Appendix F

Example of a High-Wind Event Justification Package

October 29, 2003 High-Wind Event

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

July 22, 2004

Ms. Christine Robinson, Director
Clark County Department of Air Quality
P.O. Box 551776
Las Vegas, NV 89155-1776

Re: October 29, 2003 High Wind PM10 Natural Event

Dear Ms. Robinson:

I have received and reviewed your agency's request, dated March 29, 2004, to flag five PM_{10} National Ambient Air Quality Standard (NAAQS) exceedances as high wind events. The exceedances all occurred on October 29, 2003 at the East Craig, Joe Neal, Microscale, and Green Valley PM_{10} monitoring sites.

The documentation you provided to support the flagging of these exceedances appears complete and comprehensive. We concur with your decision to flag these data as high wind natural events. I will instruct our AQS database manager, Jim Forrest, to add the appropriate flags to these exceedance days.

Please remember that Clark County Department of Air Quality will need to develop and implement a Natural Events Action Plan (NEAP) as required by EPA's Natural Events Policy ("Areas Affected by PM-10 Natural Events", Memorandum from Mary D. Nichols, Assistant Administrator for Air and Radiation to Regional Air Division Directors, May 30, 1996).

If you have any questions please contact Bob Pallarino of my staff at (415) 947-4128.

Sincerely,

for

Sean Hogan, Acting Manager
Technical Support Office
Air Division

cc: Amy Zimpfer, EPA Region 9
Steven Barhite, EPA Region 9
Colleen Cripps, Nevada Division of Environmental Protection

Department of Air Quality Management

500 S Grand Central Pky 1st Fl • PO Box 555210 • Las Vegas NV 89155-5210
(702) 455-5942 • Fax (702) 383-9994

Christine L. Robinson, Director
Catherine MacDougall, Assistant Director • Susan Selby, Assistant Director

March 29, 2004

Mr. John Kennedy, Chief
Technical Support Office (Air-7)
U.S. Environmental Protection Agency, Region IX
75 Hawthorne Street
San Francisco, California 94105-3901

RE: October 29, 2003 High-Wind PM_{10} Exceedance Event

Dear Mr. Kennedy,

Pursuant to the requirements of the U. S. EPA Memorandum on *Areas Affected by PM_{10} Natural Events* dated May 30, 1996, the Clark County Department of Air Quality Management "flagged" October 29, 2003 PM_{10} data for four (4) separate monitoring sites in the Las Vegas Valley. These monitors recorded exceedances of the 24-hour PM_{10} NAAQS on this date. After reviewing the meteorological data, site conditions, and control measures in place at the time of the exceedance, Clark County concluded that these exceedances occurred due to high-wind conditions. Attached are the data sets and findings that support this conclusion.

Please confirm flagging of the high-wind natural event data and receipt of this documentation. If you have any questions or need additional information, please contact Russell S. Merle Jr., Senior Planner, our staff natural event coordinator at (702) 455-1662 or FAX (702) 383-9994.

Sincerely,

Catherine R MacDougall

Catherine R. MacDougall
Assistant Director
Clark County Department of Air Quality Management

Enclosure

cc: U. S. EPA, Technical Support Office: Bob Pallarino, Environmental Engineer
Nevada Division of Environmental Protection: Colleen Cripps, PhD, Bureau Chief

BOARD OF COUNTY COMMISSIONERS
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Enclosure 1

EPA Required Documentation of Natural Event

Subject: October 29, 2003 High-Wind Event (W/Smoke) in Clark County, Nevada

Clark County Department of Air Quality Management (DAQM) reviewed the data and findings related to the measured exceedances of the 24-Hour PM_{10} NAAQS in the Las Vegas Valley, for October 29, 2003. Based on those data sets and findings, the DAQM determined that a high-wind natural event accompanied by influences from the Southern California wildland fires (smoke) caused this exceedance. Exceedances occurred at four (4) separate monitoring sites within the Las Vegas Valley on this date. In accordance with the U. S. EPA Natural Events Policy Memorandum on "Areas Affected by PM_{10} Natural Events" dated May 30, 1996 {Mary Nichols, Assistant Administrator for Air and Radiation (6101)}, states are responsible for establishing a clear causal relationship between the measured exceedances and the natural event. This document sets forth the relationship between the high-wind event and the exceedances that occurred on October 29, 2003.

The documentation supporting the high-wind natural event includes: meteorological data (e.g., wind speed and wind direction); hourly PM_{10} sampled mass compared to wind data to support a source receptor relationship; precipitation data; and photographs/maps of the area showing sources of emissions. Additional information includes local news accounts of the high-wind event published by the Las Vegas Sun, and the Las Vegas Review Journal newspapers.

In the case of high-wind events where contributing sources of dust are anthropogenic, the state must document the application of the required BACM to those sources. This document outlines the required BACM for these sources and the County's high-wind enforcement activities on the day of the high-wind event.

This documentation demonstrates that a high-wind natural event occurred on October 29, 2003. The high-wind natural event affected the specific monitoring site(s) that recorded exceedances on that day. Exceedances of the 24-hour PM_{10} NAAQS, because of elevated concentrations of PM_{10} recorded at the monitoring sites, were due to the emissions generated by the high-wind event.

During the month of January 2004, the DAQM sent the air quality data affected by the high-wind natural event, to the U. S. EPA, for inclusion into the AIRS database. Clark County requested flagging of this data to indicate that a natural event (High-Wind Event) was involved. The sites affected by the high-wind natural event were:

1) Joe Neal (JO) #320030075, 6651 W. Azure Ave., Las Vegas, Nevada
2) East Craig (BS) #320030020, 4701 Mitchell St., N. Las Vegas, Nevada
3) Microscale (MS) #320030560, 2801 E. Charleston Blvd., Las Vegas, Nevada
4) Green Valley (GV) #320030298, 248 Arroyo Grande, Henderson, Nevada

The BACM applicable to the four (4) exceedance sites include Sections 90, 91, 92, 93, and 94 of the Clark County Air Quality Regulations (AQRs). These regulations require stabilization of open areas and disturbed vacant lands; stabilization of unpaved roads; stabilization of unpaved parking lots; stabilization of paved road unpaved shoulders; and use of soil specific best management practices for construction activities. On October 29, 2003, fifteen (15) compliance officers were active in the field on nine-hour staggered shifts. In addition, three (3) management and administrative support staff supported the field enforcement efforts on this day. All 15 compliance officers continued enforcement activities until approximately 4:30 P.M., depending on the location. By 4:30, there were few construction sites reported as active. Inspectors made contact with 219 active construction sites. From 4:30 through 10:00 PM two standby officers were on duty.

Many sites had shut down based on the faxed advisory (see Attachment 3) or other considerations. Only a few sites were not in compliance. Most contractors were aware of the advisory and, based upon their Dust Control Class training, took the appropriate measures. There were, however, six Corrective Action Orders (CAO's) written for failure to employ BACM.

Compliance Section Staff conducted follow up inspections to assure compliance with Air Quality Regulations at those sites that received a CAO. A DAQM Compliance Officer issued a Notice of Violation (NOV) to Trademark Builders for failure to obtain a Dust Control Permit and failure to employ BACM on 10/29/03; failure to comply with final CAO on 10/30/03 and failure to comply with final CAO on 11/12/03. The hearing date is pending.

The DAQM is not aware of any other construction site operators that failed to curtail construction actives in accordance with the high-wind provisions of Section 94 of the Air Quality Regulations on this exceedance day.

Table 1 provides a summary of the Monitoring sites with data and wind speeds meeting the criteria to qualify as a high-wind event exceedance.

Table 1

High Wind Event 24-Hour PM_{10} NAAQS Exceedance Data

Monitoring Site Location & AIRS Code	Date of High Wind Event	Measured QA/QC Concentration ($\mu g/m^3$)	Wind Dir.	Max. Wind Gust (mph)
Joe Neal (JO) #320030075	10/29/03	**159**	SW	36
East Craig (BS) #320030020	10/29/03	**220**	SW	36
Microscale (MS) #320030560	10/29/03	**158**	SW	36
Green Valley (GV) #320030298	10/29/03	**156**	SW	36

Analysis of Data:

Data supplied as Attachment 1, include data sets for the day before the high-wind event; day of the high-wind event; and the day after the high-wind event for comparison. The data sheets clearly establish the high-wind event occurred on October 29, 2003 between the hours of approximately 6:00 AM and 12:00 midnight. The wind direction was predominantly from the southwest, with peak gusts of 36 mph, and sustained two-minute winds of 29 mph {National Oceanic Atmospheric Administration (NOAA), data sheet – Attachment 2}. The majority of the Monitoring Stations average hourly wind speeds shown in Attachment 1, ranged from 11.3 to 44.5 miles per hour throughout the high-wind event. Attachment 2 is the MET data sheet from the NOAA, Climatic Data Center.

Southern Nevada continues to experience extreme drought, as of October 29, 2003 the Las Vegas Valley, according to the National Weather Service records, received only 5.29 inches of measurable precipitation. The absence of moisture/precipitation increased the amount of fugitive dust generated from native desert during the high-wind event including the "lofting" dust effects of the Southern California wildland fires, occurring southwest of the Las Vegas Valley (see attachment 10). Attachments 4-6 show the monitoring sites and their surrounding environment subject to the exceedances on the high-wind event day. Wind gusts exceeding the 25-mile per hour threshold, as discussed in the June 2001 PM_{10} State Implementation Plan (SIP) for Clark County (Appendix B, Emissions Inventories, Page B-21) overwhelmed the native desert environment and stabilized vacant land areas. Attachments 8 and 9 are newspaper articles from the Las Vegas Sun newspaper and the Las Vegas Review Journal newspapers, which describe the high-wind effects, on the Las Vegas Valley within Clark County. Attachments 11-13 are photos of the effects of the high winds with blowing dust.

The Clark County Department of Air Quality Management requests, based on the evidence of a high-wind natural event enclosed in this documentation; that the U. S. EPA Region IX support the flagging of the exceedances in AIRS.

Attachments: 1 – DAQM Monitoring Data Sheet(s)
2 – NOAA Data Sheet(s)
3 – FAX Notice (2)
4 - Joe Neal (JO) Monitoring Site
5 – East Craig (BS) Monitoring Site
6 - Microscale (MS) Monitoring Site
7 - Green Valley (GV) Monitoring Site
8 - Las Vegas Sun newspaper articles
9 - Las Vegas Review Journal articles
10 – Satellite Photos of Smoke Influences (2)
11– Photograph of LV Valley
12 - Photograph of LV Valley
13 – Photograph of LV Valley

