ATTACHMENT I

DESIGN DAY SELECTION

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1. Episode Selection Methodology

The following steps were implemented in selecting the 24-hour average PM-10 design days for the AERMOD and rollback models.

- Analyze the distribution of 24-hour PM-10 annually, seasonally, daily and hourly
- Tabulate all days from March 2005 – March 2006 for all PM-10 monitors in the nonattainment area having 24-hour PM-10 concentration of 155 μ/m^3 or higher
- Identify the days and monitoring stations with the highest and second highest 24-hour PM-10 concentrations
- Quantify the total number of exceedance days for each monitoring station
- Analyze the sensitivity of PM-10 concentrations to different meteorological parameters – wind speed, pressure and inversion
    - Classify the exceedance days as low and high wind days
- Identify the major PM-10 emissions sources contributing to the above exceedance days

A 36-hour backward trajectory analysis was also performed to confirm that the major PM-10 sources are of predominantly local origin.

1.1 Results of 24-hour PM-10 Analysis

PM-10 data from March 2005 to March 2006 has been analyzed. The analysis is described in the following sections. All the above-mentioned steps were followed to determine the appropriate design days for air quality modeling.

There are 20 PM-10 monitoring stations located in Maricopa County. Of these, fifteen are maintained by MCAQD and five, by ADEQ. Currently, there are seven continuous monitoring stations located in the PM-10 nonattainment area. These are Buckeye, Central Phoenix, Durango, Greenwood, Higley, West 43rd Avenue, and West Phoenix. All of these monitors have continuous data for the analysis period March 2005 through March 2006, except the West Phoenix and Greenwood stations, where continuous monitoring began on September 1, 2005 and January 1, 2006, respectively. A detailed analysis of data from these seven monitoring stations has been conducted and the results are presented below. These are the only monitoring sites where exceedances occurred between January 1, 2004 and March 31, 2006.

1.1.1 Temporal Patterns

1.1.1.1 Annual Distribution of PM-10

Figure 1 shows the annual distribution of 24-hour PM-10 exceedances from 2000 to 2006. The year 2006 includes data for the months of January, February and

March only. The year 2005 had the highest number of exceedances, followed by 2006 (through March).

1.1.1.2 Seasonal Distribution of PM-10

Figure 2 shows the seasonal distribution of the 24-hour PM-10 exceedances for the period March 2005 through March 2006. The exceedance days occurred predominantly during the fall and winter months of November through February, with the highest number occurring in December.

1.1.1.3 Daily Distribution of PM-10

Figure 3 shows the daily distribution of the PM-10 exceedances during the period March 2005 through March 2006. The exceedances occurred most frequently on Thursday (9 days). None of the exceedances occurred on a weekend.

1.1.1.4 Diurnal Pattern

Figure 4 shows the hourly distribution of PM-10 concentrations on days that exceeded the 24-hour standard from March 2005 through March 2006. The figure shows the diurnal pattern of PM-10 concentrations, with the peak occurring from 6 to 10 a.m. with a second peak occurring from 6 to 10 p.m. The increased PM-10 seems to be correlated with high morning and evening vehicle traffic, assisted by low wind speeds and a temperature inversion.

1.1.1.5 Highest PM-10 Values

Table 1 gives the highest and second highest 24-hour PM-10 values for the selected period, along with latitude and longitude information, and the total number of exceedances for each monitor. The highest 24-hour PM-10 concentration during the period March 2005 through March 2006 occurred at the Buckeye station on February 14, 2006. This reading of 272.9 ug/m^3 was caused by local agricultural activity. The second highest concentration of 260.0 ug/m^3 was observed at the West 43rd Avenue monitor on March 10, 2006, a day with elevated wind speeds. The second highest concentration at the West 43rd Avenue monitor of 233.1 ug/m^3 occurred on December 12, 2005 during stagnant conditions. The largest number of exceedances during this period was observed at West 43rd (22 days) and Durango Complex (20 days).

Table 2 presents a tabulation of the number of total exceedance days greater than or equal to155 ug/m3 at each monitoring site for the year 2000 through March of 2006. It is important to note that the exceedances prior to 2005 were recorded at monitors that were sampled once every six days. Therefore, each of these exceedances actually represents an expected daily exceedance rate that is six times the value shown. This means that the total exceedance days including expected exceedances are much higher than shown in Table 2. All monitors that exceeded the standard in 2005 were converted to a daily sampling schedule in 2005.

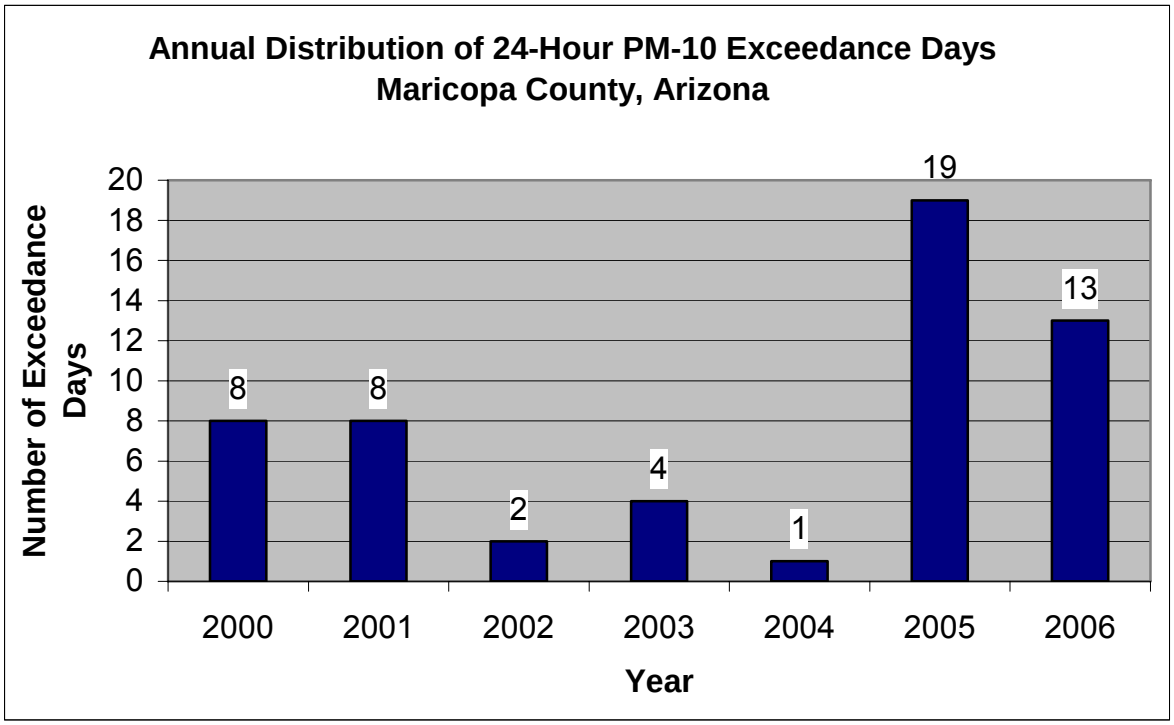

Figure 1. Annual Distribution of 24-hour PM-10 Exceedance Days (≥155 μg/m^3)

