



# **2007 Air Monitoring Network Plan**

May 2007

*Prepared by:*  
State of Hawaii  
Department of Health  
Clean Air Branch

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## **Introduction**

This annual review evaluates the state's existing ambient air monitoring network to determine adequacy in meeting monitoring objectives, to optimize the network by closing, moving or adding stations, and to ensure that air quality issues important to the state are being addressed. This plan is being submitted to the United States Environmental Protection Agency (EPA) according to 40 CFR Part 58, Subpart B.

# Section 1 Network Design

## Overview of Network

In 2006, the ambient air monitoring network consisted of 16 SLAMS and SPM stations. In January 2007 with EPA approval, four single-pollutant monitoring stations were closed. Detailed explanations of the station closures are provided in the “Network Review and Modifications” section of this report.

**Table 1** provides the street address, where available, as well as the latitude and longitude of each station that operated in 2006. **Table 2** shows the type, pollutants monitored, monitoring objective and spatial scale of each station and **Table 3** gives the sampling method and operating schedule of each pollutant monitored. **Figure 1** illustrates the locations of the current and closed stations as well as a table of site names and corresponding AQS codes.

**Tables 4 to 6** show compliance with the minimum monitoring requirements for PM<sub>10</sub>, PM<sub>2.5</sub>, and O<sub>3</sub>, respectively.

**Table 1. Site Location**

Stations grayed out were closed in January 2007

ID	AQS Code	Street Address	Latitude	Longitude
DH	150031001	1250 Punchbowl St., Honolulu, Oahu	21°18'27.27"N	157°51'19.52"W
KA	150030010	2052 Lauwiliwili St., Kapolei, Oahu	21°19'25.48"N	158°05'19"W
LL	150030009	1486 Aala St., Honolulu, Oahu	21°20'27.27"N	157°51'19.52"W
MG	150031006	92-670 Farrington Hwy., Kapolei, Oahu	21°20'39.36"N	158°06'46.68"W
PC	150032004	860 4 <sup>th</sup> St., Pearl City, Oahu	21°23'34.20"N	157°58'08.85"W
SI	150031004	Anuenuue Fisheries, Honolulu, Oahu	21°18.13.82"N	157°52'16.22"W
UH	150030014	2617 S. King St., Honolulu, Oahu	21°17.29.66"N	157°49'17.37"W
WA	150034002	41-1060 Kalaniana'ole Hwy., Waimanalo, Oahu	21°20'16.22"N	157°42'16.64"W
WB	150030011	Ko'Olina Golf Course, Kapolei, Oahu	21°19'57.87"N	158°06'50.87"W
LI	150070001	3034 Umi St., Lihue, Kauai	21°58'28.85"N	159°21'58.10"W
KH	150090006	Hale Piilani Park, Kihei, Maui	20°46'51.59"N	156°26'46.94"W
HL	None	1099 Waianuenuue Ave., Hilo, Hawaii	19°43'03.32"N	155°06'37.91"W
KN	None	81-1043 Konawaena School Rd., Kona, Hawaii	19°30'35.2"N	155°54'48.3"W
LV	None	TMK 1-4-1-44, Puna, Hawaii	19°29'11.06"N	154°54'11.23"W
PE	None	TMK 1-3-28-37, Puna, Hawaii	19°27'50.36"N	154°53'55.34"W
PH	None	TMK 1-3-46-75, Puna, Hawaii	19°28'18.6"N	154°53'20.5"W

**Table 2. Station Type, Pollutants Monitored, Objective and Spatial Scale**

Stations grayed out were closed in January 2007

ID	Type	Criteria Pollutants Monitored	Monitoring Objective	Spatial Scale
DH	SLAMS	CO, SO <sub>2</sub> , PM <sub>10</sub> , PM <sub>2.5</sub>	Population exposure	Neighborhood
KA	SLAMS	CO, SO <sub>2</sub> , NO <sub>2</sub> , PM <sub>10</sub> , PM <sub>2.5</sub>	Source impact	Neighborhood
LL	SLAMS	PM <sub>10</sub>	Maximum concentration	Middle
MG	SLAMS	SO <sub>2</sub>	Source impact	Neighborhood
PC	SLAMS SPM	PM <sub>10</sub> , PM <sub>2.5</sub> PM <sub>2.5</sub> speciation, Air Toxics	Population exposure Population exposure	Neighborhood Neighborhood
SI	SLAMS SLAMS	O <sub>3</sub> PM <sub>2.5</sub>	Maximum concentration Transport	Urban Urban
UH	SLAMS	CO	Maximum concentration	Micro
WA	SLAMS	PM <sub>10</sub>	Background	Neighborhood
WB	SLAMS	SO <sub>2</sub> , NO <sub>2</sub> , PM <sub>10</sub>	Source impact	Neighborhood
LI	SLAMS	PM <sub>10</sub>	Source impact	Neighborhood
KH	SLAMS SPM	PM <sub>2.5</sub> PM <sub>10</sub>	Source impact Source impact (Ag burning)	Neighborhood Neighborhood
HL	SPM	SO <sub>2</sub>	Population exposure (Volcano)	Neighborhood
KN	SPM	SO <sub>2</sub>	Source impact (Volcano)	Neighborhood
PE	SPM	SO <sub>2</sub>	Source impact (Volcano)	Neighborhood
ID	Type	Non-Criteria Pollutants Monitored	Monitoring Objective	Spatial Scale
LV	SPM	*H <sub>2</sub> S	Source impact (geothermal)	Neighborhood
PE	SPM	*H <sub>2</sub> S	Source impact (geothermal)	Neighborhood
PH	SPM	*H <sub>2</sub> S	Source impact (geothermal)	Neighborhood

\* H<sub>2</sub>S is not a criteria pollutant, however the state of Hawaii has a 1-hour ambient air standard of 25 ppb

**Table 3. Pollutant Sampling Method and Operating Schedule**

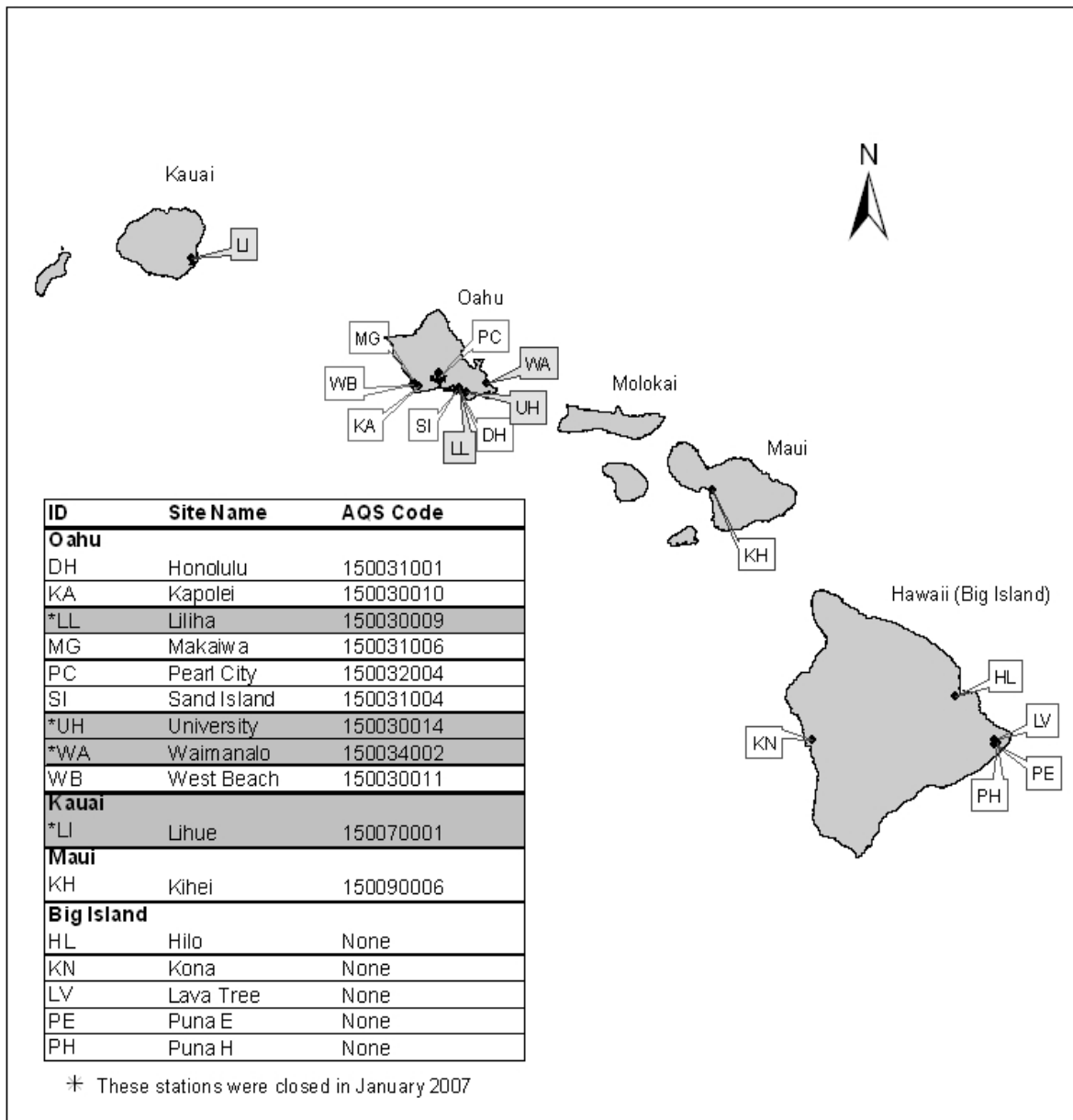
Stations grayed out were closed in January 2007

ID	PM <sub>10</sub> Continuous Sampler	PM <sub>10</sub> Manual Sampler	PM <sub>2.5</sub> Manual Sampler	CO Continuous Gas Filter Correlation	NO <sub>2</sub> Continuous Chemiluminescence	SO <sub>2</sub> Continuous Pulsed Fluorescence	O <sub>3</sub> Continuous UV Photometric	* H <sub>2</sub> S Continuous Pulsed Fluorescence
<b>OAHU</b>								
DH	TEOM		1 in 3	•		•		
KA	TEOM		1 in 3	•	•	•		
LL	TEOM							
MG						•		
PC	TEOM		1 in 3					
SI			1 in 6				•	
UH				•				
WA	BAMS (Jan-May)	1 in 6 (Jun-Dec)						
WB		1 in 6			•	•		
<b>KAUAI</b>								
LI	BAMS (May-Dec)	1 in 6 (Jan-May)						
<b>MAUI</b>								
KH	TEOM		1 in 3					
<b>HAWAII (BIG ISLAND)</b>								
HL						•		
KN						•		
LV								•
PE						•		•
PH								•

\* H<sub>2</sub>S is not a criteria pollutant, however the state of Hawaii has a 1-hour ambient air standard of 25 ppb

Figure 1

## State of Hawaii Air Monitoring Network



The state's ambient air monitoring network meets, and for some pollutants, exceeds the minimum monitoring requirements for all criteria pollutants pursuant to 40 CFR 58 Appendix D.

According to the U.S. Census Bureau, the state of Hawaii has one Metropolitan Statistical Area (MSA), located in the City and County of Honolulu with a census year 2000 population of 876,156.

**Table 4. PM<sub>10</sub> Minimum Monitoring Requirements**

80% of 24-hr NAAQS = 120µg/m<sup>3</sup>

MSA	2000 Population	Daily Design Value 2004 – 2006	Minimum No. of Monitors Required	Number of Active Monitors in the MSA (2007)	Number of Monitors Needed
Honolulu	876,156	*137.7µg/m <sup>3</sup>	2-4	4	0

\* Includes data collected during the New Year fireworks celebrations

**Table 5. PM<sub>2.5</sub> Minimum Monitoring Requirements**

85% of Annual NAAQS = 12.75 µg/m<sup>3</sup>

85% of 24-hr NAAQS = 29.75µg/m<sup>3</sup>

MSA	2000 Population	Annual Design Value 2004 – 2006	Daily Design Value 2004-2006	Minimum No. of Monitors Required	Number of Active Monitors in the MSA (2007)	Number of Monitors Needed
Honolulu	876,156	4.9 µg/m <sup>3</sup>	10.4 µg/m <sup>3</sup>	1	5	0

**Table 6. O<sub>3</sub> Minimum Monitoring Requirements**

85% of 8-hr NAAQS = 0.068 ppm

MSA	2000 Population	8-Hr Design Value 2004 – 2006	Minimum No. of Monitors Required	Number of Active Monitors in the MSA (2007)	Number of Monitors Needed
Honolulu	876,156	0.050 ppm	1	1	0

**CO:** There are no minimum monitoring requirements for carbon monoxide, however, the state has two SLAMS stations monitoring for CO.

**SO<sub>2</sub>:** There are no minimum monitoring requirements for sulfur dioxide, however, the state has four SLAMS and three SPM stations monitoring for SO<sub>2</sub>.

**NO<sub>2</sub>:** There are no minimum monitoring requirements for nitrogen dioxide, however, the state has two SLAMS stations monitoring for NO<sub>2</sub>.

**Pb:** There are no minimum monitoring requirements for lead and the state is not required to operate a PAMS station. Lead is monitored in the state as part of the PM<sub>2.5</sub> SPM speciation site.

## Section 2 Network Review and Modifications

### Recent and Proposed Modifications to the Network

1. In the 2006 network review, four SLAMS stations were identified as providing data of limited value towards the state's overall monitoring objectives. Additionally, resources need to be reallocated in preparation for the requirements of the new National Monitoring Strategy and the establishment of an NCore station.

EPA approved the closure of the following single pollutant monitoring stations:

Liliha (LL 150030009) PM<sub>10</sub>  
Waimanalo (WA 150034002) PM<sub>10</sub>  
University (UH 150030014) CO  
Lihue (LI 150070001) PM<sub>10</sub>

These stations were discontinued in January 2007. Closures did not adversely affect the minimum monitoring requirements for these pollutants.

