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**AV Project No.: 91034F**

**Final Report**

**SOUTHERN CALIFORNIA AIR QUALITY STUDY**

**B-SITE OPERATIONS**

**Contract No.: A5-196-32**

**Prepared for**

**California Air Resources Board  
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The statements and conclusions in this report are those of the contractor and not necessarily those of the California Air Resources Board. The mention of commercial products, their source or their use in connection with material reported herein is not to be construed as either an actual or implied endorsement of such products.

### Data Availability

The data collected as part of this contract is part of the Southern California Air Quality Study (SCAQS). The complete SCAQS data base is scheduled for release to the public by late spring 1989 and can be obtained from the California Air Resources Board. For more information, contact Bart Croes at (916) 323-1534.

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## ABSTRACT

This report documents the operation of the B sites by AeroVironment Inc. during the Southern California Air Quality Study (SCAQS). It describes each of the B sites and provides aerial and ground photographs of them. It also presents measurements taken, sampling schedules, procedures for sample and data collection and for data processing and lists all samples collected.

AeroVironment Inc. operated nine B sites during the SCAQS summer study period and six B sites during the SCAQS fall study period. Continuous air quality, meteorological, and aerosol analyzers were operated during each SCAQS study period, while discrete samples were collected on 17 intensive study days. All discrete samples were sent to laboratories for analyses. Data from continuous monitors were processed and submitted to the SCAQS data manager.

## Acknowledgements

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Key individuals at AV who contributed to this project included Mr. Jerry Thelen, Mr. Kurt Bumiller, Mr. Alex Barnett, Dr. K.C. Moon, Mr. Dennis Fitz, Mr. Keith Pettus, Mr. Nick Contreras, Mr. Don Christopherson, Mr. Steven Kerchner, Mr. Paul Pruss, and Mr. Eric Larson. The following AV staff were also involved in the operation of the B sites: Mr. Jeff Gray, Ms. Joanne Nowak, Mr. Bong Mann Kim, Mr. Joel Herr, Ms. Xiaoming Li, Mr. Tom McDowell, Mr. Steve Hymes, Mr. Keith Shannon, Mr. Gordon Eichorst, Mr. Hoang Ly, Mr. Bill Reid, Ms. Ruth Barili, Mr. Peter Iskandar, Mr. John Connor, Ms. Cheryl Sandifer, Ms. Lisa Scheinost, Ms. Joanne Engelke, Ms. Val Hoffman, Mr. Slavko Cvencek, Ms. Elizabeth Martinez, Mr. Joseph Petrini, Mr. David Shimnei and Ms. Julie Phillips.

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## PROJECT SUMMARY

AeroVironment Inc. (AV) was responsible for the operation of the B sites which routinely measured aerosol and gases on intensive study days during the Southern California Air Quality Study (SCAQS). These B sites comprised Anaheim, Azusa, Burbank, Claremont, Downtown Los Angeles, Hawthorne, Long Beach, Rubidoux and San Nicolas Island during the SCAQS summer study period and Anaheim, Burbank, Downtown Los Angeles, Hawthorne, Long Beach, and Rubidoux during the SCAQS fall study period.

The SCAQS summer study period began on 15 June 1987 and ended on 24 July 1987, then resumed on 20 August 1987 and ended on 3 September 1987. The SCAQS fall study period began on 9 November 1987 and ended on 11 December 1987. The summer study period included eleven intensive study days, the fall period six.

AV arranged for the use of the B sites and procured, set up, maintained and operated the following equipment:

- At Anaheim: PM-10, C<sub>1</sub>-C<sub>10</sub>, carbonyl and SCAQS samplers
- At Azusa: C<sub>1</sub>-C<sub>10</sub>, carbonyl and SCAQS samplers
- At Burbank: C<sub>1</sub>-C<sub>10</sub>, carbonyl and SCAQS samplers
- At Claremont: PM-10, C<sub>1</sub>-C<sub>10</sub>, carbonyl, SCAQS, ARB air toxics and Rasmussen air toxics samplers, nephelometer, electrical aerosol analyzer, active scattering aerosol spectrometer probe and optical particle counter
- At Downtown Los Angeles: C<sub>1</sub>-C<sub>10</sub>, carbonyl, SCAQS, ARB air toxics and Rasmussen air toxics samplers, UV radiometer, electrical aerosol analyzer (fall only), active scattering aerosol spectrometer probe (fall only) and optical particle counter (fall only)
- At Hawthorne: PM-10, C<sub>1</sub>-C<sub>10</sub>, carbonyl and SCAQS samplers
- At Long Beach: PM-10, C<sub>1</sub>-C<sub>10</sub>, carbonyl, SCAQS, ARB air toxics and Rasmussen air toxics samplers, UV radiometer, nephelometer, electrical aerosol analyzer, active scattering aerosol spectrometer probe and optical particle counter
- At Rubidoux: UV radiometer and C<sub>1</sub>-C<sub>10</sub>, carbonyl and SCAQS samplers. In addition, ARB air toxics and Rasmussen air toxics samplers and electrical aerosol analyzer, active scattering aerosol spectrometer probe and optical particle counter in summer
- At San Nicolas Island: nitrogen oxide, ozone and carbon monoxide analyzers, wind speed, wind direction, temperature and dew point sensors, PM-10, high volume (PAH), C<sub>1</sub>-C<sub>10</sub>, carbonyl and SCAQS samplers and nephelometer

AV also assisted C-E Environmental, Inc. (EMSI) in the collection of H<sub>2</sub>O<sub>2</sub> samples at Claremont, Downtown Los Angeles, Long Beach and Rubidoux during the summer intensive days.

Continuous analyzers were operated during the entire study period, while discrete samples were taken only on intensive study days.

AV provided and trained technicians to operate this equipment. A station operation manual was also developed. All sampling media were shipped from laboratories to AV-Monrovia and then distributed to sites. Following sampling, samples were collected from the sites and transported to AV-Monrovia, then shipped to laboratories.

A total of 675 sets of SCAQS samples, 507 C<sub>1</sub>-C<sub>10</sub>, 506 carbonyl, 352 H<sub>2</sub>O<sub>2</sub>, 73 PM-10, 11 PAH, 55 ARB air toxics and 54 Rasmussen air toxics samples were collected and delivered to laboratories for analysis. All continuously monitored data were processed. Hourly averaged values of continuously monitored parameters were presented in two data volumes (one for summer and one for fall) (AeroVironment Inc., 1987a and 1988). In addition, hourly averages of air quality and meteorological data, six-minute averages of aerosol size data during intensive study days, hourly averaged aerosol data during nonintensive study days, as well as raw aerosol data, were submitted on magnetic media to the SCAQS data manager.

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## Section 1

### INTRODUCTION

In 1987, a field air pollution measurement program was carried out in Southern California as part of the multiyear Southern California Air Quality Study (SCAQS). SCAQS is funded by many different government agencies, industry groups and individual corporate sponsors. Its overall goal is to develop a comprehensive and properly archived air quality and meteorology data base for the South Coast Air Basin that can be used to test, evaluate, and improve elements of air quality simulation models for oxidants, particles less than 10  $\mu\text{m}$  (PM-10), fine particles, toxic air contaminants and acidic species. In addition, SCAQS will address specific technical questions regarding the emission, transport, transformation, and deposition of pollutants. The program plan for SCAQS is described in Blumenthal et al. (1987).

