



AIR POLLUTION CONTROL DISTRICT

Ambient Air Monitoring Annual Network Plan

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I INTRODUCTION

According to Title 40 of the Code of Federal Regulations (CFR) Part 58.10 (40 CFR 58.10), states and where applicable local agencies are required to adopt and submit to the Regional Administrator of the United States Environmental Protection Agency (US EPA) an annual air monitoring network plan (Network Plan) which establishes and maintains an air quality surveillance system. By regulation an air quality surveillance system is composed of monitoring stations equipped with either, or a combination of Federal Reference Method (FRM), Federal Equivalent Method (FEM) or Approved Regional Method (ARM) monitors. These monitors measure ambient levels of gaseous and particulate (solid and liquid aerosol) air pollutants.

Depending on the purpose and air quality designation of an area the monitoring station may be one of many different types of stations. Here in Imperial County all monitoring stations are designated as state or local air monitoring stations (SLAMS). Per CFR all SLAMS networks are ambient air quality monitoring sites that are primarily needed for National Ambient Air Quality Standards (NAAQS) comparisons. The NAAQS is established by US EPA to protect the public health and the environment. There are two types of NAAQS that an Air District must consider; the primary standard which provides for the protection of the public health and the secondary standard which provides for protection of the public welfare which includes protection against decreased visibility and damage to animals, crops, vegetation and buildings.

SLAMS exclude special purpose monitor (SPM) stations but include national core multipollutant monitoring stations (NCore), photochemical assessment monitoring stations (PAMS) and all other State or locally operated stations that have not been designated as SPM stations.¹ Two Beta Attenuation Mass Monitors (BAM's) for Particulate Matter of less than 10 microns (PM₁₀) have been designated at SPM's. One BAM is located in Brawley while the other is located in Niland. Currently, no NCore or PAMS are located in Imperial County.

In addition, 40 CFR Part 58 requires the identification of one and only one Primary Quality Assurance Organization (PQAO) for each criteria pollutant sampler/monitor within a monitoring station. Currently, the identified PQAO for Imperial County for Ozone (O₃), Carbon Monoxide (CO), Oxides of Nitrogen and PM₁₀ is the California Air Resources Board (CARB). The PQAO for Particulate Matter of less than 2.5 microns (PM_{2.5}) is the San Diego Air Pollution Control District (SDAPCD). While the Imperial County Air Pollution Control District (Air District) handles all the day to day operations for each criteria pollutant sampler/monitor the PQAO is the monitoring organization that is responsible for pooled data quality assessments.

The Network Plan, as mentioned above, is required by federal regulation. It requires the Air District to identify the purpose of each monitor within the SLAMS network and it requires evidence that the siting and operation of each monitor meets the requirements

¹ Code of Federal Regulations, Title 40 Part 58.1 Definitions of SLAMS

of appendices A, C, D and E of 40 CFR Part 58. For clarity, “monitor” means an instrument, sampler, analyzer, or other device that measures or assists in the measurement of atmospheric air pollutants and which is acceptable for use in ambient air surveillance under the applicable provisions of appendix C of 40 CFR Part 58.² Overall, this Network Plan provides the results of a five year assessment broken down to reflect the annual outcome.

Figure 1 below depicts the current location of each monitoring station in Imperial County.

Figure 1
Ambient Air Monitoring Stations
Imperial County



*Calexico-East was closed in 2010
*Westmorland station experienced an electrical fire in 2012

² Code of Federal Regulations, Title 40 Part 58, Appendix C

II AIR MONITORING NETWORK DESIGN OVERVIEW

A Monitoring Objectives

The SLAMS network for Imperial County includes a total of five monitoring stations located within the urban areas of Westmorland, Brawley, El Centro and Calexico and one station located in the rural area of Niland. The Air District operates four of the monitoring stations while the CARB operates the monitoring station in Calexico. All data and information concerning the Calexico monitoring station was obtained from CARB and is accurate to the best of our knowledge.

Specific criteria pollutants and meteorological parameters are monitored at each air monitoring station in Imperial County. For a list of the different measured pollutants and parameters see page 28 Table 26 and section VIII Detailed site information. All data stemming from the network must abide by all applicable quality assurance requirements (40 CFR Part 58 Appendix A), ambient air quality monitoring methodology (40 CFR Part 58 Appendix C), network design criteria (40 CFR Part 58 Appendix D) and must meet all applicable monitoring probe and path siting criteria (40 CFR Part 58 Appendix E). This allows for the proper management of a quality system that assures monitoring information is produced in a systematic and organized way.

The intent of any air monitoring network should be to meet well defined needs, uses and purpose. In order to accomplish this, Appendix D of 40 CFR Part 58 requires all monitoring networks to be designed in such a way as to meet three basic monitoring objectives.

1. Provide air pollution data to the general public in a timely manner.
2. Support compliance with ambient air quality standards and emission strategy development.
3. Support for air pollution research studies.

All established air monitoring stations in Imperial County provide the three basic monitoring objectives mentioned above. Combined these three basic monitoring objectives directly relate to public exposure (PE). PE requires that decision making bodies be well informed about peak air pollution levels, typical levels in populated areas, the impact of transport either basin wide or internationally, and any source specific air pollution levels. The Air District analyzed all the monitoring sites to identify if the site classifies as either a highest concentration site, typical concentration site, a general background concentration site, a regional transport site (includes international transport), a site to determine the impact of significant sources or source categories or a site which measures impacts to visibility, vegetation damage, or other welfare based impact.

The following tables identify the site classifications for each monitor in Imperial County.

TABLE 1

YEAR	SITE LOCATION	OZONE (44201)		8 HR MAX	NO ₂ (42602)		ANN 98%	
		SITE TYPE		PPM	SITE TYPE	PPB		
2010	Calexico Ethel	Regional/Typical Concentrations	(R/TC)	0.082	Highest Concentration	56.0	(HC)	
	EI Centro	Highest Concentration	(HC)	0.082	Typical Concentration	41.9	(TC)	
	Niland	General Background	(GB)	0.075	No NO ₂ Monitoring	N/A	N/A	
	Westmorland	Regional/Background	(R/B)	0.077	No NO ₂ Monitoring	N/A	N/A	
2011	Calexico Ethel	Regional/Typical Concentrations	(R/TC)	0.076	Highest Concentration	63.0	(HC)	
	EI Centro	Highest Concentration	(HC)	0.084	Typical Concentration	51.9	(TC)	
	Niland	General Background	(GB)	0.074	No NO ₂ Monitoring	N/A	N/A	
	Westmorland	Regional/Background	(R/B)	0.081	No NO ₂ Monitoring	N/A	N/A	
2012	Calexico Ethel	Regional/Typical Concentrations	(R/TC)	0.095	Highest Concentration	66.0	(HC)	
	EI Centro	Highest Concentration	(HC)	0.091	Typical Concentration	49.8	(TC)	
	Niland	General Background	(GB)	0.076	No NO ₂ Monitoring	N/A	N/A	
	Westmorland	Regional/Background	(R/B)	0.074	No NO ₂ Monitoring	N/A	N/A	

TABLE 2

YEAR	SITE LOCATION	CO (42101)		1 HR MAX	8 HR MAX	SO ₂ (42401)		98%	3 HR
		SITE TYPE		PPM	PPM	SITE TYPE	PPB	PPM	
2010	Calexico Ethel	Typical Concentration	(TC)	6.1	4.5	Typical Concentration	7	0.024	(TC)
	EI Centro	Highest Concentration	(HC)	19.6	5.6	No SO ₂ Monitoring	N/A	N/A	N/A
2011	Calexico Ethel	Typical Concentration	(TC)	7.7	6.1	Typical Concentration	8	0.025	(TC)
	EI Centro	Highest Concentration	(HC)	36.0	9.0	No SO ₂ Monitoring	N/A	N/A	N/A
2012	Calexico Ethel	Typical Concentration	(TC)	6.7	4.9	Typical Concentration	7	0.330	(TC)
	EI Centro	Highest Concentration	(HC)	25.1	7.4	No SO ₂ Monitoring	N/A	N/A	N/A

TABLE 3

YEAR	SITE LOCATION	PM10 (81102)		24 HR	PM2.5 (88101)		24 HR	ANN
		SITE TYPE		μ/m^3	SITE TYPE		μ/m^3	μ/m^3
2010	Calexico Ethel	Highest Concentrations	(HC)	112	Highest Concentration	50.9	12.8	(HC)
	El Centro	Typical Concentrations	(TC)	69	Typical Concentration	19.9	6.6	(TC)
	Brawley	Typical Concentrations	(TC)	61	Background/Transport	16.2	6.2	(B/T)
	Niland	General Background	(GB)	58	<i>No PM_{2.5} Monitoring</i>	N/A	N/A	N/A
	Westmorland	Regional/Background	(R/B)	86	<i>No PM_{2.5} Monitoring</i>	N/A	N/A	N/A
2011	Calexico Ethel	Highest Concentrations	(HC)	80	Highest Concentration	80.3	13.5	(HC)
	El Centro	Highest Concentration	(HC)	81	Typical Concentration	54.4	7.5	(TC)
	Brawley	Typical Concentrations	(TC)	85	Background/Transport	37.0	7.1	(B/T)
	Niland	General Background	(GB)	220	<i>No PM_{2.5} Monitoring</i>	N/A	N/A	N/A
	Westmorland	Regional/Background	(R/B)	74	<i>No PM_{2.5} Monitoring</i>	N/A	N/A	N/A
2012	Calexico Ethel	Highest Concentrations	(HC)	406	Highest Concentration	64.7	14.4	(HC)
	El Centro	Highest Concentration	(HC)	75	Typical Concentration	26.4	7.5	(TC)
	Brawley	Typical Concentrations	(TC)	127	Background/Transport	25.9	8.1	(B/T)
	Niland	General Background	(GB)	212	<i>No PM_{2.5} Monitoring</i>	N/A	N/A	N/A
	Westmorland	Regional/Background	(R/B)	109	<i>No PM_{2.5} Monitoring</i>	N/A	N/A	N/A

B Spatial Scales

As mentioned above, PE is the basic monitoring objective for all air monitoring stations in Imperial County. In order to determine whether a monitor has been properly sited monitors must be represented by its spatial scale. The relationship between the monitoring objective, site type and the geographic location is understood or interpreted by the spatial scale of representativeness. In some cases, the physical location of a monitor is determined by considering the affect of identified emission patterns and not the spatial scale of representativeness. In these situations the spatial scale of representativeness is a result of the site location.

The spatial scale is described in the CFR as "...the physical dimensions of the air parcel nearest to a monitoring site throughout which actual pollutant concentrations are reasonably similar."³ Listed below are the general spatial scales identified as the most appropriate for the monitoring site types. Depending on the monitored pollutant the description may change slightly because of the behavior of the pollutant. Nonetheless, generally the spatial scales are as follows:

Microscale (MCS) – Defines the concentrations in air volumes associated with area dimensions ranging from several meters up to about 100 meters.

Middle Scale (MS) – Defines the concentration typical of areas up to several city blocks in size with dimensions ranging from about 100 meters to 0.5 kilometer.

³ Code of Federal Regulation Appendix D to Part 58 – Network Design Criteria for Ambient Air Quality Monitoring, section 1.2 Spatial Scales, subsection (b).

Neighborhood Scale (NS) – Defines concentrations within some extended area of the city that has relatively uniform land use with dimensions in the 0.5 to 4.0 kilometer range. The neighborhood and urban scales have the potential to overlap in applications that concern secondarily formed or homogeneously distributed air pollutants.

Urban Scale (US) – Defines concentrations within an area of city-like dimensions, on the order of 4 to 50 kilometers. Within a city, the geographic placement of sources may result in there being no single site that can be said to represent air quality on an urban scale.

Regional Scale (RS) – Defines usually a rural area of reasonably homogeneous geography without large sources, and extends from tens to hundreds of kilometers.

National and Global Scales (NGS) – These measurement scales represent concentrations characterizing the nation and the globe as a whole. (There are no National or global scales monitoring stations in Imperial County.)

TABLE 4
SITE TYPE RELATIONSHIP TO SCALES OF REPRESENTATIVENESS

	SITE TYPE	APPROPRIATE SITING SCALES
1	Highest Concentration	Micro, middle, neighborhood and sometimes urban or regional for secondarily formed pollutants
2	Population Oriented	Neighborhood, urban
3	Source Impact	Micro, middle, neighborhood
4	General/Background & regional transport	Urban, regional
5	Welfare-related Impacts	Urban, regional

The following tables demonstrate the spatial scales for each monitor in Imperial County.

