

*2010
Air Quality Summary Report
Appendix*



**Pima County Department of Environmental Quality
33 North Stone Avenue
Tucson, Arizona 85701
AQ- 377**

2010 AIR QUALITY SUMMARY REPORT

APPENDIX

AIR QUALITY HISTORICAL DATA

National Ambient Air Quality Standards.....	2
PM ₁₀	3-8
PM _{2.5}	9-11
Lead	12
Total Suspended Particulates (TSP)	13-14
Carbon Monoxide	15-23
Ozone	25-34
Nitrogen Dioxide	35-38
Non-Methane Hydrocarbons	39
Sulfur Dioxide	40-43
Water Soluble Sulfates	43

National Ambient Air Quality Standards (NAAQS)

Pollutant	Primary (Health Related)		Secondary (Welfare Related)	
	Type of Average	Standard Level Concentration ^a	Type of Average	Standard Level Concentration
CO	1-Hour ^b	35 ppm (40 µg/m ³)	No Secondary Standard	
	8-Hour ^b	9 ppm (10 µg/m ³)	No Secondary Standard	
O ₃	8-Hour ^c	0.075 ppm	Same as Primary	
PM ₁₀	24-Hour ^d	150 µg/m ³	Same as Primary	
PM _{2.5}	Annual Arithmetic Mean ^e	15 µg/m ³	Same as Primary	
	24-Hour ^e	35 µg/m ³	Same as Primary	
NO ₂	Annual Arithmetic Mean	53 ppb	Same as Primary	
	1-Hour ^f	100 ppb	None	
SO ₂	1-Hour ^g	75 ppb	None	
Pb	Quarterly Average	1.5 µg/m ³	Same as Primary	
	Rolling 3-month Average	0.15 µg/m ³	Same as Primary	

a Parenthetical value is an approximately equivalent concentration (40 CFR, Part 50).

b Not to be exceeded more than once per year.

c The standard is met when the three year average of the annual fourth highest daily maximum concentration is less than or equal to 0.075ppm (effective May 27, 2008).

d The 24-hour standard is met when the expected number of exceedances in a year averaged over three years is less than or equal to one (App. K). The annual standard was revoked December 17, 2006.

e The 24-hour standard is met when the three year average of the 98th percentile value is less than or equal to 35 µg/m³(effective December 17, 2006). The annual standard is met when the annual average of the quarterly concentrations is less than or equal to 15 µg/m³, when averaged over 3 years.

f The 1- hour standard is met when the three year average of the 98th percentile of the daily maximum 1- hour average at each monitor within an area must not exceed 100 ppb (effective January 22, 2010)

g The 1 –hour standard is met when the three year average of the 99th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 75 ppb. (effective June 2, 2010)

Reference: [Http://www.epa.gov/air/criteria.html](http://www.epa.gov/air/criteria.html)

PM₁₀ ANNUAL AVERAGES

Measurements reported in $\mu\text{g}/\text{m}^3$

	Downtown	22nd/ Craycroft	South Tucson	Prince Road	Magnetic Observe.	Corona de Tucson	Green Valley	Orange Grove	Golf Links / Harrison	University of Arizona	Broadway / Swan	Hidden Valley	Fairgrounds	Tangerine	Santa Clara	Central
'88	50	--	47*	49*	35*	21	20*	44*	30*	45*	37*	--	--	--	--	--
'89	56	--	49	52	36	20*	21	44	29	43	35	--	--	--	--	--
'90	33	--	46	43*	26	16*	19	38*	25	38	29	--	--	--	--	--
'91	30	--	34	32	21	13	16	31	20	30	25	--	--	--	--	--
'92	28	--	32	28	22	12	15	30	20	29	26	--	--	--	--	--
'93	28	--	32	24*	20	12	16	28	19	25	25	--	--	--	--	--
'94	29	33	27	25	D	13	16	31	19	D	26	--	12	12	22	--
'95	31	35	31	38	--	15	16	34	D	--	28	41	14	15	27	32
'96	33	23	31	35	--	13	15	33	--	--	25	18	15	14	28	28
'97	29	26	33	34*	--	15	16	31	--	--	28	17	16	15	27	27
'98	31	22	39	35	--	15	15	25	--	--	26	20*	15	13	27*	25
'99	35	D	45a	44	--	18	18	43a	--	--	32	D	D	18	34	D
'00	D	--	38	38	--	18	17	39	--	--	30	--	--	18	31	--
'01	--	--	31	33	--	16	18	29	--	--	26	--	--	17	26	--
'02	--	--	39	34	--	15	20	33	--	--	26	--	--	19	28	--
'03	--	--	34	31	--	17	19	29	--	--	27	--	--	19	27	--

D - Station discontinued

* Annual average data recovery did not meet EPA standards (75% valid samples required).

a - Averages omitted flagged high wind (exceedance) days.

PM₁₀ ANNUAL AVERAGESMeasurements reported in $\mu\text{g}/\text{m}^3$

	South Tucson	Prince Road	Corona de Tucson	Green Valley	Orange Grove	Broadway / Swan	Tangerine	Santa Clara	Geronimo
2004	29	28	12	14	27	21	15	20	
2005	30	37*	15	17	29	24	19	27	
2006	34	35	23	17	32	27	23	36	
2007	31	32	17	20	29	26	22	28	33*
2008	31	33	19	21	28	25	19	30	31
2009	30	33	18	17	27	24	18	27	31
2010	26	30	13	15	23	19	16	22	25

D - Station discontinued

* Annual average data recovery did not meet EPA standards (75% valid samples required).

PM₁₀ 24-HR MAXIMUM VALUES

Measurements reported in $\mu\text{g}/\text{m}^3$

	Downtown	22nd/ Craycroft	South Tucson	Prince Road	Magnetic Observe.	Corona de Tucson	Green Valley	Orange Grove	Golf Links / Harrison	University of Arizona	Broadway / Swan	Hidden Valley	Fairgrounds	Tangerine	Santa Clara	Central
'88	136	--	70*	84*	54*	45*	44*	305*	51*	61*	109*	--	--	--	--	--
'89	221	--	105	109	92	59*	46	128	101	99	79	--	--	--	--	--
'90	117	--	144	89*	77	53*	61	134*	68	81	73	--	--	--	--	--
'91	73	--	60	75	42	21	26	81	38	51	43	--	--	--	--	--
'92	70	--	81	73	54	30	26	102	58	114	73	--	--	--	--	--
'93	77	--	88	49*	38	26	51	61	35	48	54	--	--	--	--	--
'94	71	82	58	67	D	29	28	52	32	D	61	--	31	24	42	--
'95	103	106	77	132	--	46	39	107	D	--	75	127	43	44	81	89
'96	123	38	72	79	--	25	28	67	--	--	40	43	74	24	62	53
'97	72	62	72	62*	--	34	42	68	--	--	58	36	40	39	64	58
'98	96	52	87	88	--	44	35	47	--	--	52	35*	45	31	55	51
'99	129	D	214	118	--	51	38	235	--	--	89	D	D	41	97	D
'00	D	--	142	89	--	88	63	141	--	--	119	--	--	71	97	--
'01	--	--	134	125	--	133	78	111	--	--	120	--	--	81	131	--
'02	--	--	200	83	--	40	98	171	--	--	62	--	--	63	86	--
'03	--	--	150	126	--	104	127	152	--	--	122	--	--	125	146	--

D - Station discontinued

* Annual average data recovery did not meet EPA standards (75% valid samples required).