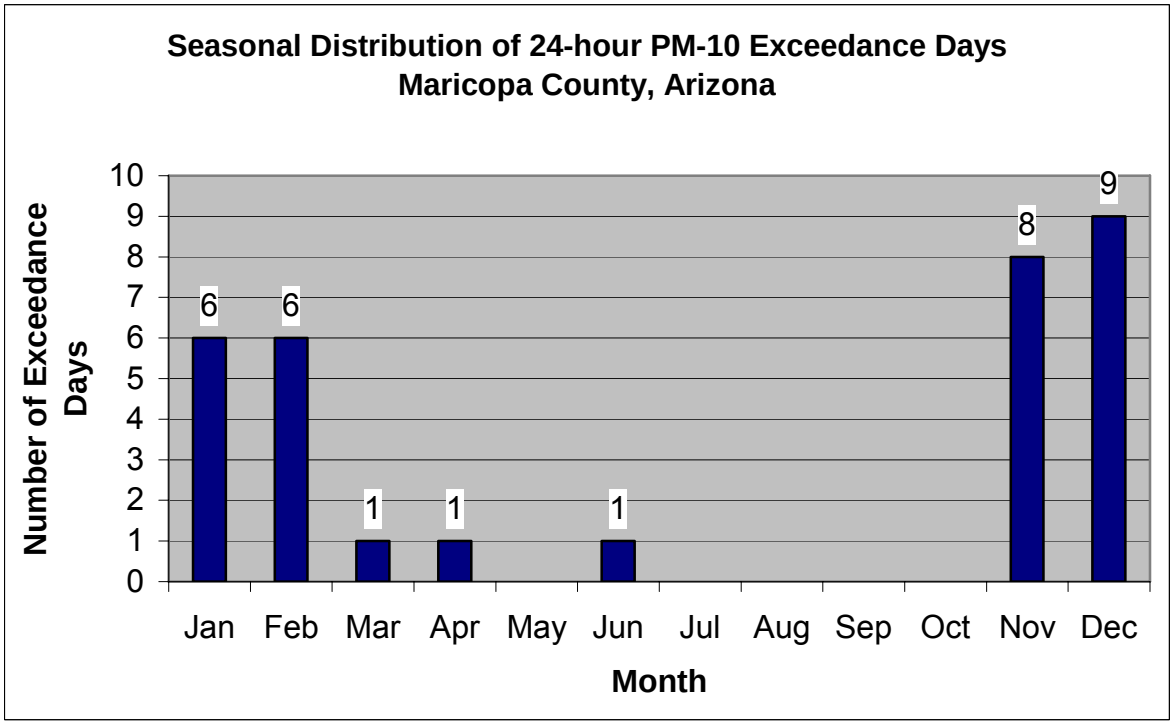

Figure 2. Seasonal Distribution of 24-hour PM-10 Exceedance Days (≥155 μg/m^3) from March 2005 – March 2006

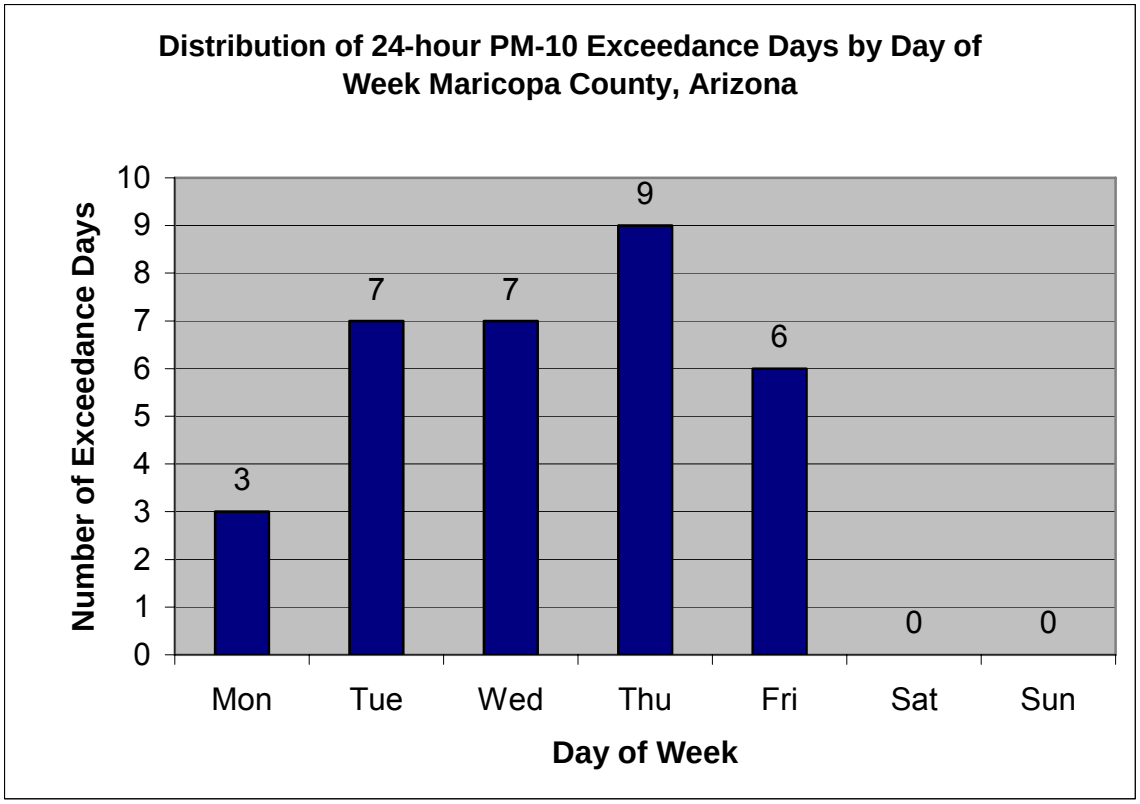

Figure 3. Daily Distribution of 24-hour PM-10 Exceedances (≥155 μg/m^3) from March 2005 – March 2006