The original measurement program plan called for 12 intensive study days in a measurement period between 15 June and 24 July (summer) and 6 intensive study days between 16 November and 11 December (fall). The actual program comprised 6 intensive study days between 15 June and 24 July, 5 intensive study days between 20 August and 3 September (summer period), and 6 intensive study days between 9 November and 11 December (fall period). The extra measurement period in August and September was needed because of the lack of normally polluted days in June and July in 1987.

During each measurement period, the field study included:

- a network of existing routine air quality monitoring stations (C sites)
- monitoring stations (nine during the summer period and six during the fall period) located along typical air trajectories to routinely measure aerosol and gases on intensive study days (B sites)
- one research station each in a source and receptor region in the summer and one station in a source region in the fall (A sites)
- meteorological measurements at the surface and aloft on intensive study days from a network of stations
- routine upper-air pollutant and LIDAR measurements by aircraft on intensive study days
- measurements of selected toxic air contaminants at selected sites
- physical and chemical measurements of fog and clouds on intensive study days

- special studies on selected intensive study days -- including multiple tracer studies
- assembly and archiving of complementary data from existing data sources
- a quality assurance program including independent systems and performance audits

Details of the entire field program are presented in Hering et al. (1989). This report focuses on the operation of the B sites.

### **1.1 OBJECTIVES OF GROUND MEASUREMENTS AT THE B SITES**

The primary objective of ground measurements at the B sites was to augment measurements at the C sites to provide a more comprehensive data base with known precision, accuracy, and validity that could be used to:

- develop, evaluate, and test episodic source and receptor models for O<sub>3</sub>, NO<sub>2</sub>, PM-10, fine particles, and atmospheric optical properties, as well as annual average models for PM-10
- assess the dependence of particle and O<sub>3</sub> formation and removal mechanisms upon selected meteorological and precursor variables
- assess how the spatial and temporal distributions of particles, O<sub>3</sub>, O<sub>3</sub> precursors, and NO depend upon emission height and selected meteorological variables
- quantify the contributions of aerosol in an upwind source region and an eastern basin receptor region to atmospheric acidity, mutagenicity, and visibility degradation
- evaluate the validity of methods of measuring PM-10, fine particles, and precursor species in quantifying atmospheric constituents as they exist in the atmosphere during sampling

### **1.2 SUMMARY OF B-SITE OPERATIONS**

Figure 1-1 shows the locations of the B sites. Table 1-1 lists the measurements made at these sites. Continuous measurements were made on all days of the three study periods; all other measurements were made only on intensive study days. Detailed discussions of B-site operations are provided in the remainder of this report.

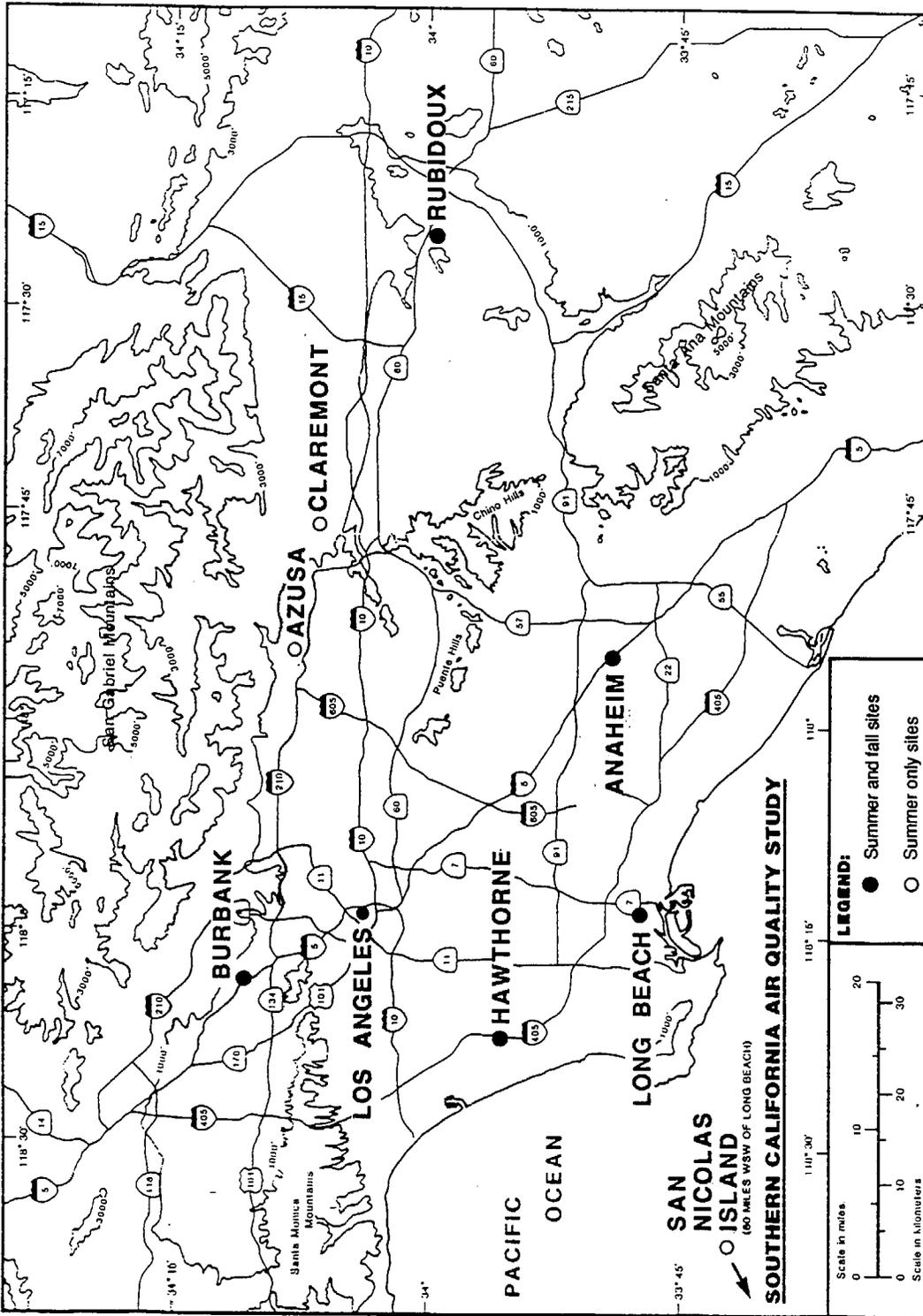


FIGURE 1-1. Location of B-Sites.

TABLE 1-1. Network measurements at B sites.