PM₁₀ 24-HR MAXIMUM VALUES									
Measurements Reported in $\mu\text{g}/\text{m}^3$									
	South Tucson	Prince Road	Corona de Tucson	Green Valley	Orange Grove	Broadway / Swan	Tangerine	Santa Clara	Geronimo
2004	149	67	37	127	119	35	34	41	
2005	73	88*	33	54	98	46	37	82	
2006	109	72	144	81	101	60	104	104	
2007	97	99	50	123	95	80	88	92	104
2008	146	83	89	115	132	66	54	173	137
2009	184	81	85	84	270	67	101	90	237
2010	79	72	31	57	64	33	58	56	67
D - Station discontinued									
* Annual average data recovery did not meet EPA standards (75% valid samples required).									

PM₁₀ 2ND 24-HR MAXIMUM VALUES

Measurements reported in $\mu\text{g}/\text{m}^3$

	Downtown	22nd/ Craycroft	South Tucson	Prince Road	Magnetic Observe.	Corona de Tucson	Green Valley	Orange Grove	Golf Links / Harrison	University of Arizona	Broadway / Swan	Hidden Valley	Fairgrounds	Tangerine	Santa Clara	Central
'88	124	--	59*	81*	51*	37*	25*	187	48*	56*	76*	--	--	--	--	--
'89	203	--	93	100	63	41*	44	122	101	88	67	--	--	--	--	--
'90	108	--	108	75*	58	49*	59	116*	61	72	61	--	--	--	--	--
'91	62	--	58	70	38	19	24	67	35	51	43	--	--	--	--	--
'92	69	--	60	67	51	30	25	79	42	69	56	--	--	--	--	--
'93	61	--	73	44	38	25	32	58	34	46	43	--	--	--	--	--
'94	58	80	54	46	D	21	26*	48	31	D	52	--	23	--	41	--
'95	69	63	58	70	--	43	34	106	D	--	53	96	37	34	54	59
'96	81	36	53	60	--	24	27	62	--	--	39	38	29	24	54	45
'97	71	56	69	58	--	31	30	66	--	--	57	35	33	30	46	52
'98	78	39	74	70	--	40	33	44	--	--	51	34*	34	26	44	48
'99	117	D	207	80	--	46	33	176	--	--	51	D	D	36	76	D
'00	D	--	123	68	--	50	35	100	--	--	56	--	--	38	72	--
'01	--	--	115	83	--	85	73	100	--	--	70	--	--	62	111	--
'02	--	--	192	62	--	30	75	125	--	--	54	--	--	58	53	--
'03	--	--	128	56	--	47	118	120	--	--	66	--	--	50	63	--

D - Station discontinued

* Annual average data recovery did not meet EPA standards (75% valid samples required).

PM₁₀ 2ND 24-HR MAXIMUM VALUES									
Measurements Reported in $\mu\text{g}/\text{m}^3$									
	South Tucson	Prince Road	Corona de Tucson	Green Valley	Orange Grove	Broadway / Swan	Tangerine	Santa Clara	Geronimo
2004	117	50	24	96	100	34	26	41	
2005	73	88	31	51	74	44	35	55	
2006	85	71	70	50	88	55	59	93	
2007	96	62	48	77	95	80	44	60	77
2008	121	68	67	97	88	42	50	81	112
2009	127	75	52	78	97	52	41	48	124
2010	66	58	29	32	57	33	35	50	66

PM_{2.5} VALUES Dichotomous sampling Measurements Reported in $\mu\text{g}/\text{m}^3$ 1998			
	98th percentile 24-hr Avg	24- Hr Max	Annual Mean
22nd/Craycroft	12.3	12.8	6.3
Orange Grove	14.3	20.6	7.3
Fairgrounds	10.2	22.2	5.0
Tangerine	10.1	10.3	4.6
Central	15.4	16.1	7.5
Data based on local conditions Central, 22 nd and Craycroft and Orange Grove sites monitored for visibility studies in 1999. Fairgrounds and Tangerine dichotomous sampling was discontinued January 1999.			

PM_{2.5} VALUES ⁴
Measurements Reported in µg/m³
24-Hr Maximum

	Children's Park	Orange Grove	Rose Elementary ³	Coachline ³	Green Valley ³	Geronimo ³
1999	22.8	56.2				
2000	13.6	13.3				
2001	17.5	20.9	32	23 ¹	19	28 ²
2002	28	26	35	37	23	45
2003	19	18	39	30	28	32
2004	12	17	21	21	11	26
2005	13	16	19	22	16	28
2006	16	19	35	20	9	23
2007	13	21	24	21	15	24
2008	15	18	23	21	21	28
2009	16	14	22	29	12	31
2010	14	16	22	18	10	29

¹ Monitoring began 03/13/01, Annual Mean based on limited number of samples

² Monitoring began 08/01/01, Annual Mean based on limited number of samples

³ Special Purpose sites

⁴ Data prior to 2004 was in raw form and not adjusted to be FRM like.

PM_{2.5} VALUES ⁴
 Measurements Reported in µg/m³
Annual Mean

	Children's Park	Orange Grove	Rose Elementary ³	Coachline ³	Green Valley ³	Geronimo ³
1999	8.5	9.3				
2000	6.6	7.7				
2001	6.8	7.6	14	11 ¹	8	11 ²
2002	7	6	14	13	7	13
2003	7	6	13	11	7	11
2004	5.6	5.8	6.3	6.4	3.5	7.0
2005	5.9	6.3	6.7	7.5	3.8	8.9
2006	5.8	5.8	9.0	7.9	2.8	8.5
2007	5.7	5.8	6.5	5.8	4.3	7.0
2008	5.4	5.7	6.5	7.6	5.0	6.8
2009	5.5	5.3	5.4	5.5	4.0	8.2
2010	5.0	5.2	5.4	5.1	3.8	9.5

¹ Monitoring began 03/13/01, Annual Mean based on limited number of samples

² Monitoring began 08/01/01, Annual Mean based on limited number of samples

³ Special Purpose sites

⁴ Data prior to 2004 was in raw form and not adjusted to be FRM like.