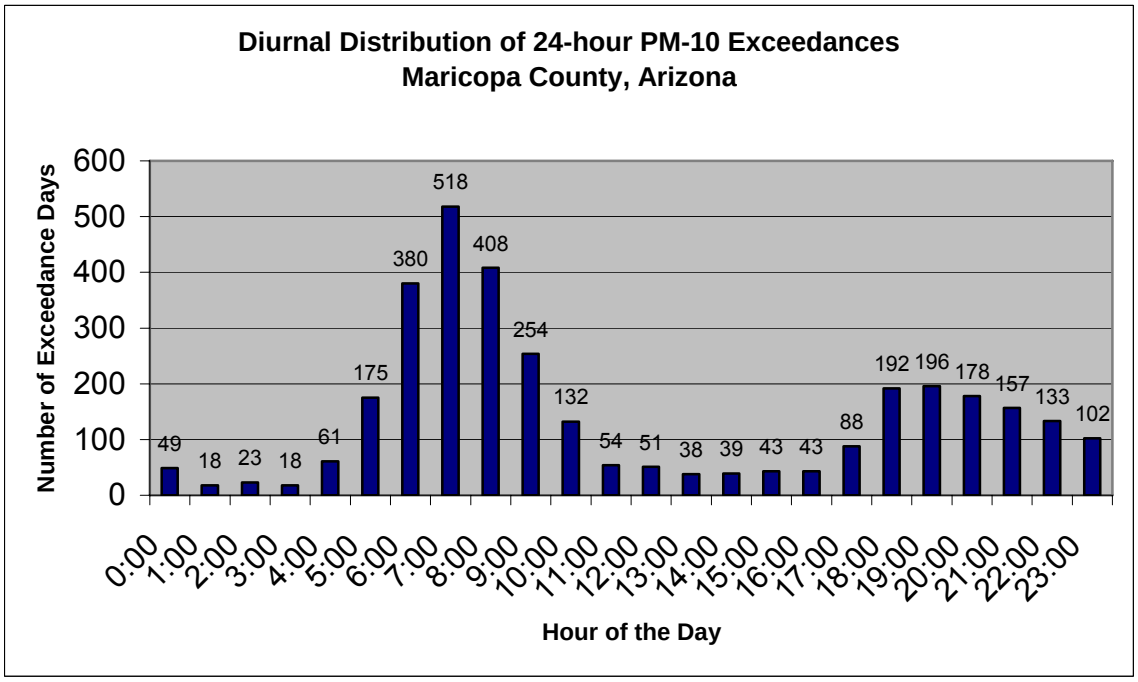

Figure 4. Diurnal Distribution of 24-hour PM-10 Exceedances (≥155 μg/m^3) from March 2005 – March 2006

Table 1. Highest and Second Highest PM-10 Values, March 2005 – March 2006

Site	Lat	Long	1st Highest $\mu g/m^3$	2nd Highest $\mu g/m^3$	Number of Exceedances
			272.9	191.9	
Buckeye	33.3698	-112.62014	(02/14/2006)	(02/17/2006)	5
			116.6	104.3	
Central Phoenix	33.45793	-112.04601	(12/12/2005)	(12/13/2005)	0
			240.0	206.9	
Durango Complex	33.42631	-112.11762	(03/10/2006)	(12/12/2005)	20
			173.0	166.0	
Greenwood	33.46076	-112.11746	(12/12/2005)	(03/10/2006)	2
			170.5	150.6	
Higley	33.31067	-111.72199	(1/24/2006)	(02/9/2006)	1
			260.0	233.1	
West 43rd	33.40627	-112.14394	(03/10/2006)	(12/12/2005)	22
			155.0	125.8	
West Phoenix	33.4837	-112.14207	(12/12/2005)	(12/21/2005)	1

Table 2. Number of Days ≥ 155 μg/m^3 by Monitoring Site, 2000 – March 2006

24-hour average greater than or equal to 155 □g/m^3								
City Location	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006***	**Total Days**
#Buckeye	-	-	-	-		2	3	5
Chandler	1	0	0	1	0	0	0	2
W. Chandler	0	0	0	2	0	0	0	2
#Dysart	-	-	-	0	0	0	0	0
Glendale	0	0	0	0	0	0	0	0
Goodyear/Estrella	0	0	0	0	0	0	0	0
Higley	1	1	0	1	1	0	1	5
#Maryvale	1	0	0	0	0	Shutdown	-	1
Mesa	0	0	0	1	0	0	0	1
Palo Verde	0	0	0	1	0	0	0	1
Durango Complex	2	1	2	1	0	13	7	**26**
South Phoenix	1	0	0	1	0	0	0	2
W. 43rd Ave.		Not operating	1	2	0	13	9	**25**
West Phoenix	0	0	0	1	0	1	0	2
#Salt River	6	6	2	Shutdown	-	-	-	14
Central Phoenix	0	0	0	0	0	0	0	0
North Phoenix	0	0	0	1	0	0	0	1
JLG Site	0	0	0	1	0	0	0	1
Greenwood	2	0	0	1	0	1	1	5
South Scottsdale	0	0	0	1	0	0	0	1
Tempe	0	0	0	0	1	0	0	1
#Surprise	0	0	0	Shutdown	-	-	-	0
Bethune Elementary	-	-	-	-	0	0		0

*Notes: 2006 data is through March 2006 only and has not been validated by MCAQD. Some of the days in 2006 may be flagged as natural events.

Maryvale (Closed 04/01/2004), Salt River (Closed in 2002), Surprise (Closed 7/15/03), Bethune Elementary School (Opened 10/19/2004), Buckeye (Opened 8/01/2004), and Dysart (Opened 7/16/03)

1.1.2 Meteorological Dependence of High PM-10 Concentrations

Meteorological data were used to assess the potential of air pollution to accumulate in certain locations. Several weather factors are involved in high PM-10 concentrations; these are existence of an inversion, wind speed, wind direction, temperature, and precipitation.

1.1.2.1 Inversion Layers

Inversion is a meteorological phenomenon where air temperature increases with distance above the earth's surface. Inversion occurs in a stable atmosphere in which upper warm air traps a layer of cooler air near the ground. The vertical movement of the air is hindered, resulting in higher pollutant concentrations. The strength, duration, and altitude of the inversion determine the amount of vertical mixing that can occur. The vertical mixing area is also referred to as mixing height or mixing depth. Inversion is very common during the winter months and two types of inversions can occur, radiation or subsidence.

In a radiation inversion, also called a nocturnal inversion, the increase in temperature with height is caused by radiational cooling of the earth's surface. Radiation cooling is the process by which the earth's surface and adjacent air are cooled by the release of infrared radiation from the ground. During a radiation inversion, little or no dispersion of air occurs near the surface. The dissipation of the inversion occurs by the re-heating of the surface by solar radiation.

A subsidence inversion is a temperature inversion that develops aloft as a result of air gradually sinking over a wide area and being warmed by adiabatic compression. This is usually associated with subtropical high-pressure areas.

Delta temperature is commonly used to measure the occurrence of a temperature inversion layer. Delta temperature is a measurement of the change in temperature between two points. Measurement instruments are located on a tower with thermometers at heights of two and six meters. The delta temperature (DELT) represents the difference between the temperatures measured at the higher and lower instruments. A negative reading means normal conditions, with warmer air at 2M and cooler air at 6M. The greater the negative DELT, the more that the air will mix and move (since warm air rises), thus reducing air pollution concentrations near the ground. When DELT is positive, there is a warm air blanket resting on top of the cool air mass below. This is characteristic of a temperature inversion that traps air pollutants close to the ground.

Tables 7, 8, and 9 provide the hourly DELT values at monitoring stations in the Maricopa County nonattainment area. Only the Higley, North Phoenix, Tempe, West 43rd Avenue, and West Phoenix monitors measure DELT. Since Durango is located within two miles of West 43rd Avenue, DELT values are assumed to be

the same for both monitors. Figures 5 to 11 show the variation in PM-10 concentrations with DELT.