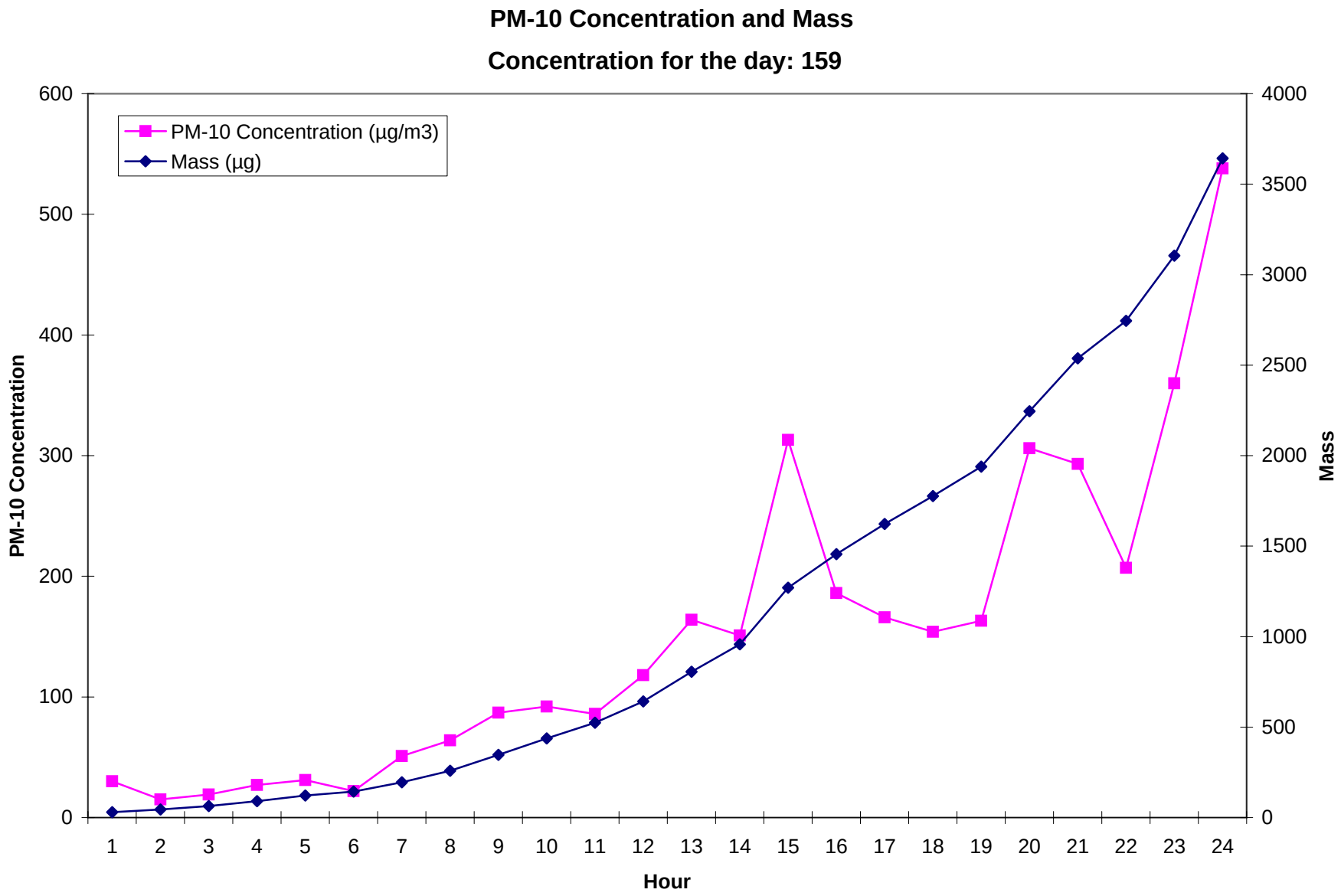
Clark County Air Quality Management

Joe Neal - 2003

Site	Month	Day	Hour	Wind Speed (MPH)	Wind Direction (0-360°)	PM-10 Concentration µg/M^3	PM-10 Mass µg
JO	10	28	1	9.1	324	11	22
JO	10	28	2	11.5	327	14	39
JO	10	28	3	10.8	329	11	45
JO	10	28	4	13.8	323	15	62
JO	10	28	5	13.5	327	28	88
JO	10	28	6	14.6	311	20	111
JO	10	28	7	12.3	315	27	140
JO	10	28	8	11.6	321	30	171
JO	10	28	9	11.9	255	38	210
JO	10	28	10	12.0	230	61	271
JO	10	28	11	10.3	195	55	286
JO	10	28	12	4.6	159	53	369
JO	10	28	13	8.8	246	32	401
JO	10	28	14	6.7	234	21	423
JO	10	28	15	5.5	159	15	440
JO	10	28	16	6.2	152	41	484
JO	10	28	17	3.3	156	51	536
JO	10	28	18	0.9	106	90	631
JO	10	28	19	2.5	321	130	761
JO	10	28	20	2.6	317	131	894
JO	10	28	21	3.6	331	121	1014
JO	10	28	22	3.3	305	75	1088
JO	10	28	23	1.5	218	49	1137
JO	10	28	24	2.9	200	41	1159
JO	10	29	1	4.5	239	30	31
JO	10	29	2	3.9	321	15	47
JO	10	29	3	2.5	185	19	69
JO	10	29	4	2.3	253	27	96
JO	10	29	5	2.3	217	31	127
JO	10	29	6	2.3	261	22	152
JO	10	29	7	1.7	169	51	204
JO	10	29	8	4.1	104	64	272
JO	10	29	9	4.9	120	87	360
JO	10	29	10	11.2	106	92	452
JO	10	29	11	9.0	89	86	540
JO	10	29	12	11.7	78	118	660
JO	10	29	13	9.4	94	164	826
JO	10	29	14	10.7	156	151	999
JO	10	29	15	15.3	185	313	1296
JO	10	29	16	13.2	171	186	1484
JO	10	29	17	10.1	152	166	1648
JO	10	29	18	7.6	139	154	1804
JO	10	29	19	10.3	158	163	1972
JO	10	29	20	14.5	162	306	1481
JO	10	29	21	12.6	171	293	237
JO	10	29	22	13.6	161	207	448
JO	10	29	23	17.3	193	360	831
JO	10	29	24	17.3	175	538	1315
JO	10	30	1	16.5	169	262	113
JO	10	30	2	19.1	151	441	554
JO	10	30	3	15.8	159	276	823
JO	10	30	4	18.4	150	220	1049
JO	10	30	5	18.5	167	322	1447
JO	10	30	6	29.0	199	1216	1079
JO	10	30	7	27.2	193	1131	1755
JO	10	30	8	29.4	193	1190	998
JO	10	30	9	30.0	202	712	1755
JO	10	30	10	15.8	219	690	1301
JO	10	30	11	20.6	223	236	151
JO	10	30	12	22.9	231	170	323
JO	10	30	13	20.0	227	134	454
JO	10	30	14	19.5	224	98	551
JO	10	30	15	15.1	227	73	623
JO	10	30	16	11.8	229	53	677
JO	10	30	17	11.4	206	53	732
JO	10	30	18	10.0	200	54	789
JO	10	30	19	13.4	225	57	846
JO	10	30	20	15.0	229	61	909
JO	10	30	21	18.6	224	70	979
JO	10	30	22	15.4	216	56	1037
JO	10	30	23	17.4	213	40	1077
JO	10	30	24	16.8	215	34	1084

Attachment1

Joe Neal (32-003-0075)
October 29, 2003



Mass accumulation data from concentration channel.

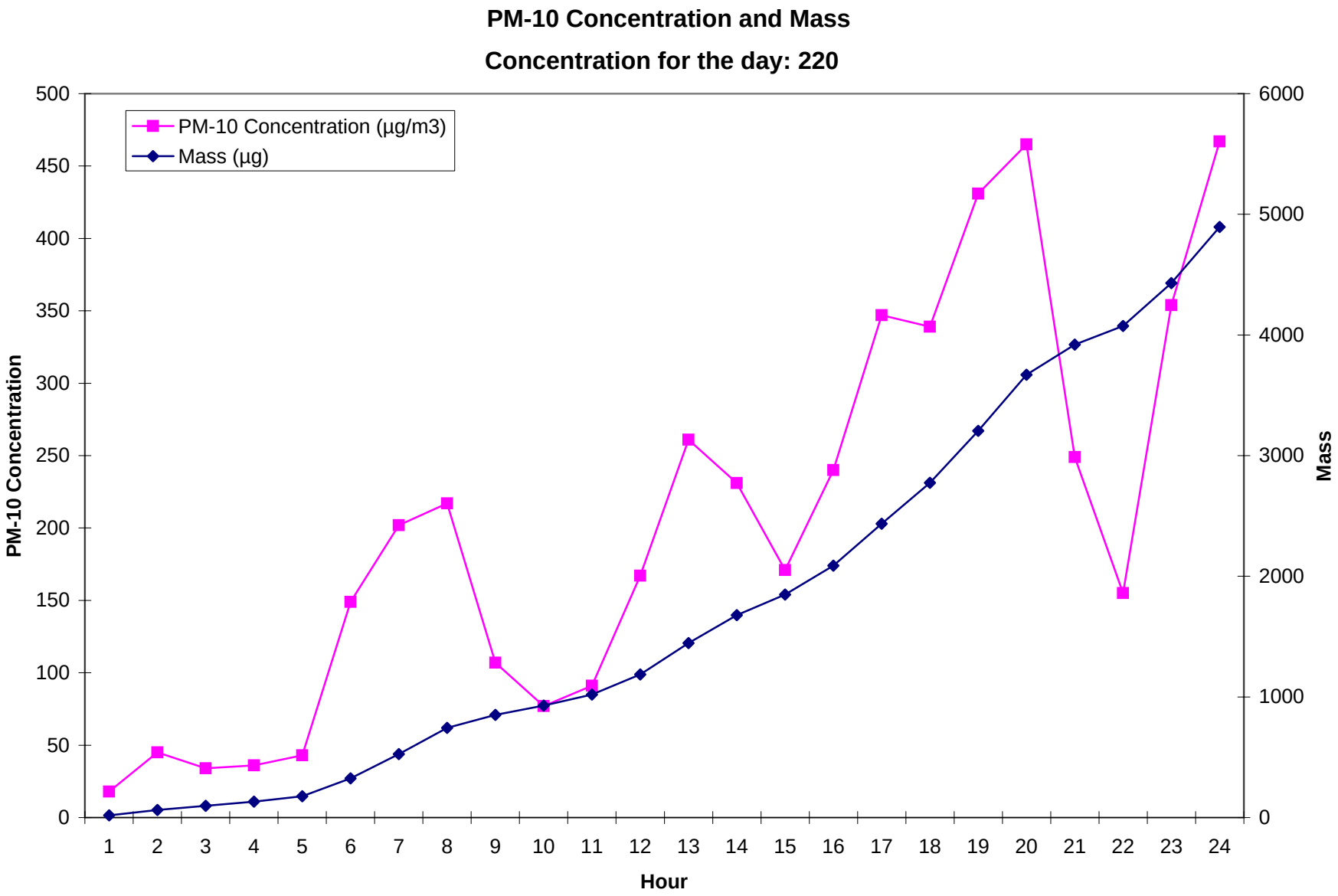
Clark County Air Quality Management

East Craig Road - 2003

Site	Month	Day	Hour	Wind Speed (MPH)	Wind Direction (0-360°)	PM-10 Concentration µg/M^3	PM-10 Mass µg
BS	10	28	1	5.4	23	41	70
BS	10	28	2	5.9	352	26	84
BS	10	28	3	5.8	33	44	132
BS	10	28	4	4.6	268	46	178
BS	10	28	5	5.2	1	47	231
BS	10	28	6	6.1	358	74	314
BS	10	28	7	4.1	338	155	468
BS	10	28	8	3.2	152	256	739
BS	10	28	9	4.2	84	278	1006
BS	10	28	10	5.9	157	90	1096
BS	10	28	11	5.8	174	64	1160
BS	10	28	12	6.5	141	42	1201
BS	10	28	13	5.5	116	23	1226
BS	10	28	14	6.6	137	36	1265
BS	10	28	15	8.7	173	34	1300
BS	10	28	16	7.8	183	30	1335
BS	10	28	17	5.1	184	23	1361
BS	10	28	18	3.8	323	69	1431
BS	10	28	19	4.7	10	81	1515
BS	10	28	20	5.8	326	80	1601
BS	10	28	21	4.5	331	70	1666
BS	10	28	22	4.8	317	47	1716
BS	10	28	23	4.9	341	52	1770
BS	10	28	24	4.5	329	44	1814
BS	10	29	1	4.4	334	18	48
BS	10	29	2	3.8	351	45	76
BS	10	29	3	5.0	330	34	112
BS	10	29	4	4.9	345	36	151
BS	10	29	5	4.2	49	43	202
BS	10	29	6	5.6	44	149	356
BS	10	29	7	6.8	63	202	559
BS	10	29	8	6.0	78	217	775
BS	10	29	9	6.6	88	107	884
BS	10	29	10	6.0	94	77	960
BS	10	29	11	9.7	141	91	1059
BS	10	29	12	12.7	151	167	1233
BS	10	29	13	14.2	189	261	1496
BS	10	29	14	16.1	179	231	1724
BS	10	29	15	12.2	175	171	1901
BS	10	29	16	15.3	157	240	2154
BS	10	29	17	15.3	169	347	323
BS	10	29	18	16.7	165	339	527
BS	10	29	19	20.4	163	431	952
BS	10	29	20	19.2	170	465	1410
BS	10	29	21	13.0	160	249	1653
BS	10	29	22	15.9	168	155	1829
BS	10	29	23	17.5	175	354	2064
BS	10	29	24	23.2	180	467	313
BS	10	30	1	16.3	172	368	103
BS	10	30	2	13.5	184	163	276
BS	10	30	3	24.9	218	442	725
BS	10	30	4	22.7	208	424	1146
BS	10	30	5	24.9	198	363	1515
BS	10	30	6	25.3	201	453	1972
BS	10	30	7	24.7	207	429	1156
BS	10	30	8	28.0	218	391	401
BS	10	30	9	26.1	207	520	918
BS	10	30	10	23.5	207	357	1263
BS	10	30	11	23.4	211	150	1420
BS	10	30	12	27.6	218	177	1603
BS	10	30	13	23.8	221	231	1830
BS	10	30	14	22.9	238	148	1979
BS	10	30	15	20.5	239	123	2101
BS	10	30	16	18.4	257	86	2190
BS	10	30	17	14.3	249	73	2263
BS	10	30	18	10.0	212	73	1698
BS	10	30	19	10.0	212	71	77
BS	10	30	20	12.2	204	87	166
BS	10	30	21	10.8	213	82	248
BS	10	30	22	11.7	220	65	315
BS	10	30	23	10.3	203	49	363
BS	10	30	24	11.8	224	27	392

Attachment 1

East Craig Road (32-003-0020)
October 29, 2003



Mass accumulation data from concentration channel.