TABLE 5

YEAR	SITE LOCATION	OZONE (44201)			NO ₂ (42602)		ANN 98% PPB
		SITE TYPE	SCALE	8 HR MAX PPM	SITE TYPE	SCALE	
2010	Calexico Ethel	R/TC	Urban	0.082	HC	Urban	56.0
	El Centro	HC	Neighborhood	0.082	TC	Neighborhood	41.9
	Niland	GB	Regional	0.075	No NO ₂ Monitoring	N/A	N/A
	Westmorland	R/B	Regional	0.077	No NO ₂ Monitoring	N/A	N/A
2011	Calexico Ethel	R/TC	Urban	0.076	HC	Urban	63.0
	El Centro	HC	Neighborhood	0.084	TC	Neighborhood	51.9
	Niland	GB	Regional	0.074	No NO ₂ Monitoring	N/A	N/A
	Westmorland	R/B	Regional	0.081	No NO ₂ Monitoring	N/A	N/A
2012	Calexico Ethel	R/TC	Urban	0.095	HC	Urban	66.0
	El Centro	HC	Neighborhood	0.091	TC	Neighborhood	49.8
	Niland	GB	Regional	0.076	No NO ₂ Monitoring	N/A	N/A
	Westmorland	R/B	Regional	0.074	No NO ₂ Monitoring	N/A	N/A

The scale of representativeness for O₃ monitoring would not occur under small but rather large volumes of air. Therefore, neighborhood, urban and regional spatial scales would be appropriate for O₃. Data trends seem to indicate that the Calexico monitor meets the urban spatial scale while the El Centro monitor meets the neighborhood spatial scale. Both the Niland and Westmorland monitors meet the regional spatial scale. Although data indicates that both the Calexico and El Centro monitors measure both regional and urban mixing the Calexico monitor measures downwind transport concentrations from an international source. While the Niland and Westmorland monitors typically measure transported O₃ from other air basins in California.

The El Centro monitor most closely meets the neighborhood spatial scale as the site is located away from immediate Nitrogen Dioxide (NO₂) sources. The Calexico monitor however provides transport impact information for trend analysis. This is because the monitor is approximately 2.5 miles away from a major international port of entry, where high volumes of mobile source emissions are present. However, unlike a major roadway the majority of the mobile sources are idling for significant periods of time and little to no heavy duty vehicles are present. The Calexico monitor most closely meets the urban spatial scale.

TABLE 6

YEAR	SITE LOCATION	CO (42101)				SO ₂ (42401)			
		SITE TYPE	SCALE	1 HR MAX PPM	8 HR MAX PPM	SITE TYPE	SCALE	98% PPB	3 HR PPM
2010	Calexico Ethel	TC	Middle	6.1	4.5	TC	Urban	7	0.024
	El Centro	HC	Neighborhood	19.6	5.6	No SO ₂ Monitoring	N/A	N/A	N/A
2011	Calexico Ethel	TC	Middle	7.7	6.1	TC	Urban	8	0.025
	El Centro	HC	Neighborhood	36.0	9.0	No SO ₂ Monitoring	N/A	N/A	N/A
2012	Calexico Ethel	TC	Middle	6.7	4.9	TC	Urban	7	0.330
	El Centro	HC	Neighborhood	25.1	7.4	No SO ₂ Monitoring	N/A	N/A	N/A

Because CO is primarily occurring in areas near major roadways and intersections with high traffic density the El Centro and Calexico monitors meet the neighborhood and middle spatial scales, respectively. It may be argued that the Calexico Ethel monitor may also fit the neighborhood scale because of the proximity of international roadway emissions. This assessment is still under review and requires further evaluation.

The most appropriate spatial scale for the Sulfur Dioxide (SO₂) monitor in Calexico is the urban spatial scale. The Calexico monitor is located away from stationary point and area sources of SO₂ however, this site is unique in that it is located just north of a major international metropolitan and as such is ideal for identifying trends and background concentrations.

TABLE 7

YEAR	SITE LOCATION	PM ₁₀ (81102)		24 HR	PM _{2.5} (88101)		24 HR	ANN
		SITE TYPE	SCALE	μ/m ³	SITE TYPE	SCALE	μ/m ³	μ/m ³
2010	Calexico Ethel	HC	Neighborhood	112	HC	Neighborhood	50.9	12.8
	El Centro	TC	Neighborhood	69	TC	Neighborhood	19.9	6.6
	Brawley	TC	Neighborhood	61	B/T	Neighborhood	16.2	6.2
	Niland	GB	Middle	58	No PM _{2.5} Monitoring	N/A	N/A	N/A
	Westmorland	R/B	Middle	86	No PM _{2.5} Monitoring	N/A	N/A	N/A
2011	Calexico Ethel	HC	Neighborhood	80	HC	Neighborhood	80.3	13.5
	El Centro	TC	Neighborhood	81	TC	Neighborhood	54.4	7.5
	Brawley	TC	Neighborhood	85	B/T	Neighborhood	37.0	7.1
	Niland	GB	Middle	220	No PM _{2.5} Monitoring	N/A	N/A	N/A
	Westmorland	R/B	Middle	74	No PM _{2.5} Monitoring	N/A	N/A	N/A
2012	Calexico Ethel	HC	Neighborhood	406	HC	Neighborhood	64.7	14.4
	El Centro	TC	Neighborhood	75	TC	Neighborhood	26.4	7.5
	Brawley	TC	Neighborhood	127	B/T	Neighborhood	25.9	8.1
	Niland	GB	Middle	212	No PM _{2.5} Monitoring	N/A	N/A	N/A
	Westmorland	R/B	Middle	109	No PM _{2.5} Monitoring	N/A	N/A	N/A

In Imperial County size selective inlet high volume samplers are operated at 5 sites Brawley, Calexico, El Centro, Niland and Westmorland. Three of the monitors for PM₁₀ sampling in Imperial County can be categorized as neighborhood scale, while two can be categorized as middle scale. Both the particulate matter concentrations and the land use and land surface characteristics can be said to be homogeneous among all the monitoring stations albeit in their own unique way. The Brawley, Calexico and El Centro monitors can be said to represent conditions where people commonly live and work for extended periods and provide comparisons between cities. The Niland and Westmorland monitors help provide short-term exposure to public health effects as these monitors tend to provide PM₁₀ emissions on outlying rural areas.

In addition to the high volume samplers two designated SPM PM₁₀ BAM units are operated in Niland and Brawley. These BAM units are utilized primarily for research and public advisory purposes.

US EPA approved FRM PM_{2.5} monitors operate within the cities of Brawley, Calexico and El Centro. The Brawley and El Centro PM_{2.5} monitors (which are not collocated) represent a reasonably homogeneous urban sub-region with similar land use and land surface characteristics. These sites provide information about trends and compliance with the NAAQS. The Calexico site includes collocated FRM PM_{2.5} monitors and collocated SPM non FEM continuous PM_{2.5} analyzers combined these monitors are intended to capture those characteristic concentrations associated with heavy mobile emissions and their exposure to the general public. Because of the close proximity of the international port of entry the Calexico PM_{2.5} monitors combined are appropriate for the evaluation of possible short-term PE, population exposure, trends and compliance

with the NAAQS. Finally, the Calexico monitors consistently record the highest concentrations for PM_{2.5} within the Imperial County air monitoring network. Therefore, the most appropriate spatial scale for Brawley, Calexico and El Centro is the neighborhood scale.

C Purpose

As mentioned above, the intent of any air monitoring network should be to meet well defined needs, uses and purpose. A properly established monitoring station should target the key data collection need identified by the monitoring objective and spatial scale of the site. Nationally, there are several different types of monitoring stations varying in technical sophistication. Locally, all the monitoring stations in Imperial County measure the levels of concentrations affecting the general public or public exposure. As such all the air monitoring stations meet the three basic monitoring objectives that relate to public exposure. Below is the list of the basic monitoring objectives and an explanation of how the data is utilized to meet those objectives.

1. Provide air pollution data to the general public in a timely manner.
 - a Utilizing the CARB sponsored Air Quality and Meteorological Information System (AQMIS) <http://www.arb.ca.gov/aqmis2/aqmis2.php>. To do this, the Air District provides hourly data via a transmission control protocol (TCP) over the World Wide Web. Data transmitted in this format is “real time” data subject to change upon undergoing verification protocol.
 - b Utilizing the Air Quality Index (AQI) format, the Air District provides AQI notifications and information to the general public via the www.imperialvalleyair.org webpage. This site allows the public or any interested party to subscribe to instant messaging via e-mail or text for notifications concerning levels of PM₁₀ and/or seasonal forecast for Ozone. The Imperial Valley Air webpage also supports an independent school program in Calexico, Heber, El Centro and Brawley designed to help minimize impacts to students during unusually high particulate days.
 - c Finally, the Air District posts daily meteorological conditions and advisories, such as wind advisories, on the Imperial County Air Pollution Control District webpage for use by the general public. Such information is designed as a guide for members of the public, industry and governments when making decisions on the type of activity they intend to commit to during any one given day.
2. Provide compliance and emission strategy development and support.

Currently, all SLAMS data is utilized in the development of attainment and maintenance plans. The Air District, along with the CARB, continually review existing data for trends, peaks and seasonal variations that allow for proper regional

air quality modeling. Regional air Quality modeling is used to develop emissions strategies and to identify the impact of control measures, either as improving air quality or as an identification of where improvement is needed.

On August 11, 2009 the Imperial County Board of Directors adopted the 2009 PM₁₀ State Implementation Plan (SIP) and on July 13, 2010 the same board adopted the 2009 8-Hour Ozone Air Quality Management Plan. The newest SIP development is that of the PM_{2.5} SIP.

3. Provide support for air pollution research studies.

The CARB is the lead agency for working on research studies related to health effect assessments, atmospheric processes and for monitoring methods development. CARB issues its "State and Local Air Monitoring Network Plan" which covers the monitoring networks throughout the state. In addition, the CARB maintains a comprehensive webpage, with information concerning the "Air Quality Monitoring Network" activities, studies, and research conducted for the entire state. <http://www.arb.ca.gov/aqd/aqmoninca.htm>

The pollutants of primary interest here in Imperial County are listed in detail under section VI Overall Summary of the Imperial County Ambient Air Monitoring Network. The following tables describe the monitoring purpose per monitor in Imperial County.

TABLE 8

NETWORK MONITORING PURPOSE (GASEOUS CRITERIA POLLUTANTS)

	Name	EI Centro	Brawley	Westmorland	Niland	Calexico
	Address	150 S. 9th St.	220 Main St.	570 Cook St.	7711 English Rd.	1020 Belcher St.
	Lat/Long.	N 32.79215 W -115.56299	N 32.97831 W -115.53904	N 33.03239 W -115.62362	N 33.21383 W -115.54448	N 32.67618 W -115.48307
	AQS ID	06 025 1003	06 025 0007	06 025 4003	06 025 4004	06 025 0005
	ARB ID	13694	13701	13697	13997	13698
	Operator	ICAPCD	ICAPCD	ICAPCD	ICAPCD	CARB
O3	Monitor Designation	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS
	Sampling Method	API T400 44201		API 400A 44201	API 400A 44201	API 400E 44201
	Spatial Scale	NEIGHBORHOOD		REGIONAL	REGIONAL	URBAN
	Monitor Objective	PUBLIC EXPOSURE		PUBLIC EXPOSURE	PUBLIC EXPOSURE	PUBLIC EXPOSURE
CO	Monitor Designation	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS
	Sampling Method	API T300 42101				DASIBI 3008 42101
	Spatial Scale	NEIGHBORHOOD				MIDDLE
	Monitor Objective	PUBLIC EXPOSURE				PUBLIC EXPOSURE
NO2	Monitor Designation	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS
	Sampling Method	API 200A 42602				API 200E
	Spatial Scale	NEIGHBORHOOD				URBAN
	Monitor Objective	PUBLIC EXPOSURE				PUBLIC EXPOSURE
SO2	Monitor Designation	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS
	Sampling Method					TECO 43
	Spatial Scale					URBAN
	Monitor Objective					PUBLIC EXPOSURE

TABLE 9
NETWORK MONITORING PURPOSE
(PARTICULATE POLLUTANTS)

	Name	Brawley		Niland	
	Address	220 Main St.		7711 English Rd.	
	Operator	ICAPCD		ICAPCD	
PM10	Monitor Designation	SLAMS	SPM	SLAMS	SPM
	Sampling Method	GMW/SA 1200 81102	MET ONE BAM1020 85101	GMW/SA 1200 81102	MET ONE BAM1020 85101
	Spatial Scale	NEIGHBORHOOD		MIDDLE	
	Monitor Objective	PUBLIC EXPOSURE	SUPPORT	PUBLIC EXPOSURE	SUPPORT
	Sampling Frequency	1-6	CONTINUOUS	1-6	CONTINUOUS

TABLE 10
NETWORK MONITORING PURPOSE
(PARTICULATE POLLUTANTS)

	Name	EI Centro	Calexico	Westmorland
	Address	150 S. 9th St.	1020 Belcher St.	570 Cook St.
	Operator	ICAPCD	CARB	ICAPCD
PM10	Monitor Designation	SLAMS	SLAMS	SLAMS
	Sampling Method	GMW/SA 1200 81102	GMW/SA 1200 81102	GMW/SA 1200 81102
	Spatial Scale	NEIGHBORHOOD	NEIGHBORHOOD	NEIGHBORHOOD
	Monitor Objective	PUBLIC EXPOSURE	PUBLIC EXPOSURE	PUBLIC EXPOSURE
	Sampling Frequency	1-6	1-6	1-6