2. Monitoring of volcanic emissions on the island of Hawaii continues to be one of the priorities for the state. There are currently three SPM stations monitoring for sulfur dioxide from the volcano.

In 2007, the state plans to establish and operate two additional sulfur dioxide SPM stations on the island of Hawaii. These stations will be located in Mountain View and Pahala, communities that are closer to the volcano and may have greater impact from volcanic emissions.

### Detailed Site Information of Current Network

Following is detailed information for each SLAMS and SPM station currently operated by the state in compliance with 40 CFR 58 Appendix A, C and E.

Six stations in the City and County of Honolulu:

DH Honolulu; KA Kapolei; MG Makaiwa; PC Pearl City; SI Sand Island and WB West Beach.

One station in Maui County:

KH Kihei

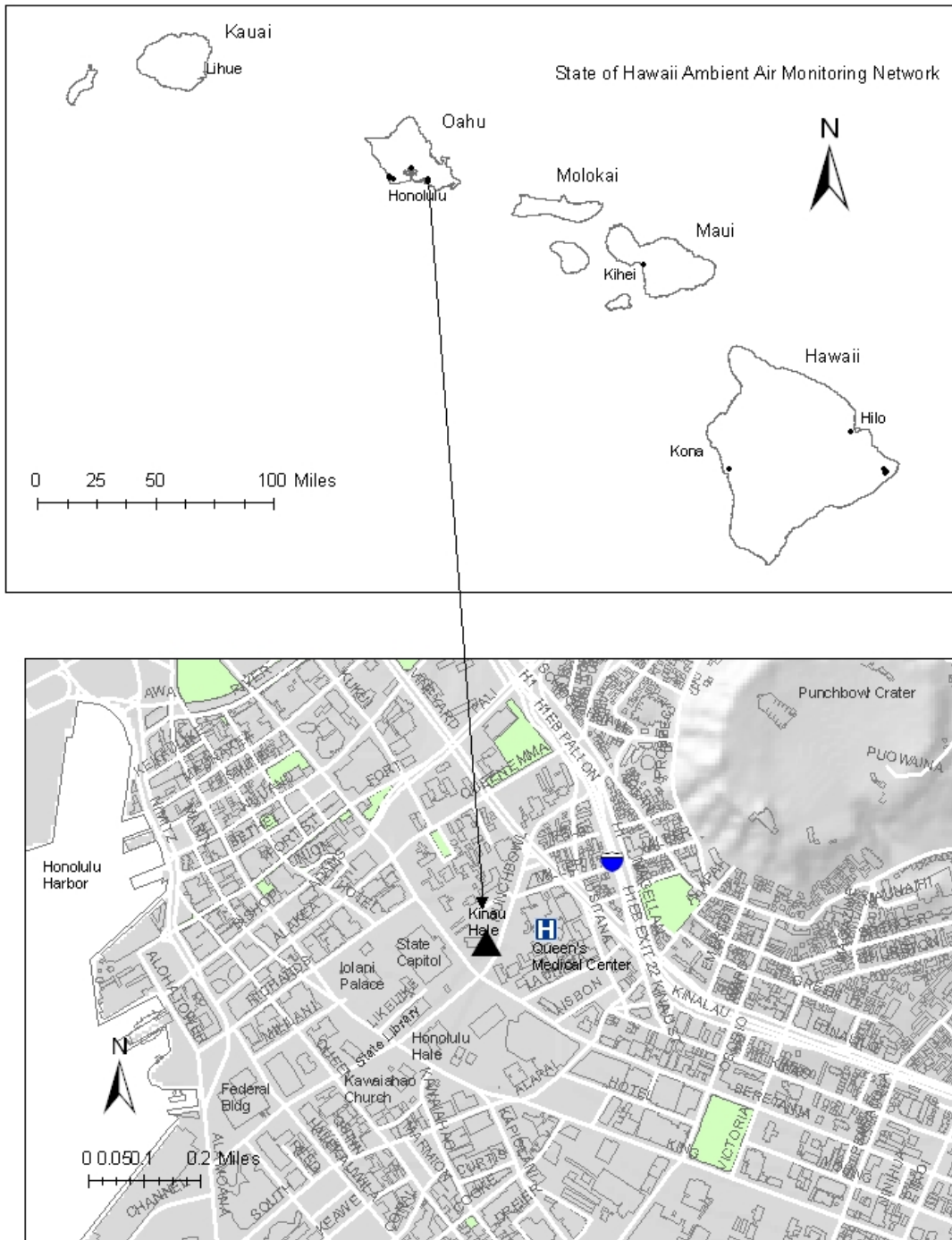
Five stations in Hawaii County:

HL Hilo; KN Kona; LV Lava Tree; PE Puna E; and PH Puna H.



Figure 2

DH 150031001  
Honolulu Station



# State of Hawaii Ambient Air Monitoring Network

<b>SITE REPORT:</b>	<b>DH Honolulu</b>
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<b>Date of Report:</b>	5/4/07
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## SITE INFORMATION

<b>City:</b> Honolulu	<b>CDP:</b> Honolulu	<b>Census Tract:</b> 41	<b>AIRS ID:</b> 150031001
<b>Address:</b> 1250 Punchbowl St., Honolulu (Oahu)			
<b>UTM (NAD 83):</b> 4N North 236619.4 m East 618715 m		<b>Latitude (NAD 83):</b> 21° 18' 27.3" N <b>Longitude:</b> 157° 51' 19.5" W	
<b>Pollutants Monitored:</b> CO, SO <sub>2</sub> , PM <sub>10</sub> , PM <sub>2.5</sub> (SLAMS)		<b>Elevation (MSL):</b> 20 m	
<b>Name(s) of nearest intersecting street(s):</b> Punchbowl St. (east); Beretania St. (south); Vineyard Blvd. (north)			
<b>Brief description of site location and landmarks:</b> Located in the downtown Honolulu business and government district, the station is located on the roof of the Department of Health building (Kinau Hale). Queen's Medical Center is to the east, Punchbowl crater to the north, State Capitol building to the south as well as other state and county government buildings.			
<b>Agency preparing this report:</b> Department of Health, Environmental Management Division, Clean Air Branch, Monitoring and Analysis Section			
<b>Agency responsible for data collection and site maintenance:</b> Department of Health, State Laboratories Division, Environmental Health Analytical Service Branch, Air Surveillance and Analysis Section			

## GENERAL SITE DESCRIPTION

Mobile Source				
Type	Punchbowl St.	Beretania St.	Vineyard Blvd.	H-1 Freeway
Freeway				X
Major Street or Highway	X	X	X	
Traffic Activity				
Distance of roadway from air intake (m)	30	122	610	914
Direction of roadway from air inlet	E	S	N	N/NE
Composition of roadway	asphalt	asphalt	asphalt	asphalt
Number of traffic lanes	5	6	6	6
Average daily traffic (estimate)	32,173 (2001) <sup>1</sup>	No data	35,903 (2001) <sup>1</sup>	No data
Average vehicle speed (estimate, mph)	20	25	25	45
Traffic one way or two	2	1	2	2
Number of parking lanes	0	0	0	0
Roadway paved?	Y	Y	Y	Y
Obstructions				
Type	Size (m)	Direction from Site	Distance from Site (m)	
Penthouse	5W x 2.4D x 2.4H	W	12	
Tree	16W x 12H	E	7	
<b>Meteorology and Climatology:</b> Source of met data is site WS, WD				

<sup>1</sup> Source: State of Hawaii, Department of Transportation

## DATA QUALITY

Audits	Result
Last PEP Audit:	
Last NPAP Audit:	-
Last Independent (DOH) Audit: 12/20/06	Pass
Last Flow Audit: 3/15/07	PM <sub>10</sub> : Pass      PM <sub>2.5</sub> : Pass
Precision/Accuracy reports submitted to AQS:	Yes
Annual data certification submitted to EPA:	Report will be submitted prior to the July 1, 2007 deadline

**SITE AND MONITOR INFORMATION (DH continued)**

<b>Probe Siting</b>		
	<b>Gases (CO, SO<sub>2</sub>)</b>	<b>PM</b>
Location	Probe extends off the east side of building, nearest Punchbowl Street	Top of building
If on building: height (m) width (m) depth (m)	10	12 61 15
Horizontal distance from supporting structure (m)	1.5	N/A
Vertical distance above supporting structure (m)	N/A	1.8
Height of probe above ground (m)	11	13.4
Distance from tree(s)	7	N/A
Horizontal distance from edge of nearest traffic lane (m)	9	N/A
Horizontal distance from nearest parking lot (m)	24	24
Horizontal distance from walls, parapets, penthouses (m)	1.5 (wall)	11 (penthouse)
Distance from obstacles, such as buildings (m)	1.5 (supporting building wall)	300
Distance from furnace or incineration flues (m)	N/A	N/A
Unrestricted air flow	270°	360°
Located in paved area or vegetative ground cover	Paved	Paved

<b>Monitor Information</b>						
	<b>SO<sub>2</sub></b>	<b>CO</b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>	<b>WS</b>	<b>WD</b>
Instrument Manufacturer	TECO	TECO	Rupprecht & Patashnick	Rupprecht & Patashnick	RM Young	RM Young
Model No.	43A	48	1400A	2025	05103VP	05103VP
AQS Method Code	060	054	079	120	Data not entered into AQS	
Date sampling began	1/72	1/72	2/92	1/99	-	-
Frequency	Continuous	Continuous	Continuous	1 in 3	Continuous	Continuous
Probe material	Teflon	Teflon	N/A	N/A	N/A	N/A
Residence Time (seconds)	No data	No data	N/A	N/A	N/A	N/A
Distance between co-located monitors	N/A	N/A	-	-	N/A	N/A

<b>Site and Data History</b>	
<b>Date of Occurrence</b>	<b>Reasons for Invalid or Missing Data; Other site changes</b>
7/18/05 – 7/19/06	No PM <sub>2.5</sub> data collected. Site shut-down due to re-roofing
7/18/05 – 8/2/06	No CO and SO <sub>2</sub> data collected. Site shut-down due to re-roofing
7/18/05 – 8/5/06	No PM <sub>10</sub> data collected. Site shut-down due to re-roofing
1/99 to 12/05	PM <sub>2.5</sub> collected daily. Since 1/1/06, sampling reduced (with EPA approval) to 1 in 3 days
8/2/06	PM <sub>2.5</sub> sampler changed from Anderson to R & P

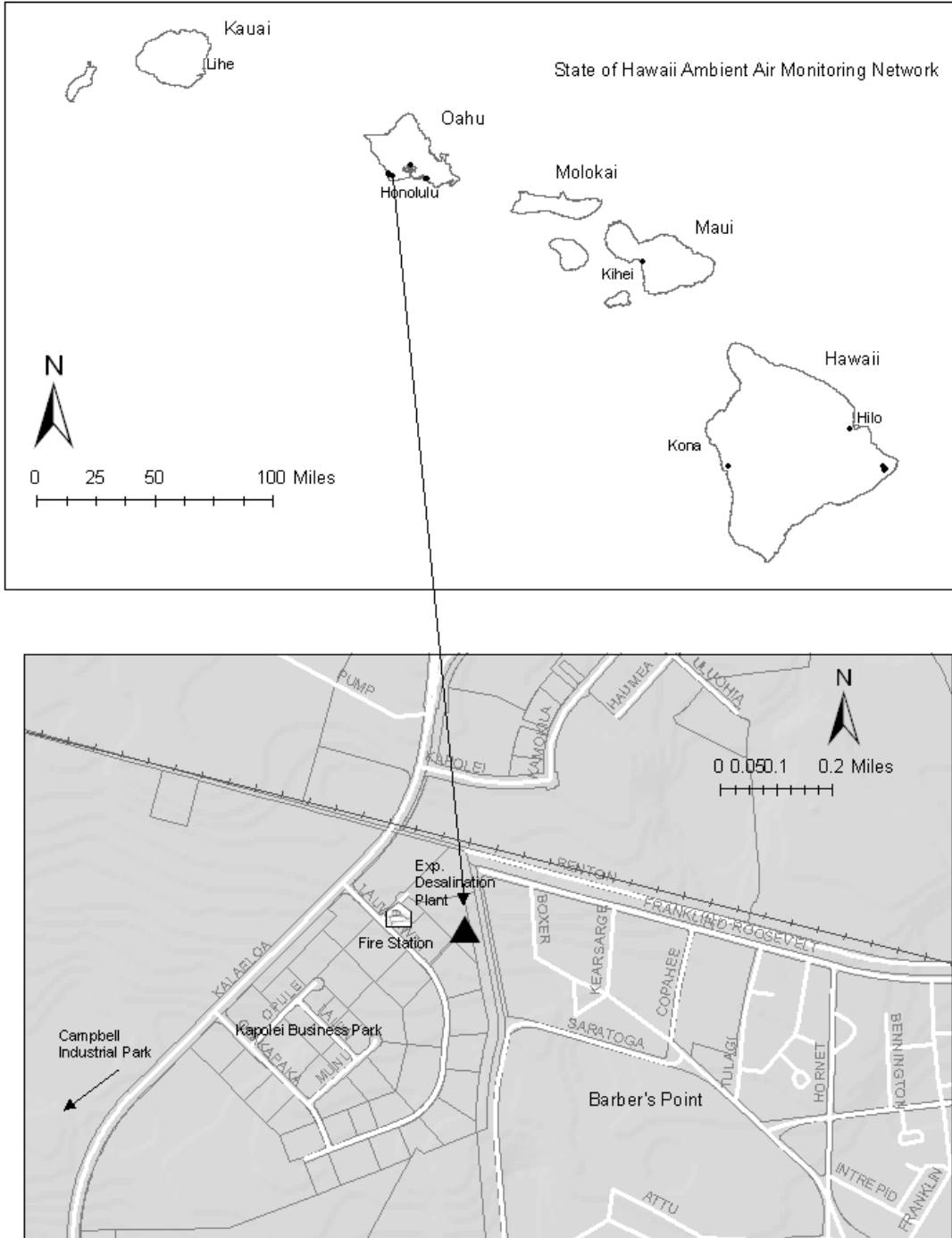
**SITE REPRESENTATIVENESS**

	<b>CO</b>	<b>SO<sub>2</sub></b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>
Spatial Scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Averaging Times	1-hr; 8-hr	3-hr; 24-hr; Annual	24-hr; Annual	24-hr; Annual
Monitoring Objective	Population Exposure	Population Exposure	Population Exposure	Population Exposure
Suitable for comparison against annual PM <sub>2.5</sub> NAAQS?	N/A	N/A	N/A	Yes

No changes are planned for this station within the next 18 months.