1.1.2.2 Wind Speed and Direction

Wind speed and direction play an important role in determining the dispersion and transport of pollutants. High wind speeds in the mixing zone cause high vertical mixing and horizontal transport of the pollutants. In the Maricopa County nonattainment area, the summer months are usually associated with high winds (average hourly wind speeds greater than 15 mph) due to cold dry fronts over Arizona. In contrast, the winter months are usually associated with light, variable winds, less than10 mph. At night, winter winds generally originate from the south-southeasterly end of the air basin and flow in a north-northwesterly direction. Low wind speeds combined with inversion conditions common during the winter months can result in high PM-10 concentrations. Appendix A1-A provides wind rose information for the selected design and episode days. Figures 5 to 11 show the relationship between PM-10 concentrations and inversion conditions.

1.1.2.3 Temperature

The Maricopa County nonattainment area is characterized by hot dry summers and mild winters. The average temperatures at Sky Harbor Airport, based on National Weather Service data for 1971-2000, are 57°F in the winter (December–February) and 91°F in the summer (June-August). With the exception of the months of March and August, the monthly temperatures during the period March 2005 through March 2006 were higher than normal. During the months when the most exceedances of the 24-hour PM-10 standard occurred (November 2005 through March 2006), the monthly temperatures ranged from 1.5 to 3.6 degrees warmer than average.

1.1.2.4 Precipitation

Sky Harbor Airport, which is located in the PM-10 nonattainment area, receives an average of 8.3 inches of rain per year. The months of April, May, and June typically receive little or no precipitation. Other months average between three-quarters and one inch of rain. In 2005, the nonattainment area experienced the longest drought in 70 years, beginning October 18, 2005, and lasting 143 days. Lack of precipitation renders particles more likely to become airborne when disturbed by human activity.

1.1.3 Design Day Selection Approach

The selection of the design days followed the steps identified in Section 1.1. All days with concentrations greater than or equal to 155 μ/m^3 during the period March 2005 through March 2006 were taken into consideration and each of these days was assigned to one of the following regimes. Appendix A1-B provides the monitoring data for all of the PM-10 exceedance days.

1.1.3.1 Regime 1

Regime 1 represents low wind days. There are 44 monitored exceedances in this regime. Table 3 ranks the PM-10 exceedances that occurred on low wind days according to the highest to lowest observed PM-10 concentration. All of the days in this regime occurred during the months of November 2005 through February 2006. Meteorologically, these days had mean wind speeds of about 3 mph and some had delta temperatures with high positive values, indicating the presence of a significant inversion. Relative humidity was observed to be higher than normal on these days, indicating elevated PM-10 potential.

The exceedance at the Buckeye monitor of 273 μ/m^3 on February 14, 2006 is the highest monitored value in this regime. However, since the Buckeye monitor is located outside of the PM-10 nonattainment area and the Five Percent Plan addresses the nonattainment area only, this site has been excluded as a candidate for modeling. On December 12, 2005, the West 43rd Avenue monitor experienced its highest PM-10 concentration of 233 μ/m^3, followed by a Durango Complex value with 207 μ/m^3 on the same day. The Greenwood and West Phoenix monitors also had PM-10 concentrations that exceeded the 24-hour standard on this day. The West 43rd Avenue and Durango monitors also exceeded the standard on the following day, December 13. December 12 and 13 have been selected as design days representative of this regime; the monitoring locations and dates to be modeled with AERMOD are shaded in Table 3.

1.1.3.2 Regime 2

Regime 2 is representative of high wind days. A high wind day is defined as having average wind speeds greater than 15 mph for at least two consecutive hours. Table 4 ranks the PM-10 exceedances that occurred on high wind days according to the highest to lowest observed PM-10 concentration. There are six monitored exceedances in this regime. West 43rd had the highest concentration of 260 μ/m^3 on March 10, 2006, followed by Durango, with a concentration of 240 μ/m^3 on the same day. Greenwood also exceeded the standard (166 μ/m^3) on March 10, 2006. ADEQ has determined that the exceedances on March 10 were due to a regional weather event and has asked EPA to flag the data as a natural event. As a result, this date is not considered to be an appropriate candidate for modeling in the Five Percent Plan. In addition to the low wind day cited above, the Buckeye monitor also exceeded the standard on one high wind day, November 18, 2005. As indicated above, the Buckeye monitor is outside the nonattainment area and is also excluded from consideration for modeling. The remaining high wind exceedance days are at the West 43rd Avenue monitor on February 15, 2006 and the Higley monitor on January 24, 2006. Since the West 43rd Avenue monitor is already being addressed in Regime 1, the exceedance at the Higley monitor has been selected to represent the design day for Regime 2. The day to be modeled with rollback, January 24, 2006, is shaded in Table 4.

Table 3. Ranking of the High PM-10 days (≥155 μ/m^3) for Low Wind Days

	Regime 1		
Rank	Station Name	Date	24-hour PM-10(/m^3)
1	Buckeye	2/14/06	273
2	**West 43rd**	**12/12/05**	**233**
3	**Durango Complex**	**12/12/05**	**207**
4	West 43rd	2/9/06	205
5	West 43rd	2/9/06	205
6	West 43rd	12/21/05	201
7	Durango Complex	12/21/05	200
8	West 43rd	12/2/05	195
9	Buckeye	2/17/06	192
10	West 43rd	1/10/06	191
11	Durango Complex	11/22/05	190
12	West 43rd	1/19/06	184
13	West 43rd	2/8/06	184
14	Durango Complex	1/19/06	184
15	Durango Complex	12/14/05	181
16	Durango Complex	12/22/05	179
17	West 43rd	12/14/05	177
18	West 43rd	11/23/05	176
19	West 43rd	11/2/05	174
20	West 43rd	11/22/05	173
21	**Greenwood**	**12/12/05**	**173**
22	Durango Complex	1/12/06	170
23	West 43rd	1/12/06	170
24	Durango Complex	1/11/06	169
25	West 43rd	12/22/05	168
26	**West 43rd**	**12/13/05**	**167**
27	West 43rd	11/1/05	166
28	West 43rd	11/10/05	166
29	**Durango Complex**	**12/13/05**	**166**
30	West 43rd	1/11/06	166
31	Durango Complex	12/2/05	165
32	Durango Complex	11/23/05	165
33	Durango Complex	11/3/05	164
34	West 43rd	11/3/05	161
35	Buckeye	2/13/06	160
36	Durango Complex	12/1/05	159
37	Durango Complex	12/23/05	158
38	Durango Complex	2/15/06	158
39	West 43rd	1/13/06	157
40	West 43rd	12/23/05	157
41	Durango Complex	12/15/05	156
42	Durango Complex	11/17/05	156
43	Durango Complex	1/10/06	156
44	**West Phoenix**	**12/12/05**	**155**

Table 4. Ranking of the High PM-10 days (≥155 μ/m^3) for High Wind Days

	Regime 2		
Rank	**Station Name**	**Date**	**24-hour PM-10 (ug/m3)**
1	West 43rd	3/10/06	260
2	Durango	3/10/06	240
3	West 43rd	2/15/06	202
4	Buckeye	11/18/05	170
5	Greenwood	3/10/06	166
6	**Higley**	**1/24/2006**	**160**

1.1.4 Recommendations

The two regimes above were considered in the selection of design days for modeling in the Five Percent Plan. Based on the selection methodology, it is proposed that December 11-13, 2005 (low wind) and January 24, 2006 (high wind), be selected as design days. AERMOD will be applied to model the December episode and rollback, January 24, 2006 for the Higley monitor. A wind rose analysis for the monitoring stations that exceeded the 24-hour PM-10 standard on the design days selected for modeling are provided in Appendix A1-A.