TABLE 11
NETWORK MONITORING PURPOSE
(PARTICULATE POLLUTANTS)

	Name	Brawley	EI Centro
	Address	220 Main St.	150 S. 9th St.
	Operator	ICAPCD	ICAPCD
PM2.5	Monitor Designation	SLAMS	SLAMS
	Sampling Method	R&P 2025 (WINS) 88101	R&P 2025 (WINS) 88101
	Spatial Scale	NEIGHBORHOOD	NEIGHBORHOOD
	Monitor Objective	PUBLIC EXPOSURE	PUBLIC EXPOSURE
	Sampling Frequency	1-3	1-3

TABLE 12
NETWORK MONITORING PURPOSE
(PARTICULATE POLLUTANTS)

	Name	Calexico			
	Address	1020 Belcher St.			
	Operator	CARB			
PM2.5	Monitor Designation	SLAMS	SLAMS	SPM	SPM
	Sampling Method	R&P 2025 (VSCC) 88101 POC1	R&P 2025 (VSCC) 88101 POC2	MET ONE BAM 1020 88501 POC3	MET ONE BAM 1020 88501 POC4
	Spatial Scale	NEIGHBORHOOD	NEIGHBORHOOD		
	Monitor Objective	PUBLIC EXPOSURE	PUBLIC EXPOSURE	SUPPORT	SUPPORT
	Sampling Frequency	1-3	1-6	CONTINUOUS	CONTINUOUS

III MONITORING REQUIREMENTS

As mentioned in the introduction, there are no NCore or PAMS located in Imperial County. Because there are no NCore stations there is no coarse particulate matter (PM_{10-2.5}) monitoring or lead (Pb) monitoring. In addition, the Imperial County Airport was not one of the 15 airports selected by the US EPA for study, nor are there any stationary sources in Imperial County meeting the 0.5 tons per year (tpy) threshold established by US EPA. There is however, lead monitoring used for State and local purposes only at the Calexico Ethel site that is not required under any federal monitoring requirement.

Federal regulation requires a minimum number of monitors per pollutant and grants discretionary authority to the Regional Administrator, under certain conditions, to require additional monitors above and beyond that required by the minimum standards. To determine the total minimum number of required monitor's specific consideration is given to the pollutant of interest, purpose and population. To address population the CFR utilizes a statistical-based definition of a metropolitan area provided by the Office of Management and Budget and the Census Bureau. Pertinent to Imperial County is the metropolitan statistical area (MSA) which has been defined as a Core Based Statistical Area (CBSA) associated with at least one urbanized area with a population of 50,000 or more. Imperial County is part of the EI Centro MSA, referenced as 20940. It covers the major cities in our county and has a population count of 174,528 (2010 U.S. Census Bureau information).

Overall, Imperial County meets or exceeds US EPA's minimum requirements. Depending on the monitoring objective, state and local agencies will operate more monitors than are required by law. Typically, additional monitors are used to fulfill state and local purposes for monitoring that are in addition to federal purposes. California air quality standards are more stringent than federal standards and require more ambient

air monitoring to show compliance with the state standards. Monitors are also used to keep the public informed of the actual air quality conditions where they live and work.

For O₃, PM_{2.5} and PM₁₀, the required minimum number of monitoring sites is based on area size (in terms of population and geographic characteristics) and typical peak concentrations, either below or near the NAAQS. For other pollutants, no monitoring is required unless an area exceeds or is close to exceeding a NAAQS.

A Ozone (O₃)

Currently, under federal regulation there are two Ozone NAAQS to be met. Although the US EPA determined, on December 3, 2009, that the Imperial County "moderate" 8-hour ozone non-attainment area attained the 1997 8-hour Ozone standard the Imperial County is classified by US EPA as a "moderate" non-attainment area. For the new 2008 8-hour ozone standard Imperial County has been classified as a "marginal" non-attainment area.

TABLE 13
SLAMS MINIMUM O₃ MONITORING REQUIREMENTS

MSA POPULATION	MOST RECENT 3-YEAR DESIGN VALUE	MOST RECENT 3-YEAR DESIGN VALUE
	CONCENTRATION ≥85% OF ANY O ₃ NAAQS	CONCENTRATIONS <85% OF ANY O ₃ NAAQS
> 10 million	4	2
4-10 million	3	1
350,000-<4 million	2	1
50,000-<350,000	1	0

In designing an O₃ monitoring network factors such as geographic size, population density, complexity of terrain, meteorology and air pollution transport must be considered.

Up until November of 2012, four (4) ozone monitors functioned in Imperial County. Because of an electrical fire, the Westmorland ozone monitor was placed out of commission. Monitoring for O₃ in Imperial County is year round with forecasting capabilities during the "ozone season". For the three year period 2010-2012 El Centro recorded the highest concentration among all sites within the monitoring network. El Centro's 8 hour design value is 0.081ppm⁴. Although El Centro is considered the highest concentration site all sites are used to keep the public informed of air quality utilizing the Air Quality Index (AQI) reporting framework and air quality mapping.

⁴ In 2012 Calexico had the highest daily concentration, 0.095 vs. El Centro concentration of 0.091 however the design value of El Centro remained the highest of the four stations.

TABLE 14
Summary of Minimum Monitoring Requirements Ozone

MSA	County	Population (year 2010)	8-hr design value (years)	Min # of monitors required	Number of active monitors	Monitors needed
20940 El Centro	Imperial	174,528	0.081 ppm 2010 2012	1	4*	0

MSA 20940 El Centro	Monitor Site	8-hr design value(years) 2010 2012	≥85% of 2008 O ₃ NAAQS (.075 ppm)	Min # of monitors required	Number of active monitors	Monitors needed
Population (year 2010) 174,528	El Centro Calexico Westmorland Niland	0.081 ppm 0.075 ppm 0.071ppm 0.070 ppm	YES YES NO NO	1	4*	0

*The Westmorland Station experienced an electrical fire November of 2012. Currently, the station does not monitor for Ozone.

B Carbon Monoxide (CO)

Population density is the significant trigger for CO monitoring. High population densities of 1 million and above trigger the requirement of a single CO monitor along with a near-road NO₂ monitor. Imperial County does not meet the population requirement under the CFR for required CO monitoring. However, continued operation of existing SLAMS CO sites using FRM or FEM is required until discontinuation is approved by the US EPA Regional Administrator. There are two SLAMS CO monitors operating within the Imperial County monitoring network. For 2012, the maximum 1-hour CO concentration for El Centro was 25.1 ppm, and for Calexico Ethel 6.7 ppm.

TABLE 15
Summary of Minimum Monitoring Requirements CO

MSA	County	Population (year 2010)	8-hr max value (years)	Min # of monitors required	Number of active monitors	Monitors needed
20940 El Centro	Imperial	174,528	7.5 ppm 2010 2012	0	2	0

C Nitrogen Dioxide (NO₂)

Regulation requires the establishment of one microscale near-road NO₂ monitoring station within CBSA's with a population of 500,000 or more. Regulation further requires that there be one NO₂ monitoring station within CBSA's with a population of 1,000,000 or more. The Imperial County does not meet either requirement. Nevertheless, continued operation of existing SLAMS NO₂ sites is required until discontinuation is approved by the US EPA Regional Administrator. There are two SLAMS NO₂ monitors operating within the Imperial County monitoring network. The highest concentration site

is the Calexico Ethel site with an 8 hour design value of 62 ppb (2010 2012 data) and the 2012 98th percentile of 66 ppb. For 2012 the maximum 1-hr concentration of 91 ppb was recorded at the Calexico Ethel monitoring station.

TABLE 16
Summary of Minimum Monitoring Requirements NO₂

MSA	County	Population (year 2010)	8-hr design value (years)	Min # of monitors required	Number of active monitors	Monitors needed
20940 El Centro	Imperial	174,528	62 ppb 2010 2012	0	2	0

D Sulfur Dioxide (SO₂)

Regulation requires States for each CBSA to calculate the Population Weighted Emissions Index (PWEI) in millions persons-tons per year of SO₂. Thresholds for the SO₂ monitoring requirements begin at a PWEI of 1,000,000 down to 5,000. At a PWEI equal to or greater than 5,000 but less than 100,000 a minimum of one SO₂ monitor is required. At a PWEI equal to or greater than 100,000 but less than 1,000,000 a minimum of two SO₂ monitors are required. The only SO₂ monitor operating within the Imperial County is located in Calexico. For 2012, the maximum concentration for Calexico Ethel for 1-hr was 15 ppb the 99th percentile is 7 ppb (2010 2012). PEWI calculated using 2008 emission inventory data for Sulfur Oxide (SO_x) result in a value of 0.07 million persons-tons/yr.

TABLE 17
Summary of Minimum Monitoring Requirements SO₂

MSA	County	Population (year 2010)	Min # of monitors required	Number of active monitors	Monitors needed
20940 El Centro	Imperial	174,528	1	1	0

E Particulate Matter (PM₁₀)

According to regulation the number of PM₁₀ stations must range between 2 and 10 stations in areas where MSA populations exceed 1,000,000. Low population urban areas are not required to have more than two (2) PM₁₀ stations. Regulation further assesses the minimum monitoring requirement for PM₁₀ according to levels of concentration. For those areas with a MSA population equal to or less than 250,000 but greater than 100,000 the minimum required number of PM₁₀ monitors is summarized below.

TABLE 18PM₁₀ MINIMUM REQUIRED MONITORS PER CONCENTRATION LEVEL

HIGH CONCENTRATION	MEDIUM CONCENTRATION	LOW CONCENTRATION
1-2	0-1	0

High concentration areas are those areas in which the ambient PM₁₀ concentrations exceed the PM₁₀ NAAQS by 20 percent or more (180µ/m³). Medium concentration areas are those areas where ambient PM₁₀ concentrations exceed 80% percent of the PM₁₀ NAAQS (>127.5µ/m³). Low concentration areas are those areas where ambient PM₁₀ concentrations are less than 80% of the PM₁₀ NAAQS (<127.5µ/m³). Because each area has its own unique sources of pollutants and controls the number of stations is ultimately determined jointly by US EPA and the State.

Imperial County is classified by US EPA as a “serious” non-attainment area for PM₁₀. All PM₁₀ monitors operate on a one in six day schedule. On annual average, Brawley and Calexico record the highest concentrations within the monitoring network. Calexico’s annual measurement is 63.6µ/m³ while Brawley’s annual measurement is 37.9µ/m³.

TABLE 19

2012	Calexico	Brawley	El Centro	Westmorland	Niland	
Annual Max.	406	127	75	109	212	µg/m ³
Annual Mean	63.6	37.9	32.9	35.9	37.8	µg/m ³

TABLE 20Summary for Minimum Monitoring Requirements PM₁₀

MSA 20940 El Centro	County Imperial	Population (year 2010) 174,528	Min # of monitors required	Number of active monitors	Monitors needed
SITE	Max	Avg.Mean			
Calexico	406	63.3			
Niland	212	37.8	2	5	0
Brawley	127	37.9			
Westmorland	109	35.9			
El Centro	75	32.9			

F Particulate Matter (PM_{2.5})

Federal regulation requires that all State, and where applicable, local agencies operate the minimum number of required PM_{2.5} monitoring sites. The minimum required PM_{2.5} monitoring sites is determined by MSA population and the most recent 3-year design value. See Table 9 for a summary below.

TABLE 21
PM_{2.5} MINIMUM MONITORING REQUIREMENTS

MSA POPULATION	MOST RECENT 3-YEAR DESIGN VALUE	MOST RECENT 3-YEAR DESIGN VALUE
	CONCENTRATION ≥85% OF ANY PM _{2.5} NAAQS	CONCENTRATIONS <85% OF ANY PM _{2.5} NAAQS
> 1 million	3	2
500,000 - 1 million	2	1
50,000 - <500,000	1	0

Regulation further requires all required monitoring sites to be sited to represent community-wide air quality. The community-wide site must be located in a population-oriented area of expected maximum concentration. In addition, the regulation requires State, or where appropriate, local agencies to operate continuous PM_{2.5} analyzers equal to at least one-half (round up) the minimum required monitoring sites. On this point, the regulation further explains that at least one required continuous analyzer in each MSA must be collocated with one of the required FRM/FEM/ARM monitors unless the monitor is itself a continuous FEM or ARM monitor in which case no collocation requirement applies. Finally, the regulation requires States to establish PM_{2.5} background and transport sites, as well as conduct PM_{2.5} chemical speciation utilizing Speciation Trends Network (STN).

