

MONTHLY AIR QUALITY REPORT FOR JANUARY 2004

AOI COLOR SCALE

GOOD	MODERATE	UNHEALTHY FOR SENSITIVE GROUPS	UNHEALTHY
0-50	51-100	101-150	151-200

Calendar of maximum AQI values & their corresponding color for January 2004*

*Preliminary data

SAMPLE POLLUTANT REPORTING BOX

1 (day of month)	O3	CO
	PM10	PM2.5

SUN		MON		TUES		WED		THU		FRI		SAT								
								1	30 44	42 60	2	26 38	27 39	3	31 44	27 28				
4	33 35	33 48	5	34 53	41 60	6	34 72	55 57	7	24 89	47 73	8	28 66	44 65	9	32 67	48 44	10	33 34	50 29
11	33 51	32 28	12	30 56	38 32	13	31 65	39 38	14	30 96	34 34	15	27 52	28 29	16	25 59	36 36	17	30 52	19 38
18	31 58	30 53	19	35 52	39 46	20	35 48	19 31	21	34 20	17 25	22	30 13	14 n/a	23	30 27	23 n/a	24	25 14	16 n/a
25	31 17	16 38	26	32 37	30 27	27	29 40	40 55	28	21 31	32 35	29	22 35	30 49	30	24 34	27 62	31	30 38	30 52

**VIOLET FILL INDICATES THAT A HIGH POLLUTION ADVISORY WAS IN EFFECT

Exceedance days during JAN 2004-

Total= 0 Date Max AQI Pollutant Site/s

Health Watches issued during JAN 2004-

Total= 0 Date Max AQI Pollutant Site/s

High Pollution Advisories issued during JAN 2004-

Total= 1 Date Max AQI Pollutant Site/s
 Jan 09 67 PM-10 Durango

Concentration Recap:	Days in the Good category:	13
	Days in the Moderate category:	18
	Days in the Unhealthy for Sensitive Groups category:	0
	Days in the Unhealthy category:	0
	Total Forecast Days:	31

[Narrative:](#) Ozone production was minimal as usual this time of year mainly due to cool temperatures and the low sun angle. The maximum concentration on the 26th with 100% of possible sunshine was only seven parts per billion higher than that on the 24th with 11% of the possible sunshine.

The daily maximum carbon monoxide concentration only managed to reach the moderate range one day this month, on the 6th. On this day an Air Stagnation Advisory had been issued by the National Weather Service, dispersion was marginal, the mixing height was only 2700', and an inversion was present to nearly 4500'. As with other moderate concentrations days, it was relatively warm with a maximum temperature of 72 deg F.

Following an upper level trough passage on the 3rd a stable weather pattern existed over the area for the next two weeks with PM-10 concentrations in the moderate range 14 out of 15 days from the 5th thru the 19th. The most significant episode began on the 4th and culminated on the 7th when all four sites measured 24-hour PM-10 concentrations in the moderate range (a very rare event) and the Durango site reached just below 90 on the AQI Index. Some relevant measurements and indices during this period are as follows:

<u>Date</u>	<u>Jan 04</u>	<u>Jan 05</u>	<u>Jan 06</u>	<u>Jan 07</u>
Max PM-10 AQI	35	53	72	89
Max PM-2.5 AQI	48	60	57	73
Mixing Depth (ft)	5900	3700	2700	misg
Dispersion	Good	Marginal	Marginal	misg
5K' Temp (F)	34	43	50	52
Max Surface Temp (F)	56	58	72	68

This data again illustrates that under a stable air mass scenario a gradual buildup of PM usually occurs as the degree of stagnation increases. It is not unusual under these circumstances for the temperature aloft to increase much more rapidly than that at the surface a.k.a. the definition of an inversion. (The AQI value of 96 recorded on the 14th – although not proven to be invalid – is considered suspicious at this time and probably due to local effects since all other PM-10 sites were much lower as was PM-2.5 concentrations).

Other than the episode noted above PM-2.5 concentrations were in the good range on all but six days. This was due to a combination of breezy winds, a progressive weather pattern after mid-month, and measurable rain on the 15th thru the 20th.

Graphical representations of all four pollutants can be viewed on the next page.