LEAD										
State and federal Standards Primary & Secondary: Calendar Quarter Average 1.5 µg/m ³										
High Quarterly Average in µg/m³										
Site	'96	'95	'94	'93	'92	'91	'90	'89	'88	'87
22nd / Craycroft	0.05	0.01	0.02	0.02	0.01	--	--	--	--	--
Prince Road (TSP)**	0.04	0.02	0.05	0.04	0.06	0.05	0.05	--	--	0.10
Prince Road (PM₁₀)**	--	--	--	--	--	--	0.03	0.06	0.10	--
Broadway / Swan (TSP)**	--	--	--	--	--	--	--	--	--	0.04
Broadway / Swan (PM₁₀)**	--	--	--	--	0.01	0.01	0.01	0.04	0.05	--
South Tucson***	--	--	--	--	0.03	--	--	--	--	--
Site	'86	'85	'84	'83	'82	'81	'80	'79	'78	'77
Magnetic Observatory*	--	--	--	0.24	0.21	0.22	0.23	0.40	0.42	--
Prince Road (TSP)**	0.27	0.58	0.59	0.65	0.58	0.52	0.82	1.14	1.017	1.61
Broadway / Swan (TSP)**	0.16	0.50	0.37	0.50	--	--	--	--	--	--
* Magnetic Observatory discontinued in 1984.										
** On 2/21/88 Prince Rd. was converted from using TSP to PM ₁₀ filters for lead sampling. Then on 10/20/90 a TSP sampler was placed back at Prince Rd. just for use in determining lead concentrations. On 6/26/87 Broadway / Swan converted from TSP to PM ₁₀ . Lead values determined from PM ₁₀ filters will be lower than those utilizing TSP filters. Since health standards are based on the TSP method of determining concentrations, all lead samplers were converted to TSP filters on 3/1/92.										
*** Started TSP sampling on 6/17/91. Moved to 22nd / Craycroft on 3/1/92.										

TOTAL SUSPENDED PARTICULATES (TSP)

Annual Geometric Means in $\mu\text{g}/\text{m}^3$

	'96	'95	'94	'93	'92	'91	'90	'89	'88	'87	'86	'85	'84	'83	'82	'81
22nd / Craycroft	51	52	--	--	--	--	--	--	--	--	--	--	--	--	--	--
University of Arizona*	--	--	--	--	45	67	70	71	86	66	82	77	70	54	59	76
South Tucson Tucson	--	--	--	--	55	66	81	89	81	83	95	99	91	79	89	112
Downtown	67	70	--	--	--	--	--	--	--	--	--	--	63	52	64	67
Prince Road	--	--	70	65	73	72	62	--	88	87	93	102	91	77	93	101
Magnetic * Observatory	--	--	--	--	--	--	--	--	--	--	--	--	54	45	53	62
Corona de Tucson	--	--	--	--	--	--	--	37	30	25	20	20	25	18	22	35
Green Valley	--	--	--	--	--	51	30	37	31	39	39	37	39	27	33	46
Border Patrol*	--	--	--	--	--	--	--	--	--	--	--	--	69	48	52	58
Orange Grove	--	--	--	--	--	--	82	91	82	80	86	87	92	78	86	107
Hughes Nogales*	--	--	--	--	--	--	--	--	--	--	--	52	48	34	44	54
Alvernon / Ft. Lowell*	--	--	--	--	--	--	--	--	--	--	--	76	73	70	89	98
Golf Links / Harrison*	--	--	--	--	--	--	--	--	--	52	42	47	55	48	58	67
Broadway / Swan	--	--	--	--	--	--	--	--	--	66	62	76	65	59	--	--
Rillito*	--	--	--	--	--	--	--	--	--	--	--	84	--	--	107	112
Pima College*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	36	47
Davis Monthan*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	68
Sahuarita Jr. High *	--	--	36	37	34	35	39									

* Sites discontinued or put on reserve.

TOTAL SUSPENDED PARTICULATES (TSP)

Annual Geometric Means in $\mu\text{g}/\text{m}^3$

	'80	'79	'78	'77	'76	'75	'74	'73	'72	'71	'70	'69	'68	'67
22nd / Craycroft	--	--	--	--	--	--	--	--	--	--	--	--	--	--
U of A *	75	89	61	71	73	71	69	67	98	88	96	78	70	89
S. Tucson	97	101	117	119	118	96	106	116	95	140	143	136	115	145
Downtown	61	69	56	68	71	67	77	77	88	109	88	98	91 ¹	102
Prince Road	117	129	110	122	94	74	81	109	110	101	--	--	--	--
Magnetic * Observatory	59	61	56	67	59	60	47	46	53	--	--	--	--	--
Corona de Tucson	22	28	20	24	28	27	24	25	26	--	--	--	--	--
Green Valley	39	54	45	55	54	53	53	50	43	59	--	--	--	--
Border Ptrl*	61	69	66	72	76	79	60	73	--	--	--	--	--	--
Orange Grove	108	109	84	85	85	87	76	--	--	--	--	--	--	--
Hughes / Nogales*	54	54	43	50	51	54	54	--	--	--	--	--	--	--
Alvernon / Ft. Lowell*	101	120	126	155	168	174	--	--	--	--	--	--	--	--
Golf Links / Harrison*	59	65	55	63	57	62	59	--	--	--	--	--	--	--
Broadway/ Swan	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Rillito*	114	132	100	143	112	--	--	--	--	--	--	--	--	--
Pima College*	43	47	42	50	--	--	--	--	--	--	--	--	--	--
Davis Monthan*	67	69	69	76	72	73	80	88	--	--	--	--	--	--
Florence / Magee*	--	60	50	72	54	66	64	44	--	--	--	--	--	--
Pantano Fire *	--	--	--	93	93	84	89	101	--	--	--	--	--	--
Tanque Verde *	--	--	--	--	--	--	--	--	130	115	86	91	72	114
Romero / Roger*	--	--	--	--	--	--	--	--	--	247	164	156	--	232

* Sites discontinued or put on reserve.

¹ Old Downtown site Relocated to new Downtown site.

CARBON MONOXIDE

DOWNTOWN	1- Hour Average (in ppm)		8- Hour Average (in ppm)		# Over 8- Hr. Standard	% Data Recovery
	1 st Maximum	2 nd Maximum	1 st Maximum	2 nd Maximum		
1975	23.0	18.0	8.2	7.9	0	99
1976	17.0	16.5	10.4	8.9	1	90
1977	21.0	18.5	9.9	9.4	1	99
1978	14.1	10.7	7.1	7.1	0	95
1979	10.0	10.0	6.1	5.9	0	84
1980	14.0	11.0	6.5	6.1	0	42
1981	15.5	15.2	9.3	8.6	0	93
1982	15.5	15.5	9.1	8.8	0	95
1983	18.5	17.2	9.6	7.8	1	92
1984	11.0	10.0	5.8	5.6	0	95
1985	12.0	10.6	7.1	5.3	0	98
1986	13.8	13.0	9.2	7.8	0	89
1987	10.3	9.1	5.3	4.7	0	94
1988	15.6	14.8	12.7	6.8	1	96
1989	9.7	9.4	6.5	5.8	0	98
1990	13.8	9.3	4.4	4.3	0	91
1991	10.7	8.6	5.1	4.7	0	96
1992	8.7	8.1	5.0	4.8	0	92
1993	7.7	7.0	4.9	4.4	0	95
1994	10.8	7.4	5.0	4.5	0	92
1995	11.3	10.4	5.5	4.5	0	95
1996	9.9	7.6	4.6	4.4	0	98
1997	8.2	7.8	4.8	4.4	0	99
1998	7.6	7.5	4.3	3.9	0	97
1999	10.6	6.3	4.3	3.9	0	99
2000	6.7	6.0	3.8	3.5	0	99
2001	5.6	5.1	2.7	2.5	0	99
2002	6.6	5.1	3.7	2.3	0	99
2003	10	9.6	3.1	2.7	0	98
2004	5.5	4.7	3.7	2.5	0	99
2005	3.0	2.8	1.9	1.7	0	100
2006	2.9	2.6	1.4	1.2	0	100
2007	3.4	2.7	1.9	1.4	0	99
2008	2.2	1.8	1.3	1.0	0	99
2009	1.8	1.5	1.0	1.0	0	99