1.1.4.1 Characteristics of Selected Design Days

Design days have been selected from the period March 2005 – March 2006 for AERMOD and rollback modeling. The characteristics of two of these days are outlined below. The inversion strength and wind factor are the key parameters in predicting elevated PM-10 concentrations and these can be quantified using the radiosonde and wind rose data shown in Table 5.

The data in Table 5 was extracted from the Department of Atmospheric Science, University of Wyoming, weather database for seven candidate episode periods (http://weather.uwyo.edu/upperair/sounding.html). The radiosonde data is for Tucson and is the closest source available. The Tucson radiosonde provides data on the vertical structure of the atmosphere. The balloons are launched in Tucson twice daily, in the early morning (00Z = 5 a.m. local time) and the evening (12Z = 5 p.m. local time). The highest values are identified in Table 5 in bold text.

12/12/05 (Regime 1)

(1) West 43rd Avenue and Durango Complex both had the highest 24-hour PM-10 averages of 233.1 μ/m^3 and 206.9 μ/m^3, respectively. The Greenwood monitor also exceeded the standard at 155.0 μ/m^3. Other monitoring stations recorded values close to the standard: Higley – 142.7 μ/m^3 and West Phoenix - 141.7 μ/m^3.
(2) Analysis of the variation in hourly PM-10 concentrations with respect to wind speed and delta temperature has shown that high PM-10 concentrations are associated with low wind speed and high delta temperatures (e.g., significant inversions).
(3) Observation of peak PM-10 concentrations around 8 a.m. in the morning and 6 p.m. in the evening suggests the dominance of local PM-10 sources, especially from onroad sources.
(4) Figures 5 and 6 show the influence of meteorological parameters on the hourly PM-10 concentrations at the West 43rd and Durango monitors, respectively, on December 12, 2005.

01/24/06 (Regime 2)

(1) Only Higley had an exceedance on this day.
(2) The average wind speed in the vicinity of the monitor was 7.5 mph, with several hours of higher winds (greater than 15 mph)
(3) Figure 7 shows the influence of meteorological parameters on the hourly PM-10 concentrations at the Higley monitor on January 24, 2006.

Table 5. Meteorological Parameters Obtained from Soundings Data at Tucson for Design Days

		Inversion Depth		Relative Humidity		Wind		Temp	
Date	Avg Depth	12Z Depth	00Z Depth	12Z	00Z	12Z	00Z	12Z	00Z
	m	m	m	%	%	knots	knots	°C	°C
12-Dec-05	259.2	272.4	246	21	14	3	3	12.2	19.4
24-Jan-06	274	273	274	26	11	8	15	12.8	20.6
Interpretation		Low Depth implies elevated PM-10 Potential		High RH implies elevated PM-10 potential		Low winds implies elevated PM-10		Low Temp. implies elevated PM-10	

Table 6. Dependence of PM-10 Concentrations on Meteorological Parameters: Data Obtained from ADEQ

Date	Day	PM-10 AQI	Dispersion	Mixing Ht ft	Inversion Ht	Inversion C	TWS (deg & kts)
1-Nov-05	Tue	106	Very good	6200	1250	2.6	11013
2-Nov-05	Wed	104	Good	6300	2041	5.4	16308
3-Nov-05	Thu	105	Marginal	2554	1552	6.9	22008
10-Nov-05	Thu	106	Marginal	2600	2641	5.8	11407
18-Nov-05	Fri	108	Good	6300	m	m	4010
22-Nov-05	Tue	118	Marginal	3400	1690	6.3	Variable 4
23-Nov-05	Wed	111	Poor	1982	1841	5.7	Variable 2
1-Dec-05	Thu	102	Marginal	3500	3999	6.4	12605
2-Dec-05	Fri	121	Marginal	3200	2126	5.2	12806
12-Dec-05	**Mon**	**140**	**Poor**	**2200**	**1174**	**3.1**	**Variable 3**
13-Dec-05	Tue	107	Fair	4500	1520	5.4	28105
14-Dec-05	Wed	114	Low fair	4900	1339	5.5	1105
15-Dec-05	Thu	101	Low good	4900	1719	3.2	7909
21-Dec-05	Wed	123	Marginal	2600	869	9.1	8906
22-Dec-05	Thu	113	Low fair	2300	1168	8.6	11310
23-Dec-05	Fri	102	Marginal	3400	2100	6.6	25404
10-Jan-06	Tue	118	Marginal	3200	1880	4	6304
11-Jan-06	Wed	108	Marginal	2800	2828	6.8	7307
12-Jan-06	Thu	108	Marginal	3900	1949	7.9	23103
13-Jan-06	Fri	102	Good*	5200	1679	9	6110
19-Jan-06	Thu	115	Good	4500	1597	4.1	24012
24-Jan-06	**Tue**	**109**	**High good**	**4000**	**0**	**0**	**9416**
8-Feb-06	Wed	115	Very good	4100	1509	6.9	6920
9-Feb-06	Thu	125	Marginal	1500	1592	4.5	6511
13-Feb-06	Mon	103	Marginal	4200	1880	3.5	24604
14-Feb-06	Tue	159	Good	4200	1712	6.1	15213
15-Feb-06	Wed	124	Good	5800	1499	5.5	22711
17-Feb-06	Fri	119	Fair	4000	0	0	20806