Observable	Dur- ation	No. per site-day	Meas. method	Ambient concentrations		Lower limit	Precision**
				typical	range		
1/16/89							
METEOROLOGY							
Wind speed	Cont.	24	Cup anemometer	3	0 to 20	0.25	0.25
Wind direction	Cont.	24	Vane	IA	0 to 360	IA	3
Temperature	Cont.	24	Thermistor	IA	0 to 45	IA	0.5
Dew point	Cont.	24	Dew cell	IA	-10 to 25	IA	0.5
UV radiation†	Cont.	24	UV radiometer	30	0 to 60	0.5	0.25
GASES (continuous)							
O <sub>3</sub>	Cont.	24	UV absorption	30	1 to 400	2	15%
NO	Cont.	24	Chemiluminescence	30	0 to 300	2	15%
NO <sub>x</sub>	Cont.	24	Chemiluminescence	50	0 to 350	2	15%
SO <sub>2</sub>	Cont.	24	Pulsed fluorescence	6	0 to 320	2	15%
CO	Cont.	24	NDIR	2	0.5 to 30	0.5	15%
GASES (integrated sample)							
SO <sub>2</sub>	In the	5	Impreg. filter	6	0 to 320	0.2	7%
NH <sub>3</sub>	SCAOS	5	Denuder tube	5	0 to 150	0.3	10%
HNO <sub>3</sub>	Sampler	5	Denuder diff & Nylon	7	0 to 25	0.4	10%
Carbonyls	1 hr.	3	DNPH absorber	3-7	1 to 30 (HCHO)	0.5	10%
C1-C10 HC	1 hr.	3	Canisters and GC/FID	0.1 to 50	2	0.1	10%
PAN	1 hr.	24	In-situ GC/EC	5-10	0-50	0.5	15%
H <sub>2</sub> O <sub>2</sub> †	1 to 7 hr.	8	POHPAA fluorescence	5 (est.)	0 to 25	0.5	3%
AEROSOL PHYSICAL PROPERTIES							
Size dist††	Cont.	24	OPC(Climate 208, PMS ASAP-X)	IA	IA	IA	IA
Size dist†††	Cont.	24	EAA	IA	IA	IA	IA
Light scattering	Cont.	24	Integrating nephelometer	350	15-1500	10	10%
Data acquisition	Cont.	-	Micro-computer	IA	IA	IA	5mV for 10V I.s.
AEROSOL CHEMISTRY (in the SCAOS Sampler)							
PM-10/PM-2.5:	4 to 7 hr.	5	SA-254/Sensidyne 240				
Mass	4 to 7 hr.	5	Gravimetric	40	5 to 220	5.8	7%
SO <sub>4</sub> <sup>=</sup>	4 to 7 hr.	5	IC	5	0.5 to 25	0.06	7%
NO <sub>3</sub> <sup>-</sup>	4 to 7 hr.	5	IC	8	0.5 to 30	0.09	7%
Cl <sup>-</sup>	4 to 7 hr.	5	IC	3	0.1 to 10	0.1	7%
NH <sub>4</sub> <sup>+</sup>	4 to 7 hr.	5	AC	5	0 to 20	0.05	7%
Elements	4 to 7 hr.	5	WDXRF				5 to 20%
Elemental C	4 to 7 hr.	5	Thermal combustion	2.5	.1 to 10	0.08	10 to 25%
Organic C	4 to 7 hr.	5	Thermal combustion	20	1 to 50	1.5	10 to 25%
Fine Babs	4 to 7 hr.	5	Integrated plate on Nuclepore				10 to 25%
PM-10	24 hr.	1	SA-321A, quartz fill				
Mass	24 hr.	1	Gravimetric	50	5-250	5.8	7%
SO <sub>4</sub> <sup>=</sup>	24 hr.	1	IC	5	0.5-25	0.06	7%
NO <sub>3</sub> <sup>-</sup>	24 hr.	1	IC	8	0.5-30	0.09	7%
AEROSOL SIZE RESOLVED CHEMISTRY††							
SO <sub>4</sub> <sup>=</sup>	4 to 12 hr.	4	Berner LPI & IC	2	0.25 to 10	0.4***	7%
NO <sub>3</sub> <sup>-</sup>	4 to 12 hr.	4	Berner LPI & IC	2	0.25 to 10	0.8***	7%
Cl <sup>-</sup>	4 to 12 hr.	4	Berner LPI & IC	2	0.25 to 10	0.8***	7%
H <sup>+</sup>	4 to 12 hr.	4	Berner LPI & electrode	NA	NA	NA	NA
NH <sub>4</sub> <sup>+</sup>	4 to 12 hr.	4	Berner LPI & IC	2	0.25 to 10	0.8***	7%
Na <sup>+</sup> , K <sup>+</sup>	4 to 12 hr.	4	Berner LPI & IC	2	0.25 to 10	0.08***	7%
Elemental carbon	4 to 12 hr.	4	MOUDI & therm. comb.	0.5	0.2 to 4	0.8***	10 to 25%
Organic Carbon	4 to 12 hr.	4	MOUDI & therm. comb.	1.5	1 to 8	0.2***	10 to 25%
Elements	4 to 7 hr.	5	DRUM & PIXE				5 to 20%

\* Units apply to both ambient concentrations and the lower quantifiable limit.  
 \*\* Precision for values well above the lower quantifiable limit.  
 \*\*\* µg/m<sup>3</sup> per stage.  
 † Measurements made only at Claremont, Downtown L.A., Long Beach, and Rubidoux.  
 †† Measurements made only at Claremont, Long Beach, and Rubidoux.

## Section 2

### SITE DESCRIPTIONS AND MEASUREMENTS

#### 2.1 B-SITES

This section describes the location, topography, nearby pollution sources and instrumentation for each site. Included are photographs of the sites, monitors and instruments inside the shelters, as well as aerial photographs showing the surrounding areas. Summary listings of instrumentation and organizations responsible for these instruments are presented in Tables 2-1 through 2-4 and a record of instruments procured and maintained by AV is presented in Tables 2-5 and 2-6 at the end of this section.

##### o Anaheim

Station: Anaheim	Code: ANA
Address: 1010 South Harbor Boulevard, Anaheim, CA 92805	
Latitude: 33° 49' 16" N	Longitude: 117° 55' 07" W
UTM Northing: 3742.5 km	UTM Easting: 415.0 km
Elevation (above MSL): 41 m	

The Anaheim SCAQS site, at an existing South Coast Air Quality Management District (SCAQMD) monitoring station, is located behind the Orange County Agriculture Facility buildings, on Harbor Boulevard between Vermont Avenue and Ball Road. It is about 1/4 mile east of the I-5 (Santa Ana) Freeway and 3/4 mile northeast of Disneyland. Residences surround the site to the north and east on Vermont Avenue and Cambridge Street, but are separated from it by a small field. Citron Park is located to the west and southwest, across Harbor Boulevard and there is a residential trailer park to the southeast, on the other side of a vacant lot. The site consists of a trailer, with a small fenced area around it. Figure 2-1 is an aerial view within about a 1/2-mile radius of the Anaheim site.