- All values before 1985 were recorded in $\mu\text{g}/\text{m}^3$. All historical data has been converted to ppm.
- Downtown site closed 08-13-2009

CARBON MONOXIDE

22ND / CRAYCROFT	1- Hour Average (in ppm)		8- Hour Average (in ppm)		# Over 8- Hr. Standard	% Data Recovery
	1 st Maximum	2 nd Maximum	1 st Maximum	2 nd Maximum		
1975	16.5	15.0	7.0	6.8	0	67
1976	14.0	14.0	6.7	6.5	0	87
1977	21.0	17.5	8.5	6.6	0	92
1978	15.9	14.5	6.5	6.3	0	93
1979	11.0	10.8	5.9	5.8	0	74
1980	16.5	16.0	6.1	5.7	0	98
1981	11.2	18.5	5.7	4.7	0	88
1982	12.0	9.5	6.0	5.0	0	88
1983	16.5	10.2	5.8	5.2	0	95
1984	11.9	11.8	7.5	4.7	0	74
1985	12.2	9.4	5.4	5.1	0	78
1986	7.9	7.7	3.8	2.9	0	66
1987	9.0	8.2	3.8	3.8	0	47
1988	11.1	10.0	5.4	5.1	0	88
1989	9.5	9.1	5.0	4.3	0	94
1990	6.8	6.2	3.1	3.1	0	91
1991	6.4	5.9	3.5	2.8	0	92
1992	7.5	7.2	3.5	3.3	0	85
1993	8.3	8.2	5.1	3.1	0	96
1994	7.0	6.6	3.9	3.2	0	92
1995	6.7	6.4	3.0	2.6	0	98
1996	6.7	6.0	3.1	2.8	0	99
1997	7.2	6.9	3.4	2.6	0	99
1998	4.8	4.6	2.6	2.3	0	97
1999	5.4	4.7	2.3	2.0	0	99
2000	5.4	5.4	2.7	2.4	0	97
2001	3.7	3.6	1.9	1.7	0	97
2002	3.8	3.8	2.0	1.9	0	98
2003	4.4	4.3	2.1	1.9	0	99
2004	3.6	3.4	1.6	1.6	0	99
2005	3.5	3.3	1.7	1.5	0	100
2006	3.2	2.9	1.6	1.4	0	100
2007	2.6	2.5	1.2	1.2	0	99
2008	2.6	2.1	1.1	1.1	0	99
2009	1.9	1.8	1.0	0.8	0	99

* All values before 1985 were recorded in $\mu\text{g}/\text{m}^3$. All historical data has been converted to ppm.

CARBON MONOXIDE

	1- Hour Average (in ppm)		8- Hour Average (in ppm)		# Over 8- Hr. Standard	% Data Recovery
	^{1st} Maximum	^{2nd} Maximum	^{1st} Maximum	^{2nd} Maximum		
22ND / CRAYCROFT 2010	2.0	1.7	1.1	.9	0	99

CARBON MONOXIDE

22ND/ ALVERNON	1- Hour Average (in ppm)		8- Hour Average (in ppm)		# Over 8- Hr. Standard	% Data Recovery
	1 st Maximum	2 nd Maximum	1 st Maximum	2 nd Maximum		
1975	25.5	23.0	15.4	15.2	24	71
1976	27.0	27.0	14.6	13.4	36	98
1977	24.0	24.0	11.2	11.2	10	64
1978	22.9	22.3	12.7	12.0	16	80
1979	25.1	23.9	11.0	10.1	4	93
1980	24.8	21.2	12.2	11.9	4	98
1981	21.0	19.5	11.6	9.7	2	97
1982	27.0	20.5	11.0	10.8	4	90
1983	25.0	19.3	11.8	10.4	10	98
1984	21.0	17.4	10.4	10.2	3	95
1985	19.2	19.2	10.0	8.9	1	97
1986	18.2	16.3	9.3	8.5	0	79
1987	15.2	15.0	6.9	6.9	0	98
1988	18.4	18.4	11.2	6.8	1	88
1989	14.6	13.7	7.9	7.1	0	98
1990	12.8	11.7	6.8	6.5	0	95
1991	12.3	12.1	6.4	5.7	0	96
1992	12.5	11.2	6.1	5.8	0	98
1993	14.3	13.5	6.5	6.0	0	95
1994	10.3	9.4	6.0	5.5	0	96
1995	11.9	10.6	6.0	5.9	0	99
1996	10.0	9.9	5.2	5.1	0	99
1997	9.0	8.6	5.3	4.4	0	99
1998	7.8	7.6	4.0	4.0	0	100
1999	8.5	7.8	4.2	3.8	0	100
2000	8.9	7.5	5.0	4.7	0	99
2001	5.8	5.7	3.0	2.9	0	99
2002	5.7	5.1	2.6	2.5	0	98
2003	6.0	5.8	2.7	2.6	0	99
2004	4.0	4.0	2.1	2.0	0	99
2005	4.1	3.6	2.2	2.1	0	99
2006	3.4	3.4	2.0	1.8	0	99
2007	3.7	3.1	2.1	1.9	0	99
2008	2.9	2.5	1.4	1.3	0	99
2009	2.3	2.2	1.2	1.1	0	100

* All values before 1985 were recorded in ug/m³. All historical data has been converted to ppm.

CARBON MONOXIDE						
	1- Hour Average (in ppm)		8- Hour Average (in ppm)			
22ND/ ALVERNON	1st Maximum	2nd Maximum	1st Maximum	2nd Maximum	# Over 8- Hr. Standard	% Data Recovery
2010	2.5	2.5	1.1	1.1	0	99

CARBON MONOXIDE						
Special Purpose Site						
	1- Hour Average (in ppm)		8- Hour Average (in ppm)			
CHILDREN'S PARK	1st Maximum	2nd Maximum	1st Maximum	2nd Maximum	# Over 8- Hr. Standard	% Data Recovery
1999	3.3	3.0	1.9	1.9	0	95
2000	3.8	3.5	1.9	1.9	0	99
2001	2.9	2.9	1.7	1.7	0	97
2002	2.5	2.5	1.6	1.6	0	99
2003	2.4	2.3	1.5	1.4	0	99
2004	2.2	2.2	1.4	1.4	0	100
2005	2.0	1.8	1.1	1.1	0	100
2006	1.7	1.7	1.1	1.0	0	99
2007	1.9	1.8	1.1	1.0	0	98
2008	1.5	1.3	1.0	0.9	0	97
2009	1.6	1.2	1.0	0.9	0	95
2010	1.2	1.1	0.8	0.8	0	99
Children's Park carbon monoxide monitoring began October, 1998.						

