Appendix A: Monitoring Site Descriptions

Sites operated by the SJVAPCD

Bakersfield-Muni

The Bakersfield-Golden site was shut down for relocation in December 2009. The replacement site, Bakersfield-Muni, will be located in the Bakersfield, CA metropolitan area. The Bakersfield-Muni site will begin operating in October 2011 and will be operated by the SJVAPCD. This site will serve as a PAMS Type 2 site, sited to measure maximum ozone precursor emissions and will monitor ozone, PM10 TEOM, PM2.5 BAM (non-regulatory), CO, NO_2, NMOC (PAMS), NMHC, and meteorology. Bakersfield, CA is located at the southern end of the San Joaquin Valley with mountains to the east, west, and south. Because the mountains block or slow down air flow, pollutants can get trapped and build up in the area. Pollutants occur locally and also get transported from upwind locations into the area by the wind. During the summer months, high temperatures and longer daylight hours contribute to increases in ozone during the day. In contrast, ozone concentrations decrease at night with the absence of sunlight and the presence of NOx pollutants, which scavenge the ozone. During the winter months, ozone concentrations decrease due to shorter daylight hours and lower temperatures. Elevated PM2.5 concentrations are possible year round, but concentrations tend to be highest during the winter months due to moisture content in the air, wood burning activities, other anthropogenic activities, and atmospheric chemistry. PM2.5 concentrations can also increase during wind blown dust events, when the wind can cause PM2.5 to become suspended in the air. On rare occasions, this region of the San Joaquin Valley experiences wind events that can carry dust into the area or lift local dust particles into the air. Such events can cause PM10 concentrations to increase and sometimes exceed the NAAQS.

Clovis-Villa

Clovis, CA is located in the central part of the San Joaquin Valley with mountains to the east and northeast. North-south air flow is virtually unobstructed. Pollutant emissions occur locally and are also transported from upwind and nearby locations into the area by the wind. The Clovis-Villa monitoring site is operated by SJVAPCD and is located in the northeastern portion of the Fresno, CA metropolitan area. It began operating in September 1990. This site is a PAMS Type 2 site, a site intended to measure maximum ozone precursor emissions. In addition to ozone (SLAMS), the site also monitors PM2.5 (BAM FEM/SLAMS), PM10 (FRM, SLAMS), CO, NO_2, NMOC, NMHC, and meteorology. During the summer months, high temperatures and longer daylight hours contribute to increases in ozone during the day. In contrast, ozone concentrations decrease at night with the absence of sunlight and the presence of NOx pollutants, which scavenge the ozone. During the winter months, ozone concentrations tend to be lower due to shorter daylight hours and lower temperatures. Elevated PM2.5 concentrations are possible year round, but concentrations tend to be highest during the winter months due to moisture content in the air, wood burning activities, other anthropogenic activities, and atmospheric chemistry. PM2.5 concentrations can also

increase during wind events because the wind can cause PM2.5 to become suspended in the air. On rare occasions, this area of the San Joaquin Valley experiences wind events that can carry dust into the area or lift local dust particles into the air. Such events can cause PM10 concentrations to increase.

Corcoran-Patterson
Corcoran, CA is located in the central part of the San Joaquin Valley with mountains to the east and west. North-south air flow is virtually unobstructed. Pollutant emissions occur locally and also get transported from upwind locations into the area by the wind. The Corcoran-Patterson monitoring site is operated by SJVAPCD and is located 67 miles south of the Fresno, CA metropolitan area. It began operating in October 1996. The purpose of the site is to monitor representative concentrations of PM10 (TEOM and FRM, both SLAMS) and PM2.5 (FRM, SLAMS and a BAM SPM) and responses from surrounding areas. This site also monitors meteorology. Elevated PM2.5 concentrations are possible year round, but concentrations tend to be highest during the winter months due to moisture content in the air, wood burning activities, other anthropogenic activities, and atmospheric chemistry. PM2.5 concentrations can also increase during wind events because the wind can cause PM2.5 to become suspended in the air. On rare occasions, this area of the San Joaquin Valley experiences wind events that can carry dust into the area or lift local dust particles into the air. Such events can cause PM10 concentrations to increase.

