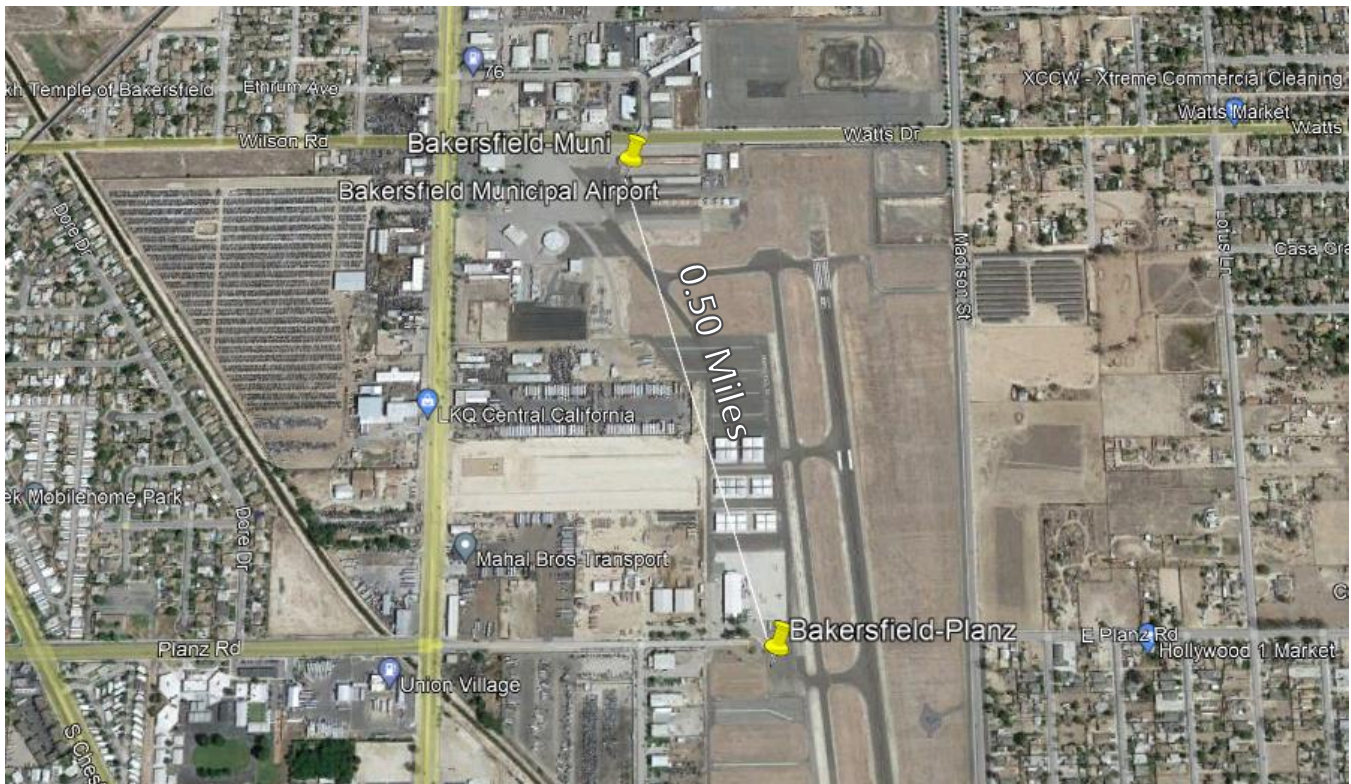
Linear Regression R <sup>2</sup> Values (4/26/2022 - 6/22/2022)						
	Planz 1022	Muni 1022	Muni 1020	Golden 1022*	California FEM**	Golden FEM***
Planz 1022		0.5987	0.5625	0.4132	0.5972	0.3894
Muni 1022	0.5987		0.8192	0.8275	0.8129	0.7809
Muni 1020	0.5625	0.8192		0.7759	0.6716	0.6914
Golden 1022~	0.4132	0.8275	0.7759		0.7116	0.9084
Cali FEM*	0.5972	0.8129	0.6716	0.7116		0.7201
Golden FEM*	0.3894	0.7809	0.6914	0.9084	0.7201	