CARBON MONOXIDE**Special Purpose Site**

GOLF LINKS & KOLB	1- Hour Average (in ppm)		8- Hour Average (in ppm)		# Over 8- Hr. Standard	% Data Recovery
	1st Maximum	2nd Maximum	1st Maximum	2nd Maximum		
2002	4.9	4.2	3.3	2.6	0	25
2003	3.9	3.8	2.2	2.2	0	98
2004	3.6	3.5	2.1	2.1	0	99
2005	3.3	3.2	2.2	2.1	0	100
2006	3.8	2.9	1.8	1.6	0	100
2007	2.5	2.1	1.3	1.3	0	100
2008	2.0	1.8	1.3	1.2	0	97
2009	1.7	1.7	1.1	1.0	0	100
2010	2.8	2.3	1.4	1.2	0	98

Golf Links and Kolb carbon monoxide monitoring began September 28, 2002. Golf Links and Kolb site monitors for carbon monoxide seasonally.

CARBON MONOXIDE

Special Purpose Sites

Broadway / Craycroft	Year	1st Maximum 8-Hr. (in ppm)	2nd Maximum 8-Hr. (in ppm)
PAG Study (Dec-Mar) ADEQ Study (Dec) PDEQ (Oct-Dec) Closed Jan 5, 1993	1986	10.1	8.5
	1987	9.2	8.1
	1988	7.1	6.4
	1989	7.6	7.5
	1990	6.7	6.1
	1991	6.2	6.0
	1992	5.4	5.3
Grant / Campbell			
PAG Study (Jan-Mar)	1987	8.4	8.2
22nd / Alvernon			
ADEQ (Oct- Dec) SE Corner	1987	9.3	7.9
Sabino Canyon*			
Mar-Apr & Oct-Dec	1986	2.3	2.2
	1987	2.5	2.3
	1988	3.8	3.1
	1989	3.0	2.6
	1990	3.0	3.0
	1991	3.1	3.0
	1992	2.2	1.8
	1993	1.8	1.6
Closed at the end of 1994	1994	1.9	1.8

* All values before 1985 were recorded in ug/m³. All historical data has been converted to ppm.

CARBON MONOXIDE			
Special Purpose Sites			
Highland Park	Year	1st Maximum 8-Hr. (in ppm)	2nd Maximum 8-Hr. (in ppm)
Dec	1987	4.7	2.1
Nov-Dec	1988	4.1	4.1
	1989	5.4	4.8
Jan-Apr 15 & Sep 15-Dec	1990	3.1	3.0
	1991	3.5	3.1
	1992	4.1	3.9
Closed Apr 15, 1993	1993	2.5	2.5
Tangerine Rd.			
May-Dec	1990	1.6	1.6
	1991	1.9	1.6
	1992	1.3	1.3
	1993	0.7	0.7
Closed first quarter of 1994	1994	0.8	0.8
All values before 1985 were recorded in ug/m ³ . All historical data has been converted to ppm.			

CARBON MONOXIDE						
Special Purpose Sites						
	1- Hour Average (in ppm)		8- Hour Average (in ppm)			
POMONA¹	1st Maximum	2nd Maximum	1st Maximum	2nd Maximum	# Over 8- Hr. Standard	% Data Recovery
1991	6.8	6.3	4.2	3.7	0	25
1992	8.2	8.0	5.0	4.8	0	85
1993	6.3	6.0	3.7	3.7	0	99
1994	8.5	8.4	4.0	3.9	0	98
1995	9.4	7.4	3.8	3.3	0	75
1996²	5.6	5.5	2.7	2.7	0	66
¹ Pomona site start-up on October 1, 1991.						
² Pomona closed in August of 1996.						
* All values before 1985 were recorded in ug/m ³ . All historical data has been converted to ppm.						

CARBON MONOXIDE

Special Purpose Sites

Cherry / Glenn	Year	1st Maximum 1-Hr. (in ppm)	2nd Maximum 1-Hr. (in ppm)	1st Maximum 8-Hr. (in ppm)	2nd Maximum 8-Hr. (in ppm)
Jan-Apr 15 & Sep 15-Dec	1989			6.9	6.3
	1990			4.5	4.3
	1991			4.9	4.8
	1992	8.6	7.6	5.7	5.0
	1993	6.6	6.5	4.5	4.4
	1994	8.7	7.3	5.4	5.1
	1995	9.2	7.9	4.9	4.5
	1996	8.2	7.8	4.1	4.0
	1997	6.5	5.6	4.1	3.4
	1998	5.9	5.1	4.3	3.1
	1999	5.2	5.2	3.4	3.4
	2000	5.3	5.0	3.7	3.3
	2001	3.9	3.6	2.8	2.6
Jan- June18 & Oct -Dec	2002	3.9	2.6	2.6	2.3
Jan-March & Oct - Dec	2003	4.2	3.9	2.9	2.7
Jan-April & Oct 7 - Dec	2004	4.0	3.9	2.7	2.2
Jan-April & Oct -Dec	2005	3.8	3.4	2.5	2.4
Jan-April & Oct -Dec	2006	3.4	3.3	2.3	2.0
Jan-March & Oct -Dec	2007	2.8	2.7	1.9	1.5
Jan-March & Oct -Dec	2008	2.5	2.5	1.9	1.5
Jan-March & Oct -Dec	2009	2.2	1.9	1.3	1.2
Jan-March & Oct -Dec	2010	2.1	2.1	1.4	1.3

NOTICE:

Some data reported in the OZONE section of this document may not match data reported by the EPA Air Quality System (AQS). The reason for this discrepancy is the measuring period used by the EPA does not match the measuring period used by PDEQ. The EPA uses a twelve hour period to encompass daylight hours only. The Tucson area often experiences episodes of elevated OZONE concentrations after sunset and therefore uses a twenty four hour period for reporting purposes.

OZONE

DOWNTOWN	Annual Average (ppm)	1- Hr. Average (ppm)		% Data Recovery
		1st Maximum	2nd Maximum	
Year				
1975	0.018	0.110	0.100	94
1976	0.020	0.110	0.110	99
1977	0.018	0.100	0.090	98
1978	0.018	0.103	0.100	92
1979	0.022	0.109	0.102	91
1980	0.021	0.122	0.112	99
1981	0.022	0.088	0.088	98
1982	0.027	0.123	0.107	95
1983	0.023	0.109	0.097	98
1984	0.020	0.103	0.102	95
1985	0.020	0.097	0.094	96
1986	0.021	0.091	0.090	91
1987	0.021	0.089	0.083	95
1988	0.019	0.091	0.087	96
1989	0.020	0.087	0.086	98
1990	0.021	0.090	0.087	95
1991	0.022	0.084	0.082	89
1992**	0.020	0.079	0.078	99
1993	0.020	0.086	0.081	99
1994	0.022	0.083	0.080	100
1995	0.019	0.090	0.087	98
1996	0.020	0.085	0.085	97
1997	0.019	0.084	0.082	98
1998	0.018	0.079	0.078	96
1999	0.019	0.078	0.076	99
2000	0.018	0.077	0.076	94
2001	0.022	0.083	0.081	99
2002	0.023	0.085	0.082	99
2003	0.023	0.085	0.078	99
2004	0.021	0.076	0.076	99
2005	0.022	0.084	0.083	99
2006	0.025	0.082	0.082	99
2007	0.025	0.079	0.079	99
2008	0.026	0.078	0.074	99
2009	0.029*	0.082	0.079	99

* Annual average based on a limited number of samples.