TABLE 22
Summary for Minimum Monitoring Requirements PM_{2.5}

MSA	County	Population (year 2010)	8-hr design value (2010-2012)	Min # of monitors required	Number of active monitors	Monitors needed
20940 El Centro	Imperial	174,528	32µ/m ³	1	3	0

SPATIAL AVERAGING APPROACHES FOR PM_{2.5}

The PM_{2.5} NAAQS as specified in 40 CFR part 50 allows State and local air monitoring agencies to spatially average PM_{2.5} air quality data for comparison to the annual PM_{2.5} NAAQS. This approach is not however comparable with the daily PM_{2.5} NAAQS and is directly related to epidemiological studies. The Air District has not opted to use spatial averaging nor has the State included spatial averaging in Calexico. Consultation with CARB and US EPA will occur should circumstances change such that the Air District would consider spatial averaging as necessary in the future.

COLLOCATION REQUIREMENTS

Appendix A of 40 CFR 58 includes requirements for collocation of samplers as part of quality checks for the PM_{2.5} continuous PM_{2.5}, PM₁₀ and Pb monitoring networks. The requirements are to be met by each PQAO. Currently, there are four PQAO's in California, San Francisco Bay Area AQMD, San Diego County APCD, South Coast AQMD and CARB. The respective requirements for collocation PM_{2.5} is discussed by

each PQAQO in their respective Network Plans. CARB's 2013 Annual Monitoring Network Report for Small Districts in California contains information regarding the collocation requirements on pages 34 through 37.

IV SAMPLING FREQUENCY REVIEW

The PM₁₀ five year assessment resulted in no changes to current sampling frequencies for PM₁₀ in Imperial County.

TABLE 23
PM10 Sampling Frequency Calculations

		CALEXICO 0005					BRAWLEY 0007				
		2008	2009	2010	2011	2012	2008	2009	2010	2011	2012
1/6 Schedule		110	275	112	80	406	137	196	61	85	127
Design conc. = Highest		0.7	1.8	0.7	0.5	2.7	0.9	1.3	0.4	0.6	0.8
Ratio to Standard -->											

		EL CENTRO 1003					WESTMORLAND 4003				
		2008	2009	2010	2011	2012	2008	2009	2010	2011	2012
		88	243	69	81	75	136	161	86	74	109
Ratio to Standard -->		0.6	1.6	0.5	0.5	0.5	0.9	1.1	0.6	0.5	0.7

		NILAND 4004				
		2008	2009	2010	2011	2012
		121	202	58	220	212
Ratio to Standard -->		0.8	1.3	0.4	1.5	1.4

Methodology: Highest value of each month/each year.

The results of the PM_{2.5} five year assessment indicates that the Calexico Ethel station triggered the requirement for everyday sampling during the 2006-2008, 2007-2009 and 2009-2011 design values (all based on the 24-hr design values within ±5% of the NAAQS). Discussions with US EPA indicate that everyday sampling should have been commenced as early as January 1, 2010 for a minimum of 3 years. US EPA's position is that regulatory actions that include data that has not been meeting historical sampling frequency requirements cannot move forward unless the required sampling frequency is implemented. This is true even when the most current design value does not fall within the ±5% of the NAAQS. Therefore, the Calexico Ethel site is required to go to everyday sampling no later than October 1, 2013.

TABLE 24
PM2.5 Sampling Frequency Calculations

STATION	YEAR	24 hour Design Value	Annual Design Value	24 Hour Std	Annual Std	Within +/- 5% of Std?		Daily sampling Required?
				35	12	24 hour	Annual	
Calexico	2012	32	14	8.57	16.67	NO	NO	NO
Brawley	2012	18	7	48.57	41.67	NO	NO	NO
El Centro	2012	20	7	42.86	41.67	NO	NO	NO
Calexico	2011	35	14	0.00	16.67	YES	NO	YES
Brawley	2011	19	7	45.71	41.67	NO	NO	NO
El Centro	2011	20	7	42.86	41.67	NO	NO	NO
Calexico	2010	32	13	8.57	8.33	NO	NO	NO
Brawley	2010	19	8	45.71	33.33	NO	NO	NO
El Centro	2010	16	8	54.29	33.33	NO	NO	NO
Calexico	2009	34	13	2.86	8.33	YES	NO	YES
Brawley	2009	21	8	40.00	33.33	NO	NO	NO
El Centro	2009	18	8	48.57	33.33	NO	NO	NO
Calexico	2008	36	12	2.86	0.00	YES	YES	YES
Brawley	2008	19	8	45.71	33.33	NO	NO	NO
El Centro	2008	21	8	40.00	33.33	NO	NO	NO

References: AQS AMP480 Design Value Report (05.20.2013)
 40 CFR 58.12(d)(iii) Required SLAMS whose measurements determine the design value for their area and that are within plus or minus 5 percent of the daily PM2.5 NAAQS must have an FRM or FEM operate on a daily schedule. A continuously operating FER or ARM PM2.5 monitor satisfies this requirement.
 Final Network Plan memo (Region IX; May 08, 2012); Attachment E: % formula used – 24 hour standard $ABS((35-x)/(35)*100)$ Annual Standard $ABS((12-y)/(12)*100)$

V PROPOSED MODIFICATIONS TO THE NETWORK DESIGN

Calexico East

CARB has discontinued monitoring activities at the Calexico East site since July 2010. US EPA formally approved the closure of Calexico East site April 2013.

Calexico Ethel

Both the Air District and CARB are currently evaluating the relocation of the Calexico Ethel site. The current site has been overrun by development and tree growth. The proposed relocation is within a 1 mile perimeter from the current location. CARB and Air District staff concluded the physical aspect of the evaluation however the data review is still ongoing. No actual changes will occur until US EPA formally approves the newly proposed site. Review and discussions are ongoing.

Niland

Evaluation of the station shelter has resulted in the determination to replace the current shelter.

Westmorland

An electrical fire resulted in the determination that the current shelter is in need of replacement. Damage from the fire resulted in the loss of the data logger and ozone monitor. A proper assessment of the station is pending. On finalization the Air District will submit the information to US EPA and CARB for discussion and approval.

VI QUALITY SYSTEM REQUIREMENTS

A Quality Management Plans (QMP) and Quality Assurance Project Plans (QAPP)

Federal regulation requires all organizations to develop a quality system which allows for the proper management of monitoring information in a systematic and organized manner. The quality system, when well developed, provides a framework for planning, implementing, assessing, reporting and for carrying out required quality assurance and quality control activities. Developing a Quality management plan (QMP) and a quality assurance project plan (QAPP) assures that monitoring results are well-defined for need, use, purpose, monitoring objective, as well as, compliance with applicable standards and statutory requirements.

The QMP describes the quality system in terms of the organizational structure, functional responsibilities of management and staff, lines of authority, and required interfaces for those planning, implementing, assessing and reporting activities involving environmental data operations. The QMP must be approved by the Regional Administrator. The QAPP is a formal document describing the quality system in such a manner as to assure that the results of work performed will satisfy the stated objectives. Ultimately, the monitoring quality system must have a demonstration of adequate resources both in personnel and funding.

Currently, the Air District is developing its QMP and QAPP and expects to have a draft version of both by fall for review by CARB and US EPA. In addition, all Standard Operating Procedures, station site visit logs, troubleshooting and check logs have been updated and are in use by field technicians and reviewers.

B DATA REVIEW AND SUBMITTAL

Currently, all quality control and assurance procedures are in place, despite the fact that the QMP and QAPP have not been finalized. In practice, field technicians review and document all checks, flows, visits and troubleshooting evidence onto logs which are maintained at each station. All data is reviewed and all instrument systems are verified in working order on a daily basis. In order to maintain quality control prior to submitting certified data to CARB all data is reviewed by staff that is not tied to the data generation activity. Once all data points are checked and verified then staff submits the data in a

formalized manner as certified data to CARB. In addition to certified data the Air District remits raw uncertified data for Air Quality Index advisories and forecasts.

Certified data submitted to CARB includes, all 1 hour ozone concentrations, all 1 hour NO, NO₂ and NO_x concentrations, all CO 1 hour concentrations, all PM₁₀ continuous 1 hour concentrations, all precision and accuracy data and all 1 hour meteorological concentrations. In addition, the Air District remits all PM₁₀ filter samples to CARB, via a chain of custody protocol and PM_{2.5} filter samples to the San Diego Air Pollution Control District (SDAPCD) utilizing the accepted chain of custody protocol for PM_{2.5}. All data is submitted either by CARB or SDAPCD on to the US EPA Air Quality System (AQS) after certification by the appropriate agency. Once in AQS US EPA will then affirm completeness and accuracy on an annual basis.

VII OVERALL SUMMARY OF THE IMPERIAL COUNTY AMBIENT AIR MONITORING NETWORK

The following tables and figures summarize the content of information provided within the descriptive sections of the Network Plan. Figure 1 on page 7 is a map listing the current operating ambient air monitoring stations in Imperial County. Table 25 is a list of all the Air Quality Monitoring Site locations. Table 26 lists the pollutants and other parameters monitored by site. Table 27 lists the criteria pollutant spatial scale and monitoring objective. All of the monitors operating in Imperial County are part of the SLAMS network.

The tables in this section give detailed information relating to the sites and monitors. They are presented to show compliance with the monitoring requirements found in 40 CFR58.10.

TABLE 25
Ambient Air Quality Monitoring site locations in Imperial County

Location	Address	ARB No.	AIRS No.	Latitude	Longitude
Niland	7711 English Road, Niland, CA 92257	13997	060254004	33°12'49"	115°32'43"
Westmorland	570 Cook St., Westmorland, CA 92281	13697	060254003	33°01'57"	115°37'25"
Brawley	220 Main St., Brawley, CA 92227	13701	060250007	32°58'42"	115°32'21"
El Centro	150 S. 9th St., El Centro, CA 92243	13694	060251003	32°47'32"	115°33'47"
Calexico Ethel	1029 Belcher St., Calexico, CA 92231	13698	060250005	32°40'34"	115°28'59"

TABLE 26

Pollutants and Parameter Monitored per site

Location	Pollutants Monitored	Parameters Monitored
Niland	O ₃ , PM ₁₀	OT, RH, WD, HWS, BP
Westmorland	O ₃ , PM ₁₀	OT, RH, WD, HWS, BP
Brawley	PM ₁₀ , PM _{2.5}	OT, BP
El Centro	CO, NO ₂ , O ₃ , PM ₁₀ , PM _{2.5}	OT, WD, HWS, BP
Calexico Ethel	CO, SO ₂ , NO ₂ , PM ₁₀ , PM _{2.5}	OT, RH, WD, HWS, BP, SR

Pollutant		Parameter	
O ₃	Ozone	OT	Outside Temperature
PM ₁₀	Particulate Matter <10 microns	RH	Relative Humidity
PM _{2.5}	Particulate Matter <2.5 microns	WD	Wind Direction
NO ₂	Nitrogen Dioxide	HWS	Horizontal Wind Speed
CO	Carbon Monoxide	BP	Barometric Pressure
SO ₂	Sulfur Dioxide	SR-	Solar Radiation

TABLE 27

Summary of Site Types, Spatial Scales and Purpose

Location	CO	NO ₂	SO ₂	O ₃	PM ₁₀	PM _{2.5}
Niland				G/B/RS/PE	GB/MS/PE	
Westmorland				R/B/RS/PE	R/B/MS/PE	
Brawley					TC/NS/PE	B/T/NS/PE
El Centro	HC/NS/PE	TC/NS/PE		HC/NS/PE	TC/NS/PE	TC/NS/PE
Calexico Ethel	TC/MS/PE	HC/US/PE	TC/US/PE	R/TC/US/PE	HC/NS/PE	HC/NS/PE

Site Type	Spatial Scale	Monitoring Purpose
R/TC Regional/Typical Concentrations	US Urban Scale	PE Public Exposure
HC Highest Concentrations	NS Neighborhood Scale	
GB General Background	RS Regional Scale	
R/B Regional/Background	MS Middle Scale	
TC Typical Concentrations		
B/T Background/Transport		

VIII DETAILED SITE INFORMATION

The following tables and figures were downloaded from the CARB Monitoring Network webpage. The detailed information is a product of State assessment and does not necessarily reflect the findings within this document. In any event, this section provides evidence in addition to the previous pages that all established monitoring sites meet minimum federal requirements.