\* Data from the temporary BAM 1022 monitor at Bakersfield-Golden available starting May, 18, 2022

\*\* Bakersfield-California FEM data removed for 5/20/2022–6/3/2022 due to low confidence in data quality

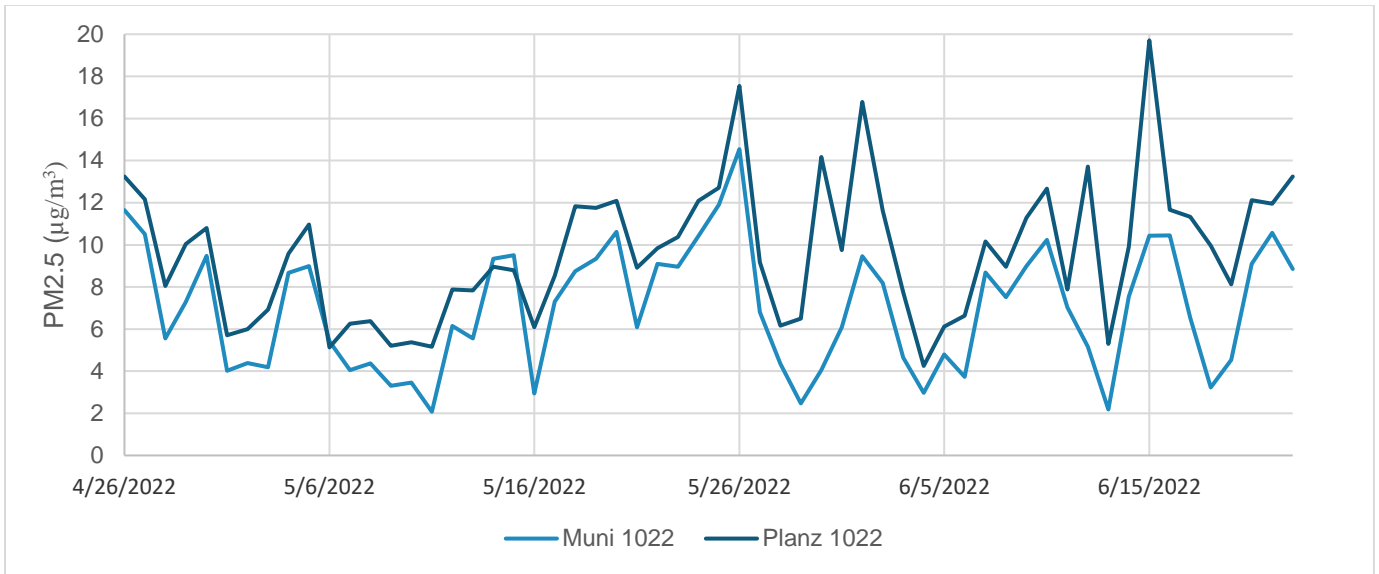
\*\*\*Golden FEM data removed for 4/26/2022–5/4/2022 due to low confidence in data quality

**Figure 19. Muni and Planz sites at Bakersfield Municipal Airport**



Source: Google Earth Pro, 6/24/2022

**Figure 20 – Temporal plot showing Planz 1022 vs Muni 1022 (4/26/22 – 6/22/22)**



### **Purple Air Analysis**

In addition, the Bakersfield area has over 20 PurpleAir low-cost sensors currently operating; one of which is located at the Bakersfield Municipal Airport within close proximity to the Bakersfield-Planz PM2.5 monitoring site (about 450 feet to the northeast). A comparative analysis of PM2.5 data from 11 outdoor Purple Air sensors in Bakersfield, California is summarized below. PurpleAir sensors were selected based on data availability and vary in location within Bakersfield.