** Site was relocated to improved sampling location.

Downtown site closed 08-13-2009

OZONE

22nd / CRAYCROFT	Annual Average (ppm)	1- Hr. Average (ppm)		% Data Recovery
		1st Maximum	2nd Maximum	
YEAR				
1975	0.025	0.130	0.130	77
1976	0.022	0.090	0.090	80
1977	0.022	0.100	0.100	81
1978	0.024	0.107	0.105	86
1979	0.027	0.103	0.103	82
1980	0.034	0.110	0.102	90
1981	0.027	0.124	0.120	93
1982	0.025	0.121	0.120	85
1983	0.024	0.105	0.101	84
1984	0.026	0.111	0.108	93
1985	0.027	0.106	0.105	85
1986	0.020	0.078	0.078	48
1987	0.030	0.092	0.091	84
1988	0.022	0.093	0.092	94
1989	0.023	0.084	0.084	97
1990	0.025	0.094	0.089	97
1991	0.026	0.084	0.081	96
1992	0.028	0.110	0.094	93
1993	0.027	0.096	0.094	99
1994	0.027	0.094	0.093	99
1995	0.027	0.107	0.101	98
1996	0.028	0.091	0.090	98
1997	0.028	0.106	0.097	99
1998	0.028	0.104	0.095	99
1999	0.029	0.095	0.092	99
2000	0.028	0.089	0.084	100
2001	0.027	0.089	0.084	99
2002	0.028	0.094	0.086	99
2003	0.027	0.090	0.087	99
2004	0.026	0.079	0.078	99
2005	0.026	0.093	0.089	99
2006	0.028	0.082	0.079	99
2007	0.029	0.088	0.083	100
2008	0.029	0.085	0.078	100
2009	0.029	0.079	0.077	100

* Annual average based on a limited number of samples. 1973-75 data from 22nd/Craycroft site are total oxidants.

OZONE				
22nd / CRAYCROFT	Annual Average (ppm)	1- Hr. Average (ppm)		% Data Recovery
YEAR		1st Maximum	2nd Maximum	
2010	0.029	0.076	0.075	100

OZONE

SABINO CANYON ¹	Annual Average (ppm)	1- Hr. Average (ppm)		% Data Recovery
		1 st Maximum	2 nd Maximum	
Year				
1986	--	0.094	0.085	--
1987	--	0.082	0.078	--
1988	0.029	0.081	0.080	67
1989	0.031	0.094	0.089	81
1990	0.035	0.092	0.088	85
1991	0.030	0.084	0.082	93
1992	0.028	0.090	0.075	97
1993	0.028	0.096	0.081	99
1994	0.027	0.081	0.077	100
1995	0.026	0.078	0.077	97
1996	0.031	0.077	0.076	75

POMONA ²

1980	0.025*	0.108	0.106	74
1981	0.028	0.095	0.095	89
1982	0.029	0.130	0.124	89
1983	0.025	0.121	0.108	80
1984	0.026	0.113	0.101	88
1985	0.025	0.110	0.103	92
1986	0.021	0.084	0.082	87
1987	0.022	0.119	0.087	85
1988	0.021	0.087	0.086	92
1989	0.026	0.094	0.088	75
1990	0.026	0.098	0.093	94
1991	0.025	0.082	0.079	95
1992	0.022	0.086	0.084	94
1993	0.023	0.093	0.089	98
1994	0.024	0.086	0.085	98
1995	0.024	0.102	0.097	98
1996	0.030	0.093	0.091	98

* Annual average based on a limited number of samples.

¹ Sabino Canyon closed June 1996

² Pomona closed August 1996

OZONE

TANGERINE	Annual Average (ppm)	1- Hr. Average (ppm)		% Data Recovery
		1st Maximum	2nd Maximum	
YEAR				
1989	0.031*	0.056	0.055	17*
1990	0.038	0.096	0.089	95
1991	0.038	0.087	0.080	98
1992	0.035	0.085	0.079	99
1993	0.036	0.102	0.088	99
1994	0.038	0.082	0.079	99
1995	0.035	0.087	0.086	99
1996	0.035	0.082	0.081	97
1997	0.037	0.083	0.079	99
1998	0.036	0.095	0.089	99
1999	0.039	0.087	0.080	99
2000	0.037	0.081	0.078	99
2001	0.035	0.078	0.076	99
2002	0.036	0.093	0.083	98
2003	0.039	0.085	0.085	99
2004	0.037	0.076	0.075	100
2005	0.037	0.080	0.079	99
2006	0.039	0.088	0.086	99
2007	0.037	0.080	0.076	100
2008	0.038	0.082	0.080	99
2009	0.038	0.084	0.082	99
2010	0.038	0.076	0.076	100

* Annual average based on a limited number of samples.

OZONE				
PIMA COUNTY FAIRGROUNDS	Annual Average (ppm)	1- Hr. Average (ppm)		% Data Recovery
		1st Maximum	2nd Maximum	
1989	0.025*	0.063	0.062	19*
1990	0.032	0.099	0.097	88
1991	0.033	0.090	0.086	98
1992	0.030	0.082	0.081	99
1993	0.031	0.091	0.087	95
1994	0.033	0.091	0.087	100
1995	0.031	0.095	0.094	97
1996	0.031	0.084	0.084	98
1997	0.030	0.080	0.080	99
1998	0.031	0.088	0.087	96
1999	0.032	0.085	0.084	99
2000	0.032	0.083	0.082	100
2001	0.030	0.080	0.080	98
2002	0.032	0.087	0.083	99
2003	0.032	0.085	0.084	99
2004	0.031	0.078	0.078	99
2005	0.031	0.085	0.085	97
2006	0.033	0.083	0.082	99
2007	0.034	0.085	0.079	97
2008	0.035	0.084	0.083	99
2009	0.034	0.079	0.074	99
2010	0.034	0.079	0.077	99

* Annual average based on a limited number of samples.

OZONE

SAGUARO NATIONAL MONUMENT	Annual Average (ppm)	1- Hr. Average (ppm)		% Data Recovery
		1st Maximum	2nd Maximum	
1982	0.032	0.100	0.091	55
1983	0.038	0.111	0.107	92
1984	0.038	0.108	0.104	92
1985	0.038	0.105	0.104	85
1986	0.030	0.103	0.095	91
1987	SITE TAKEN OVER BY NATIONAL PARK SERVICE 1987 TO 1993			
1993	0.036	0.102	0.099	97
1994	0.042	0.109	0.102	98
1995	0.039	0.118	0.105	97
1996	0.039	0.092	0.092	94
1997	0.042	0.099	0.089	98
1998	0.042	0.099	0.094	99
1999	0.041	0.090	0.088	94
2000	0.036	0.087	0.083	94
2001	0.036	0.083	0.075	95
2002	0.038	0.091	0.091	99
2003	0.041	0.098	0.092	97
2004	0.041	0.085	0.084	99
2005	0.041	0.101	0.091	100
2006	0.042	0.087	0.086	99
2007	0.041	0.084	0.083	98
2008	0.042	0.090	0.087	100
2009	0.041	0.075	0.074	100
2010	0.041	0.082	0.078	99

* Annual average based on a limited number of samples.
 1 Arther Pack closed 1985