The existing SCAQMD station monitors SO<sub>2</sub>, NO<sub>2</sub>, CO, O<sub>3</sub>, TSP, temperature, dew point, and wind speed and direction. Additional SCAQS instrumentation included a SCAQS sampler, a nephelometer, a PM-10 sampler, a carbonyl sampler, a C<sub>1</sub>-C<sub>10</sub> hydrocarbon sampler, and a PAN gas chromatograph (GC). The SCAQS and PM-10 samplers were obtained from the California Air Resources Board (ARB), the nephelometer was obtained from the Naval Weapons Center (NWC), the carbonyl sampler from ENSR, the C<sub>1</sub>-C<sub>10</sub> hydrocarbon sampler from Biospherics, and the PAN GC from DGA. All additional SCAQS instruments were operated and maintained by AV except the nephelometer, which was operated by SCAQMD, and the PAN GC, which was operated by Daniel Grosjean and Associates (DGA).

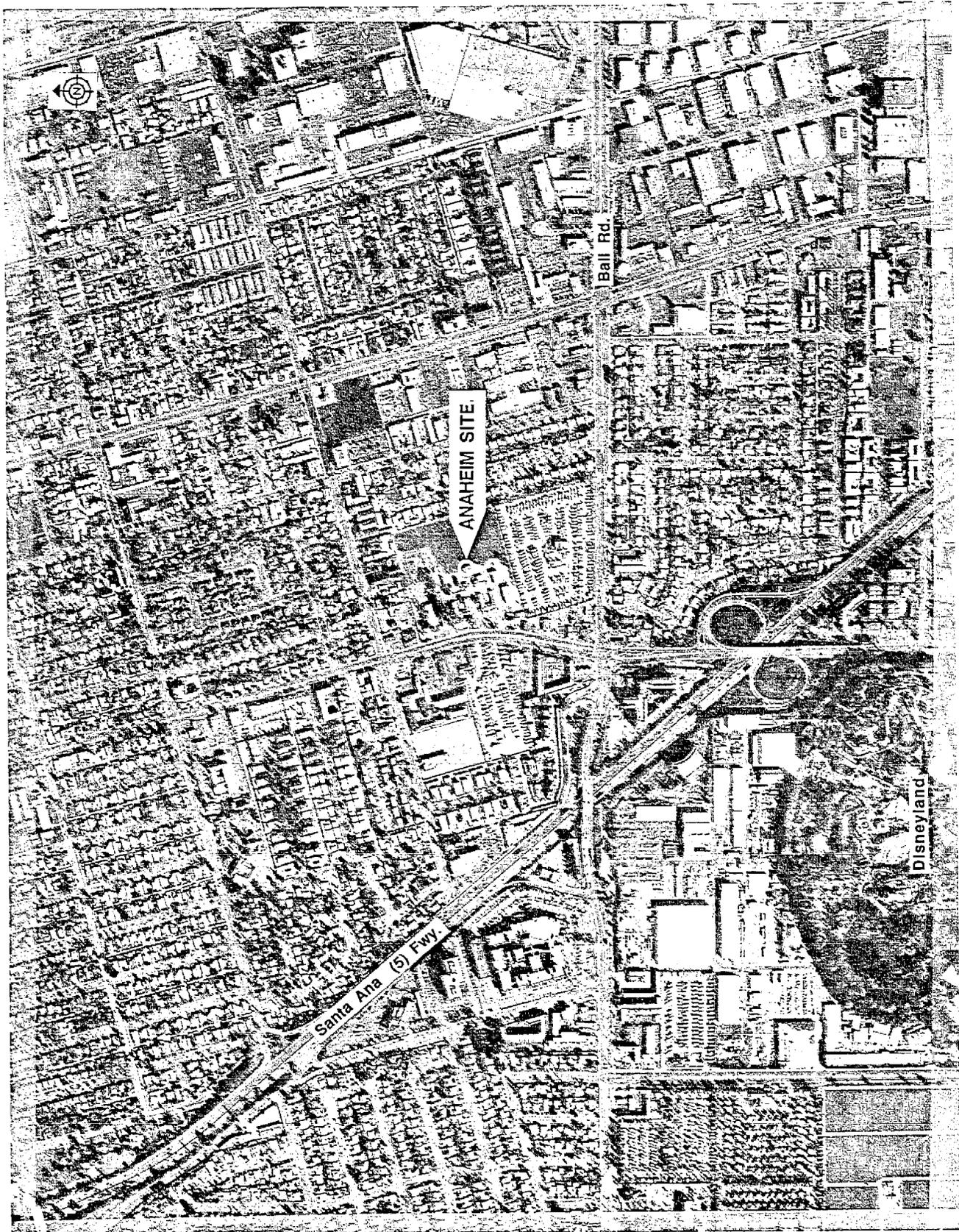


FIGURE 2-1. Anaheim site. Air Photo Services©, Santa Ana, CA

The sampling probe for the SCAQMD gaseous analyzers was located atop the trailer at about 17 feet above ground. AV's additional sampling probes for the SCAQS instrumentation were located next to the SCAQMD inlet, about 2 to 3 feet above the roof of the trailer. The PM-10 sampler was placed outside the trailer and the SCAQS sampler was placed 25 to 30 feet in front of the trailer in an open area of the parking lot. The terrain is smooth with no significant topographical features or bodies of water within a few miles of the site. Air flow to the site is nearly unrestricted; a few trees in the vicinity are the only obstacles.

The dominant pollutant influencing the site is CO, mainly from mobile sources. The site building is in a paved parking lot and the nearest traffic lane is about 300 feet from the probe location. The land use within two miles of the site is mixed residential and commercial in all directions, with the I-5 freeway a strong emissions source.

Figures 2-2, 2-3 and 2-4 are pictures of the overall site with the SCAQS sampler in front, the SCAQMD high volume sampler (hi-vol) and the SCAQS C<sub>1</sub>-C<sub>10</sub> canister outside the trailer, and the instrumentation inside the trailer, respectively.

o Azusa

Station: Azusa	Code: AZU
Address: 803 North Loren Avenue, Azusa, CA 91702	
Latitude: 34° 08' 09" N	Longitude: 117° 55' 23" W
UTM Northing: 3777.4 km	UTM Easting: 414.9 km
Elevation (above MSL): <del>90 m</del>	

*189 m per Rob Morley 3/9/90 letter*

The Azusa site is an existing SCAQMD air monitoring station, located about 1/4 mile north of Foothill Boulevard on Loren Avenue. It is one of several small buildings in an industrial park. The nearest buildings are 20 feet to the south and 33 feet to the north. There is a trailer park to the east, across Loren Avenue, and a vacant area behind that, followed by some commercial buildings. There are more residences to the west, with undeveloped areas west of Todd Avenue, the next street over. About 1/2 mile to the west and in the foothills to the north are operating rock quarries that may contribute significantly to particulate matter in the air near the site. To the north, beyond a few houses and the trailer park, there are railroad tracks on vacant land less than 1/4 mile away, before 10<sup>th</sup> Street, which marks the beginning of a commercial and residential area to the north. Just under 1/2 mile to the south is the 210 (Foothill) Freeway, beyond the residences on Loren Avenue, Foothill Boulevard and a large commercial building. There are also railroad tracks about 1/2 mile to the south. Figure 2-5 is an aerial view within about a 1/2-mile radius of the Azusa site.