Figure 3

KA 150030010  
Kapolei Station



# State of Hawaii Ambient Air Monitoring Network

<b>SITE REPORT:</b>	<b>KA Kapolei</b>
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<b>Date of Report:</b>	5/4/07
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## SITE INFORMATION

<b>City:</b> Kapolei	<b>CDP:</b> Honolulu	<b>Census Tract:</b> 85	<b>AIRS ID:</b> 150030010
<b>Address:</b> 2052 Lauwiliwili St., Kapolei (Oahu)			
<b>UTM (NAD 83):</b> 4N North 2358251.4 m East 594516.6 m		<b>Latitude (NAD 83):</b> 21° 19' 25.5" N	<b>Elevation (MSL):</b> 18 m
		<b>Longitude:</b> 158° 05' 19.0" W	
<b>Pollutants:</b> CO, SO <sub>2</sub> , NO <sub>2</sub> , PM <sub>10</sub> , PM <sub>2.5</sub> (SLAMS)			
<b>Name(s) of nearest intersecting street(s):</b> Kalaeloa Blvd.; Lauwiliwili St.			
<b>Brief description of site location and landmarks:</b> Located in the Kapolei Business Park, the station is in a relatively undeveloped area about 200 yards south of the vacant Desalination Plant. The Kapolei fire station is located approximately 200 yards west and Campbell Industrial Park (CIP) is located approximately one mile south of the station.			
<b>Agency preparing this report:</b> Department of Health, Environmental Management Division, Clean Air Branch, Monitoring and Analysis Section			
<b>Agency responsible for data collection and site maintenance:</b> Department of Health, State Laboratories Division, Environmental Health Analytical Service Branch, Air Surveillance and Analysis Section			

## GENERAL SITE DESCRIPTION

Mobile Source				
Type	Kalaeloa Blvd.	Lauwiliwili St.	H-1 Freeway	
Freeway			X	
Major Street or Highway	X			
Local Street or Road		X		
Traffic Activity				
Distance of roadway from air intake (m)	379	167	686	
Direction of roadway from air inlet	NW	W	N	
Composition of roadway	asphalt	asphalt	asphalt	
Number of traffic lanes	4	2	6	
Average daily traffic (estimate)	No data	No data	No data	
Average vehicle speed (estimate, mph)	35	30	55	
Traffic one way or two	2	2	2	
Number of parking lanes	0	0	0	
Roadway paved?	Y	Y	Y	
Obstructions				
Type	Size (m)	Direction from Site	Distance from Site (m)	
None				
<b>Meteorology and Climatology:</b> Source of met data is site WS, WD and ambient temperature				

## DATA QUALITY

Audits	Result
Last PEP Audit:	
Last NPAP Audit:	-
Last Independent (DOH) Audit: Gases: 1/30/06 PM/Met: 6/7/06	Pass PM: Pass Met: WD at 210° +4° difference Date Corrected: 6/15/06
Last Flow Audit: 3/27/07	PM <sub>10</sub> : Pass PM <sub>2.5</sub> : Pass
Precision/Accuracy reports submitted to AQS:	Yes
Annual data certification submitted to EPA:	Report will be submitted prior to the July 1, 2007 deadline

## SITE AND MONITOR INFORMATION (KA continued)

Probe Siting							
	Gases (CO, SO <sub>2</sub> , NO <sub>2</sub> )			PM <sub>10</sub> , PM <sub>2.5</sub>			
Location	Top of shelter			Top of shelter			
Shelter:							
height (m)	4			4			
width (m)	2.4			2.4			
depth (m)	5			5			
Horizontal distance from supporting structure (m)	N/A			N/A			
Vertical distance above supporting structure (m)	1			1			
Height of probe above ground (m)	5			5			
Distance from tree(s) (m)	106			106 (PM <sub>10</sub> ) inlet 117 (PM <sub>2.5</sub> ) inlet			
Horizontal distance from edge of nearest traffic lane (m)	167			167			
Horizontal distance from nearest parking lot (m)	N/A			N/A			
Horizontal distance from walls, parapets, penthouses (m)	N/A			N/A			
Distance from obstacles, such as buildings (m)	170			170			
Distance from furnace or incineration flues (m)	N/A			N/A			
Unrestricted air flow	360°			360°			
Located in paved area or vegetative ground cover	Vegetative/Barren			Vegetative/Barren			
Monitor Information							
	CO	SO <sub>2</sub>	NO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	WS	WD
Instrument Manufacturer	TECO	TECO	TECO	Rupprecht & Patashnick	Anderson	RM Young	RM Young
Model No.	48	43A	42C	1400A	RAAS 2.5	05103VP	05103VP
AQS Method Code	054	060	074	079	120	Not entered into AQS	
Date sampling began	7/29/02	7/29/02	7/29/02	2/92	7/02	-	-
Frequency	Continuous	Continuous	Continuous	Continuous	1 in 3 days	Continuous	Continuous
Probe material	Teflon	Teflon	Teflon	N/A	N/A	N/A	N/A
Residence Time (seconds)	No data	No data	No data	N/A	N/A	N/A	N/A
Distance between co-located monitors	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Site and Data History							
Date of Occurrence	Reasons for Invalid or Missing Data; Other site changes						
July 2002	Site moved approximately 250 yards south from original location. The original location was established in 1991 but siting audits concluded that the Desalination plant was an obstacle when the winds were from the southerly direction (from the Industrial Park).						

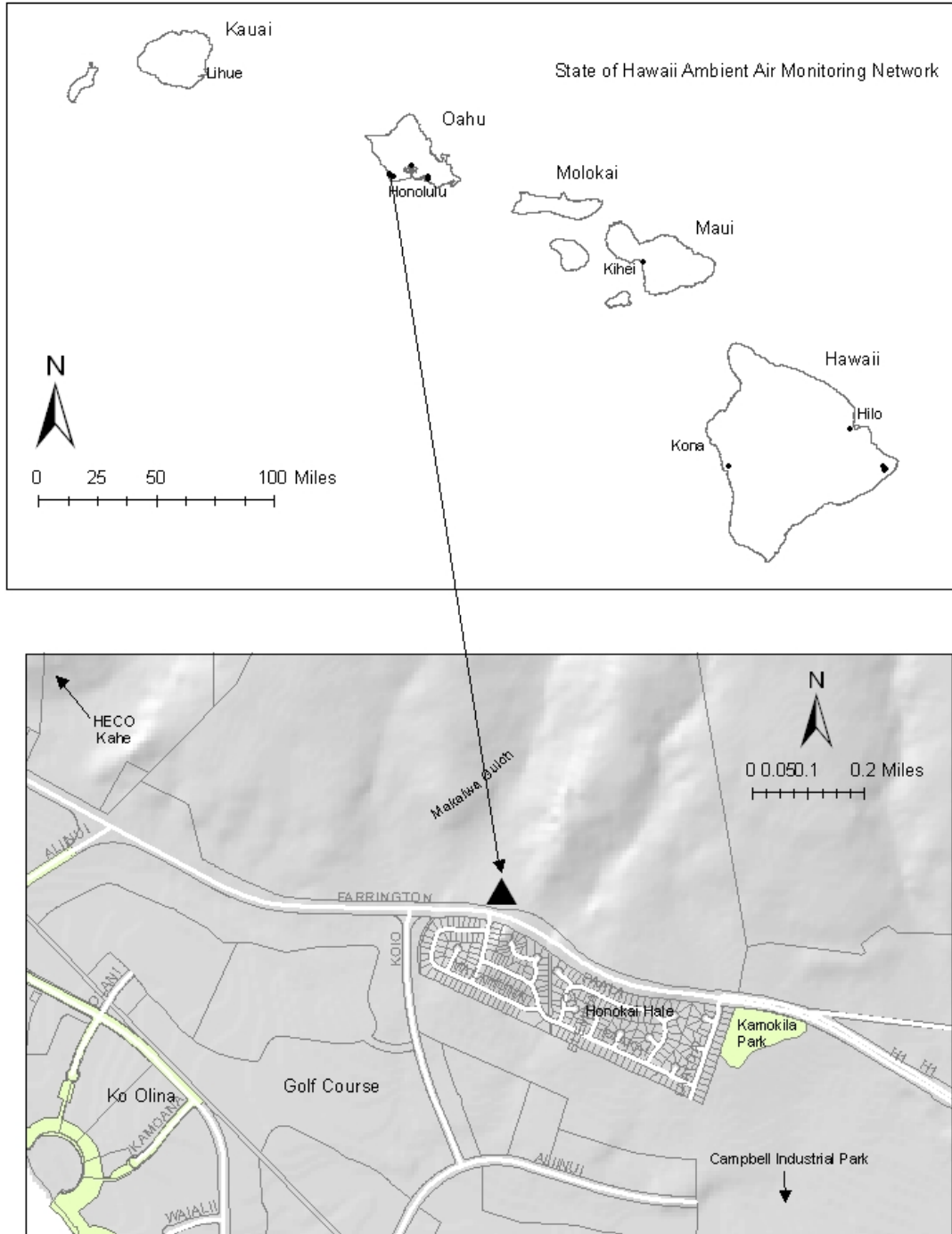
## SITE REPRESENTATIVENESS

	CO	SO <sub>2</sub>	NO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Spatial Scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Averaging Times	1-hr; 8-hr	3-hr; 24-hr; annual	annual	24-hr; annual	24-hr; annual
Monitoring Objective	Source Impact	Source Impact	Source Impact	Source Impact	Source Impact
Suitable for comparison against annual PM <sub>2.5</sub> NAAQS?	N/A	N/A	N/A	N/A	Yes

No changes are planned for this station within the next 18 months.

**Figure 4**

MG 150031006  
Makaiwa Station



# State of Hawaii Ambient Air Monitoring Network

<b>SITE REPORT:</b>	<b>MG Makaiwa</b>
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<b>Date of Report:</b>	5/4/07
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## SITE INFORMATION

<b>City:</b> Kapolei	<b>CDP:</b> Honolulu	<b>Census Tract:</b> 86.03	<b>AIRS ID:</b> 150031006
<b>Address:</b> 92-670 Farrington Hwy., Kapolei (Oahu)			
<b>UTM (NAD 83):</b> 4N North 2360508.6 m East 591978 m		<b>Latitude (NAD 83):</b> 21° 20' 39.4" N	<b>Elevation (MSL):</b> 51 m
		<b>Longitude:</b> 158° 06' 46.7" W	
<b>Pollutants:</b> SO <sub>2</sub> (SLAMS)			
<b>Name(s) of nearest intersecting street(s):</b> Farrington Hwy.			
<b>Brief description of site location and landmarks:</b> Located across from the Honokai Hale subdivision in Makaiwa Gulch, approximately 1 mile southeast of the HECO Kahe power plant.			
<b>Agency preparing this report:</b> Department of Health, Environmental Management Division, Clean Air Branch, Monitoring and Analysis Section			
<b>Agency responsible for data collection and site maintenance:</b> Department of Health, State Laboratories Division, Environmental Health Analytical Service Branch, Air Surveillance and Analysis Section			

## GENERAL SITE DESCRIPTION

Mobile Source			
Type	Farrington Hwy.		
Freeway			
Major Street or Highway	X		
Local Street or Road			
Traffic Activity			
Distance of roadway from air intake (m)	26		
Direction of roadway from air inlet	S		
Composition of roadway	asphalt		
Number of traffic lanes	4		
Average daily traffic (estimate)	45,532 (2001) <sup>1</sup>		
Average vehicle speed (estimate, mph)	50		
Traffic one way or two	2		
Number of parking lanes	0		
Roadway paved?	Y		
Obstructions			
Type	Size	Direction from Site	Distance from Site
None			
<b>Meteorology and Climatology:</b> Source of met data is site WS, WD			

<sup>1</sup> Source: State of Hawaii, Department of Transportation

## DATA QUALITY

Audits	Result
Last PEP Audit: Not applicable	
Last NPAP Audit:	-
Last Independent (DOH) Audit: Gas: 2/1/06 Met: 6/7/06	Pass Pass
Last Flow Audit: Not applicable	
Precision/Accuracy reports submitted to AQS:	Yes
Annual data certification submitted to EPA:	Report will be submitted prior to the July 1, 2007 deadline



**SITE AND MONITOR INFORMATION (MG continued)**

**Probe Siting**

		Gases (SO <sub>2</sub> )	
Location		Top of shelter	
Shelter:			
height (m)		4	
width (m)		5	
depth (m)		2	
Horizontal distance from supporting structure (m)		N/A	
Vertical distance above supporting structure (m)		1	
Height of probe above ground (m)		4	
Distance from tree(s) (m)		13 (SE); 16 (N)	
Horizontal distance from edge of nearest traffic lane (m)		26	
Horizontal distance from nearest parking lot (m)		N/A	
Horizontal distance from walls, parapets, penthouses (m)		N/A	
Distance from obstacles, such as buildings (m)		N/A	
Distance from furnace or incineration flues (m)		N/A	
Unrestricted air flow		360°	
Located in paved area or vegetative ground cover		Vegetative/Barren	