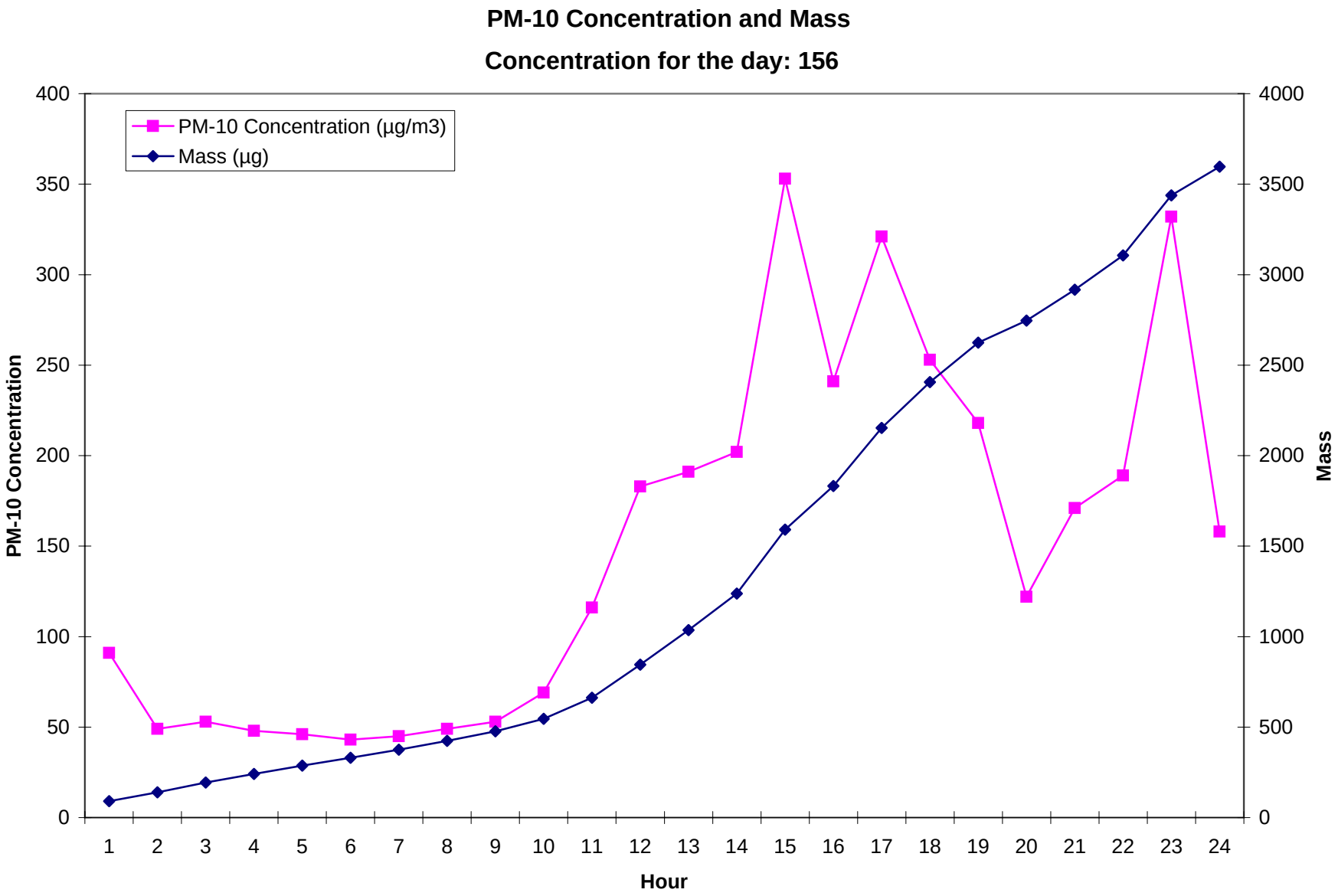
Clark County Air Quality Management

Green Valley - 2003

Site	Month	Day	Hour	Wind Speed (MPH)	Wind Direction (0-360°)	PM-10 Concentration µg/M^3	PM-10 Mass µg
GV	10	28	1	4.9	231	66	93
GV	10	28	2	3.6	225	41	130
GV	10	28	3	4.4	234	21	152
GV	10	28	4	3.7	229	18	171
GV	10	28	5	3.6	238	18	189
GV	10	28	6	4.8	236	8	198
GV	10	28	7	3.9	217	29	229
GV	10	28	8	4.5	215	86	311
GV	10	28	9	2.7	220	43	355
GV	10	28	10	2.7	214	46	400
GV	10	28	11	2.3	216	FLOW CHECK	
GV	10	28	12	2.4	216		
GV	10	28	13	2.3	158	55	565
GV	10	28	14	2.3	214	25	591
GV	10	28	15	2.7	183	33	623
GV	10	28	16	2.5	176	22	647
GV	10	28	17	2.4	99	33	680
GV	10	28	18	2.2	212	55	735
GV	10	28	19	3.7	262	71	806
GV	10	28	20	5.7	246	56	859
GV	10	28	21	3.5	226	44	904
GV	10	28	22	3.3	227	50	953
GV	10	28	23	3.6	224	42	996
GV	10	28	24	2.7	223	39	1032
GV	10	29	1	2.1	231	91	105
GV	10	29	2	2.4	202	49	152
GV	10	29	3	2.5	216	53	205
GV	10	29	4	2.9	210	48	250
GV	10	29	5	2.2	229	46	295
GV	10	29	6	3.3	222	43	339
GV	10	29	7	3.2	220	45	385
GV	10	29	8	2.3	221	49	434
GV	10	29	9	2.5	214	53	486
GV	10	29	10	3.6	165	69	555
GV	10	29	11	7.5	169	116	672
GV	10	29	12	11.0	202	183	852
GV	10	29	13	15.3	218	191	1034
GV	10	29	14	15.6	200	202	1245
GV	10	29	15	14.1	200	353	1572
GV	10	29	16	18.8	153	241	1814
GV	10	29	17	16.3	169	321	2116
GV	10	29	18	16.1	185	253	819
GV	10	29	19	12.0	185	218	302
GV	10	29	20	11.5	180	122	424
GV	10	29	21	12.4	173	171	586
GV	10	29	22	10.3	194	189	785
GV	10	29	23	13.5	203	332	1092
GV	10	29	24	14.2	190	158	1250
GV	10	30	1	19.4	205	227	212
GV	10	30	2	19.9	203	405	576
GV	10	30	3	17.3	206	231	792
GV	10	30	4	15.6	188	146	930
GV	10	30	5	15.1	171	102	1031
GV	10	30	6	11.2	186	96	1127
GV	10	30	7	11.0	199	112	1236
GV	10	30	8	16.1	199	108	1345
GV	10	30	9	18.6	196	126	1467
GV	10	30	10	26.9	199	743	1211
GV	10	30	11	25.2	207	974	919
GV	10	30	12	20.5	211	251	1155
GV	10	30	13	19.7	213	160	1313
GV	10	30	14	18.8	210	149	1456
GV	10	30	15	17.4	211	114	1566
GV	10	30	16	17.8	217	99	1665
GV	10	30	17	15.0	233	103	1763
GV	10	30	18	9.6	229	93	1851
GV	10	30	19	6.2	201	75	1925
GV	10	30	20	9.9	213	76	2000
GV	10	30	21	10.6	231	73	2071
GV	10	30	22	10.6	217	50	2119
GV	10	30	23	10.6	218	35	2154
GV	10	30	24	11.3	216	34	2188

Attachment 1

Green Valley (32-003-0298)
October 29, 2003



Mass accumulation data from concentration channel.

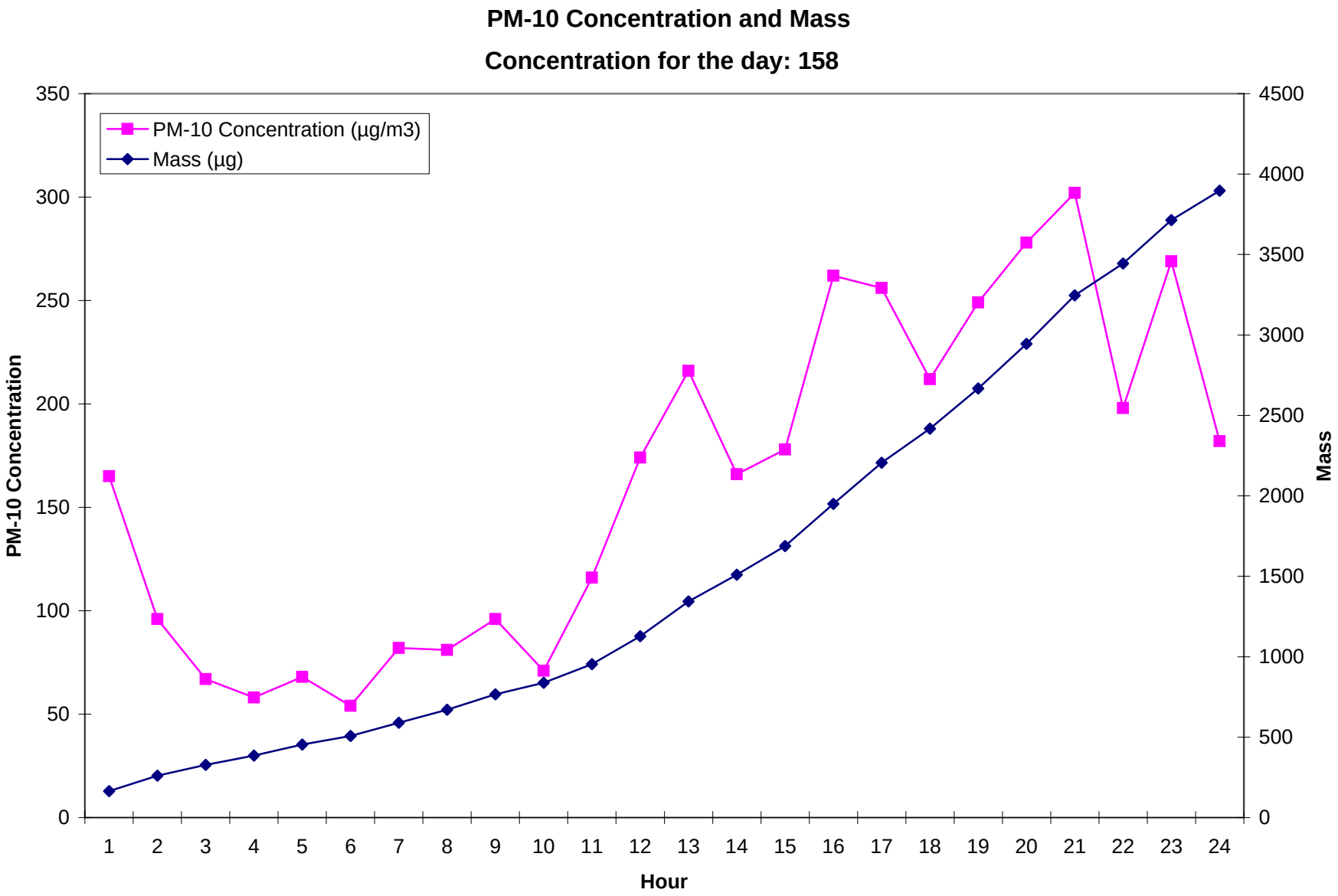
Clark County Air Quality Management

Microscale - 2003

Site	Month	Day	Hour	Wind Speed (MPH)	Wind Direction (0-360°)	PM-10 Concentration µg/M^3	PM-10 Mass µg
MS	10	28	1	1.3	160	101	103
MS	10	28	2	1.7	191	69	174
MS	10	28	3	2.2	182	81	248
MS	10	28	4	2.0	145	59	304
MS	10	28	5	2.2	166	60	363
MS	10	28	6	2.0	191	49	411
MS	10	28	7	1.8	167	68	476
MS	10	28	8	2.6	164	73	548
MS	10	28	9	2.3	120	115	657
MS	10	28	10	2.0	140	94	748
MS	10	28	11	2.6	139	73	814
MS	10	28	12	3.4	112	32	844
MS	10	28	13	3.1	165	17	861
MS	10	28	14	4.0	182	26	887
MS	10	28	15	4.3	181	29	916
MS	10	28	16	4.5	186	23	939
MS	10	28	17	2.8	175	41	981
MS	10	28	18	1.6	234	66	1044
MS	10	28	19	2.3	203	89	1130
MS	10	28	20	1.4	251	108	1236
MS	10	28	21	1.6	246	130	1358
MS	10	28	22	1.6	236	108	1460
MS	10	28	23	1.5	130	87	1543
MS	10	28	24	1.5	248	111	1631
MS	10	29	1	1.7	255	165	115
MS	10	29	2	1.3	213	96	206
MS	10	29	3	1.3	243	67	270
MS	10	29	4	1.2	244	58	326
MS	10	29	5	1.4	233	68	391
MS	10	29	6	1.6	233	54	443
MS	10	29	7	1.6	217	82	522
MS	10	29	8	1.4	164	81	601
MS	10	29	9	1.7	172	96	690
MS	10	29	10	5.2	137	71	763
MS	10	29	11	9.5	130	116	877
MS	10	29	12	13.1	194	174	1046
MS	10	29	13	12.7	191	216	1249
MS	10	29	14	10.8	192	166	1404
MS	10	29	15	14.5	213	178	1577
MS	10	29	16	17.8	212	262	1832
MS	10	29	17	16.2	212	256	2067
MS	10	29	18	17.5	213	212	2192
MS	10	29	19	15.5	208	249	169
MS	10	29	20	13.3	189	278	435
MS	10	29	21	11.3	163	302	711
MS	10	29	22	12.6	181	198	908
MS	10	29	23	17.1	199	269	1157
MS	10	29	24	10.6	177	182	1314
MS	10	30	1	19.1	220	206	148
MS	10	30	2	23.4	225	355	472
MS	10	30	3	20.1	215	207	676
MS	10	30	4	18.7	199	241	909
MS	10	30	5	18.2	161	259	1153
MS	10	30	6	15.4	182	204	1348
MS	10	30	7	17.6	197	192	1526
MS	10	30	8	20.2	212	149	1675
MS	10	30	9	16.6	199	193	1860
MS	10	30	10	19.9	210	194	2040
MS	10	30	11	20.2	214	140	2173
MS	10	30	12	22.2	212	119	2285
MS	10	30	13	20.3	213	164	351
MS	10	30	14	20.0	235	140	221
MS	10	30	15	15.0	231	89	306
MS	10	30	16	13.2	231	82	383
MS	10	30	17	16.6	222	104	483
MS	10	30	18	15.4	227	114	594
MS	10	30	19	13.8	222	112	702
MS	10	30	20	10.8	205	103	801
MS	10	30	21	11.5	216	77	874
MS	10	30	22	12.2	228	62	932
MS	10	30	23	11.5	219	46	976
MS	10	30	24	14.0	237	30	994

Attachment 1

Microscale (32-003-0560)
October 29, 2003



Attachment 2 - OCTOBER 2003

LOCAL CLIMATOLOGICAL DATA

NOAA, National Climatic Data Center

LAS VEGAS, NV

MCCARRAN INTERNATIONAL APT (LAS)