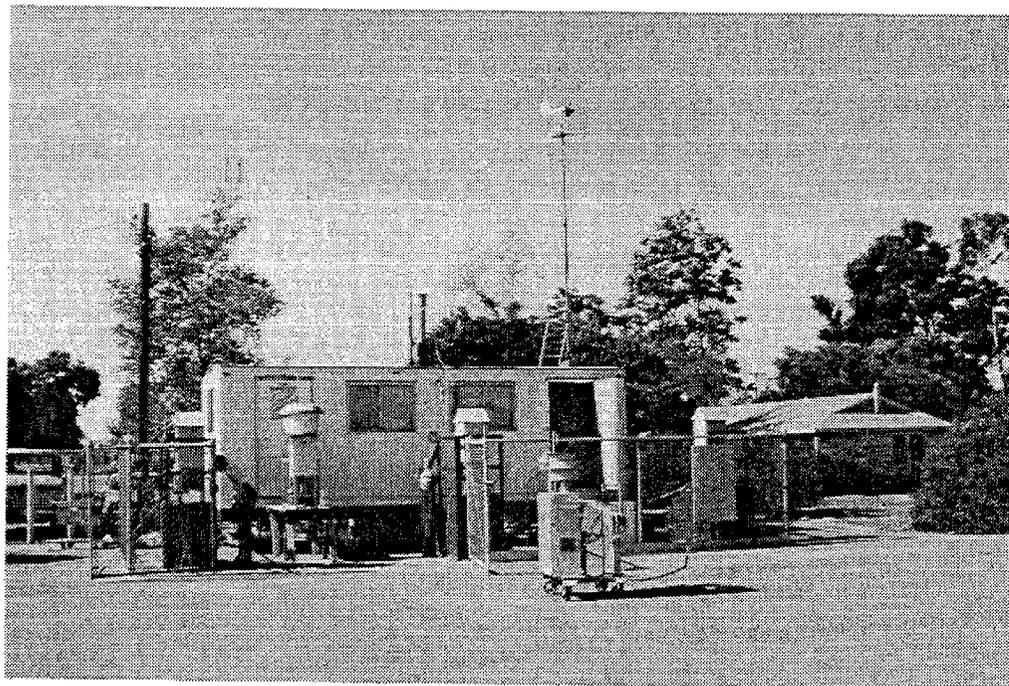


Figure 2-2. The Anaheim site trailer with the SCAQS and particulate samplers in front.

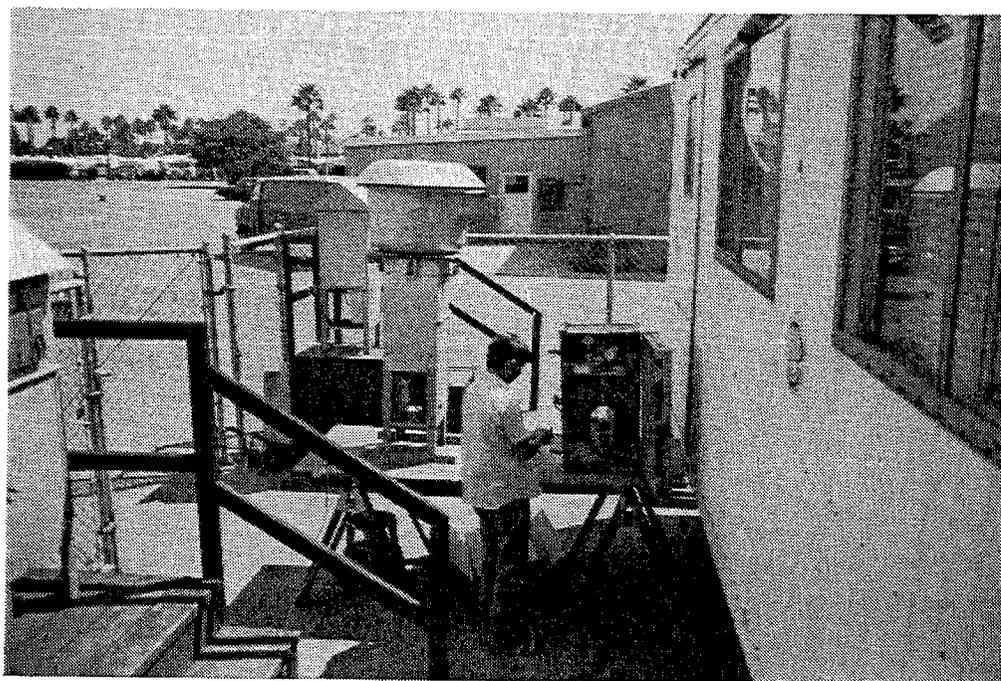


Figure 2-3. The Hi-Vol sampler and the C<sub>1</sub>-C<sub>10</sub> canister at the Anaheim site.

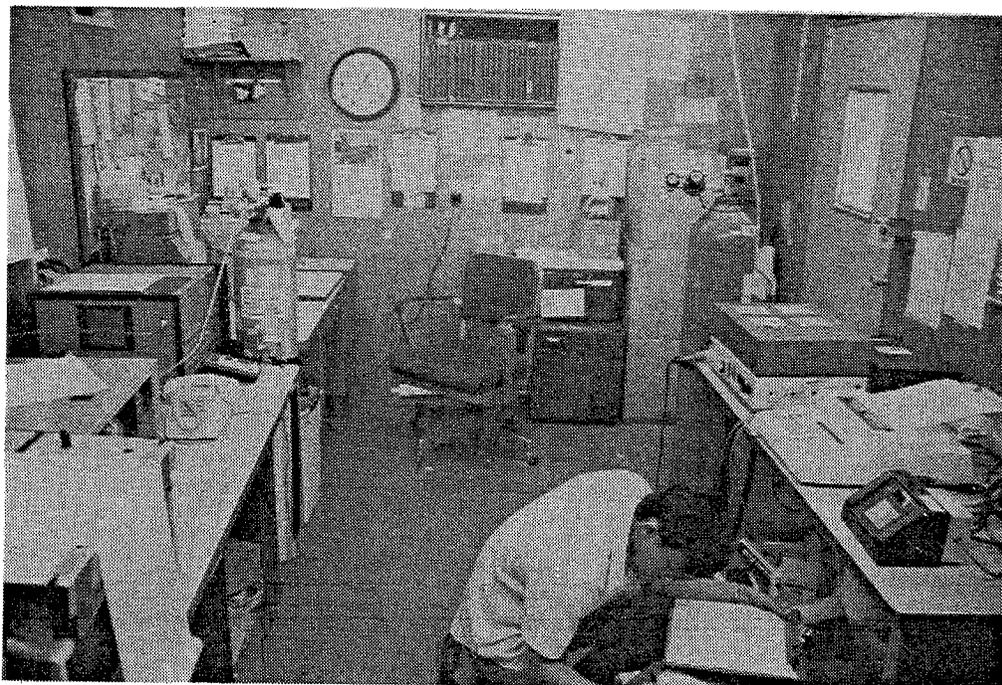


Figure 2-4. The SCAQS instrumentation inside the Anaheim site trailer.