**Monitor Information**

	SO <sub>2</sub>	WS	WD				
Instrument Manufacturer	TECO	RM Young	RM Young				
Model No.	43A	05103VP	05103VP				
AQS Method Code	060	Not entered into AQS					
Date sampling began	7/89	-	-				
Frequency	Continuous	Continuous	Continuous				
Probe material	Glass	N/A	N/A				
Residence Time (seconds)	No data	N/A	N/A				
Distance between co-located monitors	N/A	N/A	N/A				

**Site and Data History**

Date of Occurrence	Reasons for Invalid or Missing Data; Other site changes
	None

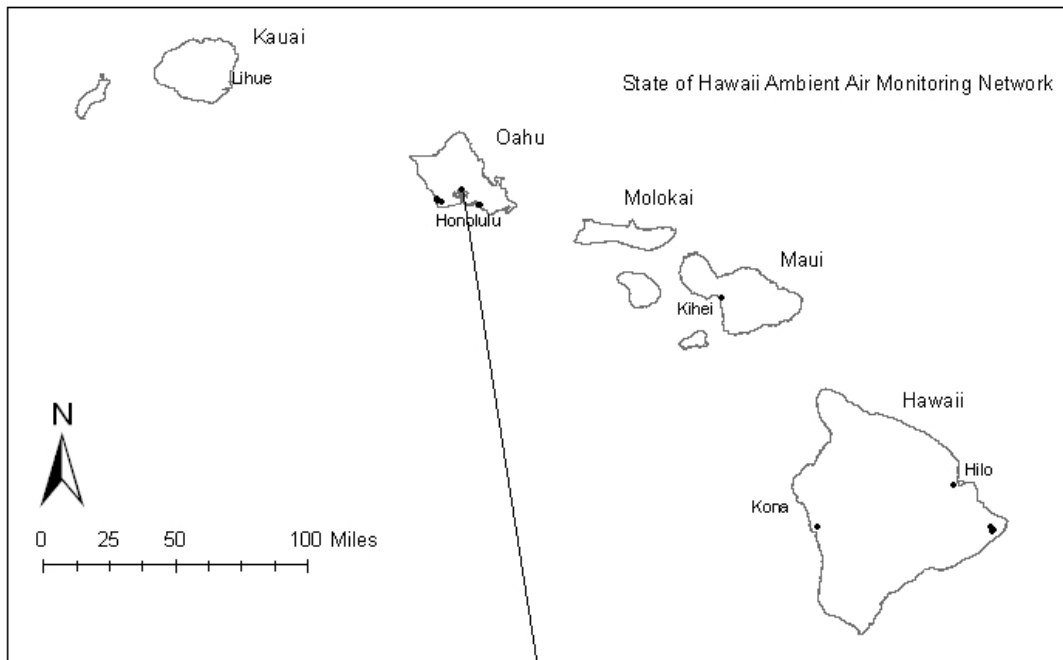
**SITE REPRESENTATIVENESS**

	SO <sub>2</sub>				
Spatial Scale	Neighborhood				
Averaging Times	3-hr; 24-hr; annual				
Monitoring Objective	Source Impact				
Suitable for comparison against annual PM <sub>2.5</sub> NAAQS?	N/A				

No changes are planned for this station within the next 18 months.

Figure 5

PC 150032004  
Pearl City Station



# State of Hawaii Ambient Air Monitoring Network

<b>SITE REPORT:</b>	<b>PC Pearl City</b>
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<b>Date of Report:</b>	5/4/07
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## SITE INFORMATION

<b>City:</b> Pearl City	<b>CDP:</b> Honolulu	<b>Census Tract:</b> 80.01	<b>AIRS ID:</b> 150032004
<b>Address:</b> 860 4 <sup>th</sup> St., Pearl City (Oahu)			
<b>UTM (NAD 83):</b> 4N North 2365975.2 m East 606858.9 m		<b>Latitude (NAD 83):</b> 21° 23' 34.2" N	<b>Elevation (MSL):</b> 23 m
<b>Longitude:</b> 157° 58' 08.9" W			
<b>Pollutants:</b> PM <sub>10</sub> , PM <sub>2.5</sub> , PM <sub>2.5</sub> (SLAMS) Speciation, Air Toxics (SPM)			
<b>Name(s) of nearest intersecting street(s):</b> 4th St., Kamehameha Hwy., Lehua Avenue, H-1 Freeway			
<b>Brief description of site location and landmarks:</b> Located on the Department of Health building at 860 4 <sup>th</sup> St., Pearl City. Approximately SSW of the Pearl City Shopping Center and Kamehameha Hwy., N of the H-1 freeway and approximately 1 mile west of HECO Waiiau and 3 miles NW of the Pearl Harbor Naval Complex.			
<b>Agency preparing this report:</b> Department of Health, Environmental Management Division, Clean Air Branch, Monitoring and Analysis Section			
<b>Agency responsible for data collection and site maintenance:</b> Department of Health, State laboratories Division, Environmental Health Analytical Service Branch, Air Surveillance and Analysis Section			

## GENERAL SITE DESCRIPTION

Mobile Source				
Type	4 <sup>th</sup> St.	Lehua Ave.	Kam. Hwy.	H-1
Freeway				X
Major Street or Highway			X	
Local Street or Road	X			
Through Street or Highway		X		
Traffic Activity				
Distance of roadway from air intake (m)	50	138	58	320
Direction of roadway from air inlet	S	W	N	S
Composition of roadway	asphalt	asphalt	asphalt	concrete
Number of traffic lanes	2	4	6	10
Average daily traffic (estimate)	No Data	15,692 (2002) <sup>1</sup>	52,113 (2002) <sup>1</sup>	No Data
Average vehicle speed (estimate, mph)	20	30	35	55
Traffic one way or two	2	2	2	2
Number of parking lanes	0	2	0	0
Roadway paved?	Y	Y	Y	Y
Obstructions				
Type	Size (m)		Direction from Site	Distance from Site (m)
Air conditioning vent and mechanical room	Ht. of A/C vent: 4 m Ht. of room: 3 m		N	14

**Meteorology and Climatology:** Source of met data is site WS, WD

<sup>1</sup> Source: State of Hawaii, Department of Transportation

## DATA QUALITY

Audits	Result
Last PEP Audit:	
Last NPAP Audit: Not applicable	
Last Independent (DOH) Audit: 9/27/06	Pass
Last Flow Audit: 3/27/07	PM <sub>10</sub> : Pass    PM <sub>2.5</sub> : Pass    PM <sub>2.5</sub> speciation: Pass
Precision/Accuracy reports submitted to AQS:	Yes
Annual data certification submitted to EPA:	Report will be submitted prior to the July 1, 2007 deadline

**SITE AND MONITOR INFORMATION (PC continued)**

**Probe Siting**

	<b>PM</b>	<b>Speciation</b>	<b>Toxics (metals)</b>	<b>Toxics (Gas)</b>
Location	Top of building	Top of building	Top of building	Top of building
Shelter: height (m) width (m) depth (m)	N/A	N/A	N/A	N/A
Horizontal distance from supporting structure (m)	N/A	N/A	N/A	N/A
Vertical distance above supporting structure (m)	2	2	1	2
Height of probe above ground (m)	13	13	12	13
Distance from tree(s) (m)	N/A	N/A	N/A	N/A
Horizontal distance from edge of nearest traffic lane (m)	58	53	53	60
Horizontal distance from nearest parking lot (m)	-	-	-	-
Horizontal distance from walls, parapets, penthouses (m)	14	19	19	12
Distance from obstacles, such as buildings (m)	N/A	N/A	N/A	N/A
Distance from furnace or incineration flues (m)	N/A	N/A	N/A	N/A
Unrestricted air flow	360°	360°	360°	360°
Located in paved area or vegetative ground cover	rooftop	rooftop	rooftop	rooftop

**Monitor Information**

	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>	<b>Speciation</b>	<b>Air Toxics</b>	<b>WS</b>	<b>WD</b>
Instrument Manufacturer	R&P	Anderson	Met One	-	RM Young	RM Young
Model No.	1400A	RAAS 2.5	SASS	-	05103VP	05103VP
AQS Method Code	079	120		-	Not entered into AQS	
Date sampling began	2/94	1/99	1/03	1/02	-	-
Frequency	continuous	1 in 3	1 in 6	1 in 6	Continuous	Continuous
Probe material	Aluminum	Aluminum	Aluminum	-	N/A	N/A
Residence Time (seconds)	No data	No data	No data	No data	N/A	N/A
Distance between co-located monitors	N/A	-	N/A	N/A	N/A	N/A

**Site and Data History**

<b>Date of Occurrence</b>	<b>Reasons for Invalid or Missing Data; Other site changes</b>
8/5/02 – 11/27/02	Building renovations and installation of AC vent

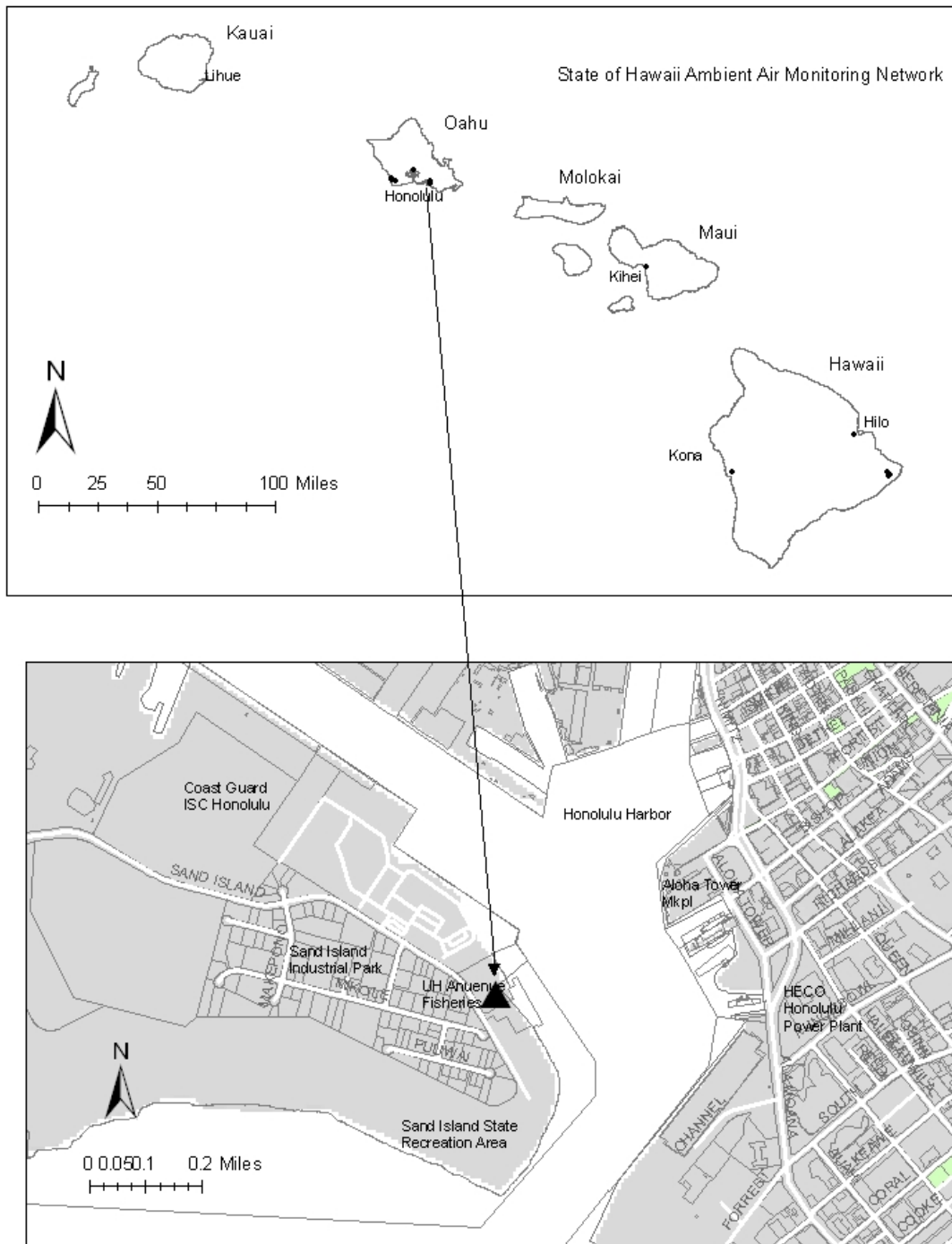
**SITE REPRESENTATIVENESS**

	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>	<b>Speciation</b>	<b>Air Toxics</b>
Spatial Scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Averaging Times	24-hr; annual	24-hr; annual	24-hr	24-hr
Monitoring Objective	Population exposure	Population exposure	Population exposure	Population exposure
Suitable for comparison against annual PM <sub>2.5</sub> NAAQS?	N/A	Yes	N/A	N/A

No changes are planned for this station within the next 18 months.