Fresno-Drummond
Fresno, CA is located in the central part of the San Joaquin Valley with mountains to the east and west. North-south air flow is virtually unobstructed. Pollutants occur locally and also get transported from upwind locations into the area by the wind. The Fresno-Drummond monitoring site is operated by SJVAPCD and is located in the Fresno, CA metropolitan area. It began operating in July 1984. The purpose of the site is to monitor representative concentrations of hourly ozone responses in an urban area. In addition to ozone (SLAMS), the site also monitors PM10 (FRM, SLAMS), CO, NO_2, and meteorology. During the summer months, high temperatures and longer daylight hours contribute to increases in ozone during the day. In contrast, ozone concentrations decrease at night with the absence of sunlight and the presence of NOx pollutants which scavenge the ozone. During the winter months, ozone concentrations tend to be lower due to shorter daylight hours and lower temperatures.

Fresno-Pacific
Fresno, CA is located in the central part of the San Joaquin Valley with mountains to the east and west. North-south air flow is virtually unobstructed. Pollutants occur locally and also get transported from upwind locations into the area by the wind. The Fresno-Pacific monitoring site is operated by SJVAPCD and is located in the Fresno, CA metropolitan area. It began operating in January 2000. The purpose of the site is to monitor representative PM2.5 (FRM, SLAMS) concentrations in an urban area. Elevated PM2.5 concentrations are possible year round, but concentrations tend to be highest during the winter months due to moisture content in the air, wood burning

activities, other anthropogenic activities, and atmospheric chemistry. PM2.5 concentrations can also increase during wind events because the wind can cause PM2.5 to become suspended in the air. On rare occasions, this area of the San Joaquin Valley experiences wind events that can carry dust into the area or lift local dust particles into the air. Such events can cause PM10 concentrations to increase.

Fresno-Sky Park

Fresno, CA is located in the central part of the San Joaquin Valley with mountains to the east and west. Pollutants occur locally and also get transported from upwind locations into the area by the wind. The Fresno-Sky Park monitoring site is operated by SJVAPCD and is located in the Fresno, CA metropolitan area. It began operating in July 1986. The purpose of the site is to monitor representative concentrations of hourly ozone responses in an urban area. In addition to ozone (SLAMS), the site also monitors CO, NO_2, and meteorology. During the summer months, high temperatures and longer daylight hours contribute to increases in ozone during the day. In contrast, ozone concentrations decrease at night with the absence of sunlight and the presence of NOx pollutants which scavenge the ozone. During the winter months, ozone concentrations tend to be lower due to shorter daylight hours and lower temperatures. .

Hanford-Irwin

Hanford, CA is located in the central part of the San Joaquin Valley with mountains to the east and west. North-south air flow is virtually unobstructed. Pollutants occur locally and also get transported from upwind locations into the area by the wind. The Hanford-Irwin monitoring site is operated by SJVAPCD and is located 51 miles south of the Fresno, CA metropolitan area. The site began operating in October 1993 and was decommissioned in October 2007 due to plans to move it to a different part of the Irwin location. The purpose of the site is to monitor representative concentrations of hourly ozone, PM2.5, and PM10 (FRM and TEOM, both SLAMS) responses from upwind and nearby urban areas. The PM2.5, PM10, and ozone monitors were temporarily moved to Corcoran during site reconstruction. In February 2010, the ozone (SLAMS) and PM2.5 (BAM, SLAMS) monitors were returned to Hanford and the site became operational again. The PM10 monitor was returned and became operational in July 2010. During the summer months, high temperatures and longer daylight hours contribute to increases in ozone during the day. In contrast, ozone concentrations decrease at night with the absence of sunlight and the presence of NOx pollutants which scavenge the ozone. During the winter months, ozone concentrations tend to be lower due to shorter daylight hours and lower temperatures. Elevated PM2.5 concentrations are possible year round, but concentrations tend to be highest during the winter months due to moisture content in the air, wood burning activities, other anthropogenic activities, and atmospheric chemistry. PM2.5 concentrations can also increase during wind events because the wind can cause PM2.5 to become suspended in the air. On rare occasions, this area of the San Joaquin Valley experiences wind events that can carry dust into the area or lift local dust particles into the air. Such events can cause PM10 concentrations to increase.