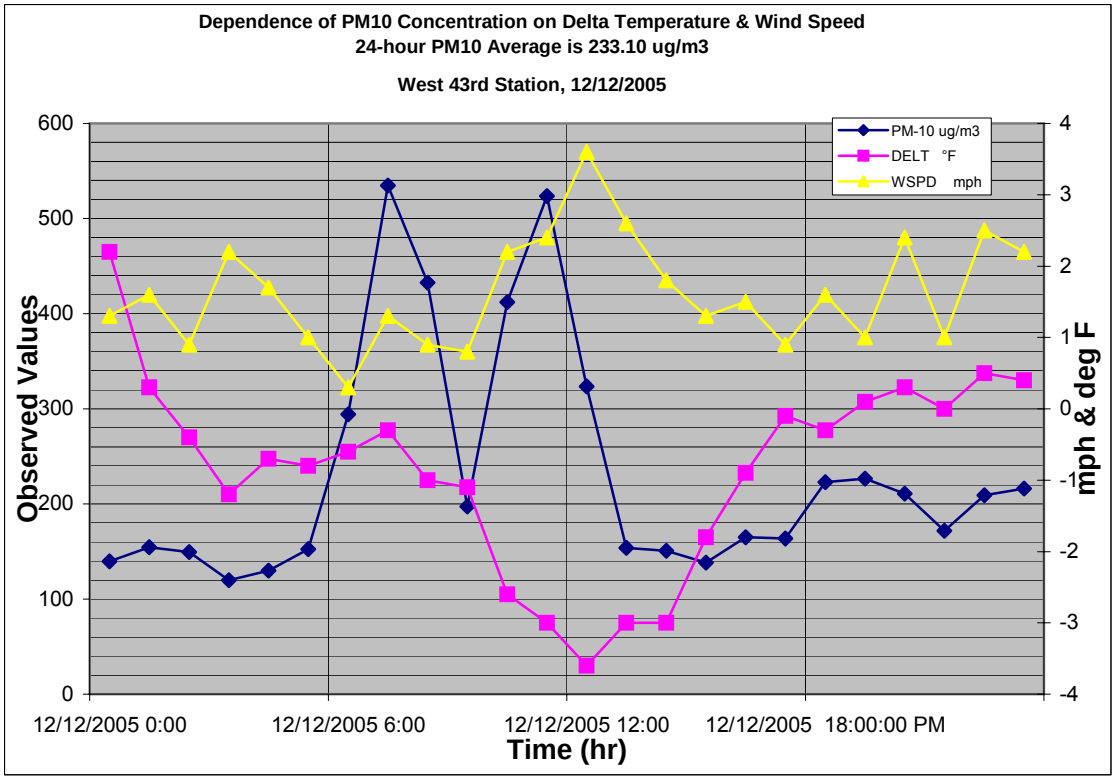

Figure 5. Hourly Observed PM-10 Concentration ($\mu g/m^3$) with Delta Temperature (°F) & Wind Speed (mph) for West 43rd Station on 12/12/2005[1]

[1]Delta Temperature Data was not measured.

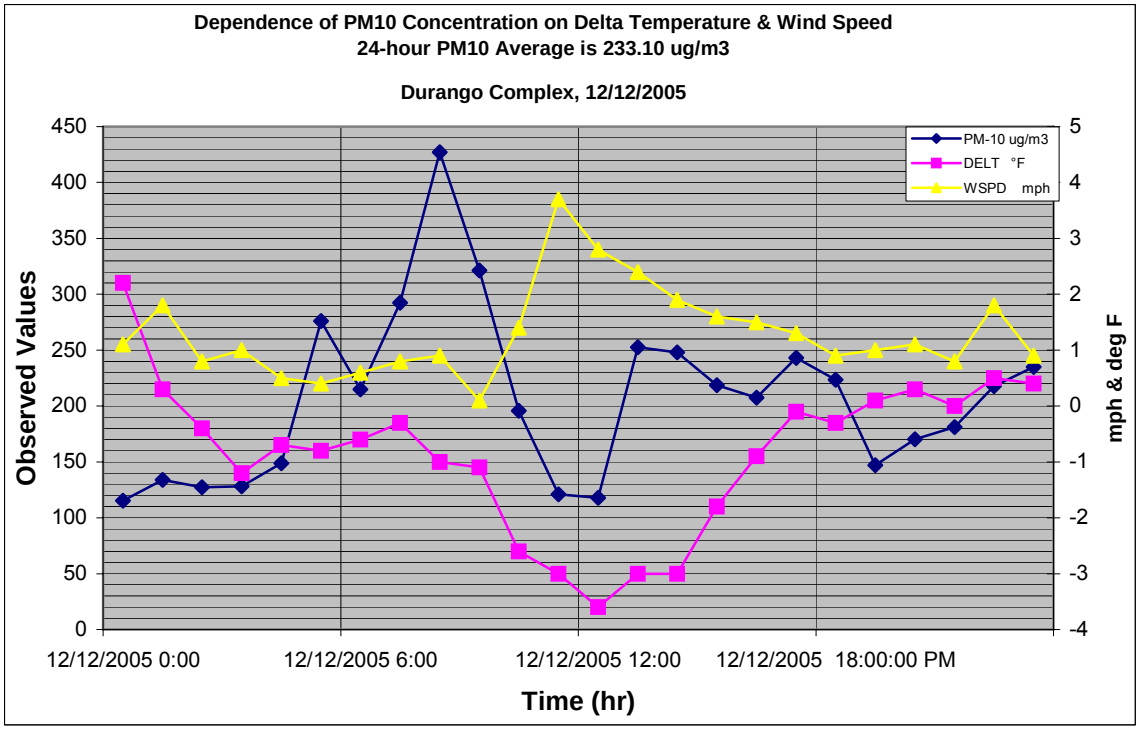

Figure 6. Hourly Observed PM-10 Concentration ($\mu g/m^3$) with Delta Temperature (°F) & Wind Speed (mph) for Durango Complex Station on 12/12/2005

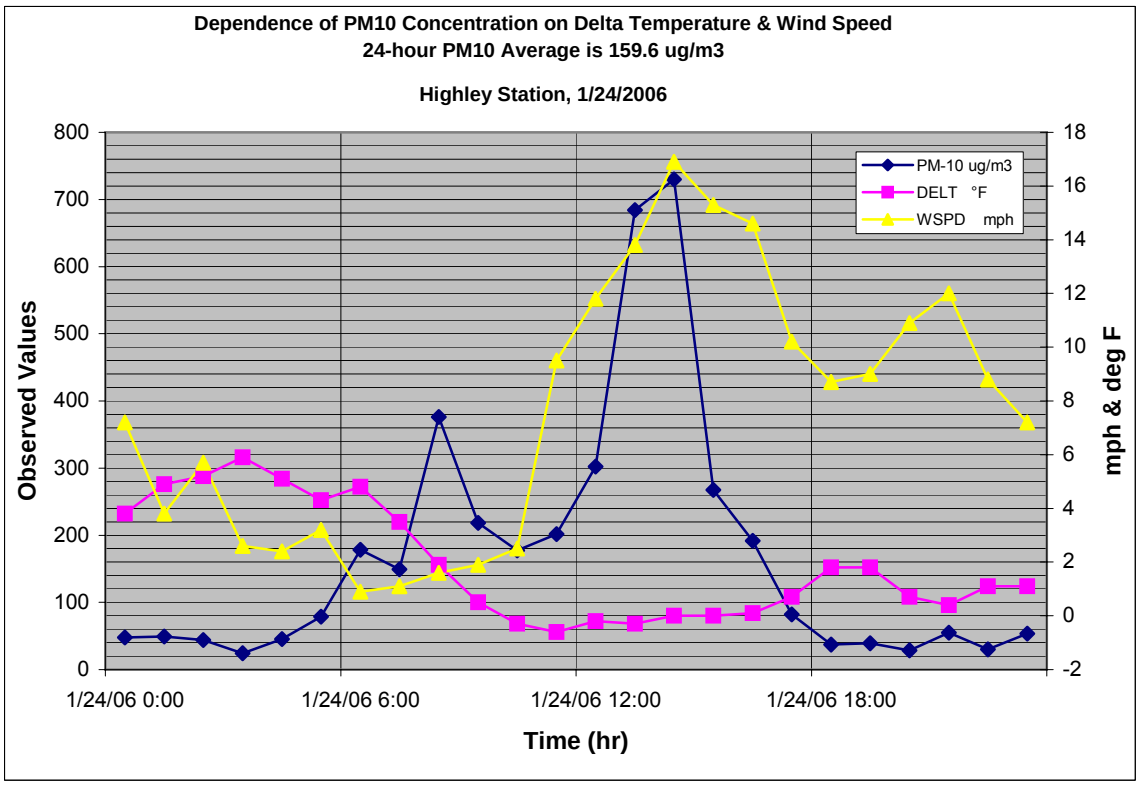

Figure 7. Hourly Observed PM-10 Concentration ($\mu g/m^3$) with Delta Temperature (°F) & Wind Speed (mph) for Higley Station on 01/24/2006