Figure 6

SI 150031004  
Sand Island Station



# State of Hawaii Ambient Air Monitoring Network

<b>SITE REPORT:</b>	<b>SI Sand Island</b>
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<b>Date of Report:</b>	5/4/07
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## SITE INFORMATION

<b>City:</b> Honolulu	<b>CDP:</b> Honolulu	<b>Census Tract:</b> 57	<b>AIRS ID:</b> 150031004
<b>Address:</b> Anuenue Fisheries, Honolulu (Oahu)			
<b>UTM (NAD 83):</b> 4N North 2356193.9 m East 617084.4 m		<b>Latitude (NAD 83):</b> 21° 18' 13.8" N	<b>Elevation (MSL):</b> 5 m
		<b>Longitude:</b> 157° 52' 16.2" W	
<b>Pollutants:</b> O <sub>3</sub> , PM <sub>2.5</sub> (SLAMS)			
<b>Name(s) of nearest intersecting street(s):</b> Sand Island Parkway			
<b>Brief description of site location and landmarks:</b> Located in the University of Hawaii's Anuenue Fisheries near the entrance to the Sand Island State Recreation Area. Sand Island is at the southern point of downtown Honolulu, across from Honolulu Harbor and Aloha Tower.			
<b>Agency preparing this report:</b> Department of Health, Environmental Management Division, Clean Air Branch, Monitoring and Analysis Section			
<b>Agency responsible for data collection and site maintenance:</b> Department of Health, State Laboratories Division, Environmental Health Analytical Service Branch, Air Surveillance and Analysis Section			

## GENERAL SITE DESCRIPTION

Mobile Source			
Type	SI Parkway		
Freeway			
Major Street or Highway			
Local Street or Road			
Through Street or Highway	X		
Traffic Activity			
Distance of roadway from air intake (m)	37		
Direction of roadway from air inlet	W		
Composition of roadway	asphalt		
Number of traffic lanes	2		
Average daily traffic (estimate)	1592 (2002) <sup>1</sup>		
Average vehicle speed (estimate, mph)	30		
Traffic one way or two	2		
Number of parking lanes	2		
Roadway paved?	Y		
Obstructions			
Type	Size (m)	Direction from Site	Distance from Site (m)
Tent shelter	Height: 6	S	14
<b>Meteorology and Climatology:</b> Source of met data is site WS, WD			

<sup>1</sup> Source: State of Hawaii, Department of Transportation

## DATA QUALITY

Audits	Result
Last PEP Audit:	
Last NPAP Audit:	-
Last Independent (DOH) Audit: 9/19/06	Pass
Last Flow Audit: 3/13/07	PM <sub>2.5</sub> : Pass
Precision/Accuracy reports submitted to AQS:	Yes
Annual data certification submitted to EPA:	Report will be submitted prior to the July 1, 2007 deadline

**SITE AND MONITOR INFORMATION (SI continued)**

**Probe Siting**

	<b>Gases (O<sub>3</sub>)</b>	<b>PM</b>
Location	Top of shelter	Top of shelter
Shelter:		
height (m)	3	3
width (m)	2	2
depth (m)	5	5
Horizontal distance from supporting structure (m)	N/A	N/A
Vertical distance above supporting structure (m)	1	2
Height of probe above ground (m)	4	5
Distance from tree(s) (m)	N/A	N/A
Horizontal distance from edge of nearest traffic lane (m)	37	37
Horizontal distance from nearest parking lot (m)	40	40
Horizontal distance from walls, parapets, penthouses (m)	N/A	N/A
Distance from obstacles, such as buildings (m)	14	14
Distance from furnace or incineration flues ( )	N/A	N/A
Unrestricted air flow	360°	360°
Located in paved area or vegetative ground cover	vegetative	vegetative

**Monitor Information**

	<b>O<sub>3</sub></b>	<b>PM<sub>2.5</sub></b>	<b>WS</b>	<b>WD</b>		
Instrument Manufacturer	TECO	R & P	RM Young	RM Young		
Model No.	49C	RAAS 2.5	05103VP	05103VP		
AQS Method Code	019	117	Not entered into AQS			
Date sampling began	2/81	5/99	-	-		
Frequency	continuous	5/99	Continuous	Continuous		
Probe material	-	-	N/A	N/A		
Residence Time (seconds)	No data	No data	N/A	N/A		
Distance between co-located monitors	N/A	N/A	N/A	N/A		

**Site and Data History**

<b>Date of Occurrence</b>	<b>Reasons for Invalid or Missing Data; Other site changes</b>
	None

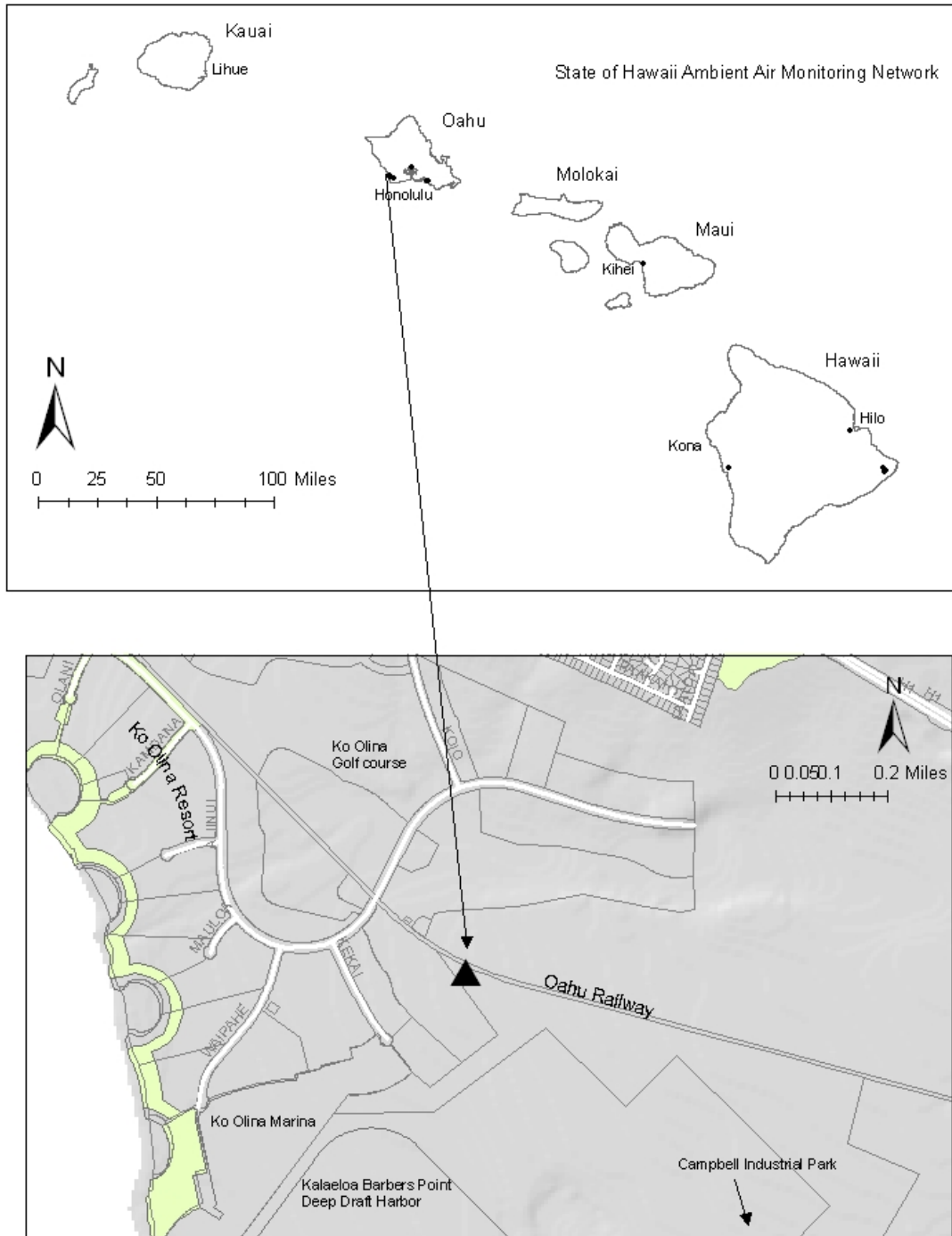
**SITE REPRESENTATIVENESS**

	<b>O<sub>3</sub></b>	<b>PM<sub>2.5</sub></b>		
Spatial Scale	Urban	Urban		
Averaging Times	1-hr; 8-hr	24-hr; annual		
Monitoring Objective	Maximum	Transport		
Suitable for comparison against annual PM <sub>2.5</sub> NAAQS?	N/A	Yes		

No changes are planned for this station within the next 18 months.

**Figure 7**

WB 150030011  
West Beach Station





# State of Hawaii Ambient Air Monitoring Network

<b>SITE REPORT:</b>	<b>WB West Beach</b>
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<b>Date of Report:</b>	5/4/07
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## SITE INFORMATION

<b>City:</b> Kapolei	<b>CDP:</b> Honolulu	<b>Census Tract:</b> 86.10	<b>AIRS ID:</b> 150030011
<b>Address:</b> Ko'Olina Golf Course, Kapolei (Oahu)			
<b>UTM (NAD 83):</b> 4N North 2359232.3 m East 591864.6 m		<b>Latitude (NAD 83):</b> 21° 19' 57.9" N	<b>Elevation (MSL):</b> 15 m
		<b>Longitude:</b> 158° 06' 50.9 W	
<b>Pollutants:</b> SO <sub>2</sub> , NO <sub>2</sub> , PM <sub>10</sub> (SLAMS)			
<b>Name(s) of nearest intersecting street(s):</b> Aliinui Drive			
<b>Brief description of site location and landmarks:</b> Located within the Ko'Olina Resort Golf Course, northwest of Campbell Industrial Park and Barber's Point Deep Draft Harbor			
<b>Agency preparing this report:</b> Department of Health, Environmental Management Division, Clean Air Branch, Monitoring and Analysis Section			
<b>Agency responsible for data collection and site maintenance:</b> Department of Health, State Laboratories Division, Environmental Health Analytical Service Branch, Air Surveillance and Analysis Section			

## GENERAL SITE DESCRIPTION

Mobile Source			
Type	Aliinui Dr.		
Freeway			
Major Street or Highway			
Local Street or Road	X		
Through Street or Highway			
Traffic Activity			
Distance of roadway from air intake (m)	315		
Direction of roadway from air inlet	NW		
Composition of roadway	asphalt		
Number of traffic lanes	4		
Average daily traffic (estimate)	No data		
Average vehicle speed (estimate, mph)	30		
Traffic one way or two	2		
Number of parking lanes	0		
Roadway paved?	Y		
Obstructions			
Type	Size	Direction from Site	Distance from Site
None			
<b>Meteorology and Climatology:</b> Source of met data is site WS, WD			

## DATA QUALITY

Audits	Result
Last PEP Audit: Not applicable	
Last NPAP Audit:	-
Last Independent (DOH) Audit: Gas: 3/2/06 PM/Met: 6/7/06	Pass Pass
Last Flow Audit: 3/23/07	PM <sub>10</sub> : Pass
Precision/Accuracy reports submitted to AQS:	Yes
Annual data certification submitted to EPA:	Report will be submitted prior to the July 1, 2007 deadline

**SITE AND MONITOR INFORMATION (WB continued)**

**Probe Siting**

	<b>Gases (SO<sub>2</sub>, NO<sub>2</sub>)</b>	<b>PM<sub>10</sub></b>
Location	Top of Shelter	Top of Shelter
Shelter:		
height (m)	4	4
width (m)	2	2
depth (m)	5	5
Horizontal distance from supporting structure (m)	N/A	N/A
Vertical distance above supporting structure (m)	1	1
Height of probe above ground (m)	4	5
Distance from tree(s) (m)	8	10
Horizontal distance from edge of nearest traffic lane (m)	315	313
Horizontal distance from nearest parking lot (m)	N/A	N/A
Horizontal distance from walls, parapets, penthouses (m)	N/A	N/A
Distance from obstacles, such as buildings (m)	N/A	N/A
Distance from furnace or incineration flues (m)	N/A	N/A
Unrestricted air flow	360°	360°
Located in paved area or vegetative ground cover	vegetative	vegetative

**Monitor Information**

	<b>SO<sub>2</sub></b>	<b>NO<sub>2</sub></b>	<b>PM<sub>10</sub></b>	<b>WS</b>	<b>WD</b>		
Instrument Manufacturer	TECO	TECO	Anderson	RM Young	RM Young		
Model No.	43A	42C	8500	05103VP	05103VP		
AQS Method Code	060	074	064	Not entered into AQS			
Date sampling began	2/91	11/92	2/91	-	-		
Frequency	continuous	continuous	1 in 6	continuous	continuous		
Probe material	SS	SS	-	N/A	N/A		
Residence Time (seconds)	No data	No data	N/A	N/A	N/A		
Distance between co-located monitors	N/A	N/A	-	N/A	N/A		

**Site and Data History**

<b>Date of Occurrence</b>	<b>Reasons for Invalid or Missing Data; Other site changes</b>
	None