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

Lebec
Lebec, CA is located in the southern-most portion of the San Joaquin Valley. The Lebec monitoring station was initiated by the Tejon Ranch in 2004, and the District assumed responsibility for this site as of January 2009. This site allows the District to better understand pollution impacts in the southern San Emigdio Mountains. The site measures meteorological parameters and PM2.5 (SPM). This site will be used for general residential wood burning declarations for the Greater Frazier Park Area in the future. The site is not yet reported on AQS.

Madera-City
Madera, CA is located in the northern part of the San Joaquin Valley with mountains to the east and west. North-south air flow is virtually unobstructed. The Madera-City monitoring site is located closer to the city center of Madera than the Madera-Pump Yard site. The Madera-City site is operated by the SJVAPCD and became operational in June 2010. The site monitors ozone (SLAMS), PM2.5 (BAM FEM, SLAMS), PM10 (TEOM, SLAMS), and meteorology. The purpose of this site is to measure down wind concentrations of the city of Madera which will provide needed information about the variability of air quality levels on the Valley floor of Madera County.

Madera-Pump Yard
Madera, CA is located in the northern part of the San Joaquin Valley with mountains to the east and west. North-south air flow is virtually unobstructed. Pollutants occur locally but the wind also transports pollutants into the area from upwind locations. The Madera-Pump Yard Street monitoring site is operated by SJVAPCD and is located in the Madera, CA. It began operating in August 1997. This site was established as a PAMS Type 1 site, located in an area upwind of Fresno and not to be influenced by upwind or local ozone precursor emissions. In addition to ozone (SLAMS), this site also monitors CO, NMOC, NMHC, and meteorology. During the summer months, high temperatures and longer daylight hours contribute to increases in ozone during the day. In contrast, ozone concentrations decrease at night with the absence of sunlight and the presence of NOx pollutants which scavenge the ozone. During the winter months, ozone concentrations tend to be lower due to shorter daylight hours and lower temperatures.

Manteca
Manteca, CA is located in the northern part of the San Joaquin Valley with mountains to the east and west. North-south air flow is virtually unobstructed. Pollutants occur locally but the wind also transports pollutants into the area from upwind locations or

through the Sacramento Delta from the Bay Area. The Manteca monitoring site is operated by SJVAPCD is located in Manteca, CA operated by SJVAPCD. It became operational in November 2010. The purpose of the site is to monitor transport of and representative concentrations of PM2.5 (BAM/FEM, SLAMS), and PM10 (TEOM, SLAMS) from upwind and nearby urban areas. The site also monitors meteorology. During the winter months, ozone concentrations tend to be lower due to shorter daylight hours and lower temperatures. Elevated PM2.5 concentrations are possible year round, but concentrations tend to be highest during the winter months due to moisture content in the air, wood burning activities, other anthropogenic activities, and atmospheric chemistry. PM2.5 concentrations can also increase during wind events because the wind can cause PM2.5 to become suspended in the air. Occasionally, wind will carry dust across the city and cause PM10 concentrations to increase, but PM10 and PM2.5 exceedances due to wind events are rare.

Maricopa
Maricopa, CA is located at the southern end of the San Joaquin Valley with mountains to the east, west, and south. Because the mountains block or slow down air flow pollutants can get trapped and build up in the area. The Maricopa monitoring site is operated by the SJVAPCD and is located 45 miles southwest of the Bakersfield, CA metropolitan area. It began operating in July 1987. The purpose of the site is to monitor representative concentrations of hourly ozone (SLAMS) in a rural area. The site also monitors meteorology. During the summer months, high temperatures and longer daylight hours contribute to increases in ozone during the day. In contrast, ozone concentrations decrease at night with the absence of sunlight and the presence of NOx pollutants which scavenge the ozone. During the winter months, ozone concentrations tend to be lower due to shorter daylight hours and lower temperatures.