APPENDIX A1-A – Wind Roses

There are 20 PM-10 monitoring stations in Maricopa County. The West 43rd Avenue, Durango Complex, Higley, Greenwood, and Buckeye monitors had exceedances of the 24-hour PM-10 standard during the study period – March 2005 to March 2006. The West 43rd and Durango monitors are located near the Salt River Basin. All of the monitoring sites that exceeded the standard are equipped with continuous TEOM monitors and instruments that measure meteorology. The Maricopa County Air Quality Department has provided MAG with the monitoring observations for the study period. There are a total of 32 days on which one or more monitors exceeded the 24-hour PM-10 standard during the study period. All of the exceedance days occurred in November 2005-March 2006, except two, on April 4, 2005 at the West 43rd Avenue and on June 21, 2005 at Buckeye. A detailed discussion of exceedance days is provided in Attachment 1.

The Salt River Basin in Maricopa County lies at the southwestern edge of rapidly rising terrain. To the west and southwest of the valley, desert elevations, punctuated by mountain ranges, predominate all the way to the Colorado River at Yuma. The mesoscale circulation is driven by valley-to-mountain flows in the daytime (winds from the west) and by mountain-to-valley downslope flow at night (winds from the east and northeast). On a metropolitan scale, these winds would be expected to be influenced by the Salt River channel flow and by nocturnal drainage off the slopes of the South Mountains and, perhaps, from downslope flow from the Estrella Mountains.

Wind roses are plotted for all of the design and episode days for the West 43rd Avenue, Durango Complex, Higley, and Buckeye monitors. These wind roses are based on a standard 16 divisions in meters per second. The length and color of the extending cones represent the percentage and magnitude of the wind speed, respectively. The wind orientation considered is ‘blowing from’.

Figures AI1 to AI20 provide a series of wind roses for specific days and monitoring sites. Figures AI1 and AI2 show the monthly analysis of wind speed and direction for the West 43rd Avenue monitor from November 05 to February 06. Observation reveals the dominance of westerly winds for all of the months. All days in the winter season are low wind days, except a few in the month of February. These low winds are a consequence of high-pressure patterns that suppress the passage of high-wind synoptic fronts.

Figures AI3 to AI6 provide the wind roses by time of day for the selected exceedance days at the West 43rd Avenue monitor. From examination of the figures it is evident that nighttime downslope flow is from the east and daytime upslope is from the west. Also, the presence of drainage flows from South Mountain is apparent during the hours of 1800 to 2300.

Figures AI7 and AI8 show the monthly analysis of wind speed and direction for Durango Complex from November 2005 through February 2006. Figures AI9 to AI12 provide the wind roses by time of day for the selected exceedance days at the Durango Complex monitor.

Figures AI13 and AI14 show the monthly analysis of wind speed and direction for the Buckeye monitor from November 2005 through February 2006. Figures AI15 and AI16 provide the wind roses by time of day for the selected exceedance day, February 14, 2006, at the Buckeye monitor.

Figures AI17 and AI18 show the monthly analysis of wind speed and direction for the Higley monitor from November 2005 through February 2006. Figure AI19 and AI20 provide the wind roses by time of day for the selected exceedance day, January 24, 2006, at the Higley monitor.

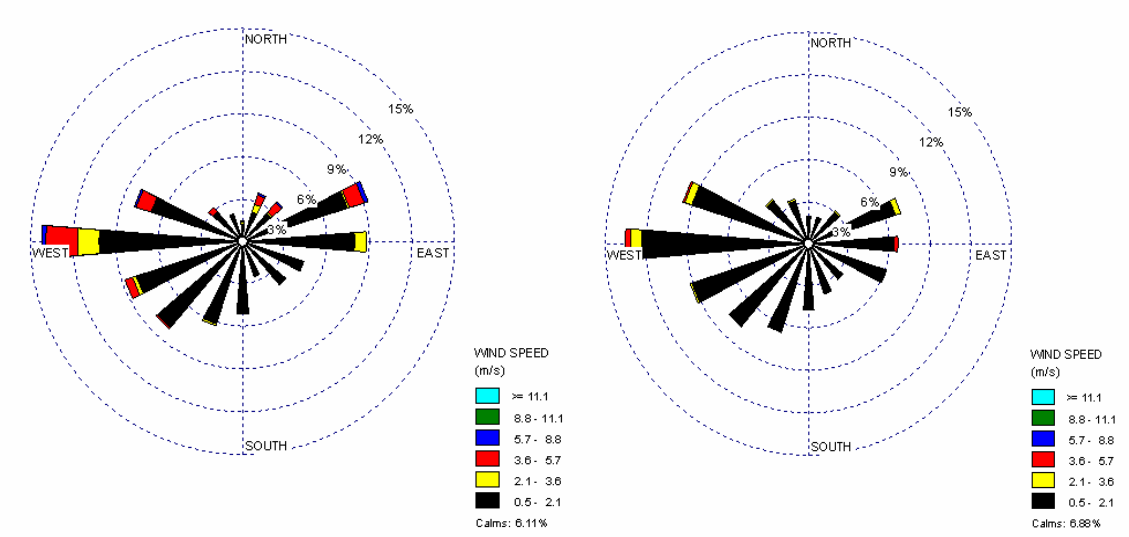

Figure AI1. West 43rd Wind rose: November, 05 (left) and December, 05 (right)

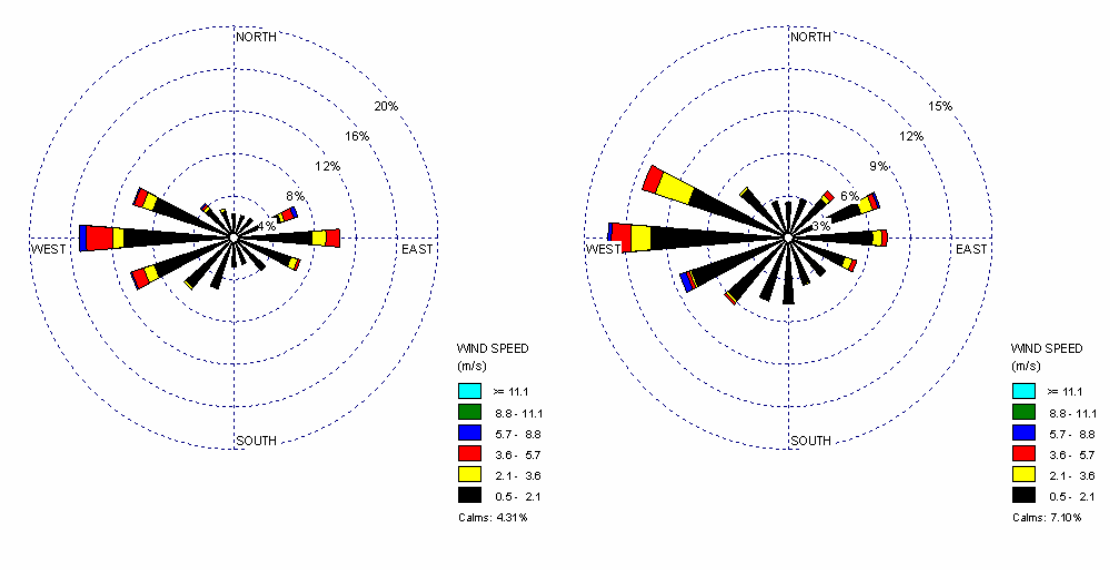

Figure AI2. West 43rd Wind rose: January, 06 (left) and February, 06 (right)