Figure 14. Map of PurpleAir sensors in Bakersfield, California

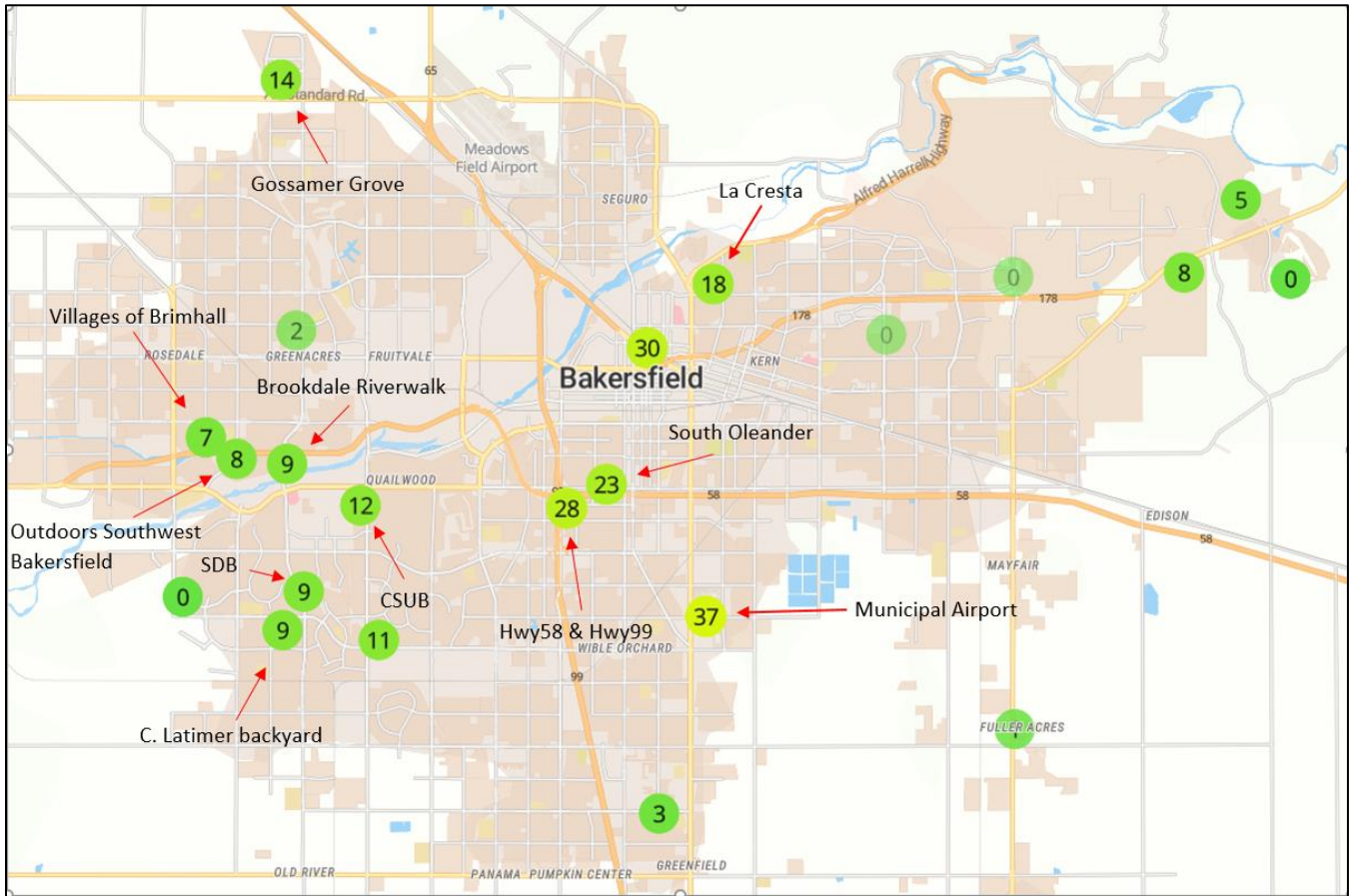


Image: PurpleAir, <https://map.purpleair.com/>, 6/9/2022

PM<sub>2.5</sub> concentrations measured with the PurpleAir sensor at Bakersfield Municipal Airport were on average 7.2  $\mu\text{g}/\text{m}^3$  higher than PM<sub>2.5</sub> concentrations from the ten other PurpleAir sensors included in this analysis. Figure 15 shows a consistent bias at the Municipal Airport beginning approximately in March 2022.