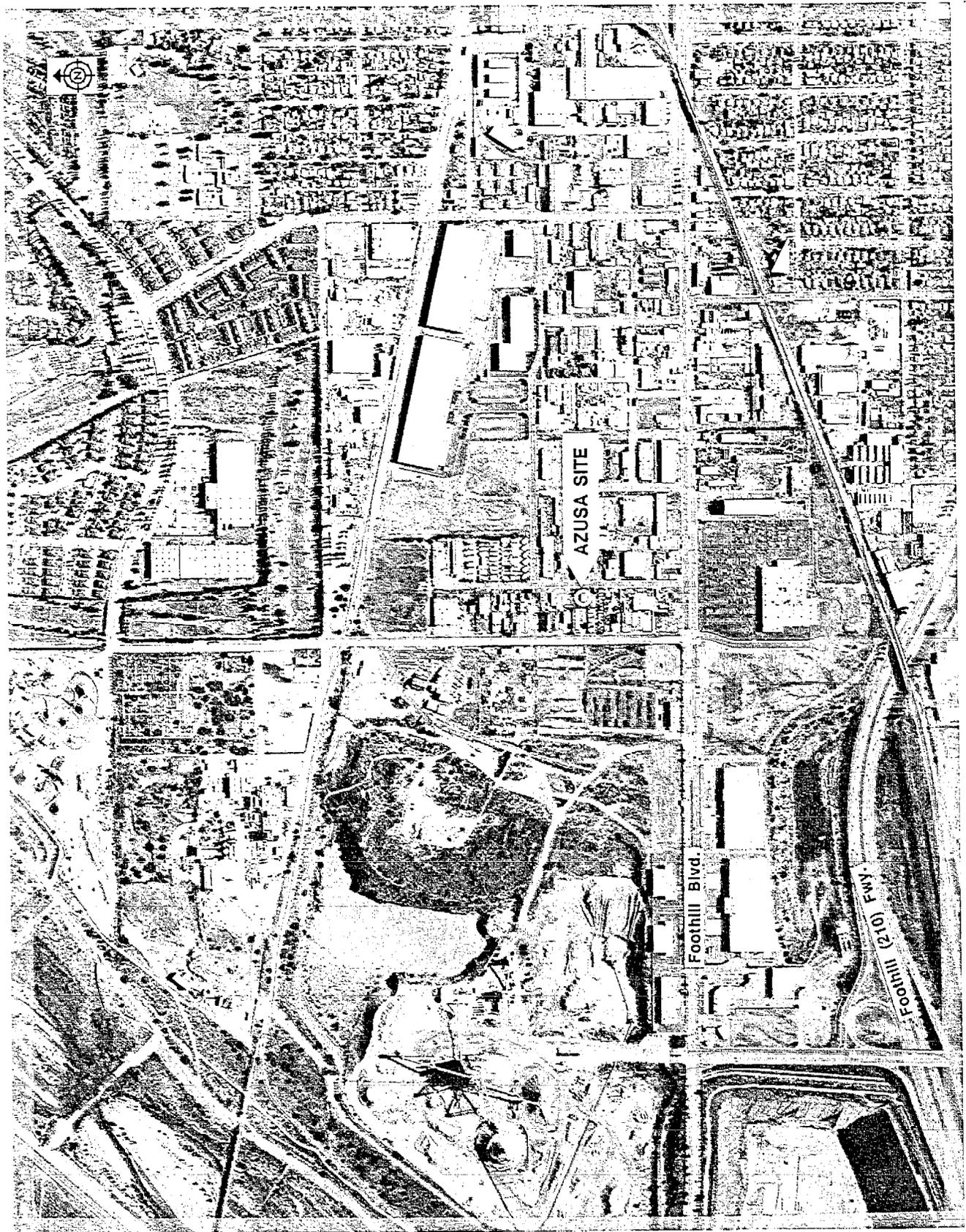


FIGURE 2-5. Azusa site. Air Photo Services©, Santa Ana, CA

The existing SCAQMD station monitors SO<sub>2</sub>, NO<sub>2</sub>, CO, O<sub>3</sub>, TSP, PM-10, temperature, dew point and wind speed and direction. Additional SCAQS instrumentation included a SCAQS sampler, a nephelometer, a carbonyl sampler, a C<sub>1</sub>-C<sub>10</sub> hydrocarbon sampler, and a PAN GC. The SCAQS sampler was obtained from the ARB, the nephelometer from AV, the carbonyl sampler from ENSR, the C<sub>1</sub>-C<sub>10</sub> hydrocarbon sampler from Biospherics, and the PAN GC from DGA. All additional SCAQS instruments were operated and maintained by AV except the nephelometer, which was operated by SCAQMD, and the PAN GC, which was operated by DGA.

The sampling probe from the SCAQMD gaseous analyzers was located on the side of the building at 8.5 feet above ground. The nearest roadway, Loren Avenue, is about 40 feet from the sampling probe and has light traffic. Although the terrain characteristics within a two-mile radius of the site are classified as smooth, these probes do not receive unrestricted air flow due to obstacles of trees and small buildings in close proximity. TSP and PM-10 are monitored from the top of the building, at about 16 feet above ground, where air flow is unrestricted. This site has three SCAQMD hi-vols on the ground and more samplers on the roof, where the SCAQS sampler was located. The sampling probe for other SCAQS instrumentation was located 2 to 3 feet above the roof.

Figures 2-6, 2-7 and 2-8 are pictures of the site building, the rooftop samplers and the work area inside the building, respectively.

o **Burbank**

Station: Burbank	Code: BUR
Address: 228 West Palm Avenue, Burbank, CA 91502	
Latitude: 34° 10' 58" N	Longitude: 118° 18' 27" W
UTM Northing: 3783.0 km	UTM Easting: 379.5 km
Elevation (above MSL): 168.2 m	

The Burbank site, an existing SCAQMD air monitoring station, is located on West Palm Avenue just northeast of Victory Boulevard in the city of Burbank. The major cross streets surrounding the site are Magnolia Boulevard to the northwest, Olive Avenue to the southeast, Victory Boulevard to the southwest and the I-5 (Golden State) Freeway about 3/8 mile to the northeast. The site is located in the San Fernando Valley on relatively flat terrain with hills on the north and south. Figure 2-9 is an aerial view of the area within a radius of about 1/2 mile around the site.

The land use within two miles of the site is predominantly a mixture of industrial and commercial buildings with some residential neighborhoods immediately to the south. A major source of pollution is the Burbank power plant one block (about 700 feet) to the northeast, fired by natural gas with fuel oil standby. Automobile exhaust emissions also significantly impact the station from a parking lot about 600 feet to the north, freeway traffic on I-5, and light traffic on the nearby streets, which is mainly arterial with commercial vehicles dominating.