Niland Monitoring Station Details

Site Name	Niland		
AQS ID	60254004		
GIS Coordinates	Lat 33° 12' 49" Long 115° 32' 43"		
Location	Located in remote setting near the community of Niland		
Address	7711 English Road, Niland, CA 92257		
County	Imperial County		
Dist. to road	20 meters		
Traffic count	50 vehicles per day		
Ground Cover	Dirt		
Representative area	MSA (EI Centro)		
Pollutant	O3	PM10	PM10
Sampling Method	API/Teledyne 400A	Anderson 1200	Met One BAM1020
Analysis Method	N/A	Weighed by ARB	N/A
Start Date	6/1/1996	6/1/1996	1/7/2009
Operation Schedule	Continuous	1in 6day	Continuous
Sampling Season	All year	All year	All year
Probe height	4.5m	4.5 m	5.0m
Dist. from supporting structure	1. 5m	1.5 m	1.5 m
Dist. from obstructions on roof	None	None	None
Distance from trees	None	None	None
Unrestricted airflow	360°	360°	360°
Probe Material	Glass & Teflon	N/A	N/A
Residence Time	4.7 sec	N/A	N/A
Is it suitable for comparison against the annual PM2.5?	N/A	No	No
Frequency of flow rate verification for manual PM samplers audit	N/A	Monthly	N/A
Frequency of flow rate verification for automated PM analyzers audit	N/A	N/A	Monthly
Frequency of 1-point QC check (gaseous)	Bi-Weekly	N/A	NIA
Last annual performance evaluation (gaseous)	1/30/2013	N/A	NIA
Last two semi-annual flow rate audits for PM monitors	N/A	8/21/12-1/30/13	8/21/12-1/30/13

Site Information for Niland-English Road



AIRS Number	ARB Number	Site Start Date	Reporting Agency and Agency Code
060254004	13997	6/1/96	Imperial County APCD (009)

Site Address	County	Air Basin	Latitude (N)	Longitude (W)	Elevation (m)
7711 English Road, Niland CA 92257	Imperial	Salton Sea	33.21383	-115.54448	-57
Pollutants Monitored (click on parameter link for real-time data) Note: multiple monitors may be available through the AQMIS query tool .					
O₃ , PM₁₀ , BAM_{PM10} , Outdoor Temperature , Relative Humidity , Wind Direction , Horizontal Wind Speed , Barometric Pressure					

Niland Site Survey Report

Siting Information

Site Name: Niland-English Road	Audit Date: 2013-01-30	ARB Number: 13997	AIRS Number: 060254004
Address: 7711 English Road Niland, CA 92257	Latitude: N 33.21383	Longitude: W -115.54448	Elevation (m): -57
	Auditors: Leena Khangura Alvin Danque	Site Technician: Michael Green	Site Phone:
Operating Agency: Imperial County APCD		Site Report: Yes	Site Photos: Yes

General Siting Conditions

<p style="text-align: center;">Station Temperature</p> <p>Controlled: Yes</p> <p>Recorded: Yes</p> <p>Inside Temp: 23 Degrees Celsius</p>	<p style="text-align: center;">Traffic</p> <p>Description: Remote</p> <p>Distance: 20 meters</p> <p>Count (Veh/Day): 50</p>	<p style="text-align: center;">Topography</p> <p>Site: Level</p> <p>Region: Valley</p>	<p>Predominant Wind Direction: West</p> <p>Arc Air Flow (Deg): 360 Degrees</p> <p>Probe Clean: Yes</p>
<p style="text-align: center;">Meteorology</p> <p>Located With Instruments: Yes</p> <p>Shadowing: No</p> <p>Boom Orientation (Deg): 349</p> <p>Temp(Motor/Natural): Natural</p>	<p style="text-align: center;">Non-vehicular Local Sources</p> <p>Description: Agriculture</p> <p>Distance: 50 meters</p> <p>Direction: 360</p>	<p style="text-align: center;">QA Manual</p> <p>Approved: Yes</p> <p>Agency: Imperial County APCD</p> <p>Urbanization: Remote</p> <p>Ground Cover: Gravel</p>	<p>Manifold Clean: N/A</p> <p>Cleaning Schedule: As Needed</p> <p>Autocalibrator Type: API 400A IZS</p> <p>Site Survey Complete: Yes</p> <p>Logbook Up To Date: Yes</p>

Action Items

Comments

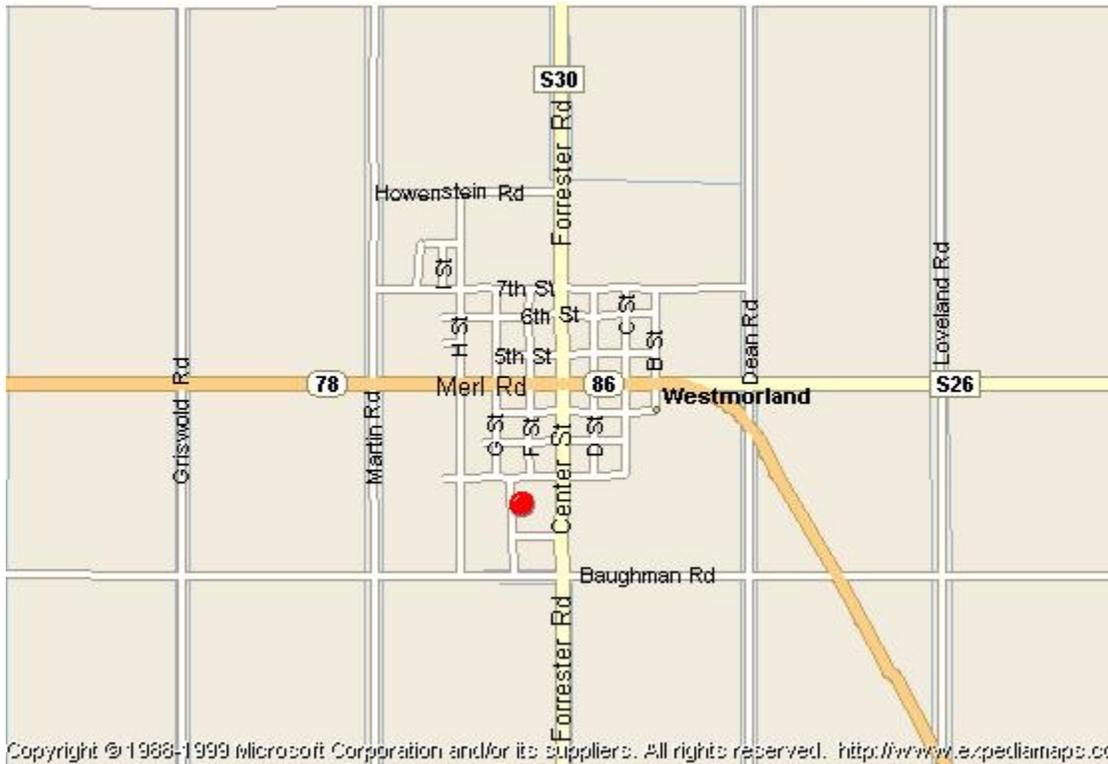
Niland Site Survey Report (Cont.)

Monitor Type	Ozone	PM10-SSI	BAM	Outdoor Temperature
Manufacturer/Model	API/Teledyne 400	Anderson 1200	Met One BAM 1020	MET ONE 064-2
Serial Number	30333	7377	20005420	X4805
POC	1	1	1	1
Data For Record?	Yes	Yes	Yes	Yes
Purpose	SLAMS	SLAMS	SPM	SLAMS
Objective	POPULATION EXPOSURE/TRANSPORT	POPULATION EXPOSURE/TRANSPORT	SUPPORT	-
Scale	REGIONAL	MIDDLE		-
Height Above Ground	4.6	4.5	5.2	4.2
Height Above Platform	1.6	1.5	2.2	1.2
Sampler Spacing	N/A			N/A
Current Manual Available?	Yes	Yes	Yes	Yes
Instrument Log Up-to-date?	Yes	Yes	Yes	Yes
In-line Filter Change Date	2013-01-29	N/A	N/A	N/A
Cal. Gas Cert. Date	N/A	N/A	N/A	N/A
Calibration Current?	Yes	Yes	Yes	Yes
Calibration Date	5/26/2011	1/26/2011	1/9/2012	2013-01-10
Cal. Equipment Cert. Date	3/24/2011	12/21/2010	3/16/2011	2012/04/23
Obstacle Description	None	None	None	None
Distance to Obstacle	-	-	-	-
Obs. Height Above Inlet	-	-	-	-
Distance to Walls, etc.	-	-	-	-
Distance to Dripline	-	-	-	-
Dominant Influence	Agriculture	Agriculture	Agriculture	-
Residence Time (sec)	4.7	N/A	N/A	N/A
Monitor Type	Wind Direction	Horizontal Wind Speed		
Manufacturer/Model	MET ONE 020-C	MET ONE 010-C		
Serial Number	X4362	X4245		
POC	1	1		
Data For Record?	Yes	Yes		
Purpose	SLAMS	SLAMS		
Objective	-	-		
Scale	-	-		
Height Above Ground	8.5	8.5		
Height Above Platform				
Sampler Spacing	N/A	N/A		
Current Manual Available?	Yes	Yes		
Instrument Log Up-to-date?	Yes	Yes		
In-line Filter Change Date	N/A	N/A		
Cal. Gas Cert. Date	N/A	N/A		
Calibration Current?	Yes	Yes		
Calibration Date	2012-11-26	2012-11-27		
Cal. Equipment Cert. Date	N/A	2012-10-31		
Obstacle Description	None	None		
Distance to Obstacle	-	-		
Obs. Height Above Inlet	-	-		
Distance to Walls, etc.	-	-		
Distance to Dripline	-	-		
Dominant Influence	-	-		
Residence Time (sec)	N/A	N/A		

Westmorland Monitoring Station Details

Site Name	Westmoreland	
AQS ID	060254003	
GIS Coordinates	Lat 33° 01' 57" Long 115° 37' 25"	
Location	Located in suburban setting in the City of Westmoreland	
Address	570 Cook St., Westmoreland, CA 92281	
County	Imperial County	
Dist. to road	20 meters	
Traffic count	100 vehicles per day	
Ground Cover	Dirt	
Representative area	MSA (El Centro)	
Pollutant	O3	PM10
Sampling Method	API/Teledyne 400	Anderson 1200
Analysis Method	N/A	Weighed by ARB
Start Date	4/1/93	4/1/93
Operation Schedule	Continuous	1in 6day
Sampling Season	All year	All year
Probe height	5m	5m
Dist. from supporting structure	1.3 m	1.5
Disl. from obstructions on roof	None	None
Distance from trees	None	None
Unrestricted airflow	360°	360°
Probe Material	Glass & Teflon	N/A
Residence Time	6.5 sec	N/A
Is it suitable for comparison against the annual PM2.5?	N/A	No
Frequency of flow rate verification for manual PM samplers audit	N/A	Monthly
Frequency of flow rate verification for automated PM analyzers audit	N/A	N/A
Frequency of 1-point QC check (gaseous)	Bi-Weekly	N/A
Last annual performance evaluation (gaseous)	01/31/12	N/A
Last two semi-annual flow rate audits for PM monitors	N/A	08/21/12 01/30/13

SITE INFORMATION FOR WESTMORLAND



AIRS Number	ARB Number	Site Start Date	Reporting Agency and Agency Code
060254003	13697	4/1/93	Imperial County APCD (009)

Site Address	County	Air Basin	Latitude (N)	Longitude (W)	Elevation (m)
570 Cook St., Westmorland CA 92281	Imperial	Salton Sea	33.03239	-115.62362	-43

<p>Pollutants Monitored (click on parameter link for real-time data) Note: multiple monitors may be available through the AQMIS query tool.</p> <p>O₃, PM₁₀, Outdoor Temperature, Relative Humidity, Wind Direction, Horizontal Wind Speed, Barometric Pressure</p>
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Westmorland Site Survey Report

Siting Information

Site Name: Westmorland	Audit Date: 2013-01-30	ARB Number: 13697	AIRS Number: 060254003
Address: 570 Cook St. Westmorland, CA 92281	Latitude: N 33.03239	Longitude: W -115.62362	Elevation (m): -43
	Auditors: Leena Khangura Alvin Danque	Site Technician: Michael Green	Site Phone:
Operating Agency: Imperial County APCD		Site Report: Yes	Site Photos: Yes

General Siting Conditions

Station Temperature Controlled: Yes Recorded: Yes Inside Temp: 25 Degrees Celsius	Traffic Description: Rural Distance: 20 meters Count (Veh/Day): 100	Topography Site: Level	Predominant Wind Direction: West
		Region: Level	Arc Air Flow (Deg): 360 Degrees
		QA Manual Approved: Yes Agency: Imperial County APCD Urbanization: Rural Ground Cover: Gravel	Probe Clean: Yes
Manifold Clean: N/A			
Cleaning Schedule: As Needed			
Autocalibrator Type: API 400A IZS			
Meteorology Located With Instruments: Yes Shadowing: No Boom Orientation (Deg): 347 Temp(Motor/Natural): Natural	Non-vehicular Local Sources Description: None Distance: N/A Direction: N/A	Site Survey Complete: Yes	
		Logbook Up To Date: Yes	

Action Items

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Comments

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Westmorland Site Survey Report (Cont.)