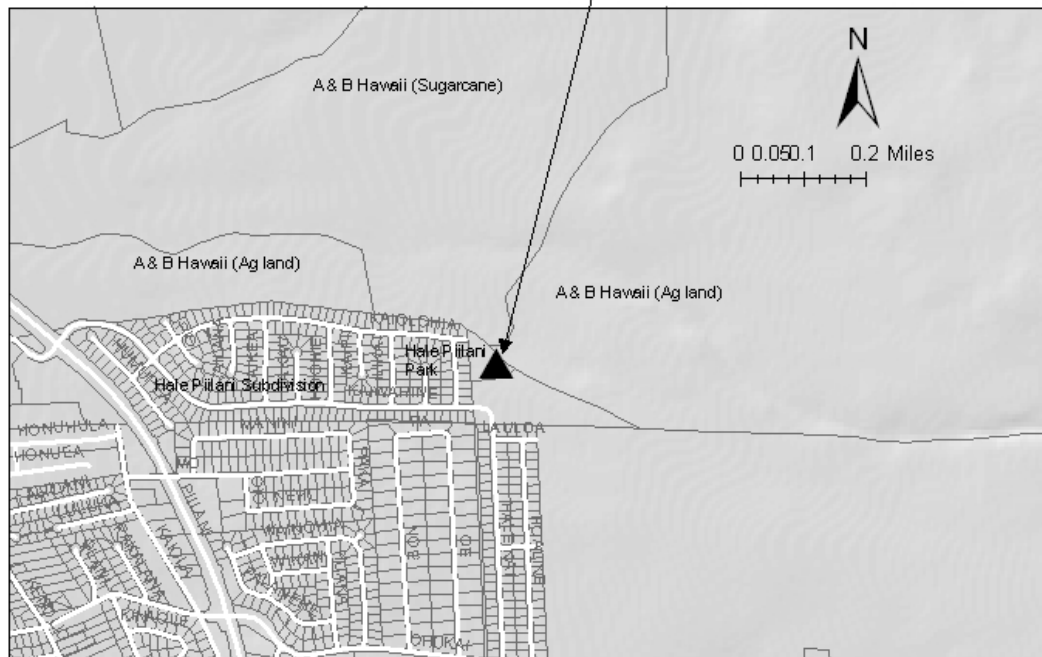
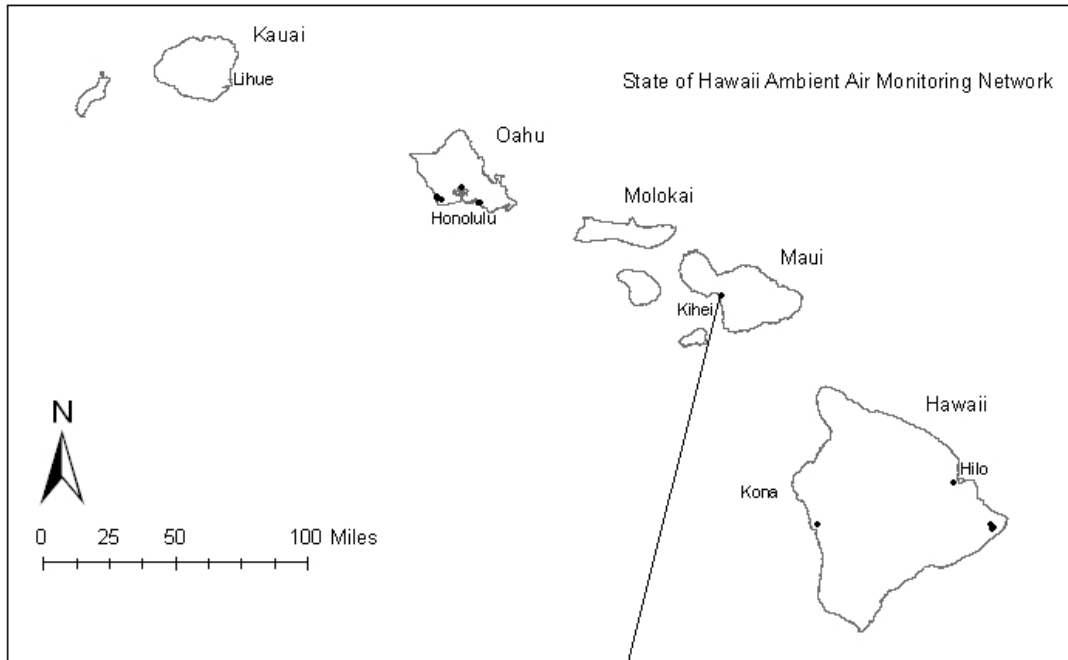
**SITE REPRESENTATIVENESS**

	<b>SO<sub>2</sub></b>	<b>NO<sub>2</sub></b>	<b>PM<sub>10</sub></b>		
Scale	Neighborhood	Neighborhood	Neighborhood		
Averaging Times	3-hr; 24-hr; annual	annual	24-hr; annual		
Monitoring Objective	Source impact	Source impact	Source impact		
Suitable for comparison against annual PM <sub>2.5</sub> NAAQS?	N/A	N/A	N/A		

No changes are planned for this station within the next 18 months.

**Figure 8**

KH 150090006  
Kihei Station



# State of Hawaii Ambient Air Monitoring Network

<b>SITE REPORT:</b>	<b>KH Kihei</b>
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<b>Date of Report:</b>	5/4/07
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## SITE INFORMATION

<b>City:</b> Kihei	<b>CDP:</b> Maui	<b>Census Tract:</b> 307.01	<b>AIRS ID:</b> 150090006
<b>Address:</b> Hale Piilani Park (2) 3-8-4:31			
<b>UTM (NAD 83):</b> 4N North 2300013.2 m East 765846.9 m		<b>Latitude (NAD 83):</b> 20° 46' 51.6 N	<b>Elevation (MSL):</b> 47 m
		<b>Longitude:</b> 156° 26' 46.9 W	
<b>Pollutants:</b> PM <sub>2.5</sub> (SLAMS); PM <sub>10</sub> (SPM)			
<b>Name(s) of nearest intersecting street(s):</b> Kaiolohia, Kaiwahine			
<b>Brief description of site location and landmarks:</b> Located in Hale Piilani Park in the Hale Piilani subdivision of upper Kihei and surrounded to the north by agricultural land, primarily sugarcane.			
<b>Agency preparing this report:</b> Department of Health, Environmental Management Division, Clean Air Branch, Monitoring and Analysis Section			
<b>Agency responsible for data collection and site maintenance:</b> Department of Health, State Laboratories Division, Environmental Health Analytical Service Branch, Air Surveillance and Analysis Section			

## GENERAL SITE DESCRIPTION

Mobile Source			
Type	Kaiolohia	Kaiwahine	
Freeway			
Major Street or Highway			
Local Street or Road	X	X	
Through Street or Highway			
Traffic Activity			
Distance of roadway from air intake (ft)	No data	No data	
Direction of roadway from air inlet	-	-	
Composition of roadway	asphalt	asphalt	
Number of traffic lanes	2	2	
Average daily traffic (estimate)	No data	No data	
Average vehicle speed (estimate, mph)	25	25	
Traffic one way or two	2	2	
Number of parking lanes	0	0	
Roadway paved?	Y	Y	
Obstructions			
Type	Size	Direction from Site	Distance from Site
None			
<b>Meteorology and Climatology:</b> Source of met data is site WS, WD			

## DATA QUALITY

Audits	Result
Last PEP Audit:	
Last NPAP Audit: Not applicable	
Last Independent (DOH) Audit: 11/30/06	TEOM ambient pressure sensor -11 mmHg difference
Last Flow Audit: 3/20/07	PM <sub>10</sub> : Pass    PM <sub>2.5</sub> : Pass
Precision/Accuracy reports submitted to AQS:	Yes
Annual data certification submitted to EPA:	Report will be submitted prior to the July 1, 2007 deadline

**SITE AND MONITOR INFORMATION (KH continued)**

**Probe Siting**

	<b>PM</b>	
Location	Top of Shelter	
Shelter:		
height (m)	4	
width (m)	2	
depth (m)	5	
Horizontal distance from supporting structure (m)	N/A	
Vertical distance above supporting structure (m)	1	
Height of probe above ground (m)	5	
Distance from tree(s) (m)	-	
Horizontal distance from edge of nearest traffic lane (m)	-	
Horizontal distance from nearest parking lot (m)	-	
Horizontal distance from walls, parapets, penthouses (m)	N/A	
Distance from obstacles, such as buildings (m)	N/A	
Distance from furnace or incineration flues (m)	N/A	
Unrestricted air flow	360°	
Located in paved area or vegetative ground cover	vegetative	

**Monitor Information**

	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>	<b>WS</b>	<b>WD</b>			
Instrument Manufacturer	R & P	Anderson	RM Young	RM Young			
Model No.	1400AB	RAAS 2.5	05103VP	05103VP			
AQS Method Code	079	120	Not entered into AQS				
Date sampling began	2/99	2/99	-	-			
Frequency	continuous	1 in 3	Continuous	Continuous			
Probe material	-	-	N/A	N/A			
Residence Time (seconds)	No data	No data	N/A	N/A			
Distance between co-located monitors	N/A	N/A	N/A	N/A			

**Site and Data History**

<b>Date of Occurrence</b>	<b>Reasons for Invalid or Missing Data; Other site changes</b>
	None

**SITE REPRESENTATIVENESS**

	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>			
Scale	Neighborhood	Neighborhood			
Averaging Times	24-hr; annual	24-hr; annual			
Monitoring Objective	Source impact	Source impact			
Suitable for comparison against annual PM <sub>2.5</sub> NAAQS?	N/A	Yes			

No changes are planned for this station within the next 18 months.



# State of Hawaii Ambient Air Monitoring Network

<b>SITE REPORT:</b>	<b>HL Hilo</b>
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<b>Date of Report:</b>	5/4/07
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## SITE INFORMATION

<b>City:</b> Hilo	<b>CDP:</b> Hilo	<b>Census Tract:</b> 203	<b>AIRS ID:</b> None
<b>Address:</b> 1099 Waianuenu Ave., Hilo (Hawaii)			
<b>UTM (NAD 83):</b> 4N North 2181602.2 m East 278797.6 m		<b>Latitude (NAD 83):</b> 19° 43' 03.3" N <b>Longitude:</b> 155° 06' 37.9" W	
<b>Elevation (MSL):</b> 137 m			
<b>Pollutants:</b> SO <sub>2</sub> ; PM <sub>2.5</sub> (SPM)			
<b>Name(s) of nearest intersecting street(s):</b> Waianuenu Ave.			
<b>Brief description of site location and landmarks:</b> Located on the grounds of the Adult Rehabilitation Center of Hilo near the Hilo Medical Center.			
<b>Agency preparing this report:</b> Department of Health, Environmental Management Division, Clean Air Branch, Monitoring and Analysis Section			
<b>Agency responsible for data collection and site maintenance:</b> Department of Health, State Laboratories Division, Environmental Health Analytical Service Branch, Air Surveillance and Analysis Section			

## GENERAL SITE DESCRIPTION

Mobile Source			
Type	Waianuenu		
Freeway			
Major Street or Highway	X		
Local Street or Road			
Through Street or Highway			
Traffic Activity			
Distance of roadway from air intake (m)	20		
Direction of roadway from air inlet	N		
Composition of roadway	Asphalt		
Number of traffic lanes	2		
Average daily traffic (estimate)	No data		
Average vehicle speed (estimate, mph)	30		
Traffic one way or two	2		
Number of parking lanes	0		
Roadway paved?	Y		
Obstructions			
Type	Size	Direction from Site	Distance from Site
None			
<b>Meteorology and Climatology:</b> Source of met data is site WS, WD			

## DATA QUALITY

Audit	Result
Last PEP Audit: Not applicable	
Last NPAP Audit: Not applicable	
Last Independent (DOH) Audit: 7/27/06	Pass
Last Flow Audit: 3/21/07	PM <sub>2.5</sub> : Pass
Precision/Accuracy reports submitted to AQS:	N/A
Annual data certification submitted to EPA:	Report will be submitted prior to the July 1, 2007 deadline

**SITE AND MONITOR INFORMATION (HL continued)**

**Probe Siting**

	<b>Gases (SO<sub>2</sub>)</b>	<b>PM</b>
Location	Top of shelter	Top of shelter
Shelter: height (m) width (m) depth (m)	No data	No data
Horizontal distance from supporting structure (m)	No data	No data
Vertical distance above supporting structure (m)	No data	No data
Height of probe above ground (m)	No data	No data
Distance from tree(s) (m)	No data	No data
Horizontal distance from edge of nearest traffic lane (m)	No data	No data
Horizontal distance from nearest parking lot (m)	No data	No data
Horizontal distance from walls, parapets, penthouses (m)	No data	No data
Distance from obstacles, such as buildings (m)	No data	No data
Distance from furnace or incineration flues (m)	No data	No data
Unrestricted air flow	360°	360°
Located in paved area or vegetative ground cover	Vegetative	Vegetative

**Monitor Information**

	<b>SO<sub>2</sub></b>	<b>PM<sub>2.5</sub></b>	<b>WS</b>	<b>WD</b>			
Instrument Manufacturer	TECO	Met-One	RM Young	RM Young			
Model No.	43C	E-sampler	05103VP	05103VP			
AQS Method Code	060	Not entered into AQS					
Date sampling began	3/95	-	-	-			
Frequency	continuous	continuous	continuous	continuous			
Probe material	Teflon	N/A	N/A	N/A			
Residence Time (seconds)	-	N/A	N/A	N/A			
Distance between co-located monitors	N/A	N/A	N/A	N/A			

**Site and Data History**

<b>Date of Occurrence</b>	<b>Reasons for Invalid or Missing Data; Other site changes</b>
	None