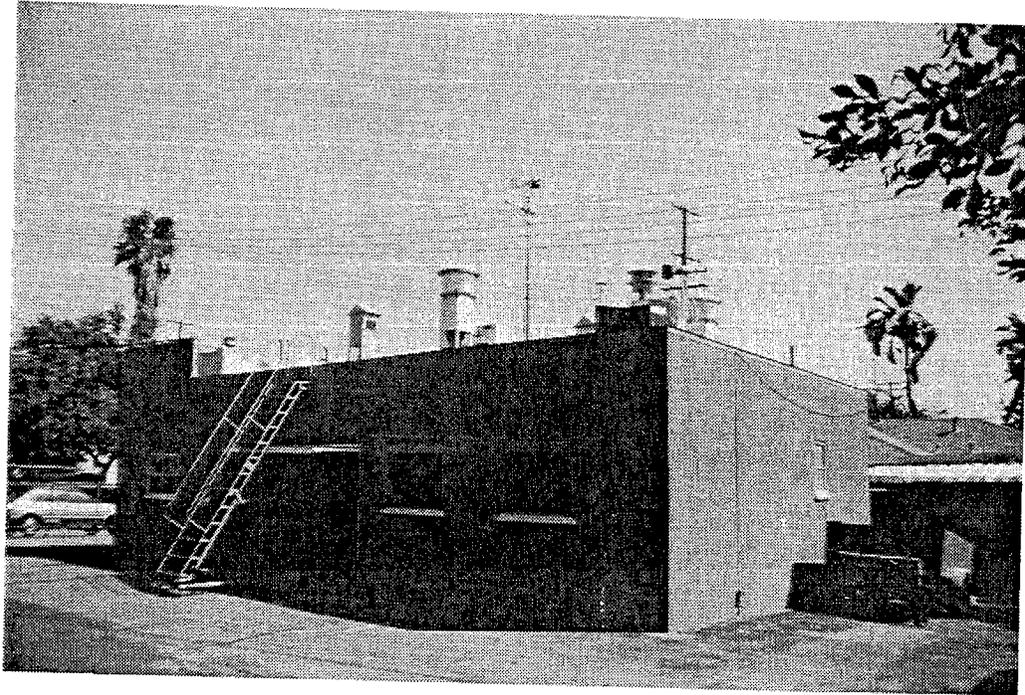


Figure 2-6. The Azusa site building.

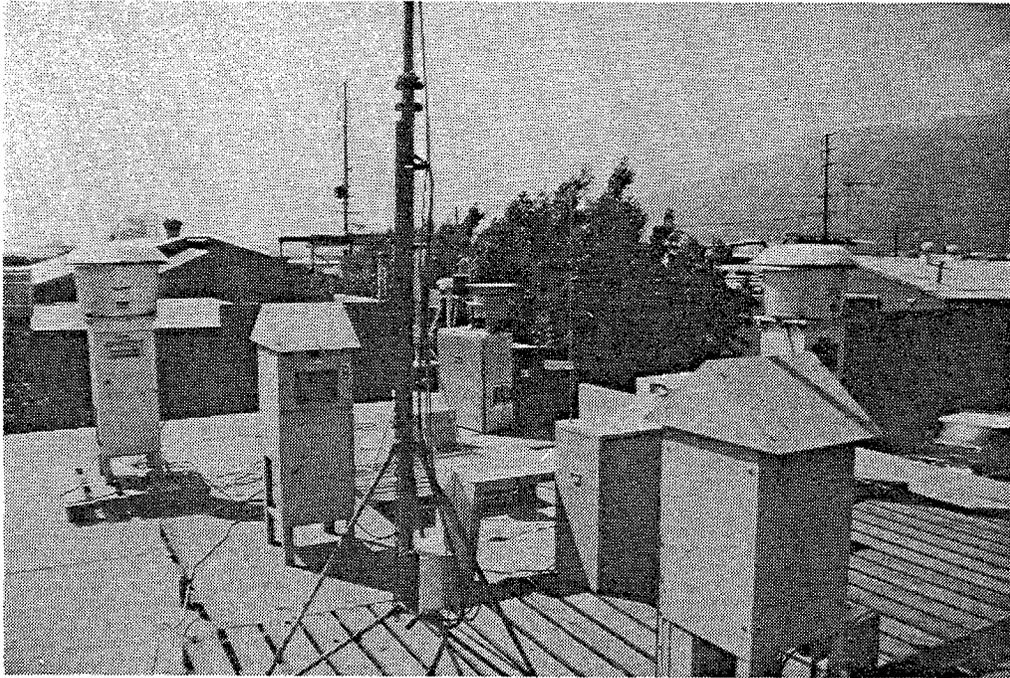


Figure 2-7. The SCAQS and particulate samplers on the Azusa site roof.

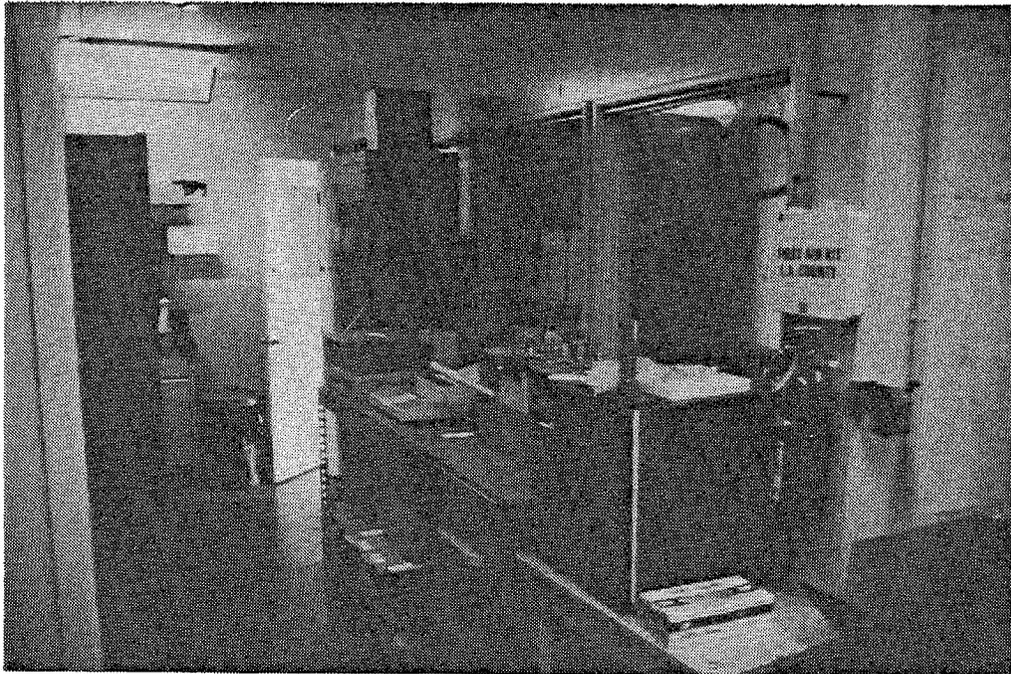


Figure 2-8. The work area inside the Azusa site building.