**Figure 15. Daily average PM2.5 from PurpleAir low-cost sensors in Bakersfield in 2022**

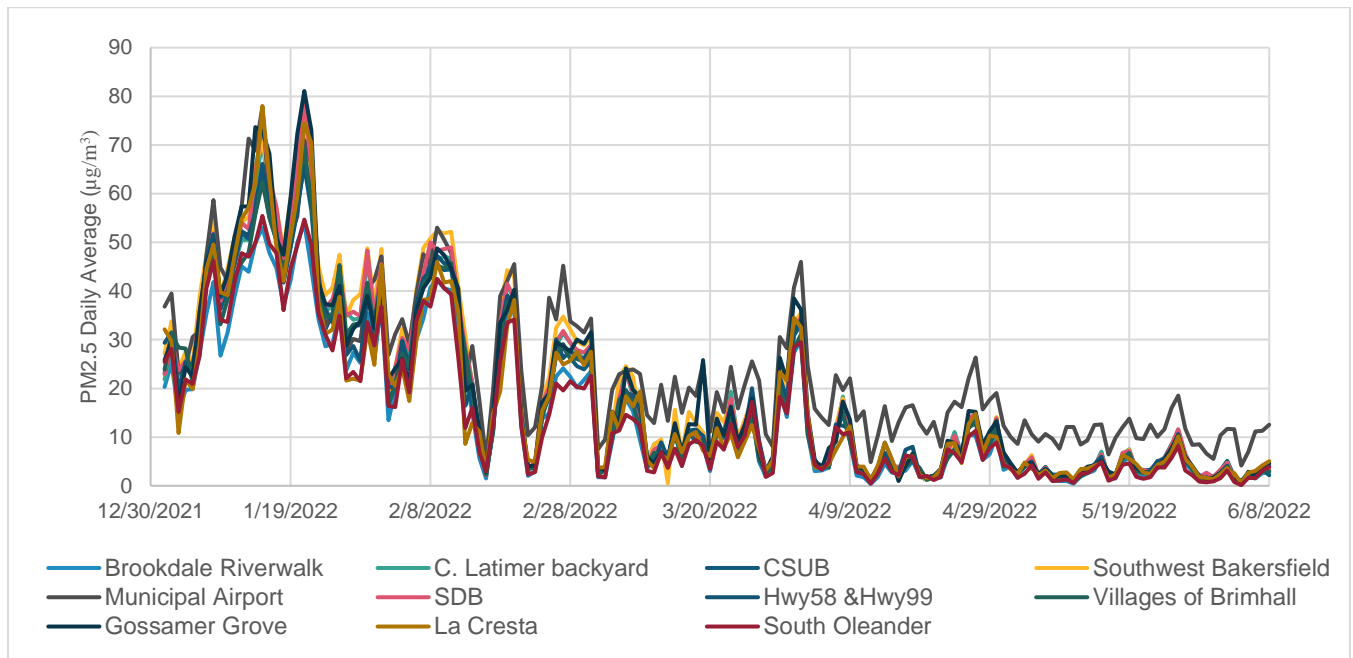
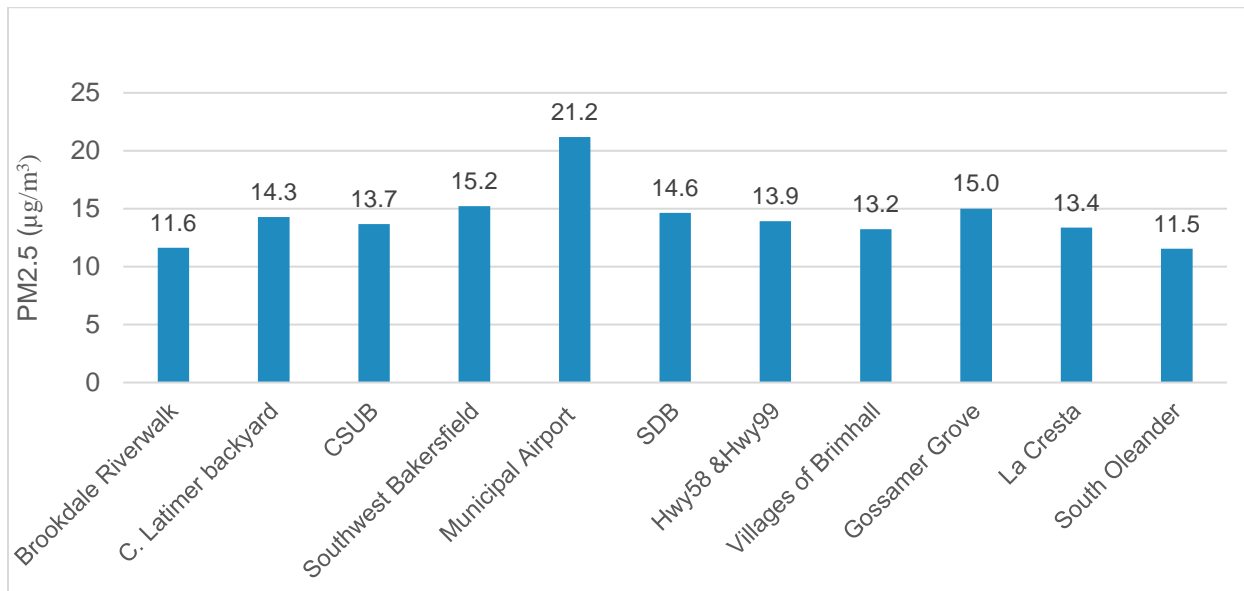