Merced-Coffee
Merced, CA is located in the northern part of the San Joaquin Valley with mountains to the east and west. North-south air flow is virtually unobstructed. Pollutants occur locally but the wind also transports pollutants into the area from upwind locations. The Merced-Coffee monitoring site is operated by SJVAPCD and is located in the Merced, CA. It began operating in October 1991. The purpose of the site is to monitor representative concentrations of hourly ozone (SLAMS) responses from upwind urban areas. The site also monitors PM2.5 (SPM), NO_2, and meteorology. During the summer months, high temperatures and longer daylight hours contribute to increases in ozone during the day. In contrast, ozone concentrations decrease at night with the absence of sunlight and the presence of NOx pollutants which scavenge the ozone. During the winter months, ozone concentrations tend to be lower due to shorter daylight hours and lower temperatures.

Merced-M Street
Merced, CA is located in the northern part of the San Joaquin Valley with mountains to the east and west. North-south air flow is virtually unobstructed. Pollutants occur locally but the wind also transports pollutants into the area from upwind locations. The

Merced-M Street monitoring site is operated by SJVAPCD and is located in the Merced, CA. It began operating in April 1999. The purpose of the site is to monitor representative concentrations of PM2.5 (FRM, SLAMS) and PM10 (FRM, SLAMS) responses from upwind urban areas. Elevated PM2.5 concentrations are possible year round, but concentrations tend to be highest during the winter months due to moisture content in the air, wood burning activities, other anthropogenic activities, and atmospheric chemistry. PM2.5 concentrations can also increase during wind events because the wind can cause PM2.5 to become suspended in the air. Occasionally, wind will carry dust across the city and cause PM10 concentrations to increase, but PM10 exceedances are rare.

Parlier

Parlier, CA is located in the central part of the San Joaquin Valley with mountains to the east and west. North-south air flow is virtually unobstructed. Pollutants occur locally and also get transported from upwind locations into the area by the wind. The Parlier monitoring site is operated by SJVAPCD and is located 20 miles southeast of the Fresno, CA metropolitan area. It began operating in March 1983. The purpose of the site, as a PAMS Type 3 site, is to monitor maximum ozone concentrations (SLAMS) and ozone responses from upwind urban areas. The site also monitors NO_2, NMOC, NMHC, and meteorology. During the summer months, high temperatures and longer daylight hours contribute to increases in ozone during the day. In contrast, ozone concentrations decrease at night with the absence of sunlight and the presence of NOx pollutants which scavenge the ozone. During the winter months, ozone concentrations tend to be lower due to shorter daylight hours and lower temperatures.

Porterville

Porterville, CA is located in the southern part of the San Joaquin Valley near the foothills of the Sierra Nevada Mountains to the east. It is approximately 25 miles southeast of Visalia, CA, and so transport of pollutants from Visalia towards Porterville is possible. The site monitors ozone (SLAMS), PM2.5 (BAM, SPM), and meteorology. The purpose of this site is to represent air quality levels present near the foothills of the southern Valley and give the district an indication of exposure of pollutants to the local population.

Stockton-Wagner/Holt

Stockton, CA is located in the northern part of the San Joaquin Valley with mountains to the east and west. North-south air flow is virtually unobstructed. Pollutants occur locally but the wind also transports pollutants into the area from upwind locations or through the Sacramento Delta from the Bay Area. The Stockton-Wagner/Holt monitoring site is operated by SJVAPCD and is located in the Stockton, CA metropolitan area. It began operating in October 1996. The purpose of the site is to monitor representative concentrations of PM10 (FRM, SLAMS) in an urban area. Occasionally, wind will carry dust across the city and cause PM10 concentrations to increase, but PM10 exceedances are rare.

Tracy-Airport
Tracy, CA is located in the northern part of the San Joaquin Valley with mountains to the east and west. North-south air flow is virtually unobstructed. Pollutants occur locally but the wind also transports pollutants into the area from upwind locations or through the Sacramento Delta from the Bay Area. The Tracy-Airport monitoring site is operated by SJVAPCD and is located in Tracy, CA. It began operating in January 2005. The purpose of the site is to monitor transport of ozone (SLAMS), PM2.5 (BAM, SPM), and PM10 (TEOM, SLAMS) from upwind and nearby urban areas. The site also monitors NO_2 and meteorology. During the summer months, high temperatures and longer daylight hours contribute to increases in ozone during the day. In contrast, ozone concentrations decrease at night with the absence of sunlight and the presence of NOx pollutants which scavenge the ozone. During the winter months, ozone concentrations tend to be lower due to shorter daylight hours and lower temperatures. Elevated PM2.5 concentrations are possible year round, but concentrations tend to be highest during the winter months due to moisture content in the air, wood burning activities, other anthropogenic activities, and atmospheric chemistry. PM2.5 concentrations can also increase during wind events because the wind can cause PM2.5 to become suspended in the air. Occasionally, wind will carry dust across the city and cause PM10 concentrations to increase, but PM10 exceedances are rare.