**SITE REPRESENTATIVENESS**

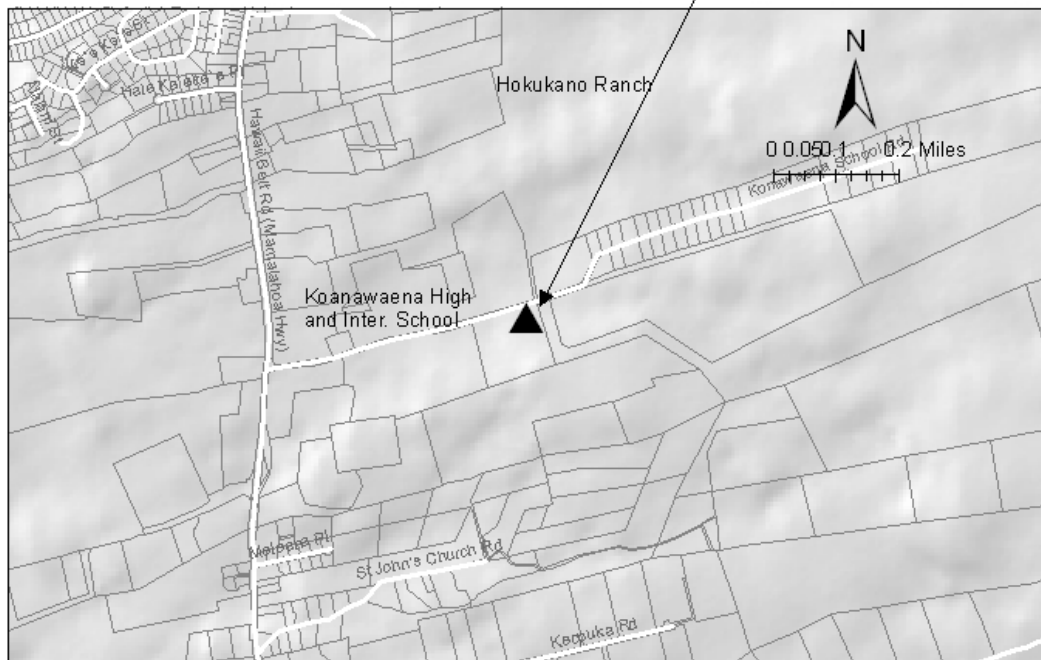
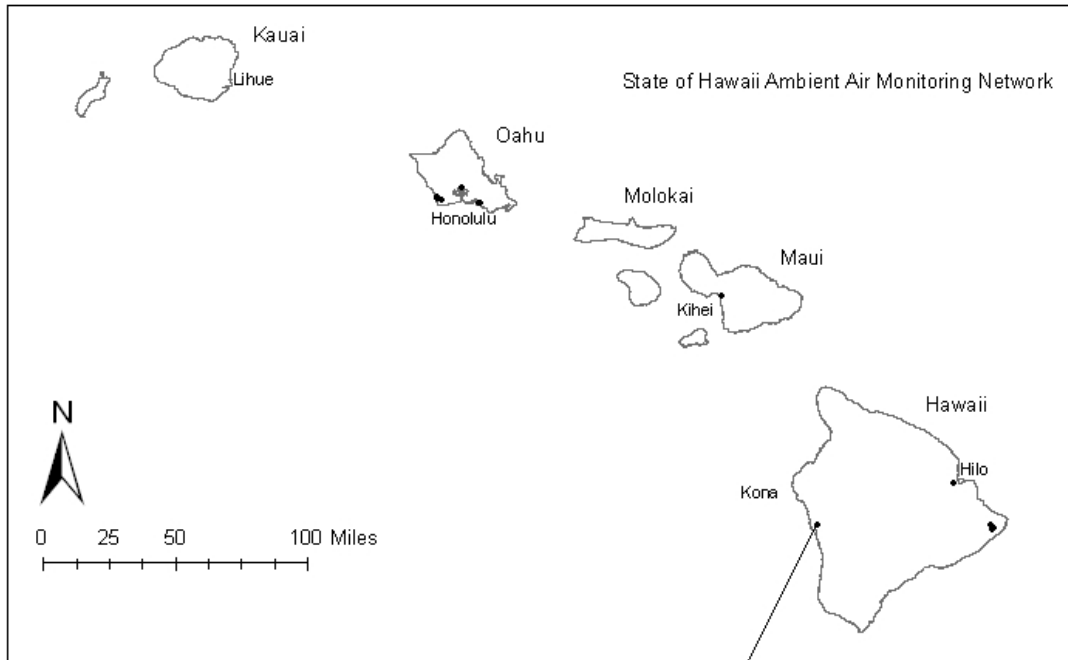
	<b>SO<sub>2</sub></b>	<b>PM<sub>2.5</sub></b>			
Scale	Neighborhood	Neighborhood			
Averaging Times	3-hr; 24-hr; annual	24-hr; annual			
Monitoring Objective	Population exposure	Population exposure			
Suitable for comparison against annual PM <sub>2.5</sub> NAAQS?	N/A	No			

No changes are planned for this station within the next 18 months.



Figure 10

KN  
Kona Station



# State of Hawaii Ambient Air Monitoring Network

<b>SITE REPORT:</b>	<b>KN Kona</b>
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<b>Date of Report:</b>	5/4/07
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## SITE INFORMATION

<b>City:</b> Kailua-Kona	<b>CDP:</b> Kealahou	<b>Census Tract:</b> 214	<b>AIRS ID:</b> None
<b>Address:</b> 81-1043 Konawaena School Rd., Kealahou (Hawaii)			
<b>UTM (NAD 83):</b>	North 2160151.2 m East 823983.1 m	<b>Latitude (NAD 83):</b> 19° 30' 35.2" N <b>Longitude:</b> 155° 54' 48.3" W	<b>Elevation (MSL):</b> 517 m
<b>Pollutants:</b> SO <sub>2</sub> ; PM <sub>2.5</sub> (SPM)			
<b>Name(s) of nearest intersecting street(s):</b> Konawaena School Road			
<b>Brief description of site location and landmarks:</b> Located on the upper campus of Konawaena High School in Kealahou, Hawaii.			
<b>Agency preparing this report:</b> Department of Health, Environmental Management Division, Clean Air Branch, Monitoring and Analysis Section			
<b>Agency responsible for data collection and site maintenance:</b> Department of Health, State Laboratories Division, Environmental Health Analytical Service Branch, Air Surveillance and Analysis Section			

## GENERAL SITE DESCRIPTION

Mobile Source			
Type	Konawaena School Road		
Freeway			
Major Street or Highway			
Local Street or Road			
Through Street or Highway	X		
Traffic Activity			
Distance of roadway from air intake (m)	-		
Direction of roadway from air inlet	-		
Composition of roadway	asphalt		
Number of traffic lanes	1		
Average daily traffic (estimate)	No data		
Average vehicle speed (estimate, mph)	10		
Traffic one way or two	2		
Number of parking lanes	0		
Roadway paved?	Y		
Obstructions			
Type	Size	Direction from Site	Distance from Site
None			
<b>Meteorology and Climatology:</b> Source of met data is site WS, WD			

## DATA QUALITY

Audit	Result
Last PEP Audit: Not applicable	
Last NPAP Audit: Not applicable	
Last Independent (DOH) Audit: 6/26/06	Pass
Last Flow Audit: 2/23/07	PM <sub>2.5</sub> : Pass
Precision/Accuracy reports submitted to AQS:	N/A
Annual data certification submitted to EPA:	Report will be submitted prior to the July 1, 2007 deadline

**SITE AND MONITOR INFORMATION (KN continued)**

<b>Probe Siting</b>							
	<b>Gases (SO<sub>2</sub>)</b>			<b>PM</b>			
Location	Top of shelter			Top of shelter			
Shelter: height (m) width (m) depth (m)	No data			No data			
Horizontal distance from supporting structure (m)	No data			No data			
Vertical distance above supporting structure (m)	No data			No data			
Height of probe above ground (m)	No data			No data			
Distance from tree(s) (m)	No data			No data			
Horizontal distance from edge of nearest traffic lane (m)	No data			No data			
Horizontal distance from nearest parking lot (m)	No data			No data			
Horizontal distance from walls, parapets, penthouses (m)	No data			No data			
Distance from obstacles, such as buildings (m)	No data			No data			
Distance from furnace or incineration flues (m)	No data			No data			
Unrestricted air flow	360°			360°			
Located in paved area or vegetative ground cover	Vegetative			Vegetative			
<b>Monitor Information</b>							
	<b>SO<sub>2</sub></b>	<b>PM<sub>2.5</sub></b>	<b>WS</b>	<b>WD</b>			
Instrument Manufacturer	TECO	Met-One	RM Young	RM Young			
Model No.	43A	E-sampler	05103VP	05103VP			
AQS Method Code	060	Not entered into AQS					
Date sampling began	9/05	-	-	-			
Frequency	continuous	continuous	continuous	continuous			
Probe material	-	-	N/A	N/A			
Residence Time (seconds)	No data	No data	N/A	N/A			
Distance between co-located monitors	N/A	N/A	N/A	N/A			
<b>Site and Data History</b>							
<b>Date of Occurrence</b>	<b>Reasons for Invalid or Missing Data; Other site changes</b>						
7/27/05 – 9/12/05	Station was originally established in 1997 and was located on the bottom campus in the baseball field at a lower elevation level of 480m. Station was moved to its present location because the school was planning an expansion of the field.						

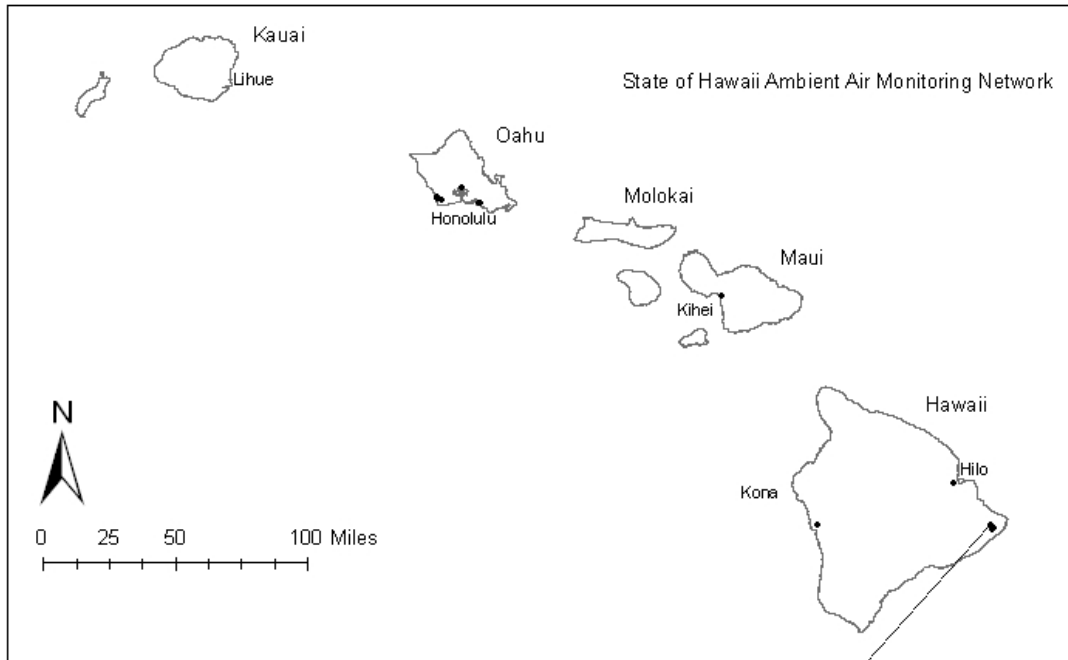
**SITE REPRESENTATIVENESS**

	<b>SO<sub>2</sub></b>	<b>PM<sub>2.5</sub></b>			
Scale	Neighborhood	Neighborhood			
Averaging Times	3-hr; 24-hr; annual	24-hr; annual			
Monitoring Objective	Population exposure	Population exposure			
Suitable for comparison against annual PM <sub>2.5</sub> NAAQS?	N/A	No			

No changes are planned for this station within the next 18 months.

Figure 11

LV  
Lava Tree Station



# State of Hawaii Ambient Air Monitoring Network

<b>SITE REPORT:</b>	<b>LV Lava Tree</b>
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<b>Date of Report:</b>	5/4/07
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## SITE INFORMATION

<b>City:</b> Pahoa	<b>CDP:</b>	<b>Census Tract:</b> 211	<b>AIRS ID:</b> None
<b>Address:</b> TMK (3) 1-4-1:44, Puna (Hawaii)			
<b>UTM (NAD 83):</b>	North 2155755.6 m East 300257.5 m	<b>Latitude (NAD 83):</b> 19° 29' 11.1" N <b>Longitude:</b> 154° 54' 11.2" W	<b>Elevation (MSL):</b> 193 m
<b>Pollutants:</b> H <sub>2</sub> S (SPM)			
<b>Name(s) of nearest intersecting street(s):</b> Pahoa-Pahoiki Rd			
<b>Brief description of site location and landmarks:</b> Located just outside of the State Lava Tree Park, approximately 1.5 miles northwest (upwind) of the Puna Geothermal Venture plant.			
<b>Agency preparing this report:</b> Department of Health, Environmental Management Division, Clean Air Branch, Monitoring and Analysis Section			
<b>Agency responsible for data collection and site maintenance:</b> Department of Health, State Laboratories Division, Environmental Health Analytical Service Branch, Air Surveillance and Analysis Section			

## GENERAL SITE DESCRIPTION

Mobile Source			
Type	Pahoa-Pahoiki Rd.		
Freeway			
Major Street or Highway			
Local Street or Road	X		
Through Street or Highway			
Traffic Activity			
Distance of roadway from air intake (m)	-		
Direction of roadway from air inlet	N		
Composition of roadway	dirt/gravel		
Number of traffic lanes	1		
Average daily traffic (estimate)	No data		
Average vehicle speed (estimate, mph)	15		
Traffic one way or two	2		
Number of parking lanes	0		
Roadway paved?	No		
Obstructions			
Type	Size	Direction from Site	Distance from Site
None			
<b>Meteorology and Climatology:</b> Source of met data is site WS, WD			

## DATA QUALITY

Audits	Result
Last PEP Audit: Not applicable	
Last NPAP Audit: Not applicable	
Last Independent (DOH) Audit: 7/26/06	Pass
Last Flow Audit: Not applicable	
Precision/Accuracy reports submitted to AQS:	N/A
Annual data certification submitted to EPA:	N/A

**SITE AND MONITOR INFORMATION (LV continued)**

**Probe Siting**

<b>Gases (H<sub>2</sub>S)</b>	
Location	Side of shelter ~6 ft. above ground
Shelter: height (m) width (m) depth (m)	No data
Horizontal distance from supporting structure (m)	No data
Vertical distance above supporting structure (m)	No data
Height of probe above ground (m)	No data
Distance from tree(s) (m)	No data
Horizontal distance from edge of nearest traffic lane (m)	No data
Horizontal distance from nearest parking lot (m)	No data
Horizontal distance from walls, parapets, penthouses (m)	No data
Distance from obstacles, such as buildings (m)	No data
Distance from furnace or incineration flues (m)	No data
Unrestricted air flow	360°
Located in paved area or vegetative ground cover	vegetative