Figure 16 shows that the highest PM2.5 concentrations observed in the PurpleAir network for the Bakersfield area have been at the Bakersfield Municipal Airport in 2022. The average daily PM2.5 concentration for the PurpleAir sensor at the airport was  $21.2 \mu\text{g}/\text{m}^3$ . The next highest daily average PM2.5 concentration in 2022 is at the Southwest Bakersfield sensor located approximately 7.7 miles to the WNW. The average daily PM2.5 concentration at Southwest Bakersfield PurpleAir sensor is  $15.2 \mu\text{g}/\text{m}^3$  for the same period, January 1 through June 8, 2022. This demonstrates that when comparing PM2.5 data from sensor technologies different from the traditional BAM, the same conclusion is being reached that measurements at or near the Planz location do not represent the Bakersfield urban area, and are being impacted by the significant amount of nearby activities.

**Figure 16. Average PM2.5 from PurpleAir low-cost sensors in Bakersfield – 1/1/22-6/8/22**



\*Note that the “Hwy58&Hwy99” and “South Oleander” PurpleAir sensors are the two closest sensors to the “Municipal Airport” sensor and are each about 2 miles from the Bakersfield Municipal Airport.

All available PM2.5 data included in this report (regulatory, temporary, and low-cost) suggests a uniqueness to the data from the Bakersfield-Planz location. There is consistently poor correlation between Planz data and data from other Bakersfield sites. In the winter months, PM2.5 data from Planz are very different from other Bakersfield sites for a few days; while in the spring and summer months, the data suggests a more consistent positive bias at Planz compared to other Bakersfield sites.