Tranquillity
Tranquillity, CA is located in western Fresno County, and is about 25 miles west of Fresno, CA, with the coastal mountain range just to the west. North-south air flow is virtually unobstructed. This monitoring site was established in November 2009 for research purposes, in an effort to better understand the Valley's background and rural pollutant concentrations. This site measures ozone (SPM), PM2.5 (BAM, SPM) and meteorological parameters.

Turlock
Turlock, CA is located in the northern part of the San Joaquin Valley with mountains to the east and west. North-south air flow is virtually unobstructed. Pollutants occur locally but the wind also transports pollutants into the area from upwind locations or through the Sacramento Delta from the Bay Area. The Turlock monitoring site is operated by SJVAPCD and is located in the Turlock, CA. It began operating in April 1992. The purpose of the site is to monitor representative concentrations of hourly ozone (SLAMS), PM2.5 (BAM FEM, SLAMS), and PM10 (FRM, SLAMS) responses from upwind urban areas. The site also monitors CO, NO_2, and meteorology. During the summer months, high temperatures and longer daylight hours contribute to increases in ozone during the day. In contrast, ozone concentrations decrease at night with the absence of sunlight and the presence of NOx pollutants which scavenge the ozone. During the winter months, ozone concentrations tend to be lower due to shorter daylight hours and lower temperatures. Elevated PM2.5 concentrations are possible year round, but concentrations tend to be highest during the winter months due to moisture content in the air, wood burning activities, other anthropogenic activities, and atmospheric chemistry. PM2.5 concentrations can also increase during wind events

because the wind can cause PM2.5 to become suspended in the air. Occasionally, wind will carry dust across the city and cause PM10 concentrations to increase, but PM10 exceedances are rare.

Visalia-Airport
Visalia, CA is located where the central and southern parts of the San Joaquin Valley meet. The Sierra Nevada mountain range is approximately 20 miles east of Visalia. North-south air flow is virtually unobstructed. The Visalia-Airport monitoring site is operated by SJVAPCD and serves as a wind profiler monitoring surface wind speed and wind direction. It also monitors air temperature, and relative humidity at the surface. It began reporting official meteorological data in January 2001. Meteorological parameters have a direct influence on how and where pollutants are transported and how much pollutant concentrations increase or decrease.

Sites Operated by the CARB

Arvin-Di Giorgio
Arvin, CA is located at the southern end of the San Joaquin Valley with mountains to the east, west, and south. Because the mountains block or slow down air flow pollutants can get trapped and build up in the area. Pollutants occur locally and also get transported from upwind locations into the area by the wind. The Arvin-Di Giorgio site is located 18 miles southeast of the Bakersfield, CA metropolitan area. The purpose of the site, as a PAMS Type 3 site (SLAMS), is to monitor maximum ozone concentrations and transport from upwind urban areas. The site also monitors NO_2, NMOC, NMHC, and meteorology and CARB plans to install methane/CO_2 and trace CO analyzers for special purpose monitoring. In addition, a NOy monitor will be added to the Arvin-Di Giorgio air monitoring site to comply with the latest regulation for PAMS Type 3 sites. During the summer months, high temperatures and longer daylight hours contribute to increases in ozone during the day. In contrast, ozone concentrations decrease at night with the absence of sunlight and the presence of NOx pollutants which scavenge the ozone. During the winter months, ozone concentrations decrease due to shorter daylight hours and lower temperatures. Pollutants occur locally and also get transported into the area by wind.