OZONE

CHILDREN'S PARK	Annual Average (ppm)	1- Hr. Average (ppm)		% Data Recovery
		1st Maximum	2nd Maximum	
YEAR				
1997	0.023	0.093	0.087	38*
1998	0.026	0.086	0.086	98
1999	0.027	0.092	0.089	99
2000	0.026	0.094	0.085	98
2001	0.025	0.084	0.083	99
2002	0.025	0.090	0.081	99
2003	0.027	0.089	0.088	99
2004	0.026	0.082	0.077	99
2005	0.027	0.086	0.085	99
2006	0.027	0.082	0.081	99
2007	0.028	0.081	0.079	98
2008	0.028	0.084	0.083	99
2009	0.029	0.080	0.079	100
2010	0.028	0.082	0.074	99
ROSE ELEMENTARY²				
2001	0.025	0.082	0.081	95
2002	0.025	0.087	0.085	99
2003	0.025	0.086	0.082	99
2004	0.024	0.073	0.072	99
2005	0.024	0.075	0.074	100
2006	0.026	0.075	0.075	99
2007	0.028	0.082	0.081	99
2008	0.028	0.077	0.075	99
2009	0.027	0.076	0.071	99
2010	0.027	0.075	0.075	99

* Annual average based on a limited number of samples.

2 Special Purpose site

OZONE

YEAR	Annual Average (ppm)	1- Hr. Average (ppm)		% Data Recovery
		1st Maximum	2nd Maximum	
COACHLINE^{2,3}				
2001	0.026*	0.078	0.077	74
2002	0.024	0.090	0.089	99
2003	0.022	0.078	0.076	99
2004	0.023	0.074	0.073	97
2005	0.024	0.075	0.073	99
2006	0.026	0.083	0.082	99
2007	0.025	0.077	0.073	99
2008	0.027	0.080	0.078	99
2009	0.027	0.082	0.072	99
2010	0.025	0.072	0.070	99
GREEN VALLEY^{2,4}				
2002	0.035*	0.089	0.088	76
2003	0.034	0.082	0.082	99
2004	0.032	0.075	0.074	99
2005	0.032	0.081	0.079	98
2006	0.034	0.083	0.079	99
2007	0.033	0.085	0.074	98
2008	0.034	0.069	0.069	99
2009	0.035	0.080	0.073	96
2010	0.035	0.077	0.071	99
* Annual average based on a limited number of samples. 2 Special Purpose site 3 Monitoring began 03/22/2001 4 Monitoring began 04/01/2002				

OZONE				
ARTHUR PACK¹	Annual Average (ppm)	1- Hr. Average (ppm)		% Data Recovery
YEAR		1st Maximum	2nd Maximum	
1979	0.033*	0.104	0.097	55
1980	0.033	0.092	0.088	79
1981	0.035	0.095	0.090	89
1982	0.033	0.117	0.104	76
1983	0.027*	0.090	0.088	51
1984	0.027*	0.069	0.067	18
SILVERBELL²				
1989	0.027	0.094	0.083	80
1990	0.027*	0.079	0.074	39*
* Annual average based on a limited number of samples. 1 Arther Pack closed 1985 2 Silverbell closed June 30, 1990.				

NITROGEN DIOXIDE**22nd / CRAYCROFT**

YEAR	Annual Average (ppm)	Maximum 1-hr Average (ppm)	Maximum 24-hr Average (ppm)	% Data Recovery
1975	0.028	0.120	0.060	88
1976	0.027	0.130	0.056	89
1977	0.026	0.120	0.050	95
1978	0.022	0.090	0.049	78
1979	0.015	0.070	0.038	56
1980	0.023	0.170	0.062	71
1981	0.029	0.240	0.060	82
1982	0.021	0.140	0.058	82
1983	0.020	0.120	0.042	90
1984	0.019	0.130	0.071	86
1985	0.016	0.100	0.035	94
1986	0.019	0.160	0.050	52
1987	0.019	0.194	0.060	76
1988	0.017	0.125	0.038	90
1989	0.018	0.088	0.045	96
1990	0.019	0.114	0.049	93
1991	0.018	0.075	0.074	92
1992	0.016	0.068	0.038	98
1993	0.018	0.069	0.038	93
1994	0.019	0.073	0.038	96
1995	0.019	0.071	0.038	89
1996	0.018	0.068	0.036	94
1997	0.019	0.068	0.034	99
1998	0.017	0.059	0.037	98
1999	0.018	0.063	0.036	99
2000	0.017	0.075	0.035	97
2001	0.015	0.060	0.031	93
2002	0.017	0.062	0.034	98
2003	0.017	0.062	0.036	97
2004	0.015	0.059	0.031	99
2005	0.015	0.056	0.031	99
2006	0.016	0.051	0.029	99
2007	0.013	0.058	0.056	99
2008	0.013	0.054	0.028	98
2009	0.012	0.050	0.028	99

NITROGEN DIOXIDE				
22nd / CRAYCROFT				
YEAR	Annual Average (ppb)	Maximum 1-hr Average (ppb)	Maximum 24-hr Average (ppb)	% Data Recovery
2010	11.6	63.7	28.2	99
2010 Nitrogen Dioxide reported in parts per billion (ppb)				

NITROGEN DIOXIDE				
CHILDREN'S PARK				
YEAR	Annual Average (ppm)	Maximum 1-hr Average (ppm)	Maximum 24-hr Average (ppm)	% Data Recovery
1998	0.016*	0.061	0.036	64
1999	0.019	0.070	0.036	92
2000	0.016	0.062	0.033	99
2001	0.017	0.058	0.031	99
2002	0.017	0.062	0.034	98
2003	0.017	0.056	0.034	98
2004	0.016	0.063	0.033	99
2005	0.015	0.049	0.029	99
2006	0.015	0.054	0.033	98
2007	0.013	0.049	0.049	92
2008	0.011	0.049	0.027	96
2009	0.010	0.043	0.025	96
	Annual Average (ppb)	Maximum 1-hr Average (ppb)	Maximum 24-hr Average (ppb)	% Data Recovery
2010	10.0	45.0	27.8	97
2010 Nitrogen Dioxide reported in parts per billion (ppb)				

NITROGEN DIOXIDE

DOWNTOWN				
YEAR	Annual Average (ppm)	Maximum 1-hr Average (ppm)	Maximum 24-hr Average (ppm)	% Data Recovery
1975	0.032	0.250	0.084	55
1976	0.027	0.240	0.073	99
1977	0.032	0.150	0.057	95
1978	0.031	0.230	0.074	97
1979	0.025*	0.140	0.052	65
1980	0.036*	0.220	0.128	84
1981	0.037	0.210	0.076	95
1982	0.036	0.270	0.111	83
1983	0.032	0.240	0.111	33
1984	0.026	0.120	0.048	52
1985	0.024	0.110	0.044	48
1986	0.023	0.083	0.054	61
1987	**	--	--	--
1988	--	--	--	--
1989	0.027*	0.079	0.043	26
1990	0.027*	0.116	0.047	28
1991	0.024*	0.056	0.045	5
1992	0.025	0.092	0.043	97
1993	0.028	0.074	0.042	67
1994	site closed			

* Annual average based on a limited number of samples.
 ** Site discontinued in 1987, restarted in 1989.