Lat: 36°04' N Long:115°09' W Elev (Ground): 2127 Feet

Time Zone: PACIFIC WBAN: 23169 ISSN #:0198–3318

DATE	TEMPERATURE °F MAXIMUM	MINIMUM	AVERAGE	DEP FROM NORMAL	AVERAGE DEW PT	AVERAGE WET BULB	DEG DAYS BASE 65° HEATING	COOLING	WEATHER	SNOW/ICE ON GND(IN) 0400 LST DEPTH	1000 LST WATER EQUIV	PRECIPITATION (INCHES) 2400 LST SNOW–FALL	2400 LST WATER EQUIV	PRESSURE (INCHES OF HG) AVERAGE STATION	AVERAGE SEA LEVEL	WIND SPEED = MPH DIR = TENS OF DEGREES RESULTANT SPEED	RES DIR	AVERAGE SPEED	MAXIMUM 5–SEC SPEED	DIR	MAXIMUM 2–MIN SPEED	DIR	DATE
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
01	98*	75	87*	12	47	63	0	22					0.00	27.64	29.84	5.0	22	7.0	25	22	18	19	01
02	94	72	83	8	36	58	0	18					0.00	27.47	29.67	6.6	21	7.5	24	23	18	24	02
03	86	72	79	4	46	60	0	14					0.00	27.51	29.71	7.4	03	8.8	29	04	24	02	03
04	85	67	76	1	48	60	0	11					0.00	27.61	29.83	0.6	28	2.5	14	07	10	06	04
05	88	67	78	4	45	59	0	13					0.00	27.63	29.84	2.1	26	3.9	13	05	10	04	05
06	90	68	79	5	43	59	0	14					0.00	27.59	29.80	1.4	22	4.1	17	04	10	05	06
07	91	66	79	5	42	58	0	14					0.00	27.53	29.74	1.8	20	4.1	12	26	10	26	07
08	89	66	78	4	40	57	0	13					0.00	27.56	29.78	1.2	26	3.9	10	25	9	28	08
09	96	65	81	8	38	57	0	16					0.00	27.48	29.69	3.5	17	5.9	17	08	14	20	09
10	89	73	81	9	39	58	0	16					0.00	27.46	29.66	4.1	21	9.3	24	20	21	19	10
11	83	63	73	1	26	51	0	8					0.00	27.71	29.94	2.1	03	5.3	15	05	14	05	11
12	89	61	75	4	40	56	0	10					0.00	27.69	29.92	1.2	23	4.0	12	24	9	24	12
13	86	64	75	5	33	54	0	10					0.00	27.76	29.99	4.8	05	6.8	22	01	17	06	13
14	83	57	70	1	20	48	0	5					0.00	27.71	29.95	0.5	21	3.9	12	06	9	08	14
15	91	62	77	8	40	56	0	12					0.00	27.65	29.88	3.3	22	5.9	23	21	18	21	15
16	88	61	75	7	40	57	0	10					0.00	27.79	30.03	0.2	23	4.9	14	07	13	07	16
17	90	62	76	8	32	53	0	11					0.00	27.84	30.08	1.0	20	3.5	10	25	9	25	17
18	91	62	77	10	38	56	0	12					0.00	27.80	30.04	1.0	15	4.2	14	09	10	09	18
19	90	64	77	10	43	58	0	12					0.00	27.80	30.03	1.6	26	3.6	8	26	8	26	19
20	92	64	78	12	42	58	0	13					0.00	27.84	30.08	2.2	23	3.6	10	25	9	25	20
21	94	64	79	13	39	57	0	14					0.00	27.83	30.06	2.7	24	4.0	10	29	9	26	21
22	92	64	78	12	34	55	0	13					0.00	27.77	30.00	1.3	22	4.2	12	25	10	25	22
23	89	63	76	11	36	55	0	11					0.00	27.69	29.92	0.6	20	4.4	12	19	10	19	23
24	87	66	77	12	29	53	0	12					0.00	27.76	29.99	5.6	01	9.0	29	01	23	01	24
25	81	58	70	6	24	50	0	5					0.00	27.94	30.19	7.7	02	10.0	32	34	25	03	25
26	80	55	68	4	21	47	0	3					0.00	28.01	30.28	0.4	27	5.5	16	05	14	06	26
27	84	56	70	7	33	52	0	5					0.00	27.84	30.09	2.5	23	4.1	14	34	12	34	27
28	88	62	75	12	35	54	0	10					0.00	27.60	29.83	2.5	25	3.8	16	32	14	02	28
29	84	62	73	10	37	54	0	8	FU				0.00	27.34	29.54	7.9	20	10.0	36	20	29	20	29
30	71	57	64	2	33	50	1	0	HZ FU BLDU				0.00	27.30	29.51	18.6	20	19.2	45*	20	36*	20	30
31	63	50*	57*	-4	30	45	8	0					0.00	27.52	29.76	11.9	21	12.7	29	23	23	23	31
	87.2	63.5	75.4		36.4	55.1	0.3	10.8	< MONTHLY AVERAGES	TOTALS–>			0.00	27.67	29.89	1.7	22	6.1	<– MONTHLY AVERAGES				
	6.4	7.0	6.7		<–––––––––––DEPARTURE FROM NORMAL––––––––––––>								-.24	SUNSHINE, CLOUD, & VISIBILITY TABLES ON PAGE 3									

DEGREE DAYS

	MONTHLY TOTAL	MONTHLY DEPARTURE	SEASON TO DATE TOTAL	SEASON TO DATE DEPARTURE
HEATING:	9	-48	9	-49
COOLING:	335	178	3838	628

GREATEST 24–HR PRECIPITATION: 0.00 DATE :
GREATEST 24–HR SNOWFALL: DATE :
GREATEST SNOW DEPTH: DATE :

	SEA LEVEL PRESSURE	DATE	TIME
MAXIMUM :	30.37	26	0756
MINIMUM :	29.38	30	0356

NUMBER OF DAYS WITH →

MAXIMUM TEMP ≥ 90: 12
MAXIMUM TEMP ≤ 32 : 0
THUNDERSTORMS : 0

MINIMUM TEMP ≤ 32 : 0
MINIMUM TEMP ≤ 0 : 0
HEAVY FOG : 0

PRECIPITATION ≥ 0.01 INCH : 0
PRECIPITATION ≥ 0.10 INCH : 0
SNOWFALL ≥ 1.0 INCH :

Attachment 2

HOURLY PRECIPITATION

(WATER EQUIVALENT IN INCHES)

LAS VEGAS, NV

OCTOBER 2003 LAS WBAN # 23169

DATE	FOR HOUR (LST) ENDING AT												DATE	FOR HOUR (LST) ENDING AT												DATE	Sum if Different (See Note)	2400 LST Water Equiv.
	1	2	3	4	5	6	7	8	9	10	11	12		13	14	15	16	17	18	19	20	21	22	23	24			
01													01													01		0.00
02													02													02		0.00
03													03													03		0.00
04													04													04		0.00
05													05													05		0.00
06													06													06		0.00
07													07													07		0.00
08													08													08		0.00
09													09													09		0.00
10													10													10		0.00
11													11													11		0.00
12													12													12		0.00
13													13													13		0.00
14													14													14		0.00
15													15													15		0.00
16													16													16		0.00
17													17													17		0.00
18													18													18		0.00
19													19													19		0.00
20													20													20		0.00
21													21													21		0.00
22													22													22		0.00
23													23													23		0.00
24													24													24		0.00
25													25													25		0.00
26													26													26		0.00
27													27													27		0.00
28													28													28		0.00
29													29													29		0.00
30													30													30		0.00
31													31													31		0.00

MAXIMUM SHORT DURATION PRECIPITATION (See Note)

Time Period (Minutes)	5	10	15	20	30	45	60	80	100	120	150	180
Precipitation (Inches)												
Ending Date												
Ending Time (Hour/Min)												

Date and time are not entered for TRACE amounts.

Note : The sum of the hourly totals is given when it differs from the daily total. NWS does not edit ASOS hourly values but may edit daily and monthly totals. Hourly, daily, and monthly totals are printed as reported by the ASOS site.

Attachment 2

REFERENCE NOTES & SUPPLEMENTAL SUMMARIES

* = Extreme for the month (last occurence if more than one)
T = Trace precipitation amount
+ = also occurs on earlier date
FG+ = Heavy fog, visibility .25 miles or less
BLANK entries denote missing or unreported data

Resultant wind is the vector sum of the wind speeds and directions divided by the number of observations.

Wind direction is recorded in tens of degrees (2 digits) clockwise from true north. '00' = calm, 'VR' = variable.

Precipitation is for the 24−hour period ending at the time indicated in the column heading.

Water Equivalent of snow on the ground is reported only when the depth is 2 or more inches.

NORMALS ARE FOR THE YEARS 1971−2000

WEATHER NOTATIONS

QUALIFIER	WEATHER PHENOMENA		
DESCRIPTOR	PRECIPITATION	OBSCURATION	OTHER
BC Patches	DZ Drizzle	BR Mist	DS Duststorm
BL Blowing	GR Hail	DU Widespread Dust	FC Funnel Cloud
DR Low Drifting	GS Small Hail and/or Snow Pellets	FG Fog	+FC Tornado Waterspout
FZ Freezing	IC Ice Crystals	FU Smoke	PO Well−Developed Dust/Sand Whirls
MI Shallow	PL Ice Pellets	HZ Haze	SQ Squalls
PR Partial	RA Rain	PY Spray	SS Sandstorm
SH Shower(s)	SG Snow Grains	SA Sand	GL Glaze
TS Thunderstorm	SN Snow	VA Volcanic Ash	
VC In the Vicinity	UP Unknown Precipitation		

Intensity (as indicated on pages 4 to 6):
'+' = Heavy ' ' = Moderate '−' = Light

LAS VEGAS, NV
OCTOBER 2003

Ceilometer (30−second) data are used to derive cloudiness at or below 12,000 feet. This cloudiness is the mean cloud cover detected during sunrise to sunset (SR−SS), or midnight to midnight (MN−MN).

Satellite data are used to derive cloudiness above 12,000 feet. Effective Cloud Amount is based on the cloud cover and the transparency of the clouds within the satellite field of view (approx. 31x31 miles).

Sky Condition is based on the sum (not to exceed 8) of the sunrise to sunset cloud cover below and above 12,000 feet. Both ceilometer and satellite data must be present to compute Sky Condition. Clear = 0−2 oktas, Partly Cloudy = 3−6 oktas, Cloudy = 7−8 oktas.

A Heating (Cooling) Degree Day is the difference between the average daily temperature and 65 degrees F. The HDD season begins July 1, the CDD season begins January 1.

Dew Point is the temperature to which the air must be cooled to achieve 100% relative humidity.
Wet Bulb is the temperature the air would have if cooled to saturation at constant pressure by evaporation of water into it.

Snow Depth, Snowfall, and Sunshine data may come from nearby sites that the National Weather Service deems Climatologically representative of this site.

ADDITIONAL NOTES:

DATE	SUNSHINE		CLOUDINESS (OKTAS)				VISIBILITY (MILES)		RESERVED
			SR−SS		MN−MN				
	TOTAL MINUTES	PERCENT POSSIBLE	CEILOMETER	SATELLITE	CEILOMETER	SATELLITE	MINIMUM	MAXIMUM	
01							10.00	10.00	
02							10.00	10.00	
03							10.00	10.00	
04							10.00	10.00	
05							10.00	10.00	
06							10.00	10.00	
07							10.00	10.00	
08							10.00	10.00	
09							10.00	10.00	
10							10.00	10.00	
11							10.00	10.00	
12							10.00	10.00	
13							10.00	10.00	
14							10.00	10.00	
15							10.00	10.00	
16							10.00	10.00	
17							9.00	10.00	
18							10.00	10.00	
19							10.00	10.00	
20							10.00	10.00	
21							10.00	10.00	
22							10.00	10.00	
23							10.00	10.00	
24							10.00	10.00	
25							10.00	10.00	
26							10.00	10.00	
27							10.00	10.00	
28							10.00	10.00	
29							1.75	10.00	
30							3.00	8.00	
31							10.00	10.00	
MONTHLY AVGS							9.48	9.94	

SUNSHINE (MINUTES)

Total: Possible:
Percent Possible:

NUMBER OF DAYS WITH:

SKY CONDITION

CLR	PTLY CLDY	CLOUDY	MISSING
			31

MINIMUM VISIBILITY (MILES)