Bakersfield-Planz
Bakersfield, CA is located at the southern end of the San Joaquin Valley with mountains to the east, west, and south. Because the mountains block or slow down air flow pollutants can get trapped and build up in the area. Pollutants occur locally and also get transported from upwind locations into the area by the wind. The Bakersfield-Planz monitoring site is operated by CARB and is located 6 miles north of the Bakersfield, CA metropolitan area. It began operating in September 2000. The purpose of the site is to monitor representative concentrations of PM2.5 (FRM, SLAMS) from upwind and nearby urban areas. Elevated PM2.5 concentrations are possible year round, but concentrations tend to be highest during the winter months due to moisture content in the air, wood burning activities, other anthropogenic activities, and atmospheric

chemistry. PM2.5 concentrations can also increase during wind events because the wind can cause PM2.5 to become suspended in the air.

Bakersfield-California
Bakersfield, CA is located at the southern end of the San Joaquin Valley with mountains to the east, west, and south. Because the mountains block or slow down air flow pollutants can get trapped and build up in the area. Pollutants occur locally and also get transported from upwind locations into the area by the wind. The Bakersfield-California monitoring site is operated by CARB and is located in the Bakersfield, CA metropolitan area. It began operating in March 1994. The purpose of the site is to monitor representative concentrations of hourly and daily ozone (SLAMS), PM10 (FRM and BAM FEM, both SLAMS), and PM2.5 (FRM and BAM FEM, bother SLAMS) responses in an urban area. The site also monitors NO_2 and meteorology. During the summer months, high temperatures and longer daylight hours contribute to increases in ozone during the day. In contrast, ozone concentrations decrease at night with the absence of sunlight and the presence of NOx pollutants which scavenge the ozone. Elevated PM2.5 concentrations are possible year round, but concentrations tend to be highest during the winter months due to moisture content in the air, wood burning activities, other anthropogenic activities, and atmospheric chemistry. PM2.5 concentrations can also increase during wind events because the wind can cause PM2.5 to become suspended in the air.

Edison
Edison, CA is located at the southern end of the San Joaquin Valley with mountains to the east, west, and south. Because the mountains block or slow down air flow pollutants can get trapped and build up in the area. Pollutants occur locally and also get transported from upwind locations into the area by the wind. The Edison monitoring site is operated by CARB and is located 9 miles east of the Bakersfield, CA metropolitan area. It began operating in January 1980. The purpose of the site is to monitor representative concentrations of hourly ozone (SLAMS) from upwind and nearby urban areas. The site also monitors NO_2 and meteorology. During the summer months, high temperatures and longer daylight hours contribute to increases in ozone during the day. In contrast, ozone concentrations decrease at night with the absence of sunlight and the presence of NOx pollutants which scavenge the ozone. During the winter months, ozone concentrations decrease due to shorter daylight hours and lower temperatures.

Fresno-First
Fresno, CA is located in the central part of the San Joaquin Valley with mountains to the east and west. North-south air flow is virtually unobstructed. Pollutants occur locally and also get transported from upwind locations into the area by the wind. The Fresno-First monitoring site is operated by CARB and is located in the Fresno, CA metropolitan area. It began operating in January 1990. The purpose of the site is to monitor representative concentrations of hourly ozone (SLAMS), PM2.5 (FRM and BAM, both SLAMS), and PM10 (FRM and BAM, both SLAMS) responses in an urban area. The site also monitors CO, NO_2, SO_2, NMOC, NMHC, toxics, and meteorology. During the

summer months, high temperatures and longer daylight hours contribute to increases in ozone during the day. In contrast, ozone concentrations decrease at night with the absence of sunlight and the presence of NOx pollutants which scavenge the ozone. During the winter months, ozone concentrations tend to be lower due to shorter daylight hours and lower temperatures. Elevated PM2.5 concentrations are possible year round, but concentrations tend to be highest during the winter months due to moisture content in the air, wood burning activities, other anthropogenic activities, and atmospheric chemistry. PM2.5 concentrations can also increase during wind events because the wind can cause PM2.5 to become suspended in the air. On rare occasions, this area of the San Joaquin Valley experiences wind events that can carry dust into the area or lift local dust particles into the air. Such events can cause PM10 concentrations to increase.