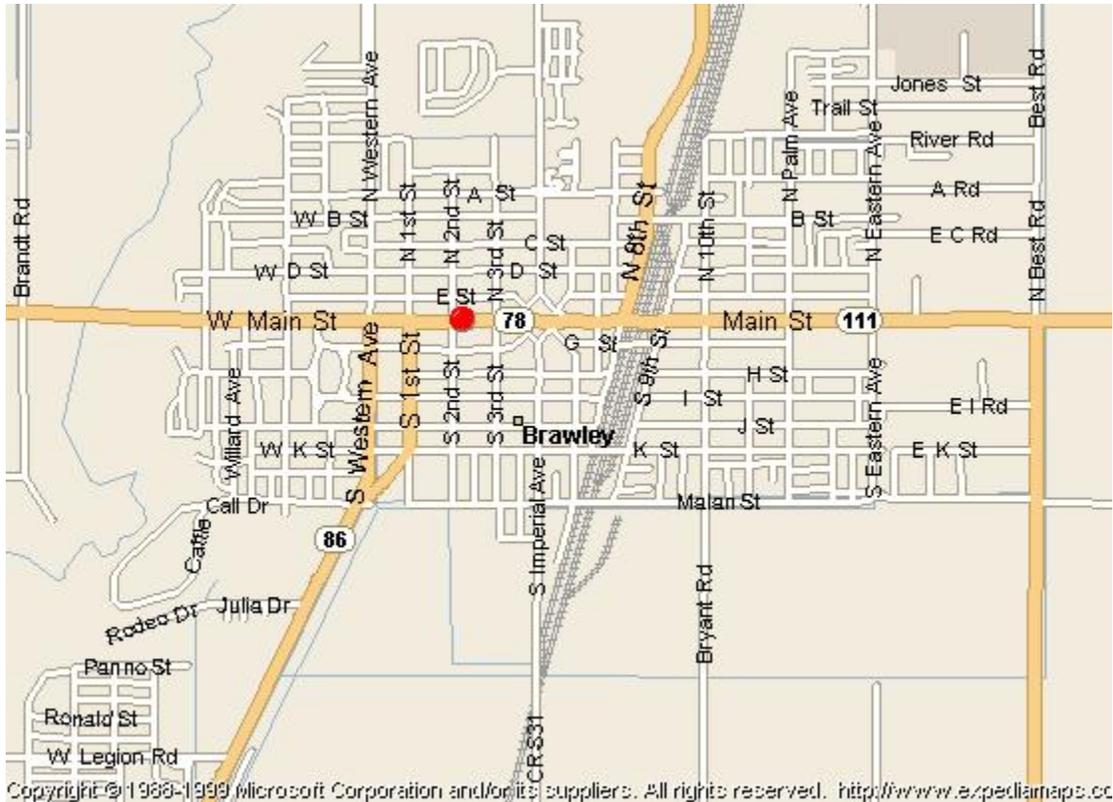
Monitor Type	Ozone	PM10-SSI	Outdoor Temperature
Manufacturer/Model	API/Teledyne 400	Anderson 1200	MET ONE 064-2
Serial Number	30331	P1770	X4808
POC	1	1	1
Data For Record?	Yes	Yes	Yes
Purpose	SLAMS	SLAMS	SLAMS
Objective	PUBLIC EXPOSURE/TRANSPORT	PUBLIC EXPOSURE/TRANSPORT	-
Scale	REGIONAL	MIDDLE	-
Height Above Ground	4.3	4.6	4
Height Above Platform	1.2	1.5	0.9
Sampler Spacing	N/A		N/A
Current Manual Available?	Yes	Yes	Yes
Instrument Log Up-to-date?	Yes	Yes	Yes
In-line Filter Change Date	1/27/2012	N/A	N/A
Cal. Gas Cert. Date	N/A	N/A	N/A
Calibration Current?	No	Yes	No
Calibration Date	3/3/2011	1/26/2011	1/26/2011
Cal. Equipment Cert. Date	12/15/2010	12/21/2010	1/11/2011
Obstacle Description	None	None	None
Distance to Obstacle	-	-	-
Obs. Height Above Inlet	-	-	-
Distance to Walls, etc.	-	-	-
Distance to Dripline	-	-	-
Dominant Influence	Vehicular	Vehicular	-
Residence Time (sec)	6.5	N/A	N/A

Monitor Type	Horizontal Wind Speed
Manufacturer/Model	MET ONE 010-C
Serial Number	X4246
POC	1
Data For Record?	Yes
Purpose	SLAMS
Objective	-
Scale	-
Height Above Ground	8.5
Height Above Platform	
Sampler Spacing	N/A
Current Manual Available?	Yes
Instrument Log Up-to-date?	Yes
In-line Filter Change Date	N/A
Cal. Gas Cert. Date	N/A
Calibration Current?	Yes
Calibration Date	11/30/2011
Cal. Equipment Cert. Date	12/28/2010
Obstacle Description	None
Distance to Obstacle	-
Obs. Height Above Inlet	-
Distance to Walls, etc.	-
Distance to Dripline	-
Dominant Influence	-
Residence Time (sec)	N/A

Brawley Monitoring Station Details

Site Name	Brawley		
ADS 10	060250007		
GIS Coordinates	Lat 32° 58' 42" Long 115° 32' 21"		
Location	Located in city center setting in the City of Brawley		
Address	220 Main St., Brawley, CA 92227		
County	Imperial County		
Dist. to road	30 meters		
Traffic count	5000 vehicles per day		
Ground Cover	Roof		
Representative area	MSA (El Centro)		
Pollutant	PM 2.5	PM10	PM10
Sampling Method	R&P seq. WINS	Anderson 1200	BAM 1020
Analysis Method	Weighed by SDAPCD	Weighed by ARB	N/A
Start Date	01/01/04	01/01/04	01/07/09
Operation Schedule	1 in 3 day	1 in 6 day	Continuous
Sampling Season	All year	All year	All year
Probe height	10.0 m	10.0m	10.0 m
Dist. from supporting structure	1.5 m	1.5 m	1.5 m
Dist. from obstructions on roof	No ne	None	None
Distance from trees	None	None	None
Unrestricted airflow	360°	360°	360°
Probe Material	N/A	N/A	N/A
Residence Time	N/A	N/A	N/A
Is it suitable for comparison against the annual PM2.5?	Yes	No	No
Frequency of flow rate verification for manual PM samplers audit	Monthly	Monthly	N/A
Frequency of flow rate verification for automated PM analyzers audit	N/A	N/A	Monthly
Frequency of 1-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	08/21/12 01/31/13	08/21/12 01/31/13	08/21/12 01/31/13

Site Information for Brawley-Main Street



AIRS Number	ARB Number	Site Start Date	Reporting Agency and Agency Code
060250007	13701	1/1/04	Imperial County APCD (009)

Site Address	County	Air Basin	Latitude (N)	Longitude (W)	Elevation
220 Main St., Brawley CA 92227	Imperial	Salton Sea	32° 58' 42"	115° 32' 21"	-13

Pollutants Monitored (click on parameter link for real-time data)
PM ₁₀ , BAM_{PM10} , PM _{2.5} , Outdoor Temperature

Brawley Site Survey Report

Siting Information

Site Name: Brawley-Main Street #2	Audit Date: 01/31/13	ARB Number: 13701	AIRS Number: 060250007
Address: 220 Main St. Brawley, CA 92227	Latitude: N 32.97831	Longitude: W -115.53904	Elevation (m): -15
	Auditors: Leena Khangura Alvin Danque	Site Technician: Mike Green	Site Phone:
Operating Agency: Imperial County APCD		Site Report: Yes	Site Photos: Yes

General Siting Conditions

Station Temperature Controlled: Yes Recorded: Yes Inside Temp: 25 Degrees Celsius	Traffic Description: Commercial Distance: 30 meters Count (Veh/Day): 5000	Topography Site: Level	Predominant Wind Direction: South
		Region: Level	Arc Air Flow (Deg): 360 Degrees
		QA Manual Approved: Yes Agency: Imperial County APCD	Probe Clean: N/A
Urbanization: City Center	Manifold Clean: N/A		
Meteorology Located With Instruments: Yes Shadowing: No Boom Orientation (Deg): N/A Temp(Motor/Natural):	Non-vehicular Local Sources Description: None Distance: N/A Direction: N/A	Ground Cover: Roof	Cleaning Schedule: N/A
			Autocalibrator Type: N/A
			Site Survey Complete: Yes
			Logbook Up To Date: Yes

Action Items

Comments

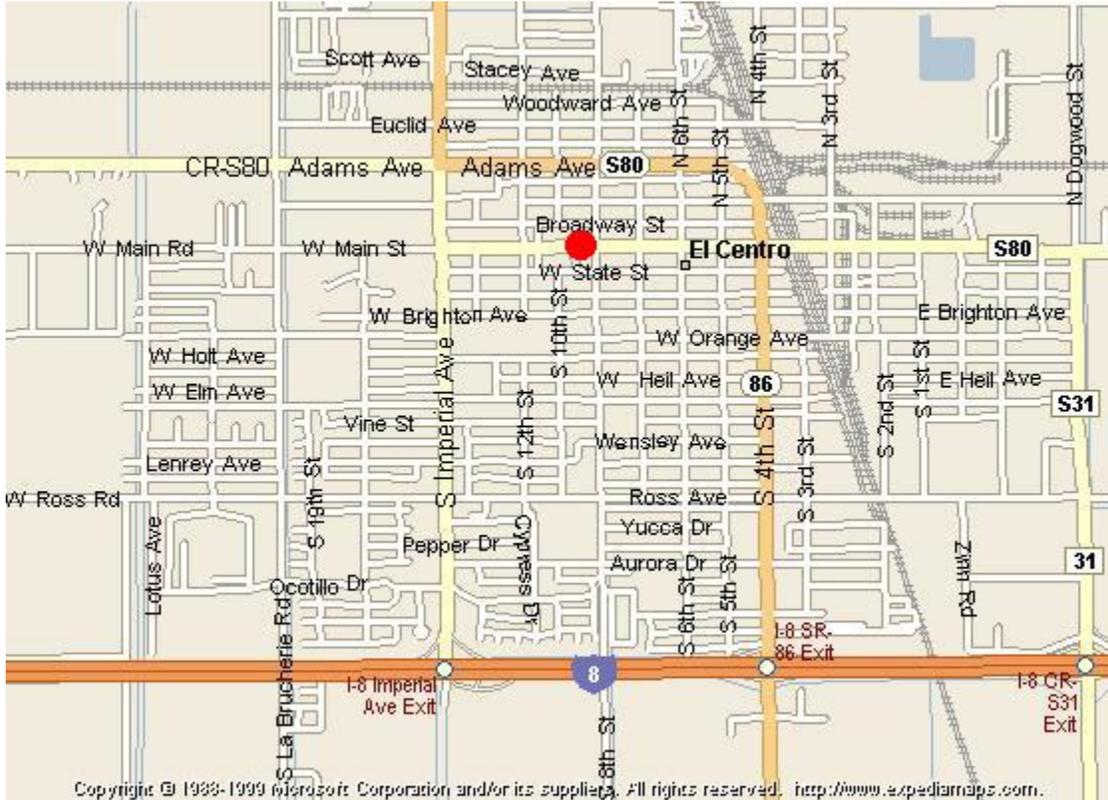
Brawley Site Survey Report (Cont.)