<=0.25	<=3.0	>=7.0
0	2	29

Attachment 2

OBSERVATIONS AT 3–HOURLY INTERVALS

LAS VEGAS, NV

OCTOBER 2003 LAS WBAN # 23169

HOUR (LST)	SKY COVER	CEILING 100'S OF FT	SATELLITE OBSERVATION TIME (LST)	SATELLITE EFF CLD AMT Oktas	VISIBILITY (MILES)	WEATHER	TEMPERATURE °F DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY (PCT)	WIND SPEED (MPH)	DIRECTION TENS OF DEG	PRESSURE (INCHES,HG) STATION	SEA LEVEL
					SUNRISE: 0535	**OCT 01**			**SUNSET: 1726**					
01	CLR	NC			10.00		80	47	61	31	6	17	27.68	29.88
04	SCT	NC			10.00		76	44	58	32	3	18	27.68	29.89
07	FEW	NC			10.00		80	48	61	33	3	24	27.72	29.93
10	FEW	NC			10.00		90	52	66	27	10	08	27.72	29.92
13	BKN	250			10.00		96	50	67	21	14	19	27.63	29.83
16	BKN	230			10.00		94	49	66	22	14	24	27.58	29.78
19	BKN	200			10.00		88	48	64	25	6	25	27.57	29.78
22	BKN	230			10.00		85	40	60	20	7	21	27.59	29.78
					SUNRISE: 0536	**OCT 02**			**SUNSET: 1724**					
01	SCT	NC			10.00		80	38	57	22	6	20	27.56	29.75
04	FEW	NC			10.00		77	35	55	22	9	20	27.52	29.72
07	SCT	NC			10.00		77	32	54	19	5	25	27.54	29.74
10	SCT	NC			10.00		85	37	59	18	0	00	27.52	29.72
13	SCT	NC			10.00		91	40	62	17	13	20	27.45	29.63
16	BKN	250			10.00		89	37	60	16	18	24	27.40	29.59
19	BKN	250			10.00		84	35	58	17	8	21	27.41	29.61
22	BKN	250			10.00		81	35	57	19	5	19	27.42	29.61
					SUNRISE: 0537	**OCT 03**			**SUNSET: 1723**					
01	BKN	250			10.00		77	36	55	23	0	00	27.43	29.62
04	BKN	200			10.00		76	36	55	23	5	01	27.45	29.64
07	SCT	NC			10.00		76	45	58	33	5	03	27.49	29.70
10	FEW	NC			10.00		82	51	63	34	17	03	27.53	29.73
13	FEW	NC			10.00		85	52	65	32	12	03	27.50	29.70
16	SCT	NC			10.00		85	51	64	31	7	08	27.49	29.68
19	SCT	NC			10.00		79	48	61	34	9	02	27.53	29.74
22	FEW	NC			10.00		76	47	59	36	12	02	27.57	29.78
					SUNRISE: 0538	**OCT 04**			**SUNSET: 1721**					
01	CLR	NC			10.00		73	48	59	41	5	33	27.58	29.80
04	CLR	NC			10.00		68	46	56	45	0	00	27.60	29.82
07	SCT	NC			10.00		70	47	57	44	0	00	27.64	29.87
10	SCT	NC			10.00		77	49	61	37	0	00	27.66	29.89
13	BKN	250			10.00		83	48	62	30	0	00	27.61	29.82
16	BKN	250			10.00		84	48	63	29	0	00	27.58	29.80
19	BKN	200			10.00		82	49	62	32	0	00	27.60	29.82
22	BKN	200			10.00		75	47	59	37	0	00	27.62	29.84
					SUNRISE: 0539	**OCT 05**			**SUNSET: 1720**					
01	BKN	250			10.00		71	46	57	41	7	25	27.63	29.85
04	BKN	250			10.00		68	44	55	42	3	23	27.63	29.85
07	FEW	NC			10.00		72	47	58	41	0	00	27.67	29.89
10	FEW	NC			10.00		81	48	62	32	7	04	27.67	29.90
13	FEW	NC			10.00		87	49	64	27	5	07	27.62	29.83
16	FEW	NC			10.00		87	45	62	23	3	23	27.59	29.80
19	FEW	NC			10.00		84	43	61	24	3	27	27.59	29.80
22	FEW	NC			10.00		76	43	58	31	5	24	27.61	29.83
					SUNRISE: 0539	**OCT 06**			**SUNSET: 1719**					
01	BKN	250			10.00		73	42	56	33	5	25	27.61	29.82
04	BKN	250			10.00		69	40	54	35	3	20	27.61	29.83
07	BKN	200			10.00		71	42	55	35	3	20	27.64	29.86
10	BKN	200			10.00		82	45	61	27	3	VR	27.64	29.86
13	BKN	200			10.00		87	48	64	26	3	VR	27.58	29.79
16	BKN	200			10.00		89	46	63	23	6	08	27.54	29.75
19	BKN	250			10.00		84	41	60	22	5	19	27.55	29.76
22	BKN	250			10.00		76	41	57	29	3	26	27.55	29.77

HOUR (LST)	SKY COVER	CEILING 100'S OF FT	SATELLITE OBSERVATION TIME (LST)	SATELLITE EFF CLD AMT Oktas	VISIBILITY (MILES)	WEATHER	TEMPERATURE °F DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY (PCT)	WIND SPEED (MPH)	DIRECTION TENS OF DEG	PRESSURE (INCHES,HG) STATION	SEA LEVEL
					SUNRISE: 0540	**OCT 07**			**SUNSET: 1717**					
01	FEW	NC			10.00		73	40	55	30	3	27	27.55	29.76
04	SCT	NC			10.00		70	39	54	32	0	00	27.55	29.76
07	FEW	NC			10.00		70	40	54	34	3	26	27.58	29.80
10	FEW	NC			10.00		82	42	60	24	3	01	27.59	29.80
13	FEW	NC			10.00		89	46	63	23	5	VR	27.50	29.71
16	FEW	NC			10.00		90	46	64	22	6	10	27.46	29.66
19	CLR	NC			10.00		84	41	60	22	3	20	27.48	29.68
22	CLR	NC			10.00		77	38	56	25	5	25	27.50	29.71
					SUNRISE: 0541	**OCT 08**			**SUNSET: 1716**					
01	CLR	NC			10.00		72	41	55	33	6	25	27.52	29.73
04	CLR	NC			10.00		69	39	53	33	7	25	27.56	29.77
07	CLR	NC			10.00		71	40	54	32	0	00	27.61	29.82
10	CLR	NC			10.00		81	43	59	26	5	VR	27.64	29.85
13	CLR	NC			10.00		88	41	61	19	0	00	27.57	29.78
16	CLR	NC			10.00		85	44	61	24	0	00	27.52	29.73
19	CLR	NC			10.00		83	37	58	19	5	24	27.53	29.75
22	CLR	NC			10.00		77	38	56	25	3	25	27.55	29.76
					SUNRISE: 0542	**OCT 09**			**SUNSET: 1714**					
01	CLR	NC			10.00		71	39	54	31	6	21	27.55	29.76
04	CLR	NC			10.00		66	37	51	34	6	20	27.53	29.75
07	CLR	NC			10.00		68	42	54	39	0	00	27.57	29.79
10	CLR	NC			10.00		78	37	56	23	3	09	27.57	29.78
13	CLR	NC			10.00		91	38	61	15	10	09	27.47	29.67
16	FEW	NC			10.00		96	36	62	12	10	21	27.40	29.59
19	CLR	NC			10.00		87	34	58	15	6	19	27.39	29.59
22	CLR	NC			10.00		83	38	58	20	8	18	27.41	29.61
					SUNRISE: 0543	**OCT 10**			**SUNSET: 1713**					
01	CLR	NC			10.00		81	36	57	20	9	22	27.40	29.58
04	CLR	NC			10.00		78	39	57	25	15	19	27.39	29.57
07	FEW	NC			10.00		77	40	57	26	15	16	27.42	29.62
10	SCT	NC			10.00		85	36	58	17	13	21	27.47	29.66
13	FEW	NC			10.00		88	39	60	18	9	26	27.44	29.63
16	FEW	NC			10.00		88	39	60	18	3	VR	27.44	29.63
19	FEW	NC			10.00		82	40	59	22	6	23	27.49	29.69
22	FEW	NC			10.00		78	50	61	37	13	02	27.56	29.77
					SUNRISE: 0544	**OCT 11**			**SUNSET: 1712**					
01	CLR	NC			10.00		73	19	49	13	9	05	27.64	29.85
04	CLR	NC			10.00		68	21	47	17	8	06	27.67	29.89
07	CLR	NC			10.00		66	24	47	20	0	00	27.73	29.96
10	CLR	NC			10.00		74	24	51	15	8	05	27.76	30.00
13	CLR	NC			10.00		80	24	53	13	6	07	27.71	29.94
16	CLR	NC			10.00		83	32	56	16	0	00	27.68	29.91
19	CLR	NC			10.00		77	33	54	20	6	24	27.69	29.93
22	CLR	NC			10.00		69	31	50	24	5	22	27.74	29.97
					SUNRISE: 0544	**OCT 12**			**SUNSET: 1710**					
01	CLR	NC			10.00		67	31	50	26	3	24	27.73	29.97
04	CLR	NC			10.00		64	33	49	32	0	00	27.72	29.95
07	CLR	NC			10.00		65	35	50	33	3	27	27.76	30.00
10	CLR	NC			10.00		78	33	55	19	3	VR	27.76	29.99
13	CLR	NC			10.00		86	39	60	19	0	00	27.67	29.90
16	CLR	NC			10.00		88	48	64	25	5	02	27.64	29.86
19	CLR	NC			10.00		82	49	62	32	6	20	27.64	29.86
22	CLR	NC			10.00		77	49	61	37	6	23	27.64	29.86

Attachment 2

OBSERVATIONS AT 3–HOURLY INTERVALS

LAS VEGAS, NV

OCTOBER 2003 LAS WBAN # 23169

HOUR (LST)	SKY COVER	CEILING 100'S OF FT	SATELLITE OBSERVATION TIME (LST)	SATELLITE EFF CLD AMT Oktas	VISIBILITY (MILES)	WEATHER	TEMPERATURE °F DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY (PCT)	WIND SPEED (MPH)	DIRECTION TENS OF DEG	PRESSURE (INCHES,HG) STATION	SEA LEVEL
SUNRISE: 0545 OCT 13 SUNSET: 1709														
01	CLR	NC			10.00		71	39	54	31	0	00	27.66	29.88
04	CLR	NC			10.00		68	38	52	33	8	29	27.69	29.92
07	CLR	NC			10.00		73	26	51	17	9	04	27.79	30.01
10	CLR	NC			10.00		81	29	55	15	10	05	27.82	30.06
13	CLR	NC			10.00		85	35	58	17	15	05	27.77	30.00
16	CLR	NC			10.00		84	35	58	17	12	07	27.76	29.99
19	CLR	NC			10.00		77	35	55	22	5	02	27.78	30.01
22	CLR	NC			10.00		67	32	50	27	6	20	27.79	30.02
SUNRISE: 0546 OCT 14 SUNSET: 1708														
01	CLR	NC			10.00		62	14	43	15	3	25	27.77	30.00
04	CLR	NC			10.00		59	13	41	16	0	00	27.76	30.00
07	CLR	NC			10.00		61	12	42	14	3	20	27.79	30.04
10	FEW	NC			10.00		73	20	49	13	5	10	27.79	30.03
13	FEW	NC			10.00		80	20	52	11	6	06	27.69	29.92
16	FEW	NC			10.00		83	24	54	11	5	05	27.63	29.86
19	CLR	NC			10.00		75	27	52	17	5	26	27.64	29.88
22	CLR	NC			10.00		68	26	48	21	0	00	27.64	29.88
SUNRISE: 0547 OCT 15 SUNSET: 1706														
01	CLR	NC			10.00		64	29	48	27	5	29	27.64	29.88
04	CLR	NC			10.00		62	25	45	24	6	28	27.64	29.88
07	CLR	NC			10.00		65	27	47	24	0	00	27.68	29.92
10	CLR	NC			10.00		76	35	55	23	3	07	27.70	29.94
13	CLR	NC			10.00		87	44	62	22	5	34	27.63	29.85
16	CLR	NC			10.00		89	55	67	32	13	22	27.60	29.82
19	CLR	NC			10.00		79	54	64	42	6	18	27.63	29.85
22	CLR	NC			10.00		74	55	62	52	6	21	27.64	29.86
SUNRISE: 0548 OCT 16 SUNSET: 1705														
01	CLR	NC			10.00		71	30	51	22	6	18	27.70	29.93
04	CLR	NC			10.00		64	29	48	27	0	00	27.74	29.96
07	FEW	NC			10.00		65	31	49	28	0	00	27.81	30.06
10	CLR	NC			10.00		79	34	56	20	0	00	27.84	30.08
13	CLR	NC			10.00		85	42	61	22	9	08	27.79	30.03
16	CLR	NC			10.00		88	48	64	25	9	06	27.77	30.01
19	CLR	NC			10.00		78	58	65	50	7	26	27.80	30.05
22	CLR	NC			10.00		73	62	66	69	6	24	27.83	30.08
SUNRISE: 0549 OCT 17 SUNSET: 1704														
01	CLR	NC			10.00		66	29	49	25	5	20	27.84	30.08
04	CLR	NC			10.00		62	30	47	30	6	21	27.85	30.09
07	FEW	NC			9.00		67	32	50	27	0	00	27.89	30.14
10	CLR	NC			10.00		76	34	54	22	0	00	27.91	30.15
13	CLR	NC			10.00		87	27	57	11	5	08	27.83	30.07
16	CLR	NC			10.00		90	34	60	14	0	00	27.79	30.03
19	CLR	NC			10.00		79	38	57	23	7	27	27.79	30.03
22	CLR	NC			10.00		71	32	52	24	5	22	27.82	30.07
SUNRISE: 0550 OCT 18 SUNSET: 1702														
01	CLR	NC			10.00		69	34	52	27	3	22	27.82	30.06
04	CLR	NC			10.00		63	34	49	34	3	21	27.81	30.05
07	CLR	NC			10.00		66	35	51	32	3	26	27.86	30.11
10	SCT	NC			10.00		80	36	57	20	5	08	27.87	30.11
13	BKN	200			10.00		88	37	60	16	7	10	27.79	30.01
16	BKN	200			10.00		89	42	62	19	8	06	27.74	29.97
19	BKN	200			10.00		80	43	59	27	3	20	27.76	29.99
22	BKN	200			10.00		77	37	56	24	5	23	27.78	30.01