FIGURE 2-9. Burbank site. Air Photo Services©, Santa Ana, CA

The existing SCAQMD station monitors SO<sub>2</sub>, NO<sub>2</sub>, CO, O<sub>3</sub>, TSP, PM-10, temperature, dew point, and wind speed and direction. Additional SCAQS instrumentation included a SCAQS sampler, a nephelometer, a carbonyl sampler, a C<sub>1</sub>-C<sub>10</sub> hydrocarbon sampler, and a PAN GC. The SCAQS sampler was obtained from the ARB, the nephelometer from NWC, the carbonyl sampler from ENSR, the C<sub>1</sub>-C<sub>10</sub> hydrocarbon sampler from Biospherics, and the PAN GC from DGA. All additional SCAQS instruments were operated and maintained by AV except the nephelometer, which was operated by SCAQMD, and the PAN GC, which was operated by DGA.

The site is a small one-story building with hi-vol, PM-10, and toxics samplers on the rooftop. It has fair exposure to the air flow. Clusters of small buildings within 50 feet in most directions and a tree (over 15 feet tall) on the street to the north are the main obstacles. The sampling inlets for the SCAQMD and for the SCAQS program were located on the roof of the building at about 17 feet above ground, next to the hi-vol samplers. The SCAQS sampler was also on the roof, next to the PM-10 samplers.

Figures 2-10, 2-11 and 2-12 are pictures of the overall site, the rooftop samplers, and the instrumentation inside the building.

**o Hawthorne**

Station: Hawthorne	Code: HAW
Address: 5234 West 120th Street, Lennox, CA 90250	
Latitude: 33° 55' 23" N	Longitude: 118° 22' 09" W
UTM Northing: 3754.3 km	UTM Easting: 373.4 km
Elevation (above MSL): 21.3 m	

The Hawthorne SCAQS site, next door to an existing SCAQMD air monitoring station, is located on the grounds of the Anza Elementary School just south of 120<sup>th</sup> Street, about 32 feet west of La Cienega Boulevard. While the site is technically in the city of Lennox, it is very near Hawthorne, Westchester and El Segundo. It is about 330 feet west of the 405 (San Diego) Freeway and 1/2 mile south of the new 105 (Century) Freeway, which is currently under construction parallel to the Imperial Highway. The Los Angeles International Airport (LAX) property begins less than one mile to the northwest with the nearest runway about 1 1/4 mile away. The ocean is less than 4 miles away. The site itself is a 10 foot by 24 foot trailer owned by Southern California Edison (SCE), situated on a cement slab and surrounded by fencing. During the study, construction of a freeway interchange resulted in a large amount of earth moving between La Cienega and the 405 Freeway. Figure 2-13 is an aerial photograph of the area within a radius of about 1/2 mile around the site.

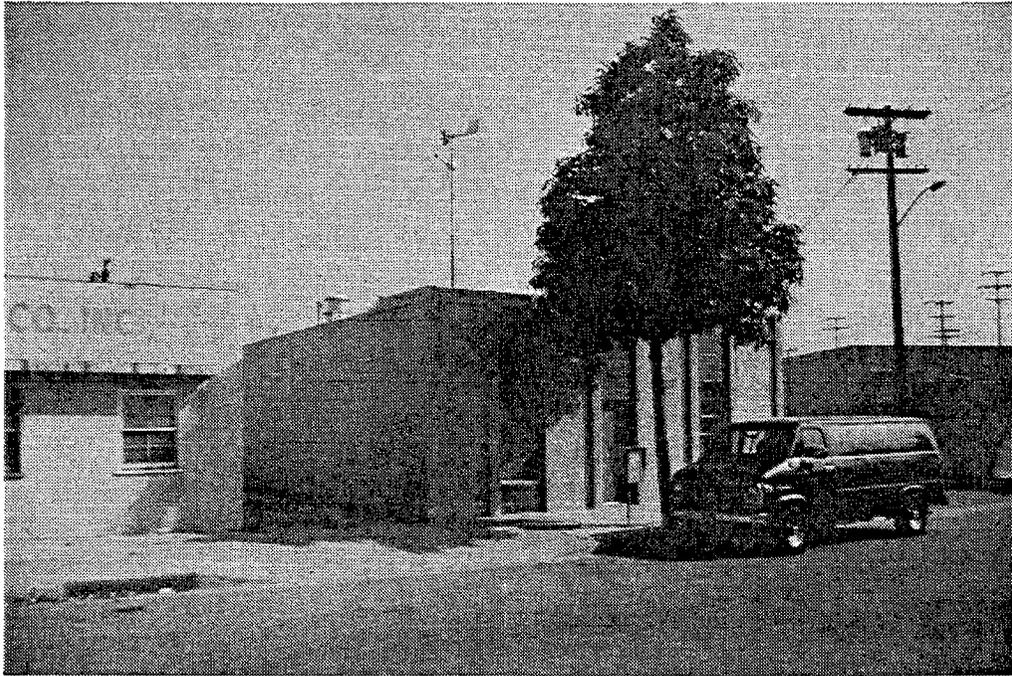


Figure 2-10. The Burbank site building.

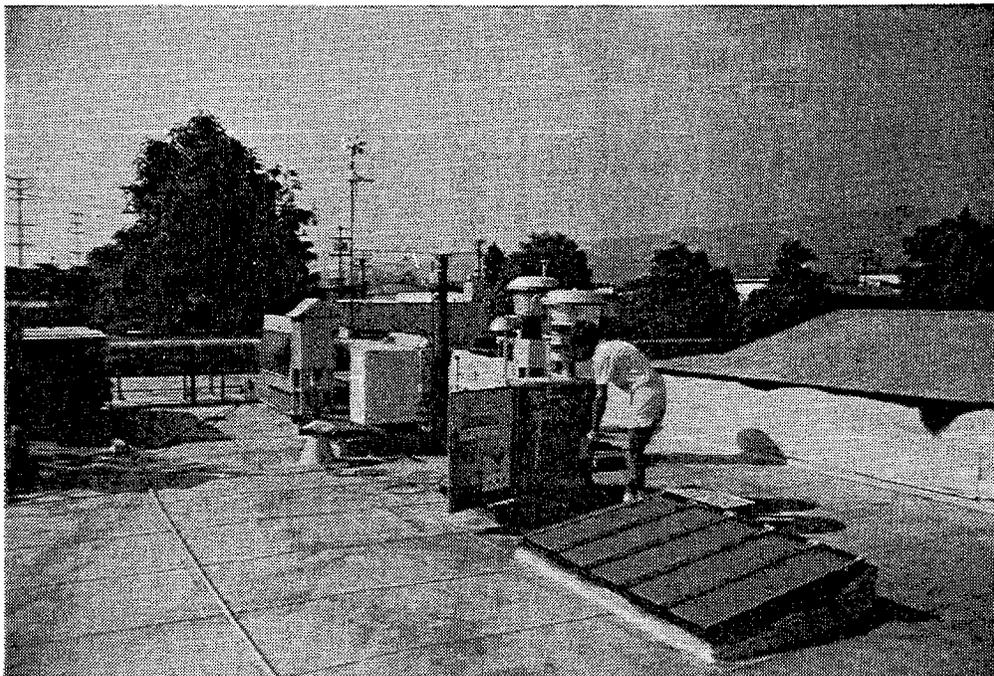


Figure 2-11. The SCAQS and particulate samplers on the Burbank site roof.