Monitor Type	PM10-SSI	BAM	PM2.5	Outdoor Temperature
Manufacturer/Model	GMW 1200	Met One BAM 1020	R&P 2025	MET ONE 064-2
Serial Number	7346	20021472	20020954	B1681
POC	1	1	1	1
Data For Record?	Yes	Yes	Yes	Yes
Purpose	SLAMS	SPM	SLAMS	SLAMS
Objective	POPULATION EXPOSURE	SUPPORT	POPULATION EXPOSURE	-
Scale	NEIGHBORHOOD		NEIGHBORHOOD	-
Height Above Ground	10	10	10	10
Height Above Platform	1.7	2.4	1.5	1
Sampler Spacing				N/A
Current Manual Available?	No	No	No	No
Instrument Log Up-to-date?	Yes	Yes	Yes	Yes
In-line Filter Change Date	N/A	N/A	N/A	N/A
Cal. Gas Cert. Date	N/A	N/A	N/A	N/A
Calibration Current?	Yes	Yes	Yes	Yes
Calibration Date	1/25/2011	1/9/2012	1/9/2012	1/25/2011
Cal. Equipment Cert. Date	12/21/2010	3/16/2011	3/16/2011	1/11/2011
Obstacle Description	None	None	None	None
Distance to Obstacle	-	-	-	-
Obs. Height Above Inlet	-	-	-	-
Distance to Walls, etc.	-	-	-	-
Distance to Dripline	-	-	-	-
Dominant Influence	Vehicular	Vehicular	Vehicular	-
Residence Time (sec)	N/A	N/A	N/A	N/A

EI Centro Monitoring Station Details

Site Name	EI Centro				
AQS ID	06025 1003				
GIS Coordinates	Lat 32° 47' 32" Long 115° 33' 47"				
Location	Located in city center setting in the City of EI Centro				
Add ress	150 S. 9th St., EI Centro, CA 92243				
County	Imperial County				
Dist. to road	30 meters				
Traffic count	2500 vehicles per day				
Ground Cover	Roof				
Representative area	MSA (EI Centro)				
Pollutant	NO2	O3	CO	PM2.5	PM10
Sampling Method	API 200A	API/Teledyne T400	API T300	R&P seq. WINS	Anderson 1200
Analysis Method	N/A	N/A	N/A	Weighed by SDAPCD	Weighed by ARB
Start Dale	2/1/88	2/1/88	2/1/88	2/1/88	2/1/88
Operation Schedule	Continuous	Continuous	Continuous	1 in 3 day	1 in 6 day
Sampling Season	All year	All year	All year	All year	All year
Probe height	9.2 m	9.2 m	9.2	10.0 m	10.0 m
Dist. from supporting structure	1.8 m	1.8m	1.8 m	1.5 m	1.5m
Dist. from obstructions on roof	None	None	Non e	None	None
Distance from trees	None	None	None	None	None
Unrestricted airflow	360°	360°	360°	360°	360°
Probe Material	Glass & Teflon	Glass & Teflon	Glass & Teflon	N/A	N/A
Residence Time	8.6 sec	8.1 sec	8.8 sec	N/A	N/A
Is it suitable for comparison against the annual PM2.5?	N/A	N/A	N/A	Yes	No
Frequency of flow rate verification for manual PM samplers audit	N/A	N/A	N/A	Monthly	Monthly
Frequency of flow rate verification for automated PM analyzers audit	N/A	N/A	N/A	N/A	N/A
Frequency of 1-point QC check (gaseous)	Bi-Weekly	Bi-Weekly	Bi-Weekly	N/A	N/A
Last annual performance evaluation (gaseous)	01/25/12	01/25/12	01/25/12	N/A	N/A
Last two semi-annual flow rate audits for PM monitors	N/A	N/A	N/A	08/21/12 02/05/13	08/21/12 02/05/13

Site Information for El Centro-9th Street



AIRS Number	ARB Number	Site Start Date	Reporting Agency and Agency Code
060251003	13694	2/1/88	Imperial County APCD (009)

Site Address	County	Air Basin	Latitude (N)	Longitude (W)	Elevation (m)
150 9th St, El Centro CA 92243	Imperial	Salton Sea	32.79215	-115.56299	9

Pollutants Monitored (click on parameter link for real-time data)
Note: multiple monitors may be available through the [AQMS query tool](#).

[CO](#), [NO₂](#), [O₃](#), [PM₁₀](#), [PM_{2.5}](#), [Outdoor Temperature](#), Wind Direction, [Horizontal Wind Speed](#), [Barometric Pressure](#)

El Centro Site Survey Report

Siting Information

Site Name: El Centro-9th Street	Audit Date 2013-02-05	ARB Number: 13694	AIRS Number: 060251003
Address: 150 9th St El Centro, CA 92243	Latitude: N 32.79215	Longitude: W -115.56299	Elevation (m): 9
	Auditors: Leena Khangura Hamek Nijjar	Site Technician: Mike Green	Site Phone:
Operating Agency: Imperial County APCD		Site Report: Yes	Site Photos: Yes

General Siting Conditions

<p style="text-align: center;">Station Temperature</p> Controlled: Yes Recorded: Yes Inside Temp: 22 Degrees Celsius	<p style="text-align: center;">Traffic</p> Description: Residential Distance: 30 meters Count (Veh/Day): 2500	<p style="text-align: center;">Topography</p> Site: Level Region: Level	Predominant Wind Direction: South
			Arc Air Flow (Deg): 360 Degrees
			Probe Clean: Yes
<p style="text-align: center;">Meteorology</p> Located With Instruments: Yes Shadowing: No Boom Orientation (Deg): 348 Temp(Motor/Natural): Natural	<p style="text-align: center;">Non-vehicular Local Sources</p> Description: None Distance: N/A Direction: N/A	QA Manual	Manifold Clean: Yes
		Approved: Yes	Cleaning Schedule: As Needed
		Agency: Imperial County APCD	Autocalibrator Type: Environics 9100
		Urbanization: City Center	Site Survey Complete: Yes
		Ground Cover: Roof	Logbook Up To Date: Yes

Action Items

Comments

El Centro Site Survey Report (Cont.)

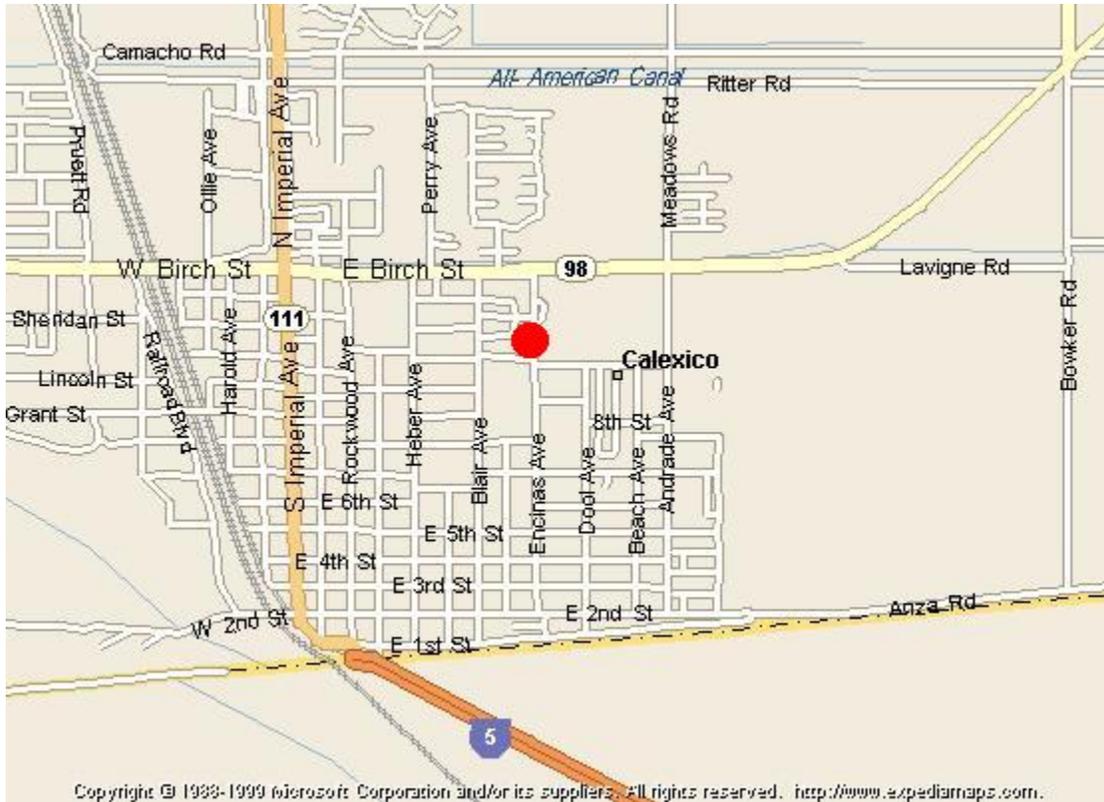
Monitor Type	Carbon Monoxide	Nitrogen Dioxide	Ozone	PM10-SSI
Manufacturer/Model	API 300	API 200A	API/Teledyne 400	SA 1200
Serial Number	30490	2350	30332	7661
POC	1	1	1	1
Data For Record?	Yes	Yes	Yes	Yes
Purpose	SLAMS	SLAMS	SLAMS	SLAMS
Objective	POPULATION EXPOSURE	POPULATION EXPOSURE	POPULATION EXPOSURE	POPULATION EXPOSURE
Scale	NEIGHBORHOOD	NEIGHBORHOOD	NEIGHBORHOOD	NEIGHBORHOOD
Height Above Ground	9.3	11.1	11.1	9.8
Height Above Platform	1.8	1.8	1.8	1.4
Sampler Spacing	N/A	N/A	N/A	
Current Manual Available?	Yes	Yes	Yes	Yes
Instrument Log Up-to-date?	Yes	Yes	Yes	Yes
In-line Filter Change Date	2013-01-29	2013-01-29	2013-01-29	N/A
Cal. Gas Cert. Date	2012-02-02	2012-02-02	N/A	N/A
Calibration Current?	Yes	Yes	Yes	Yes
Calibration Date	2013-01-17	2013-01-17	2013-01-16	1/27/2011
Cal. Equipment Cert. Date	2012-11-16	2012-11-16	2012-03-02	2012-04-24
Obstacle Description	None	None	None	None
Distance to Obstacle	-	-	-	-
Obs. Height Above Inlet	-	-	-	-
Distance to Walls, etc.	-	-	-	-
Distance to Dripline	-	-	-	-
Dominant Influence	Vehicular	Vehicular	Vehicular	Vehicular
Residence Time (sec)	8.8	8.6	8.1	N/A

Monitor Type	PM2.5	Outdoor Temperature	Wind Direction	Horizontal Wind Speed
Manufacturer/Model	R&P 2025	MET ONE 064-2	MET ONE 020-C	MET ONE 010-C
Serial Number	20020959	X4806	X-4360	X4243
POC	1	1	1	1
Data For Record?	Yes	Yes	Yes	Yes
Purpose	SLAMS	SLAMS	SLAMS	SLAMS
Objective	POPULATION EXPOSURE	-	-	-
Scale	NEIGHBORHOOD	-	-	-
Height Above Ground	9.8	9.3	9.3	9.3
Height Above Platform	2.1	1.8	2.7	2.7
Sampler Spacing		N/A	N/A	N/A
Current Manual Available?	Yes	Yes	Yes	Yes
Instrument Log Up-to-date?	Yes	Yes	Yes	Yes
In-line Filter Change Date	N/A	N/A	N/A	N/A
Cal. Gas Cert. Date	N/A	N/A	N/A	N/A
Calibration Current?	Yes	Yes	Yes	Yes
Calibration Date	2013-01-15	2012-08-22	2012-11-28	2012-11-28
Cal. Equipment Cert. Date	2012-01-26	4/23/12	N/A	2012-10-31
Obstacle Description	None	None	None	None
Distance to Obstacle	-	-	-	-
Obs. Height Above Inlet	-	-	-	-
Distance to Walls, etc.	-	-	-	-
Distance to Dripline	-	-	-	-
Dominant Influence	Vehicular	-	-	-
Residence Time (sec)	N/A	N/A	N/A	N/A

Calexico-Ethel Monitoring Station Details

Site Name	Calexico-Ethel							
AQS ID	060250005							
GIS Coordinates	Lat 32° 40' 34" Long 115° 28' 59"							
Location	Located in suburban (residential) area next to a school in City of Calexico							
Address	1020 Belcher St., Calexico, CA 92231							
County	Imperial County							
Dist. to road	20 meters							
Traffic count	7000 vehicles per day							
Ground Cover	Asphalt							
Representative area	MSA (EI Centro)							
Pollutant	NO2	O3	CO	SO_x	PM2.5	PM2.5	PM10	TSP
Sampling Method	API 200e	API 400e	API 300eu	Thermo 43i-TLE	R&P seq. WINS	BAM 1020	Anderson 1200	Anderson 1200
Analysis Method	N/A	N/A	N/A	N/A	Weighed by ARB	N/A	Weighed by ARB	Weighed by ARB
Start Date	3/1/94	3/1/94	3/1/94	3/1/94	3/1/94	3/1/94	3/1/94	3/1/94
Operation Schedule	Continuous	Continuous	Continuous	Continuous	1 in 3day	Continuous	1 in 6 day	1 in 6 day
Sampling Season	All year	All year	All year	All year	All year	All year	All year	All year
Probe height	5.7 m	5.7 m	5.7m	5.7m	2.5m	2.5m	6.0m	6.0m
Dist. from supporting structure	2.2m	2.2 m	2.2m	2,2m	1.5m	1.5m	1.5m	1.5 m
Dist. from obstructions on roof	None	None	None	None	None	None	None	None
Distance from trees	None	None	None	None	3.5 m	3.5 m	5 m	-
Unrestricted airflow	360°	360°	360°	360°	360°	360°	360°	360°
Probe Material	Glass & Teflon	Glass & Teflon	Glass & Teflon	Glass & Teflon	N/A	N/A	N/A	N/A
Residence Time	9.6 sec	6.3 sec	7.1 sec	10.3 sec	N/A	N/A	N/A	N/A
Is it suitable for comparison against the annual PM2.5?	N/A	N/A	N/A	N/A	Yes	yes	No	No
Frequency of flow rate verification for manual PM samplers audit	N/A	N/A	N/A	N/A	Monthly	N/A	Monthly	Monthly
Frequency of flow rate verification for automated PM analyzers audit	N/A	N/A	N/A	N/A	N/A	Monthly	N/A	N/A
Frequency of 1-point QC check (gaseous)	Bi-Weekly	Bi-Weekly	Bi-Weekly	Bi-Weekly	N/A	N/A	N/A	N/A
last annual performance evaluation (gaseous)	01/24/12	01/24/12	01/24/12	01/24/12	N/A	N/A	N/A	N/A
Last two semi-annual flow rate audits for PM monitors	N/A	N/A	N/A	N/A	8/22/12 1/29/13	8/22/12 1/29/13	8/22/12 1/29/13	8/22/12 1/29/13