HOUR (LST)	SKY COVER	CEILING 100'S OF FT	SATELLITE OBSERVATION TIME (LST)	SATELLITE EFF CLD AMT Oktas	VISIBILITY (MILES)	WEATHER	TEMPERATURE °F DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY (PCT)	WIND SPEED (MPH)	DIRECTION TENS OF DEG	PRESSURE (INCHES,HG) STATION	SEA LEVEL
SUNRISE: 0551 OCT 19 SUNSET: 1701														
01	FEW	NC			10.00		70	38	53	31	3	22	27.79	30.02
04	CLR	NC			10.00		67	39	52	36	3	19	27.79	30.03
07	BKN	200			10.00		67	39	52	36	5	26	27.83	30.08
10	BKN	200			10.00		80	40	58	24	0	00	27.85	30.09
13	BKN	200			10.00		88	44	62	22	5	VR	27.77	30.00
16	BKN	200			10.00		89	49	65	25	5	04	27.73	29.96
19	BKN	200			10.00		81	51	63	35	5	25	27.77	30.01
22	SCT	NC			10.00		73	39	55	29	7	26	27.80	30.04
SUNRISE: 0552 OCT 20 SUNSET: 1660														
01	SCT	NC			10.00		69	37	53	31	8	21	27.81	30.04
04	CLR	NC			10.00		65	37	51	36	5	26	27.83	30.07
07	FEW	NC			10.00		68	37	52	32	3	21	27.89	30.13
10	FEW	NC			10.00		81	42	59	25	3	VR	27.90	30.14
13	FEW	NC			10.00		90	46	64	22	3	36	27.83	30.06
16	SCT	NC			10.00		91	48	65	23	0	00	27.79	30.03
19	FEW	NC			10.00		79	49	61	35	8	25	27.80	30.05
22	CLR	NC			10.00		72	36	53	27	3	23	27.83	30.07
SUNRISE: 0552 OCT 21 SUNSET: 1659														
01	CLR	NC			10.00		69	33	51	26	6	20	27.84	30.07
04	CLR	NC			10.00		69	33	51	26	6	24	27.85	30.09
07	CLR	NC			10.00		69	34	52	27	5	25	27.89	30.14
10	CLR	NC			10.00		81	38	58	21	0	00	27.90	30.14
13	CLR	NC			10.00		91	41	62	17	6	32	27.81	30.05
16	CLR	NC			10.00		92	47	65	21	0	00	27.77	29.99
19	CLR	NC			10.00		80	49	62	34	7	25	27.77	30.00
22	CLR	NC			10.00		74	30	52	20	5	23	27.78	30.01
SUNRISE: 0553 OCT 22 SUNSET: 1657														
01	CLR	NC			10.00		70	33	52	26	3	24	27.79	30.01
04	CLR	NC			10.00		67	29	49	24	0	00	27.79	30.02
07	CLR	NC			10.00		68	30	50	24	0	00	27.83	30.08
10	CLR	NC			10.00		81	33	56	18	0	00	27.83	30.07
13	CLR	NC			10.00		89	37	60	16	5	07	27.76	29.99
16	CLR	NC			10.00		91	41	62	17	8	07	27.71	29.93
19	CLR	NC			10.00		79	42	58	27	8	26	27.72	29.95
22	CLR	NC			10.00		73	31	52	21	7	20	27.73	29.96
SUNRISE: 0554 OCT 23 SUNSET: 1656														
01	CLR	NC			10.00		69	27	49	21	7	19	27.73	29.95
04	CLR	NC			10.00		64	28	47	26	5	18	27.72	29.94
07	FEW	NC			10.00		66	33	50	29	5	25	27.75	29.98
10	SCT	NC			10.00		79	38	57	23	5	08	27.74	29.97
13	SCT	NC			10.00		87	40	61	19	5	06	27.66	29.88
16	BKN	250			10.00		87	45	62	23	5	10	27.63	29.85
19	BKN	250			10.00		76	39	56	27	6	25	27.64	29.88
22	BKN	250			10.00		71	33	52	25	5	19	27.67	29.90
SUNRISE: 0555 OCT 24 SUNSET: 1655														
01	SCT	NC			10.00		68	29	49	23	3	20	27.71	29.94
04	SCT	NC			10.00		75	28	52	18	15	01	27.76	29.98
07	FEW	NC			10.00		74	30	52	20	14	34	27.79	30.03
10	CLR	NC			10.00		79	31	55	17	22	01	27.79	30.03
13	CLR	NC			10.00		84	31	57	15	3	VR	27.74	29.97
16	BKN	250			10.00		86	31	57	14	3	11	27.70	29.92
19	SCT	NC			10.00		74	28	52	18	7	26	27.74	29.97
22	SCT	NC			10.00		69	23	48	17	6	23	27.79	30.03

Attachment 2

OBSERVATIONS AT 3−HOURLY INTERVALS

LAS VEGAS, NV

OCTOBER 2003

LAS WBAN # 23169

HOUR (LST)	SKY COVER	CEILING 100'S OF FT	SATELLITE OBSERVATION TIME (LST)	SATELLITE EFF CLD AMT Oktas	VISIBILITY (MILES)	WEATHER	TEMPERATURE °F DRY BULB	TEMPERATURE °F DEW POINT	TEMPERATURE °F WET BULB	RELATIVE HUMIDITY (PCT)	WIND SPEED (MPH)	WIND DIRECTION TENS OF DEG	PRESSURE (INCHES,HG) STATION	PRESSURE (INCHES,HG) SEA LEVEL
SUNRISE: 0556 OCT 25 SUNSET: 1654														
01	FEW	NC			10.00		70	26	49	19	10	03	27.84	30.09
04	FEW	NC			10.00		66	17	45	15	6	09	27.89	30.13
07	BKN	250			10.00		62	19	44	19	5	20	27.97	30.23
10	SCT	NC			10.00		76	24	51	14	15	35	27.97	30.23
13	BKN	250			10.00		81	33	56	18	17	03	27.93	30.18
16	BKN	250			10.00		80	35	56	20	17	02	27.91	30.15
19	BKN	250			10.00		72	27	51	19	13	03	27.94	30.21
22	SCT	NC			10.00		67	11	45	11	0	00	28.00	30.26
SUNRISE: 0557 OCT 26 SUNSET: 1653														
01	SCT	NC			10.00		62	9	42	12	3	VR	28.03	30.29
04	FEW	NC			10.00		57	9	39	15	6	19	28.06	30.32
07	SCT	NC			10.00		60	13	42	16	0	00	28.09	30.37
10	BKN	250			10.00		72	15	48	11	7	VR	28.08	30.35
13	BKN	250			10.00		77	25	52	14	10	36	28.01	30.27
16	FEW	NC			10.00		79	33	55	19	5	11	27.94	30.21
19	CLR	NC			10.00		70	29	50	22	6	27	27.94	30.22
22	CLR	NC			10.00		63	25	46	24	6	28	27.94	30.21
SUNRISE: 0558 OCT 27 SUNSET: 1651														
01	CLR	NC			10.00		60	23	44	24	6	21	27.96	30.22
04	FEW	NC			10.00		59	28	45	31	9	25	27.94	30.21
07	SCT	NC			10.00		60	28	46	30	5	19	27.95	30.22
10	BKN	250			10.00		73	34	53	24	0	00	27.94	30.19
13	BKN	250			10.00		80	38	57	22	3	11	27.82	30.07
16	BKN	250			10.00		83	40	59	22	5	17	27.75	29.99
19	BKN	250			10.00		74	38	55	27	6	24	27.73	29.98
22	BKN	250			10.00		71	31	51	23	5	VR	27.73	29.96
SUNRISE: 0559 OCT 28 SUNSET: 1650														
01	BKN	250			10.00		70	31	51	24	0	00	27.70	29.93
04	BKN	250			10.00		63	30	47	29	6	29	27.67	29.90
07	BKN	250			10.00		62	28	46	28	6	27	27.69	29.94
10	SCT	NC			10.00		78	31	54	18	0	00	27.68	29.91
13	FEW	NC			10.00		86	39	60	19	0	00	27.59	29.80
16	FEW	NC			10.00		87	44	62	22	5	11	27.53	29.75
19	CLR	NC			10.00		76	43	58	31	6	25	27.52	29.75
22	CLR	NC			10.00		70	30	51	23	0	00	27.49	29.71
SUNRISE: 0600 OCT 29 SUNSET: 1649														
01	CLR	NC			10.00		68	31	50	25	0	00	27.47	29.68
04	CLR	NC			10.00		64	34	49	33	3	29	27.43	29.63
07	SCT	NC			10.00		64	34	49	33	6	27	27.41	29.62
10	OVC	015			5.00	FU	73	38	54	28	0	00	27.38	29.59
13	VV	005			1.75	FU	82	35	57	18	15	21	27.32	29.51
16	VV	010			2.50	FU	80	39	58	23	9	16	27.27	29.47
19	SCT	NC			4.00	FU	77	41	57	28	15	19	27.26	29.47
22	SCT	NC			6.00	FU	73	37	54	27	20	19	27.24	29.44
SUNRISE: 0601 OCT 30 SUNSET: 1648														
01	SCT	NC			7.00		70	34	52	27	15	19	27.23	29.43
04	SCT	NC			6.00	HZ FU	67	33	50	29	16	18	27.19	29.38
07	FEW	NC			6.00	HZ FU	67	34	50	30	22	19	27.23	29.43
10	FEW	NC			6.00	HZ FU	69	33	51	26	24	20	27.26	29.46
13	FEW	NC			8.00		70	27	50	20	20	20	27.30	29.50
16	FEW	NC			8.00		69	30	50	23	22	22	27.33	29.54
19	FEW	NC			8.00		64	36	50	35	13	23	27.37	29.59
22	FEW	NC			8.00		59	35	47	41	10	20	27.44	29.67

HOUR (LST)	SKY COVER	CEILING 100'S OF FT	SATELLITE OBSERVATION TIME (LST)	SATELLITE EFF CLD AMT Oktas	VISIBILITY (MILES)	WEATHER	TEMPERATURE °F DRY BULB	TEMPERATURE °F DEW POINT	TEMPERATURE °F WET BULB	RELATIVE HUMIDITY (PCT)	WIND SPEED (MPH)	WIND DIRECTION TENS OF DEG	PRESSURE (INCHES,HG) STATION	PRESSURE (INCHES,HG) SEA LEVEL
SUNRISE: 0602 OCT 31 SUNSET: 1647														
01	CLR	NC			10.00		57	33	46	41	5	23	27.45	29.68
04	FEW	NC			10.00		53	33	44	47	14	19	27.46	29.70
07	FEW	NC			10.00		52	33	43	49	13	19	27.50	29.75
10	FEW	NC			10.00		59	30	46	33	18	22	27.52	29.78
13	SCT	NC			10.00		62	31	47	31	21	24	27.50	29.75
16	SCT	NC			10.00		61	26	45	26	16	23	27.50	29.75
19	SCT	NC			10.00		57	28	44	33	5	21	27.55	29.81
22	FEW	NC			10.00		54	30	43	40	3	16	27.58	29.84

3−HOURLY OBSERVATION NOTES

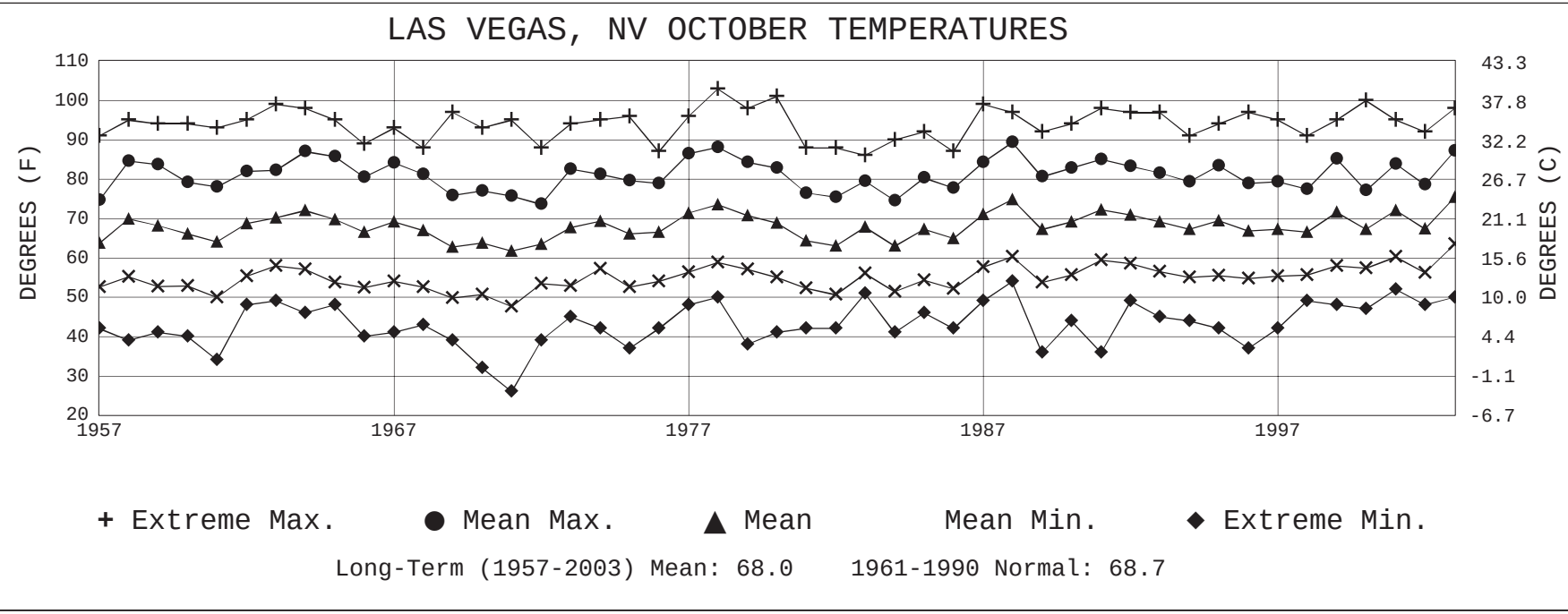
Sky Cover is the amount of the sky obscured. CLR or SKC = 0, FEW = 1/8−2/8, SCT = 3/8−4/8, BKN = 5/8−7/8, OVC = 8/8, VV = Vertical Visibilty = 8/8.
Ceiling is reported in hundreds of feet above ground level for clouds at or below 12,000 feet.
NC= No ceiling detected.
& = Original observation contained additional weather elements.
See page 3 for additional notes.