**Monitor Information**

	<b>H<sub>2</sub>S</b>	<b>WS</b>	<b>WD</b>				
Instrument Manufacturer	TECO	RM Young	RM Young				
Model No.	43i	05103VP	05103VP				
AQS Method Code	008	Not entered into AQS					
Date sampling began	8/93	-	-				
Frequency	continuous	continuous	continuous				
Probe material	-	N/A	N/A				
Residence Time (seconds)	No data	N/A	N/A				
Distance between co-located monitors	N/A	N/A	N/A				

**Site and Data History**

<b>Date of Occurrence</b>	<b>Reasons for Invalid or Missing Data; Other site changes</b>
	None

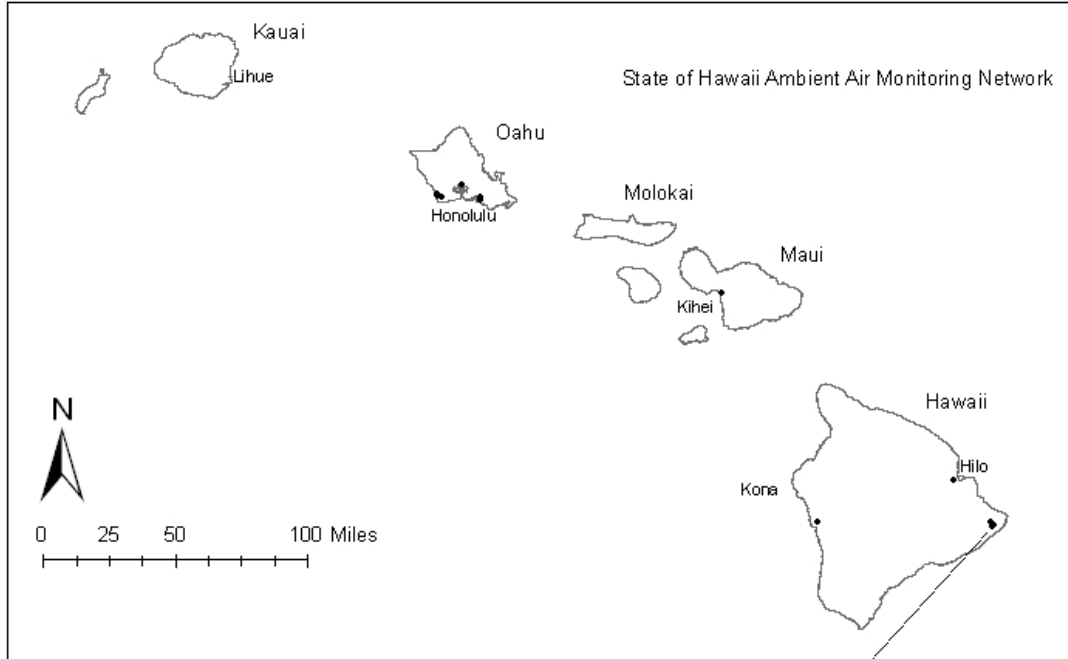
**SITE REPRESENTATIVENESS**

	<b>H<sub>2</sub>S</b>				
Scale	Neighborhood				
Averaging Times	1-hr				
Monitoring Objective	Source Impact				
Suitable for comparison against annual PM <sub>2.5</sub> NAAQS?	N/A				

The state will be evaluating the data from this station and may close it in the future.

Figure 12

PE  
Puna E Station



# State of Hawaii Ambient Air Monitoring Network

<b>SITE REPORT:</b>	<b>PE Puna E</b>
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<b>Date of Report:</b>	5/4/07
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## SITE INFORMATION

<b>City:</b> Pahoa	<b>CDP:</b> Leilani Estates	<b>Census Tract:</b> 211	<b>AIRS ID:</b> None
<b>Address:</b> TMK (3) 1-3-28:37, Puna (Hawaii)			
<b>UTM (NAD 83):</b> North 2153268.8m East 300693.3 m		<b>Latitude (NAD 83):</b> 19° 27' 50.4" N <b>Longitude:</b> 154° 53' 55.3" W	
<b>Pollutants:</b> SO <sub>2</sub> ; H <sub>2</sub> S (SPM)		<b>Elevation (MSL):</b> 208 m	
<b>Name(s) of nearest intersecting street(s):</b> Leilani Blvd.			
<b>Brief description of site location and landmarks:</b> Located in the Leilani Estates residential subdivision in Puna approximately 1.5 miles southwest of the Puna Geothermal Venture power plant.			
<b>Agency preparing this report:</b> Department of Health, Environmental Management Division, Clean Air Branch, Monitoring and Analysis Section			
<b>Agency responsible for data collection and site maintenance:</b> Department of Health, State laboratories Division, Environmental Health Analytical Service Branch, Air Surveillance and Analysis Section			

## GENERAL SITE DESCRIPTION

Mobile Source			
Type	Leilani Blvd.		
Freeway			
Major Street or Highway			
Local Street or Road	X		
Through Street or Highway			
Traffic Activity			
Distance of roadway from air intake (m)	-		
Direction of roadway from air inlet	NW		
Composition of roadway	asphalt		
Number of traffic lanes	2		
Average daily traffic (estimate)	No data		
Average vehicle speed (estimate, mph)	25		
Traffic one way or two	2		
Number of parking lanes	0		
Roadway paved?	Yes		
Obstructions			
Type	Size	Direction from Site	Distance from Site
None			
<b>Meteorology and Climatology:</b> Source of met data is site WS, WD			

## DATA QUALITY

Audits	Result
Last PEP Audit: Not applicable	
Last NPAP Audit: Not applicable	
Last Independent (DOH) Audit: 7/25/06	Pass
Last Flow Audit: Not applicable	
Precision/Accuracy reports submitted to AQS:	N/A
Annual data certification submitted to EPA:	N/A



**SITE AND MONITOR INFORMATION (PE continued)**

Probe Siting							
		Gases (SO <sub>2</sub> , H <sub>2</sub> S)					
Location		Side of shelter ~6 ft. above ground					
Shelter: height (m) width (m) depth (m)		No data					
Horizontal distance from supporting structure (m)		No data					
Vertical distance above supporting structure (m)		No data					
Height of probe above ground (m)		No data					
Distance from tree(s) (m)		No data					
Horizontal distance from edge of nearest traffic lane (m)		No data					
Horizontal distance from nearest parking lot (m)		No data					
Horizontal distance from walls, parapets, penthouses (m)		No data					
Distance from obstacles, such as buildings (m)		No data					
Distance from furnace or incineration flues (m)		No data					
Unrestricted air flow		360°					
Located in paved area or vegetative ground cover		Vegetative					
Monitor Information							
	SO <sub>2</sub>	H <sub>2</sub> S	WS	WD			
Instrument Manufacturer	TECO	TECO	RM Young	RM Young			
Model No.	43C	43C	05103VP	05103VP			
AQS Method Code	060	008	Not entered into AQS				
Date sampling began	2/05	3/91	-	-			
Frequency	continuous	continuous	Continuous	Continuous			
Probe material	-	-	N/A	N/A			
Residence Time (seconds)	No data	No data	N/A	N/A			
Distance between co-located monitors	N/A	N/A	N/A	N/A			
Site and Data History							
Date of Occurrence	Reasons for Invalid or Missing Data; Other site changes						
	None						

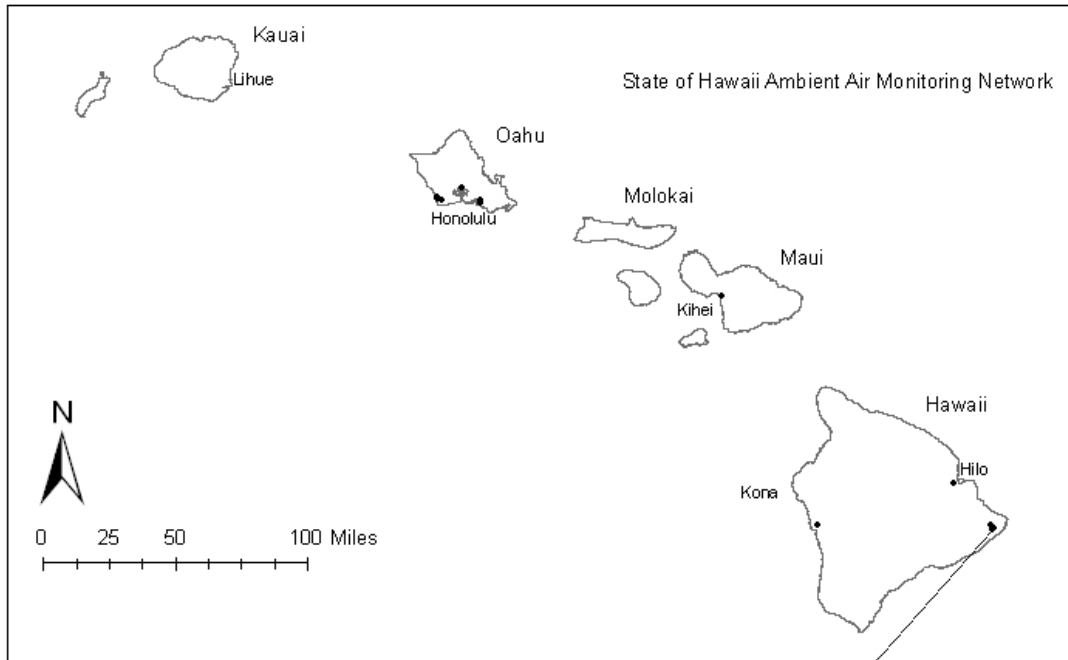
**SITE REPRESENTATIVENESS**

	SO <sub>2</sub>	H <sub>2</sub> S			
Scale	Neighborhood	Neighborhood			
Averaging Times	3-hr; 24-hr; annual	1-hr			
Monitoring Objective	Other	Source Impact			
Suitable for comparison against annual PM <sub>2.5</sub> NAAQS?	N/A	N/A			

No changes are planned for this station within the next 18 months.

Figure 13

PH  
Puna H Station



# State of Hawaii Ambient Air Monitoring Network

<b>SITE REPORT:</b>	<b>PH Puna H</b>
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<b>Date of Report:</b>	5/4/07
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## SITE INFORMATION

<b>City:</b> Pahoia	<b>CDP:</b>	<b>Census Tract:</b> 211	<b>AIRS ID:</b> 150012012
<b>Address:</b> TMK (3) 1-3-46:75 Puna (Hawaii)			
<b>UTM (NAD 83):</b> North 2154122 m East 3001714 m		<b>Latitude (NAD 83):</b> 19° 28' 18.6" N <b>Longitude:</b> 154° 53' 20.5" W	
<b>Pollutants:</b> H <sub>2</sub> S (SPM)		<b>Elevation (MSL):</b> No data	
<b>Name(s) of nearest intersecting street(s):</b> Hinalo St., Pahoiki Rd.			
<b>Brief description of site location and landmarks:</b> Located in the Lanipuna Gardens residential subdivision, less than 1 mile south of the Puna Geothermal Venture plant.			
<b>Agency preparing this report:</b> Department of Health, Environmental Management Division, Clean Air Branch, Monitoring and Analysis Section			
<b>Agency responsible for data collection and site maintenance:</b> Department of Health, State Laboratories Division, Environmental Health Analytical Service Branch, Air Surveillance and Analysis Section			

## GENERAL SITE DESCRIPTION

Mobile Source			
Type	Hinalo St.	Pahoiki Rd.	
Freeway			
Major Street or Highway			
Local Street or Road	X	X	
Through Street or Highway			
Traffic Activity			
Distance of roadway from air intake (m)	-	-	
Direction of roadway from air inlet	N	SW	
Composition of roadway	asphalt	asphalt	
Number of traffic lanes	2	2	
Average daily traffic (estimate)	No data	No data	
Average vehicle speed (estimate, mph)	25	25	
Traffic one way or two	2	2	
Number of parking lanes	0	0	
Roadway paved?	Yes	Yes	
Obstructions			
Type	Size	Direction from Site	Distance from Site
None			
<b>Meteorology and Climatology:</b> Source of met data is site WS, WD			

## DATA QUALITY

Audits	Result
Last PEP Audit: Not applicable	
Last NPAP Audit: Not applicable	
Last Independent (DOH) Audit: 7/26/06	Pass
Last Flow Audit: Not applicable	
Precision/Accuracy reports submitted to AQS:	N/A
Annual data certification submitted to EPA:	N/A

**SITE AND MONITOR INFORMATION (PH continued)**

**Probe Siting**

		Gases (H <sub>2</sub> S)
Location		Side of shelter ~6 ft. above ground
Shelter: height (m) width (m) depth (m)		No data
Horizontal distance from supporting structure (m)		No data
Vertical distance above supporting structure (m)		No data
Height of probe above ground (m)		No data
Distance from tree(s) (m)		No data
Horizontal distance from edge of nearest traffic lane (m)		No data
Horizontal distance from nearest parking lot (m)		No data
Horizontal distance from walls, parapets, penthouses (m)		No data
Distance from obstacles, such as buildings (m)		No data
Distance from furnace or incineration flues (m)		No data
Unrestricted air flow		360°
Located in paved area or vegetative ground cover		Vegetative

**Monitor Information**

	H <sub>2</sub> S	WS	WD				
Instrument Manufacturer	TECO	RM Young	RM Young				
Model No.	43C	05103VP	05103VP				
AQS Method Code	008	Not entered into AQS					
Date sampling began	11/02	-	-				
Frequency	continuous	Continuous	Continuous				
Probe material	-	N/A	N/A				
Residence Time (seconds)	No data	N/A	N/A				
Distance between co-located monitors	N/A	N/A	N/A				

**Site and Data History**

Date of Occurrence	Reasons for Invalid or Missing Data; Other site changes
	None

**SITE REPRESENTATIVENESS**

	H <sub>2</sub> S				
Scale	Neighborhood				
Averaging Times	1-hr				
Monitoring Objective	Source Impact				
Suitable for comparison against annual PM <sub>2.5</sub> NAAQS?	N/A				

No changes are planned for this station within the next 18 months.