## Finding a Better Site to Monitor Community Air

The longstanding issues with the Planz site and the unusual 2021 data recorded at Planz both indicate that the site is monitoring localized or microscale conditions rather than community- or neighborhood-scale air quality. For this reason, CARB and the District propose it is imperative to find a more suitable monitoring site to replace Planz that can provide data which are accurate and representative of the community- or neighborhood-scale. Bakersfield is a region of high air quality concern within the Valley and should have air quality monitoring which better serves the community and provides CARB, the District, and the public with useful data that will help move the region towards attainment of the PM2.5 standards. While Planz was originally sited based on CFR guidelines to represent neighborhood or regional air quality, the site is not effectively serving that purpose.

U.S. EPA procedures are in place to ensure that a site is not moved spuriously; the process to find an appropriate replacement for the Planz site will need to be careful and thorough. CARB and the District plan to engage in a public process to find a location that is more suitable to represent PM2.5 air quality that the community is breathing near the airport. The analysis conducted by CARB and the District as summarized in this document demonstrates the need and forms the foundation for successfully finding a more suitable site. CARB and the District continue to investigate the PM2.5 air quality data at Planz. Further study and public input are needed in the coming steps, as the below proposed action plan describes.

### Proposed Action Plan

In collaboration with U.S. EPA, and through public engagement, CARB and the District propose to conduct a study to evaluate the suitability of a new representative neighborhood-scale location as a replacement site for Planz, based on the analysis and results of the study. The study would include multiple monitors deployed temporarily to ensure that the potential alternative sites are representative.



CARB and the District would conduct a public process of locating a monitoring site that meets U.S. EPA requirements for siting a monitor and provides valuable data to the community.

## Unsuitability of Planz for Comparison to the Annual PM<sub>2.5</sub> Standard

As discussed above, due to localized conditions near the monitor at Planz, the site is more representative of local- or microscale air quality rather than community- or neighborhood-scale air quality in the region. The CFR describes design and siting criteria for PM<sub>2.5</sub> air quality monitoring sites. It states<sup>8</sup> that “[t]he most important spatial scale to effectively characterize the emissions of particulate matter from both mobile and stationary sources is the neighborhood scale for PM<sub>2.5</sub>,” and that “[m]ost PM<sub>2.5</sub> monitoring in urban areas should be representative of a neighborhood scale.”

The CFR goes on to define<sup>9</sup> neighborhood scale:

Measurements in this category would represent conditions throughout some reasonably homogeneous urban sub-region with dimensions of a few kilometers.... Homogeneity refers to the particulate matter concentrations, as well as the land use and land surface characteristics. Much of the PM<sub>2.5</sub> exposures are expected to be associated with this scale of measurement.

In contrast, a microscale site is described as representing a localized area. The CFR<sup>10</sup> that defines the conditions on whether a monitor can be compared to the annual standard, due to it being a microscale site, provides the following:

PM<sub>2.5</sub> measurement data from monitors that are not representative of area-wide air quality but rather of relatively unique micro-scale, or localized hot spot, or unique middle-scale impact sites are not eligible for comparison to the annual PM<sub>2.5</sub>

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<sup>8</sup> See section 4.7.1(c) in *40 CFR Appendix D to Part 58*

<sup>9</sup> *Ibid.*, see section 4.7.1(c)(3)

<sup>10</sup> See *40 CFR Subpart D, Section 58.30*

NAAQS. PM<sub>2.5</sub> measurement data from these monitors are eligible for comparison to the 24-hour PM<sub>2.5</sub> NAAQS. For example, if a micro- or middle-scale PM<sub>2.5</sub> monitoring site is adjacent to a unique dominating local PM<sub>2.5</sub> source, then the PM<sub>2.5</sub> measurement data from such a site would only be eligible for comparison to the 24-hour PM<sub>2.5</sub> NAAQS. For purposes of evaluating whether a region meets or does not meet an annual PM<sub>2.5</sub> standard, sites representing conditions at a neighborhood scale are preferred. Per the CFR<sup>11</sup>, neighborhood-scale PM<sub>2.5</sub> sites “provide good information about trends and compliance with standards because they often represent conditions in areas where people commonly live and work for periods comparable to those specified in the [standard].”