SUMMARY BY HOUR

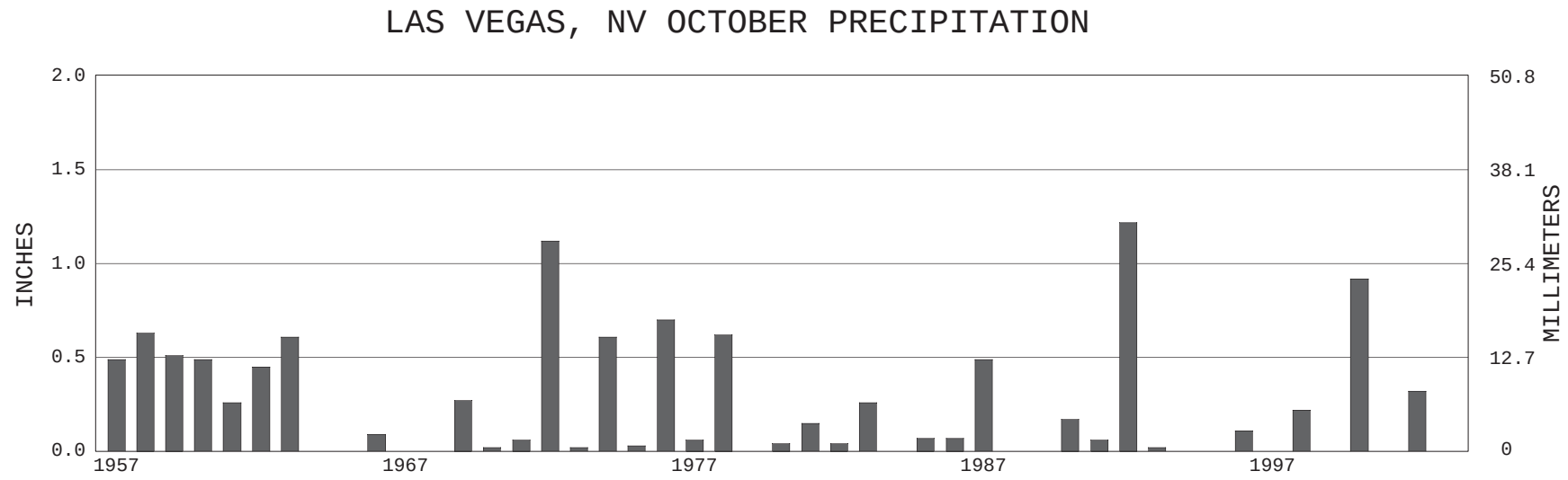
HOUR (LST)	CEILOMETER	EFF CLD AMT	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY	PRESSURE (INCHES,HG) STATION	PRESSURE (INCHES,HG) SEA LEVEL	VISIBILITY (MILES)	WIND SPEED (MPH)	RESULTANT WIND (MPH) SPEED	RESULTANT WIND (MPH) DIRECTION
	AVERAGES											
01			70	33	52	26	27.67	29.89	9.90	5	3	22
02			68	32	51	28	27.66	29.89	9.90	6	4	22
03			67	32	50	28	27.66	29.89	9.90	6	3	23
04			67	32	50	29	27.67	29.89	9.87	6	3	22
05			66	32	50	30	27.68	29.91	9.77	6	4	23
06			65	33	50	31	27.69	29.92	9.77	6	3	22
07			68	33	51	29	27.71	29.94	9.84	5	2	22
08			72	35	53	27	27.72	29.96	9.87	4	0	0
09			75	35	55	24	27.73	29.96	9.74	6	2	7
10			78	36	56	22	27.72	29.95	9.71	5	1	5
11			81	36	57	21	27.71	29.93	9.64	6	1	5
12			83	37	58	20	27.68	29.91	9.64	6	1	11
13			85	38	59	20	27.65	29.88	9.67	7	1	9
14			86	40	60	20	27.64	29.86	9.68	8	2	7
15			86	40	61	20	27.63	29.84	9.68	6	1	12
16			86	41	60	21	27.62	29.84	9.69	7	1	16
17			84	40	59	22	27.62	29.84	9.74	6	1	25
18			81	41	59	24	27.63	29.85	9.74	6	2	22
19			78	40	58	27	27.63	29.86	9.74	6	4	24
20			76	40	57	29	27.64	29.87	9.71	7	5	23
21			74	40	56	31	27.65	29.88	9.81	6	5	22
22			73	37	54	29	27.65	29.88	9.81	5	3	22
23			71	34	52	26	27.66	29.88	9.81	5	2	21
24			70	33	52	26	27.66	29.88	9.81	6	4	23

Attachment 2

Published By: National Climatic Data Center



Long-Term (1957-2003) Mean: 68.0 1961-1990 Normal: 68.7



Long-Term (1957-2003) Mean Monthly Total: 0.24 1961-1990 Normal: 0.24

Attachment 2

OCTOBER 2003

LAS VEGAS, NV

LOCAL CLIMATOLOGICAL DATA

NOAA, National Climatic Data Center

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Attachment 3

Protecting the air we share

Air Quality

HIGH WIND AND WILDFIRE SMOKE NOTICE

Attention Dust Control Permit Holders Contractors and Stationary Sources

The National Weather Service has forecast strong sustained winds at 20-30 mph with higher gusts in excess of 40 mph for Wednesday (October 29, 2003) and Thursday (October 30, 2003).

The Department of Air Quality Management (DAQM) directs each permittee to immediately inspect their site and employ Best Available Control Measures to stabilize all disturbed soils to reduce blowing dust. Permittees with multiple sites should contact each site Superintendent to ensure compliance with the DAQM Air Quality Regulations.

DAQM Compliance Officers will inspect construction and stationary source sites during the wind episode to ensure Best Available Control Measures are being applied. Any observed air quality violation may receive a Notice of Violation.

Please direct questions about this Wind Advisory to a DAQM Compliance Supervisor at 702-455-5942.

Revised October 28, 2003

Attachment 3

News Release

Public Communications ■ 500 S. Grand Central Parkway, 6th Fl., Las Vegas, NV 89155-1111 ■ Fax: (702) 455-3558

Contact: **Stacey Welling** Phone: **(702) 455-3201**
Sr. Public Information Officer Cell: **(702) 249-3823**
E-mail: stac@co.clark.nv.us

For Immediate Release **Tuesday, Oct. 28, 2003**

Advisory Issued For Wednesday, Thursday

Local Air Quality May Be Poor Due To Dust, Wildfire Smoke

Clark County Department of Air Quality Management officials say residents should brace for the possibility of poor air quality on Wednesday and Thursday due to strong winds, blowing dust and smoke from Southern California's raging wildfires.

The National Weather Service expects winds from the southwest of 20 to 30 miles per hour to blow into Southern Nevada by noon Wednesday, with gusts up to 40 miles per hour. A similar forecast is predicted for Thursday. Air Quality officials say the strong winds are likely to carry smoke into the valley from the wildfires and stir up dust on construction sites and vacant lots. The forecasts prompted air quality officials this afternoon to issue notices to local construction sites asking them to take steps to check and stabilize their property for blowing dirt and debris. The notices are part of a program to help reduce possible health effects from dust storms.

In addition, officials continue to monitor the valley's air for pollution from California's wildfires. They expect more impact on local air quality from the wildfires if Wednesday and Thursday's forecasts hold true.

Under advisory conditions involving smoke and dust, air quality officials say most people should limit outdoor exercise and consider staying indoors as much as possible. Children, seniors and people with chronic respiratory problems, in particular, should exercise caution outdoors.

The Las Vegas Valley currently does not meet the federal 24-hour air quality standard for PM-10, which stands for particulate matter measuring 10 microns or less. It's a type of inhalable air pollution that aggravates respiratory diseases such as bronchitis or asthma. It's primarily made up of dust, but small particles from smoke also can be an ingredient.

The smell of smoke in the air can be an indication of poor air quality. Residents who have questions or concerns about air quality, can call the department at 455-5942 or visit the monitoring section of Air Quality's website via www.accessclarkcounty.com.

Symptoms of exposure to wildfire smoke include coughing, breathing difficulties, tightness of the chest and eye, nose, mouth or throat irritation.###

Clark County Board of Commissioners
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Attachment 4

Joe Neal (JO) Monitoring Site

Attachment 4

Joe Neal (JO) Monitoring Site #320030075

Attachment 4

Joe Neal (JO) Monitoring Site #320030075

Attachment 5

East Craig Road (BS) Monitoring Site

Attachment 5

East Craig Road (BS) Monitoring Site #320030020

Attachment 5

East Craig Road (BS) Monitoring Site #320030020

Attachment 6

Microscale (MS) Monitoring Site

Attachment 6

Microscale (MS) Monitoring Site #320030560

Attachment 6

Microscale (MS) Monitoring Site #320030560

Attachment 7

Green Valley (GV) Monitoring Site

Attachment 7

Green Valley (GV) Monitoring Site #320030298

Attachment 7

Green Valley (GV) Monitoring Site #320030298

Attachment 8

Photo: A haze envelopes the I-215 Beltway

Las Vegas SUN

October 29, 2003

LV Valley air advisory issued due to fires' smoke

By Christina Littlefield and Ed Koch
<koch@lasvegassun.com>
LAS VEGAS SUN

Winds blowing east from the Pacific Ocean brought the smoke from the California fires to the Las Vegas Valley today causing respiratory problems and severely limiting visibility.

The valley was enveloped in an ashen shroud. Views that normally stretch from one end of the valley to the other were reduced to a few blocks at best.

Clark County air quality officials issued a health advisory this morning, urging people to try to stay indoors.

The Clark County Fire Department sent a rescue team to Primm at 10:30 this morning to aid drivers complaining of respiratory problems. Ten motorists had stopped for help at Jean as of this morning, department spokesman Bob Leinbach said.

Leinbach did not know if drivers were heading toward or away from California. He recommended that valley drivers use their air conditioning systems at full blast to filter the air entering their cars and remove possible pollutants or irritants.

As of this morning, Stacey Welling of the Clark County Health District said her department had not detected any significant levels of pollutants they measure for, but that may change if the winds pick up.

People are sensitive to smoke in different ways, Welling said, and it is "not unusual to be able to smell it." Children, the elderly, asthmatics or anyone with breathing difficulties or sensitivity to smoke are being urged to stay indoors as much as possible. Those who experience any breathing difficulties, tightness of chest, coughing, eyes, nose, mouth or throat irritation should consult their doctor and remain indoors.

Only one UMC Quick Care in the valley reported that it had seen a patient complaining of smoke-related respiratory problems, but doctors expect the complaints to increase over the next couple of days.

Attachment 8

"We'll see a few today, but over the next three to four days it will really spike," said Dr. Mike Hutchins who works at the Quick Care at 2202 W. Craig Road. "As people are exposed to it, they will deal with it at first but then over the course of a few days there will be an ongoing cycle of continuing irritation, and then we will see more people in the clinics."

Sue Branske, clinical manager for the Quick Care at 1769 Russell Road, said, "We do (expect to see cases), unless people are doing what the news tells them to do -- which is stay inside. All the nurses are prepared for breathing problems from people with chronic respiratory diseases."

Las Vegans had been spared from the smoke billowing up from the 13 Southern California fires since the first started on Oct. 25 because prevailing winds headed westward toward the ocean, weather service forecaster Mark Moede of San Diego said Tuesday night.

As a mass of cold air plunges south from Canada, however, the winds are reversing, driving smoke and ash inland to Las Vegas, he said.

"One good thing about the wind pattern is it brings cooler and more humid air into Southern California," Moede said. Those conditions could help control the fire, but he noted that "strong winds combined with wildland fires can cause all kinds of chaos."

As of this morning, the haze was not affecting visibility for planes at McCarran International Airport, spokewoman Debbie Millett said. The flight schedule indicated that all planes were arriving and departing on time, with only one cancellation from San Diego.

"If you remember when we had that fire out on Boulder Highway, that major apartment fire, it did not affect the planes," Millett said. "They just flew right through it. We are not expecting it to impact us."

In the Las Vegas Valley the winds could bring smoke and ash particles from the wildland fires, weather service meteorologist Andy Bailey said.

Windy conditions from 20 mph to 30 mph are expected with gusts over 40 mph this afternoon and could continue through Thursday.

Pat Jones who lives in the Santiago Mobile Home Park on Carey Avenue near Lamb Boulevard and is a former Los Angeles resident, said the smell of smoky air does not bother her, but she is concerned for her 5-year-old asthmatic grandson.

"The last time this happened last year (from the big fire in Arizona) Robbie had to be rushed to the University Medical Center," Jones said. "He has asthma real bad. Richard (her husband) and I have been waiting for a call to come pick him up early from kindergarten."

Attachment 8

Mary Stanley Larsen, spokeswoman for the Clark County School District said precautions have been taken for children with sensitive health issues.

She said that while schools are on the alert regarding children with "sensitive health issues," there have been no reports of children being sent home or to hospitals because of breathing problems.

Some people working outdoors today noticed little more than hazy skies and smoky air.