Calexico-Ethel Monitoring Station Details



AIRS Number	ARB Number	Site Start Date	Reporting Agency and Agency Code
060250005	13698	3/1/94	California Air Resources Board (001)

Site Address	County	Air Basin	Latitude (N)	Longitude (W)	Elevation
1029 Belcher St, Calexico CA 92231	Imperial	Salton Sea	32° 40' 34"	115° 28' 59"	6

Pollutants Monitored (click on parameter link for real-time data)
CO , SO₂ , NO₂ , H₂S , O₃ , PM ₁₀ , BAM_{PM2.5} , PM _{2.5} , TSP, Toxics, Cr ⁶⁺ , Outdoor Temperature , Relative Humidity , Wind Direction, Horizontal Wind Speed , Barometric Pressure , Solar Radiation

Calexico Site Survey Report

Site Survey Report

Siting Information

Site Name: Calexico-Ethel Street	Audit Date: 2013-01-29	ARB Number: 13698	AIRS Number: 060250005
Address: 1029 Belcher St Calexico, CA 92231	Latitude: N 32.67618	Longitude: W -115.48307	Elevation (m): 3
	Auditors: Leena Khangura Alvin Danque	Site Technician: Tony Royer	Site Phone:
Operating Agency: California Air Resources Board		Site Report: Yes	Site Photos: Yes

General Siting Conditions

<p style="text-align: center;">Station Temperature</p> <p>Controlled: Yes</p> <p>Recorded: Yes</p> <p>Inside Temp: 22 Degrees Celsius</p>	<p style="text-align: center;">Traffic</p> <p>Description: Residential</p> <p>Distance: 20 meters</p> <p>Count (Veh/Day): 7000</p>	<p style="text-align: center;">Topography</p> <p>Site: Level</p> <p>Region: Level</p>	<p>Predominant Wind Direction: West</p> <p>Arc Air Flow (Deg): 360 Degrees</p> <p>Probe Clean: Yes</p>
<p style="text-align: center;">Meteorology</p> <p>Located With Instruments: Yes</p> <p>Shadowing: No</p> <p>Boom Orientation (Deg): 348</p> <p>Temp(Motor/Natural): Motor</p>	<p style="text-align: center;">Non-vehicular Local Sources</p> <p>Description: Parking lot</p> <p>Distance: 3 meters</p> <p>Direction: 270</p>	<p style="text-align: center;">QA Manual</p> <p>Approved: Yes</p> <p>Agency: Air Resources Board</p> <p>Urbanization: Rural</p> <p>Ground Cover: Dirt</p>	<p>Manifold Clean: Yes</p> <p>Cleaning Schedule: Annually</p> <p>Autocalibrator Type: Envirionics 9100</p> <p>Site Survey Complete: Yes</p> <p>Logbook Up To Date: Yes</p>

Action Items

Comments

Calexico Site Survey Report (Cont.)

Monitor Type	Nitrogen Dioxide	Ozone	PM10-SSI	TSP
Manufacturer/Model	API 200E	API/Teledyne 400	SA 1200	Tisch TSP
Serial Number	20071346	1302	20004783	20081137
POC	1	1	1	1
Data For Record?	Yes	Yes	Yes	Yes
Purpose	SLAMS	SLAMS	SLAMS	SLAMS
Objective	HIGHEST CONCENTRATION	REGIONAL/TYPICAL CONCENTRATIONS	HIGHEST CONCENTRATION	STATE REQUIREMENT
Scale	URBAN	URBAN	NEIGHBORHOOD	-
Height Above Ground	5.7	5.7	6	5.4
Height Above Platform	1.7	1.7	1.5	1.4
Sampler Spacing	N/A	N/A		2
Current Manual Available?	Yes	Yes	Yes	Yes
Instrument Log Up-to-date?	Yes	Yes	Yes	Yes
In-line Filter Change Date	1/24/2013	1/24/2013	N/A	N/A
Cal. Gas Cert. Date	2/2/2012	N/A	N/A	N/A
Calibration Current?	Yes	Yes	No	No
Calibration Date	7/19/2012	6/27/2012	8/7/2011	1/28/2010
Cal. Equipment Cert. Date	7/19/2012	3/2/2012	Not Available	Not Available
Obstacle Description	None	None	None	None
Distance to Obstacle	-	-	-	-
Obs. Height Above Inlet	-	-	-	-
Distance to Walls, etc.	-	-	-	-
Distance to Dripline	-	-	-	-
Dominant Influence	Vehicular	Vehicular	Vehicular	
Residence Time (sec)	9.9	6.3	N/A	N/A

Monitor Type	BAM-PM2.5	BAM-PM2.5	PM2.5	PM2.5
Manufacturer/Model	Met One BAM 1020	Met One BAM 1020	R & P 2025	R & P 2025i
Serial Number	20020893	20021151	20020964	20103888
POC	3	4	1	2
Data For Record?	Yes	Yes	Yes	Yes
Purpose	SPM	SPM	SLAMS	Collocation
Objective	SUPPORT	SUPPORT	HIGHEST CONCENTRATION	HIGHEST CONCENTRATION
Scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Height Above Ground	5.7	5.7	3	3
Height Above Platform	1.7	1.7	2	2
Sampler Spacing	2	2	1	1
Current Manual Available?	Yes	Yes	Yes	Yes
Instrument Log Up-to-date?	Yes	Yes	Yes	Yes
In-line Filter Change Date	N/A	N/A	N/A	N/A
Cal. Gas Cert. Date	N/A	N/A	N/A	N/A
Calibration Current?	Yes	Yes	Yes	Yes
Calibration Date	11/30/2012	11/30/2012	10/16/2012	1/17/2013
Cal. Equipment Cert. Date	9/20/2012	9/20/2012	9/20/2012	9/20/2012
Obstacle Description	None	None	None	None
Distance to Obstacle	-	-	-	-
Obs. Height Above Inlet	-	-	-	-
Distance to Walls, etc.	-	-	-	-
Distance to Dripline	-	-	-	-
Dominant Influence	Residential	Residential	Vehicular	Vehicular
Residence Time (sec)	N/A	N/A	N/A	N/A

Calexico Site Survey Report (Cont.)

Monitor Type	Xontech	Outdoor Temperature	Wind Direction	Horizontal Wind Speed	Barometric Pressure
Manufacturer/Model	Xontech 924	MET ONE 060A	MET ONE 020	MET ONE 010	MET ONE 090C
Serial Number	20021009	P8795	P3078	E1112	60250005
POC	7	1	1	1	1
Data For Record?	Yes	Yes	Yes	Yes	Yes
Purpose	Unknown	SLAMS	SLAMS	SLAMS	Other
Objective	UNKNOWN	-	-	-	-
Scale		-	-	-	-
Height Above Ground	5.5	8	10	10	6
Height Above Platform	1				
Sampler Spacing		N/A	N/A	N/A	N/A
Current Manual Available?	Yes	Yes	Yes	Yes	Yes
Instrument Log Up-to-date?	Yes	Yes	Yes	Yes	Yes
In-line Filter Change Date	N/A	N/A	N/A	N/A	N/A
Cal. Gas Cert. Date	N/A	N/A	N/A	N/A	N/A
Calibration Current?	Yes	No	No	No	No
Calibration Date	6/7/2012	2/2/2010	2/2/2010	2/2/2010	2/2/2010
Cal. Equipment Cert. Date	3/2/2012	Not Available	N/A	Not Available	Not Available
Obstacle Description	None	None	None	None	None
Distance to Obstacle	-	-	-	-	-
Obs. Height Above Inlet	-	-	-	-	-
Distance to Walls, etc.	-	-	-	-	-
Distance to Dripline	-	-	-	-	-
Dominant Influence	Vehicular	-	-	-	-
Residence Time (sec)	N/A	N/A	N/A	N/A	N/A

APPENDIX A

Regulatory language of 40 CFR 58.10

§ 58.10 Annual monitoring network plan and periodic network assessment.

(a)(1) Beginning July 1, 2007, the State, or where applicable local, agency shall adopt and submit to the Regional Administrator an annual monitoring network plan which shall provide for the establishment and maintenance of an air quality surveillance system that consists of a network of SLAMS monitoring stations including FRM, FEM, and ARM monitors that are part of SLAMS, NCore stations, STN stations, State speciation stations, SPM stations, and/or, in serious, severe and extreme ozone nonattainment areas, PAMS stations, and SPM monitoring stations. The plan shall include a statement of purposes for each monitor and evidence that siting and operation of each monitor meets the requirements of appendices A, C, D, and E of this part, where applicable. The annual monitoring network plan must be made available for public inspection for at least 30 days prior to submission to US EPA.

(2) Any annual monitoring network plan that proposes SLAMS network modifications including new monitoring sites is subject to the approval of the US EPA Regional Administrator, who shall provide opportunity for public comment and shall approve or disapprove the plan and schedule within 120 days. If the State or local agency has already provided a public comment opportunity on its plan and has made no changes subsequent to that comment opportunity, the Regional Administrator is not required to provide a separate opportunity for comment.

(3) The plan for establishing required NCore multi-pollutant stations shall be submitted to the Administrator not later than July 1, 2009. The plan shall provide for all required stations to be operational by January 1, 2011

(b) The annual monitoring network plan must contain the following information for each existing and proposed site:

- (1) The AQS site identification number.
- (2) The location, including street address and geographical coordinates.
- (3) The sampling and analysis method(s) for each measured parameter.
- (4) The operating schedules for each monitor.

(5) Any proposals to remove or move a monitoring station within a period of 18 months following plan submittal.

(6) The monitoring objective and spatial scale of representativeness for each monitor as defined in appendix 0 to this part.

(7) The identification of any sites that are suitable and sites that are not suitable for comparison against the annual PM_{2.5}NAAOS as described in §58.30.

(8) The MSA, CBSA, CSA or other area represented by the monitor.

(c) The annual monitoring network plan must document how States and local agencies provide for the review of changes to a PM_{2.5} monitoring network that impact the location of a violating PM_{2.5} monitor or the creation/change to a community monitoring zone, including a description of the proposed use of spatial averaging for purposes of making comparisons to the annual PM_{2.5} NAAOS as set forth in appendix N to part 50 of this chapter. The affected State or local agency must document the process for obtaining public comment and include any comments received through the public notification process within their submitted plan.

(d) The State, or where applicable local, agency shall perform and submit to the EPA Regional Administrator an assessment of the air quality surveillance system every 5 years to determine, at a minimum, if the network meets the monitoring objectives defined in appendix 0 to this part, whether new sites are needed, whether existing sites are no longer needed and can be terminated, and whether new technologies are appropriate for incorporation into the ambient air monitoring network. The network assessment must consider the ability of existing and proposed sites to support air quality characterization for areas with relatively high populations of susceptible individuals (e.g., children with asthma), and, for any sites that are being proposed for discontinuance, the effect on data users other than the agency itself, such as nearby States and Tribes or health effects studies. For PM_{2.5}, the assessment also must identify needed changes to population-oriented sites. The State, or where applicable local, agency must submit a copy of this 5-year assessment, along with a revised annual network plan, to the Regional Administrator. The first assessment is due July 1, 2010.

(e) All proposed additions and discontinuations of SLAMS monitors in annual monitoring network plans and periodic network assessments are subject to approval according to §58.14.

Glossary of Acronyms

AQI	Air Quality Index
AQS	Air Quality System
ARM	Approved Regional Method
BAM	Beta Attenuation Mass Monitor
CARB	California Air Resources Board
CFR	Code of Federal Regulations
CO	Carbon monoxide
FEM	Federal equivalent method
FRM	Federal reference method
MSA	Metropolitan Statistical Area
NAAQS	National Ambient Air Quality Standard
Ncore	National Core Ambient Monitoring Network
NO ₂	Nitrogen Dioxide
O ₃	Ozone
PAMS	Photochemical Assessment Monitoring Sites
Pb	Lead
PE	Public Exposure
PM ₁₀	Particulate Matter less than 10 microns in diameter
PM _{2.5}	Particulate Matter less than 2.5 microns in diameter
PM _{10-2.5}	Coarse Particulate Matter
ppm	Parts per million
PQAO	Primary Quality Assurance Organization
PWEI	Population Weighted Emission Index
SDAPCD	San Diego Air Pollution Control District
SIP	State implementation plan
SLAMS	State and Local Air Monitoring Station
SO ₂	Sulfur Dioxide

SPM	Special Purpose Monitor
SSI	Size Selective Inlet
TCP	Transmission Control Protocol
US EPA	United States Environmental Protection Agency