Modesto-14th Street

Modesto, CA is located in the northern part of the San Joaquin Valley with mountains to the east and west. North-south air flow is virtually unobstructed. Pollutants occur locally but the wind also transports pollutants into the area from upwind locations or through the Sacramento Delta from the Bay Area. The Modesto-14th Street monitoring site is operated by CARB and is located in the Modesto, CA metropolitan area. It began operating in January 1981. The purpose of the site is to monitor representative concentrations of hourly ozone (SLAMS), PM2.5 (FRM and BAM, both SLAMS), and PM10 (FRM, SLAMS)responses in local and upwind urban areas. The site also monitors CO and meteorology. During the summer months, high temperatures and longer daylight hours contribute to increases in ozone during the day. In contrast, ozone concentrations decrease at night with the absence of sunlight and the presence of NOx pollutants which scavenge the ozone. During the winter months, ozone concentrations tend to be lower due to shorter daylight hours and lower temperatures. Elevated PM2.5 concentrations are possible year round, but concentrations tend to be highest during the winter months due to moisture content in the air, wood burning activities, other anthropogenic activities, and atmospheric chemistry. PM2.5 concentrations can also increase during wind events because the wind can cause PM2.5 to become suspended in the air. Occasionally, wind will carry dust across the city and cause PM10 concentrations to increase, but PM10 exceedances are rare.

Oildale

Oildale, CA is located at the southern end of the San Joaquin Valley with mountains to the east, west, and south. Because the mountains block or slow down air flow pollutants can get trapped and build up in the area. Pollutants occur locally and also get transported from upwind locations into the area by the wind. The Oildale monitoring site is operated by CARB and is located 6 miles north of Bakersfield, CA within the metropolitan area. It began operating in January 1980. The purpose of the site is to monitor representative concentrations of hourly ozone (SLAMS) responses and PM10 (FRM, SLAMS) every 6 days in an urban area. The site also monitors meteorology. During the summer months, high temperatures and longer daylight hours contribute to increases in ozone during the day. In contrast, ozone concentrations decrease at night

with the absence of sunlight and the presence of NOx pollutants which scavenge the ozone. Not only does the metropolitan area generate its own pollution, it is also the recipient of pollutants that get transported by wind. On rare occasions, this area of the San Joaquin Valley experiences wind events that can carry dust into the area or lift local dust particles into the air. Such events can cause PM10 concentrations to increase.

Shafter

Shafter, CA is located at the southern end of the San Joaquin Valley with mountains to the east and west, and 58 miles to the south. Because the mountains to the south are further away, southward air flow is less obstructed through Shafter so pollutant build-up is less pronounced compared to Bakersfield and the towns further south. Pollutants occur locally and wind can transport pollutants into and through Shafter from nearby and upwind areas. The Shafter monitoring site is operated by CARB 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 (SLAMS), located in an area upwind of Bakersfield and not to be influenced by upwind or local ozone precursor emissions. The site also monitors NO_2, NMOC, NMHC, and meteorology. During the summer months, high temperatures and longer daylight hours contribute to increases in ozone during the day. In contrast, ozone concentrations decrease at night with the absence of sunlight and the presence of NOx pollutants which scavenge the ozone. Being located upwind of Bakersfield, the Shafter site tends to have lower ozone concentrations than does the metropolitan area to the south.

Stockton-Hazelton

Stockton, CA is located in the northern part of the San Joaquin Valley with mountains to the east and west. North-south air flow is virtually unobstructed. Pollutants occur locally but the wind also transports pollutants into the area from upwind locations or through the Sacramento Delta from the Bay Area. The Stockton-Hazelton monitoring site is operated by CARB and is located in the Stockton, CA metropolitan area. It began operating in June 1976. The purpose of the site is to monitor representative concentrations of ozone (SLAMS), PM2.5 (BAM and FRM, both SLAMS), and PM10 (FRM, SLAMS) in an urban area. The site also monitors CO, NO_2, toxics, and meteorology. During the summer months, high temperatures and longer daylight hours contribute to increases in ozone during the day. In contrast, ozone concentrations decrease at night with the absence of sunlight and the presence of NOx pollutants which scavenge the ozone. During the winter months, ozone concentrations tend to be lower due to shorter daylight hours and lower temperatures. Elevated PM2.5 concentrations are possible year round, but concentrations tend to be highest during the winter months due to moisture content in the air, wood burning activities, other anthropogenic activities, and atmospheric chemistry. PM2.5 concentrations can also increase during wind events because the wind can cause PM2.5 to become suspended in the air. On rare occasions, wind will carry dust across the city and cause PM10 concentrations to increase, but PM10 exceedances are rare.