NITROGEN DIOXIDE

SILVERBELL²				
YEAR	Annual Average (ppm)	Maximum 1-hr Average (ppm)	Maximum 24-hr Average (ppm)	% Data Recovery
1989	0.020	0.089	0.041	69
1990	0.020*	0.073	0.033	45
POMONA¹				
1988	-- *	0.080	0.039	56
1989	0.023	0.093	0.056	68
1990	0.022	0.097	0.042	83
1991	0.024*	0.095	0.085	56
1992	0.023	0.092	0.054	91
1993	0.022	0.081	0.044	91
1994	0.021	0.095	0.041	98
1995	0.020	0.078	0.038	99
1996	0.019	0.075	0.037	58*
SAGUARO PARK EAST³				
2001	0.006*	0.039	0.024	67

* Annual average based on a limited number of samples.
 1 Pomona site discontinued August 1996.
 2 Silverbell site discontinued 1991
 3 Monitoring only from 04/10/2001 to 12/10/2001

NON-METHANE HYDROCARBONS

State and Federal Standard

Primary & Secondary

3-Hr. Average (6 - 9 a.m.) 160 mg/m³

DOWNTOWN					
Year	Annual Average	Maximum 3-Hr.	2nd Maximum 3-Hr.	# of Exceedances of Standards	% Data Recovery
1975	149	828	806	136	82
1976	113	806	532	96	78
1977	86	435	436	51	74
1978	115*	604	414	89	67
1979	136*	534	519	116	64
1980	73*	399	364	37	74
1981	136*	676	589	76	43
1982	140*	523	469	28	17
1983	**	--	--	--	--

* Annual average based on limited number of samples.

** Non-methane hydrocarbons monitoring discontinued in February 1983, when Federal Standard was rescinded.

SULFUR DIOXIDE

State and Federal Standards Primary and Secondary

	Primary Annual Average 0.03 ppm	Primary 24-Hr Average 0.14 ppm	Secondary 3-Hr Average 0.50 ppm	
DOWNTOWN				
Year	Annual Average	Maximum 24-Hr.	Maximum 3-Hr.	% Data Recovery
1973	--	--	--	--
1974	0.004*	0.035	0.016	28
1975	0.003	0.097	0.036	85
1976	0.003	0.070	0.021	91
1977	0.003	0.053	0.022	83
1978	0.002	0.060	0.016	77
1979	0.002	0.044	0.012	81
1980	0.001	0.040	0.010	82
1981	0.002*	0.050	0.013	29
1982	SITE DISCONTINUED			
TANQUE VERDE LOOP				
1975	0.004*	0.015	0.050	21
1976	0.002	0.042	0.100	80
1977	0.001	0.026	0.120	95
1978	0.001*	0.014	0.070	73
1979	0.001	0.011	0.037	86
1980	0.002*	0.021	0.060	51
1981	0.002	0.027	0.133	86
1982	0.002*	0.015	0.073	45
1983	0.003	0.028	0.040	69
1984	0.001	0.008	0.023	61
1985	0.001	0.008	0.020	25
1986	SITE DISCONTINUED			

NOTE : Total sulfur reported as Sulfur Dioxide equivalent.

* Annual average based on limited number of samples.

SULFUR DIOXIDE

22ND / CRAYCROFT				
Year	Annual Average (ppm)	Maximum 24-Hr. (ppm)	Maximum 3-Hr. (ppm)	% Data Recovery
1975	0.001	0.019	0.060	88
1976	0.002	0.015	0.053	90
1977	0.002	0.020	0.057	81
1978	0.001	0.014	0.053	93
1979	0.002	0.020	0.080	97
1980	0.001	0.013	0.030	81
1981	0.003	0.024	0.083	92
1982	0.002*	0.019	0.060	50
1983	0.001	0.016	0.070	95
1984	0.003	0.028	0.060	85
1985	0.005	0.025	0.090	97
1986	0.004	0.016	0.031	70
1987	0.003	0.013	0.061	69
1988	0.002	0.011	0.077	65
1989	0.002	0.007	0.013	78
1990	0.002	0.008	0.020	97
1991	0.002	0.009	0.015	97
1992	0.002	0.007	0.061	98
1993	0.002	0.005	0.022	97
1994	0.002	0.004	0.010	85
1995	0.001	0.004	0.012	98
1996	0.001	0.004	0.009	98
1997	0.002	0.005	0.015	87
1998	0.002	0.005	0.016	99
1999	0.002	0.005	0.012	97
2000	0.002	0.008	0.011	97
2001	0.001	0.003	0.006	99
2002	0.001	0.004	0.019	99
2003	0.001	0.004	0.013	99
2004	0.001	0.006	0.012	99
2005	0.001	0.004	0.010	99
2006	0.001	0.004	0.009	99
2007	0.001	0.003	0.013	99
2008	0.001	0.004	0.014	99
2009	0.001	0.002	0.005	99
2010	0.001	0.002	0.007	99

NOTE :Total sulfur reported as Sulfur Dioxide equivalent. * Annual average based on limited number of samples.

SULFUR DIOXIDE

CHILDREN'S PARK NCore				
Year	Annual Average (ppb)	Maximum 1-Hr. (ppb)	Maximum 24-Hr. (ppb)	% Data Recovery
2010	*0.22	3.0	1.1	96

Sampling began October 1, 2010
* Averages based on limited number of samples.

SULFUR DIOXIDE

SULFUR DIOXIDE				
Green Valley^{1,2}				
Year	Annual Average (ppm)	Maximum 24-Hr. (ppm)	Maximum 3-Hr. (ppm)	% Data Recovery
2001	.000	.000	.002	38
1 Special Purpose site 2 Monitoring discontinued 05/21/2001, Averages based on limited number of samples.				

WATER SOLUBLE SULFATES**

Site	No State or Federal Standards						Annual Average in µg/m ³						
	'88	'89	'86	'85	'84	'83	'82	'81	'80	'79	'78	'77	'76
Downtown*	--	--	--	--	4.9	4.9	3.5	4.7	4.1	4.3	5.1	5.1	4.5
South Tucson	3.9	4.2	5.1	5.2	5.0	5.3	3.4	5.5	4.3	4.4	5.4	5.6	4.6
Prince Rd.	3.8	5.1	7.4	5.2	4.9	5.3	3.8	4.7	4.6	4.3	5.7	5.4	--
Davis Monthan*	--	--	--	--	--	--	--	5.4	4.6	4.1	5.6	5.1	4.6
Corona de Tucson	2.7	3.4	4.1	3.2	4.3	3.4	2.1	--	--	--	--	--	--
Green Valley	3.3	4.3	4.7	4.3	5.3	3.5	2.4	4.3	3.4	3.8	4.2	4.0	3.8
Orange Grove	4.4	4.3	5.2	4.5	4.4	5.0	3.8	5.6	4.3	5.3	5.6	5.1	4.8
Alvernon / Ft. Lowell*	--	--	--	4.5	4.3	5.0	3.4	4.6	4.7	3.9	5.7	5.4	4.8
* Davis Monthan Site discontinued in 1982. Downtown Site discontinued in 1985. Alvernon / Ft. Lowell Site discontinued 1986. ** Discontinued sampling in 12/88.													