"It's a little foggy out, but we're working," said Jesus Lozoya of Lozoya Enterprises, a small lawn care company that is comprised of Lozoya and two employees in one truck. "I've had no complaints from my workers, but then again, I'm usually the one that does most of the complaining.

"It has been business as usual. We're doing mostly new landscaping. Usually the only time we are affected (to the point of work stoppage) is when we are next to a construction site and they kick up dust real bad. But as I look at the skies now, it does look pretty bad."

Las Vegas residents may call the department at 455-5942 or visit the Air Quality website, accessclarkcounty.com/Air]Quality for more information.

Sun reporter

Mary Manning contributed to this story.

Photo: A haze envelopes the I-215 Beltway
Las Vegas SUN main page

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Attachment 8

Las Vegas SUN

October 29, 2003

Air quality advisory issued

LAS VEGAS SUN

As the firefighters pulled out of a truck stop at Blue Diamond Road and Interstate 15 on Tuesday, the Clark County Department of Air Quality issued an advisory to Southern Nevada residents, who could begin smelling the smoke from the massive California fires today and Thursday.

The National Weather Service predicted winds of up to 30 to 40 mph today.

Those forecasts prompted air quality officials to issue notices to local construction sites to keep down dust on their properties.

"The notices are part of a program to help reduce possible health effects from dust storms," Clark County spokeswoman Stacey Welling said. "They expect more impact on local air quality from the wildfires if today's and Thursday's forecasts hold true."

The advisory warns most people to limit outdoor exercise and consider staying indoors as much as possible.

Residents concerned about air quality may call the department at 455-5942 or visit the monitoring section of Air Quality's website at www.accessclarkcounty.com.

Las Vegas SUN main page

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Attachment 9

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Wednesday, October 29, 2003
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Nevada firefighters itching to help neighbors

By FRANK CURRERI and ADRIENNE PACKER
REVIEW-JOURNAL

A caravan of fire engines departs Tuesday morning from Las Vegas. More than 40 firefighters from Las Vegas, Clark County and Henderson are headed to Southern California to help crews fight raging wildfires. Photo by Clint Karlsen.

Local fire officials say it's a rare day when Californians, long admired for their wealth of firefighting resources, lean on outsiders to help tame their wildfires. But since that day has come, Las Vegas Valley firefighters are all too eager to cross state lines and battle the historic infernos that have besieged the Golden State.

More than 40 firefighters from Las Vegas, Clark County and Henderson loaded up their fire engines on Tuesday and headed to Southern California, where roughly 900 square miles and more than 1,600 homes have been scorched.

Related Story:

Unnecessary trips discouraged

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Attachment 9

"This is probably a once-in-a-lifetime career chance for a lot of these guys," Dean Fletcher, head of Las Vegas Firefighters Local 1285, said as volunteer crews departed downtown Las Vegas. "These guys in California, they haven't asked for help outside of the state in a decade. So this is pretty special."

Meanwhile, Las Vegas businesses and charities began offering support to their beleaguered neighbors to the west, even if the effectiveness of the gestures was uncertain.

A lively drive for bottled water got under way at the Palms, and those behind it could only hope the supplies would get through to firefighters. The local Salvation Army, typically an organization that gets in the thick of relief efforts, has been limited for the time being to providing financial support.

"It's frustrating because we can't go there and do something," Salvation Army spokesman Charles Desiderio said, noting road closures in the area. "God willing when the fire is over we can do something like (provide clothing). Right now our urgency is to support the emergency personnel who are out there doing a monumental job."

When word of the volunteer search for firefighters first hit the valley about 6 p.m. Monday, there was little hesitation or soul-searching. Within 90 minutes of the invitation, 120 Las Vegas firefighters -- roughly a third of the department's rank-and-file -- had offered their services.

Attachment 9

"If you could lock all these guys in a room and have them duke it out to see who could go, you'd have the best fights in Las Vegas," said Henderson Fire Logistics Division Chief Bruce Giles.

Those firefighters chosen to go will try and control what has become arguably the most destructive wildfire ever in California.

The scene has been likened to a war zone, where the enemies are fast-moving flames that have caused 17 deaths, created chaos at Los Angeles International Airport, and cloaked Southern California skies with poisonous gases and heavy clouds of smoke.

Area firefighters, who will temporarily be under the command of the federal government, expect to encounter the most unruly flames when they get to Santee, which is northeast of San Diego.

In the Las Vegas Valley, there have been plenty of major construction fires, but the desert climate means fewer things for a fire to feed on. In places like tree-rich San Diego, that is far from the case.

"They're going into unusual, unfamiliar territory," said Tim McAndrew, emergency coordinator for the Las Vegas Fire Department. "They're not accustomed to this type of situation ... where the urban and wildland fires come together."

The 44 firefighters who were sent will do battle for three 12-

Attachment 9

hour shifts over three days, and then be relieved by fresher bodies, said Las Vegas Fire spokesman Tim Szymanski.

Fire officials expect the experience will be as unforgettable as it is exhausting.

"It's something that is out of our element," said Henderson Fire Capt. Scott Pettingill. "We don't have a lot of experience fighting wildland fires ... We have an opportunity to see more fire in two weeks than most of us see in a career."

The Salvation Army's priority is assisting emergency crews who have spent sleepless hours beating down the flames sweeping through rugged ravines.

Desiderio said the California fires pose a different challenge than other disasters to which the organization has responded. The Salvation Army can only collect money and wire it to Southern California where it will be used to replenish food supplies and provide additional cots for emergency personnel.

At this point, he said, it's pointless to collect clothing for displaced families because road closures are preventing delivery.

Dozens of Las Vegas residents meanwhile joined a charitable effort started by the Palms. Resort owner George Maloof contributed 1,000 cases of bottled water to firefighters and urged other residents to pitch in as well.

Las Vegas residents are

Attachment 9

expected to feel the effects of the fires today if the winds shift east.

Christine Robinson, director of the county's Air Quality Management Department, said reports from the National Weather Service indicate that smoke from California will drift into the Las Vegas Valley today.

The wind in Las Vegas is also expected to increase today, compounding air quality problems.

The fires didn't appear to be affecting traffic at McCarran International Airport, a spokeswoman said.

Review-Journal writer Richard Lake contributed to this report.

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Attachment 10

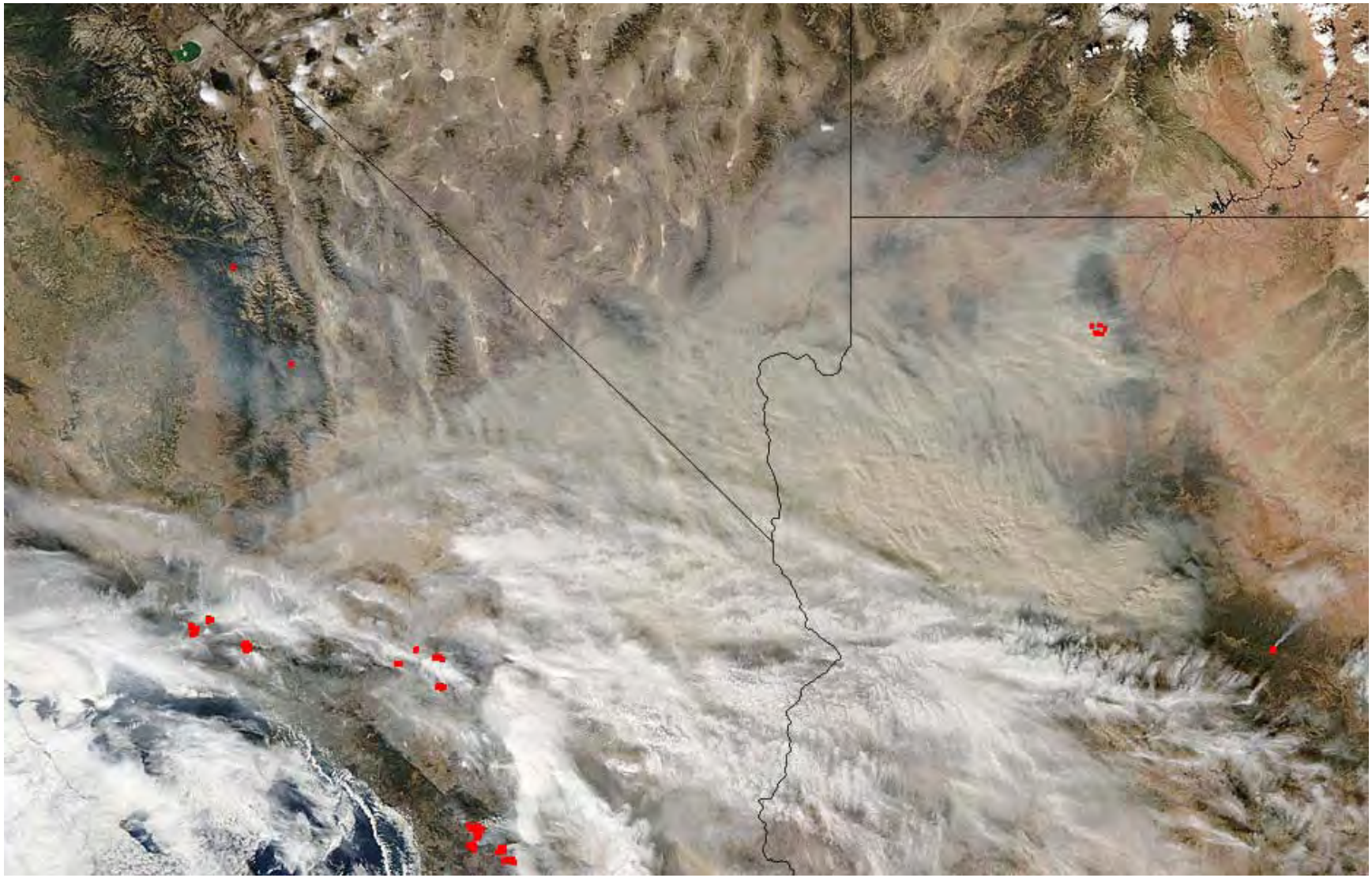
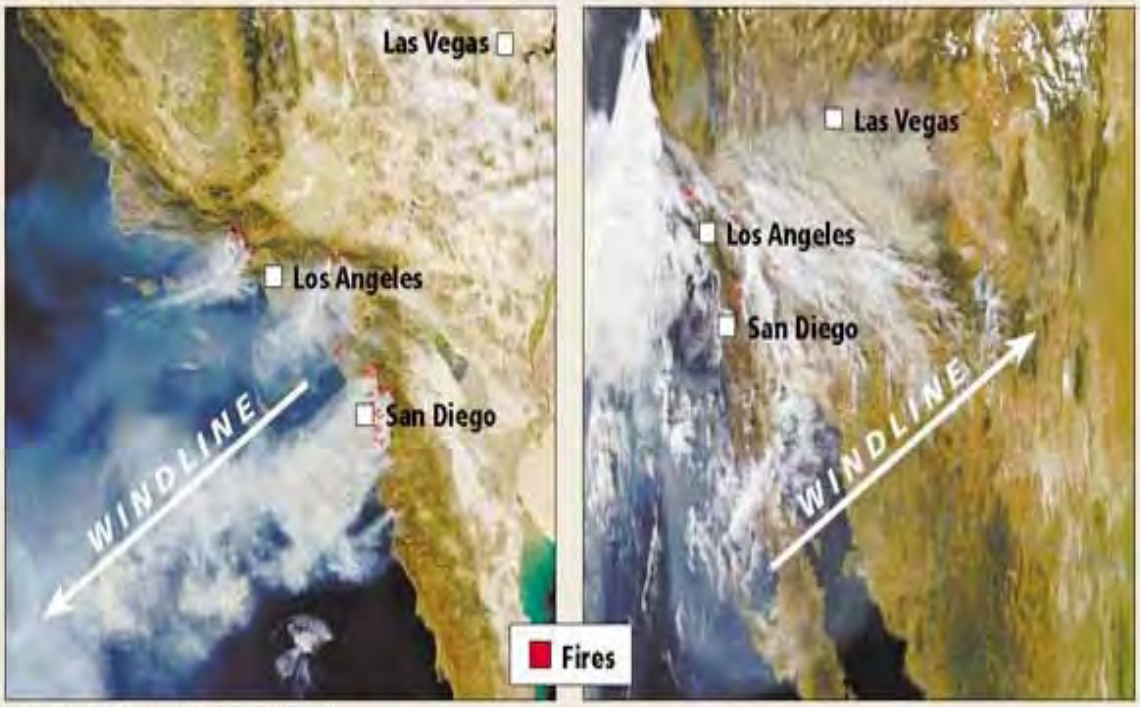


Photo Sattelite Image of the Smoke Affects from the California Wildland Fires on Neighboring States on October 29, 2003

Attachment 10

Shifting smoke

A satellite photo taken Monday, left, shows smoke blowing off-shore from the Southern California wildfires. In a similar photo, right, taken Wednesday, smoke pushed by winds from the southwest is shown blowing inland from the fires toward the Las Vegas Valley.



SOURCE: National Aeronautics and Space Administration

MIKE JOHNSON/REVIEW-JOURNAL

National Aeronautics and Space Administration Satellite Photo - Las Vegas Review Journal – October 29, 2003

Attachment 11

Photo of the Las Vegas Valley: I-215 Beltway near Pecos Road on October 29, 2003

Attachment 12

Photo of Las Vegas Valley: View of Downtown Las Vegas south from the Stratosphere Tower, on October 29, 2003

Attachment 13

Photo taken south of Las Vegas looking north towards downtown from Henderson, Nevada on October 29, 2003