Based on the ongoing conditions impacting the monitor at Planz, CARB and the District propose the site should not be classified as a neighborhood-scale site (its current status) but rather as a microscale site, and that the site is not suitable for collecting data to be used for comparison to the annual PM<sub>2.5</sub> standard. A future alternative site should be located to represent conditions on a neighborhood scale to be more appropriate for comparison to the annual standard.

## Conclusion

Analysis by CARB and the District shows that Planz, despite being intended to reflect air quality on the neighborhood or regional scale, is instead being adversely impacted by localized emissions sources due to the site’s location. These activities and impacts have occurred at the Planz site for many years, and has only increased in recent years, as discussed earlier. CARB and the District propose that the Planz air quality monitoring site should no longer be classified as a neighborhood-scale site suitable for collecting data to be used for comparison to the annual PM<sub>2.5</sub> standard (its current status). Analysis conducted so far seems to indicate that the site represents microscale air quality instead,

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<sup>11</sup> See section 4.7.1(c) in *40 CFR Appendix D to Part 58*.

and should be designated as such. Based on this, the data collected from the Planz site should not be compared against the annual PM<sub>2.5</sub> standard, as provided for in the CFR. CARB and the District also propose that it is imperative to find a more suitable site to replace Planz that can provide data which are accurate, representative of community- or neighborhood-scale air quality conditions, and appropriate for comparison to the annual standard. The coming steps include ongoing data analysis and further study and a thorough public process to solicit input on the CARB and District proposals.

### References:

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**APPENDIX D:**

**San Joaquin Valley Air Pollution Control District Notice of Public  
Comment Period on the 2022 Air Monitoring Network Plan and Public  
Workshop**

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**SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT  
NOTICE OF PUBLIC COMMENT PERIOD ON THE 2022 AIR MONITORING NETWORK PLAN  
AND PUBLIC WORKSHOP**

NOTICE IS HEREBY GIVEN that a 30-day public comment period is being held on the San Joaquin Valley Unified Air Pollution Control District's (District) 2022 Air Monitoring Network Plan. Additionally, the District is hosting a public workshop regarding the 2022 Air Monitoring Network Plan. The 2022 Air Monitoring Network Plan provides information regarding air monitoring network activities in the San Joaquin Valley, and any planned changes over the next year.

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](mailto:robert.gilles@valleyair.org)

The public comment period began August 1, 2022 and will end August 31, 2022.

Copies of the Draft 2022 Air Monitoring Network Plan can be obtained by calling (559) 230-6000. You may download a copy of the Draft 2022 Air Monitoring Network Plan from the District's website on or after August 1, 2022, under the Other Notices portion of the Public Notices page:

[https://www.valleyair.org/notices/public\\_notices\\_idx.htm#Other Notices](https://www.valleyair.org/notices/public_notices_idx.htm#Other Notices)

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

Given the international COVID-19 pandemic, and consistent with public health recommendations and Assembly Bill 361, the public workshop will be held via video teleconference at 4:00 PM on Tuesday, August 16, 2022, with NO PHYSICAL LOCATION FOR PUBLIC ATTENDANCE. Please follow the instructions below to join the meeting remotely.

Register in advance for this webinar:

[https://us06web.zoom.us/webinar/register/WN\\_HxUjvXBvQ8-tqxb\\_hRZ4ag](https://us06web.zoom.us/webinar/register/WN_HxUjvXBvQ8-tqxb_hRZ4ag)

Webinar ID: 852 3542 9140 Password: 556609

Or join by phone: Dial (for higher quality, dial a number based on your current location):

US: +1 669 444 9171 or +1 720 707 2699 or +1 253 215 8782 or +1 346 248 7799 or +1 386 347 5053  
or +1 564 217 2000 or +1 646 558 8656 or +1 646 931 3860 or +1 301 715 8592 or +1 312 626 6799 or  
877 853 5247 (Toll Free) or 888 788 0099 (Toll Free)

After registering, you will receive a confirmation email containing information about joining the webinar.