Visalia-Church
Visalia, CA is located where the central and southern parts of the San Joaquin Valley meet. The Sierra Nevada mountain range is approximately 20 miles east of Visalia. North-south air flow is virtually unobstructed. Pollutants occur locally and also get transported from upwind locations into the area by the wind. The Visalia-Church monitoring site is operated by CARB. It began operating in July 1979. The purpose of the site is to monitor representative concentrations of hourly ozone (SLAMS), PM2.5 (BAM and FRM, both SLAMS), and PM10 (FRM, SLAMS) responses from upwind and nearby urban areas. The site also monitors NO_2 and meteorology. During the summer months, high temperatures and longer daylight hours contribute to increases in ozone during the day. In contrast, ozone concentrations decrease at night with the absence of sunlight and the presence of NOx pollutants which scavenge the ozone. During the winter months, ozone concentrations tend to be lower due to shorter daylight hours and lower temperatures. Elevated PM2.5 concentrations are possible year round, but concentrations tend to be highest during the winter months due to moisture content in the air, wood burning activities, other anthropogenic activities, and atmospheric chemistry. PM2.5 concentrations can also increase during wind events because the wind can cause PM2.5 to become suspended in the air. On rare occasions, wind will carry dust across the city and cause PM10 concentrations to increase, but PM10 exceedances are rare.

Special Purpose Monitoring Sites

Sequoia-Ash Mountain
The Ash Mountain monitoring station is operated by Sequoia National Forest and is located at the southern entrance of Sequoia National Park at a 1,500-foot elevation. It originally began operating in 1985, though the site has been relocated several times over the years. The site demonstrates the hourly ozone (SPM) response in the foothills. The site also monitors PM2.5 (BAM, SPM) and meteorology. On summer days, ozone and precursors can be transported to Ash Mountain from other locations. At this location, there are significantly lower hourly emissions of NOx as compared to urban areas such as Bakersfield, or Fresno, CA. The amount of available NOx at Ash Mountain to scavenge the ozone is much lower. Because the ozone scavenging at Ash Mountain is much less than the ozone scavenging in urban areas, Ash Mountain can experience elevated ozone concentrations for a 24-hour period during ozone episodes. Since the ozone concentration is already fairly high at dawn, only a relatively small amount of additional ozone can cause levels in the atmosphere to exceed federal standards.

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

precursors can be transported to Ash Mountain from other locations. At this location, there are significantly lower hourly emissions of NOx as compared to urban areas such as Bakersfield, or Fresno, CA. The amount of available NOx at Lower Kaweah to scavenge the ozone is much lower. Because the ozone scavenging at Lower Kaweah is much less than the ozone scavenging in urban areas, Lower Kaweah can experience elevated ozone concentrations for a 24-hour period during ozone episodes. Since the ozone concentration is already fairly high at dawn, only a relatively small amount of additional ozone can cause levels in the atmosphere to exceed federal standards.

Other Sites

Santa Rosa Rancheria

Santa Rosa Rancheria is Tribal land located in the central portion of the San Joaquin Valley in Lemoore, CA. It is 13 miles southwest of Hanford, CA and 39 miles south of the Fresno, CA metropolitan area. The Diablo Mountain Range is approximately 27 miles east of Santa Rosa Rancheria. North-south air flow is virtually unobstructed. Pollutants occur locally and wind transports pollutants into and through the site from nearby and upwind urban areas as well. The Santa Rosa Rancheria monitoring site is operated by the Tachi-Yokut tribe. It began operating in August 2006. The purpose of the site is to monitor representative concentrations of hourly ozone (SPM) and PM10 responses from upwind and nearby urban areas. During the summer months, high temperatures and longer daylight hours contribute to increases in ozone during the day. In contrast, ozone concentrations decrease at night with the absence of sunlight and the presence of NOx pollutants which scavenge the ozone. On rare occasions, this area of the San Joaquin Valley experiences wind events that can carry dust into the area or lift local dust particles into the air. Such events can cause PM10 concentrations to increase.

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