Documents for this workshop and additional information will be made available at <http://www.valleyair.org/workshops>. If you are unable to review the documents online, a paper copy can be obtained by calling (559) 230-6000 or by faxing your request to (559) 230-6064.

To request Spanish interpreting services, please contact Maricela Velasquez at (559) 230-6000 at least 4 days prior to the meeting date. Para solicitar servicios de interpretación en Español, por favor póngase en contacto con Maricela Velasquez al (559) 230-6000 por lo menos 4 días antes de la fecha de la reunion.

**DISTRITO UNIFICADO DE CONTROL DE LA CONTAMINACIÓN  
DEL AIRE DEL VALLE DE SAN JOAQUIN  
AVISO DE PERÍODO DE COMENTARIO PÚBLICO Y TALLER PÚBLICO  
DEL PLAN DE LA RED DE MONITOREO DEL AIRE 2022**

POR LA PRESENTE SE NOTIFICA que se llevará a cabo un período de comentario público de 30 días sobre el Plan de la Red de Monitoreo del Aire 2022 del Distrito Unificado de Control de la Contaminación del Aire del Valle de San Joaquín (Distrito). Además, el Distrito está organizando un taller público sobre el Plan de la Red de Monitoreo del Aire 2022. El Plan de la Red de Monitoreo del Aire 2022 brinda información sobre las actividades de la red de monitoreo del aire en el Valle de San Joaquín y cualquier cambio planificado durante el próximo año.

Las personas interesadas pueden enviar comentarios a:

Robert Gilles  
Distrito Unificado de Control de la Contaminación del Aire del Valle de San Joaquín  
1990 East Gettysburg Avenue  
Fresno, CA 93726  
Correo electrónico: [robert.gilles@valleyair.org](mailto:robert.gilles@valleyair.org)

El período de comentario público comenzó el 1 de agosto de 2022 y finalizará el 31 de agosto de 2022.

Se pueden obtener copias del Borrador del Plan de la Red de Monitoreo del Aire 2022 llamando al (559) 230-6000. Puede descargar una copia del Borrador del Plan de la Red de Monitoreo del Aire 2022 del sitio web del Distrito a partir del 1 de agosto de 2022, en la sección *Other Notices* de la página de *Public Notices* en:

[https://www.valleyair.org/notices/public\\_notices\\_idx.htm#Other Notices](https://www.valleyair.org/notices/public_notices_idx.htm#Other Notices)

Para obtener información adicional, comuníquese con Robert Gilles por teléfono al (559) 230-6000.

Dada la pandemia internacional de COVID-19, y de conformidad con las recomendaciones de salud pública y el Proyecto de Ley 361 de la Asamblea, el taller público se llevará a cabo por videoconferencia a las 4:00 PM el martes 16 de agosto de 2022, sin NINGUNA UBICACIÓN FÍSICA PARA LA ASISTENCIA PÚBLICA. Por favor siga las instrucciones a continuación para unirse a la reunión de forma remota.

Regístrese con anticipación para este seminario web:  
[https://us06web.zoom.us/webinar/register/WN\\_HxUjvXBvQ8-tqxb\\_hRZ4ag](https://us06web.zoom.us/webinar/register/WN_HxUjvXBvQ8-tqxb_hRZ4ag)

ID de la Reunión: 852 3542 9140 Código de Acceso: 556609

Después de registrarse, recibirá un correo electrónico de confirmación con información sobre cómo unirse al seminario web.

Los documentos para este taller e información adicional se hará disponible en el sitio <http://www.valleyair.org/workshops>. Si no puede revisar los documentos en línea, una copia de papel puede ser obtenida llamando al (559) 230-6000 o enviar por fax su petición al (559) 230-6064.

Para solicitar servicios de interpretación en español, por favor póngase en contacto con Maricela Velasquez al (559) 230-6000 por lo menos 4 días antes de la fecha de la reunión.