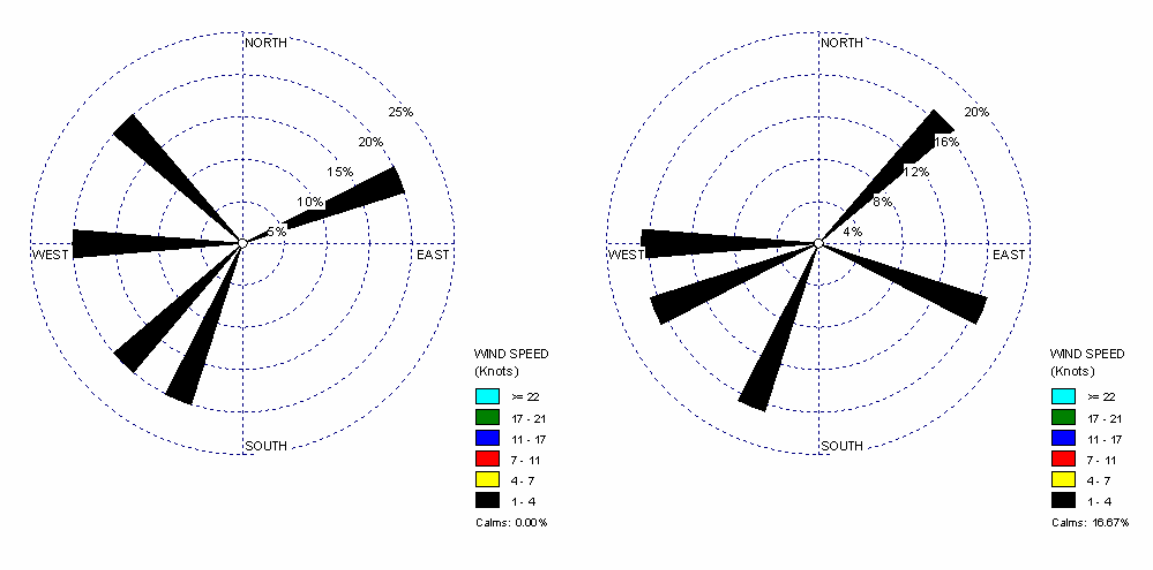

Figure AI3. West 43rd Wind Rose for 12th December, 2005: Hour 00-04 (Left) and Hour 05-10 (Right)

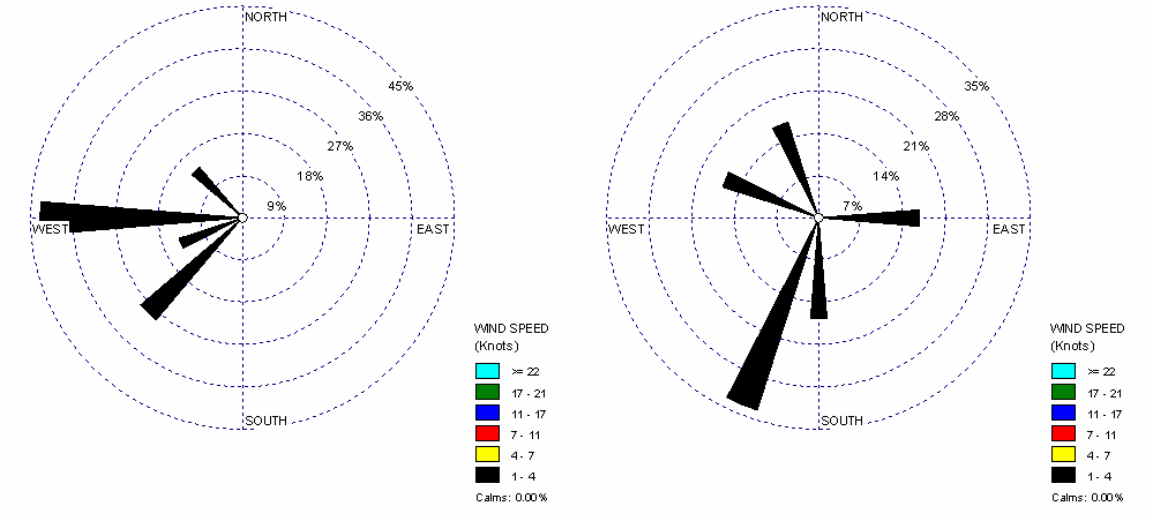

Figure AI4. West 43rd Wind Rose for 12th December, 2005: Hour 11-17 (Left) and Hour 18-23 (Right)

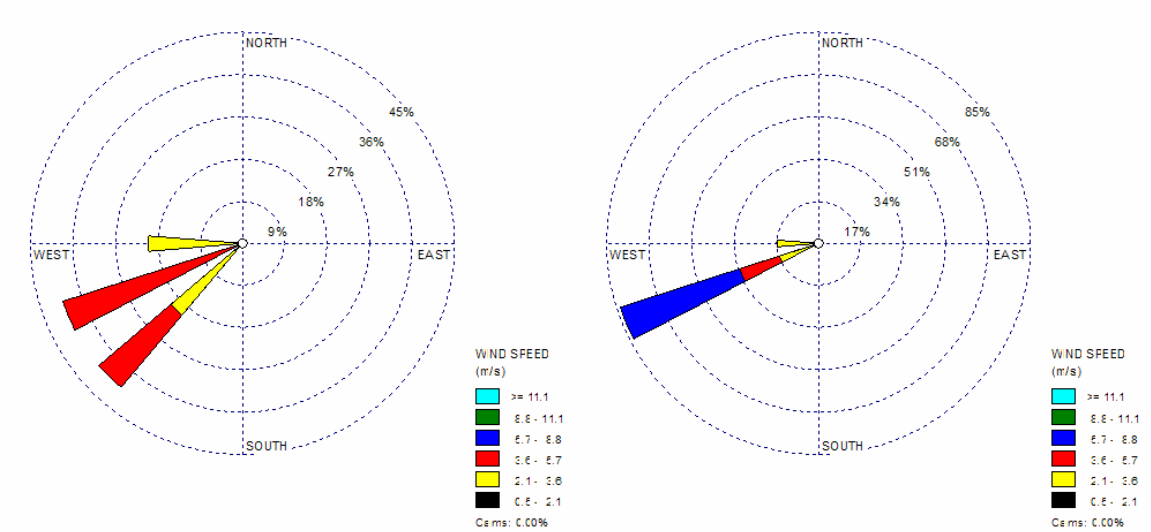

Figure AI5. West 43rd Wind Rose for 10th March 2006: Hour 00-04 (Left) and Hour 05-10 (Right)

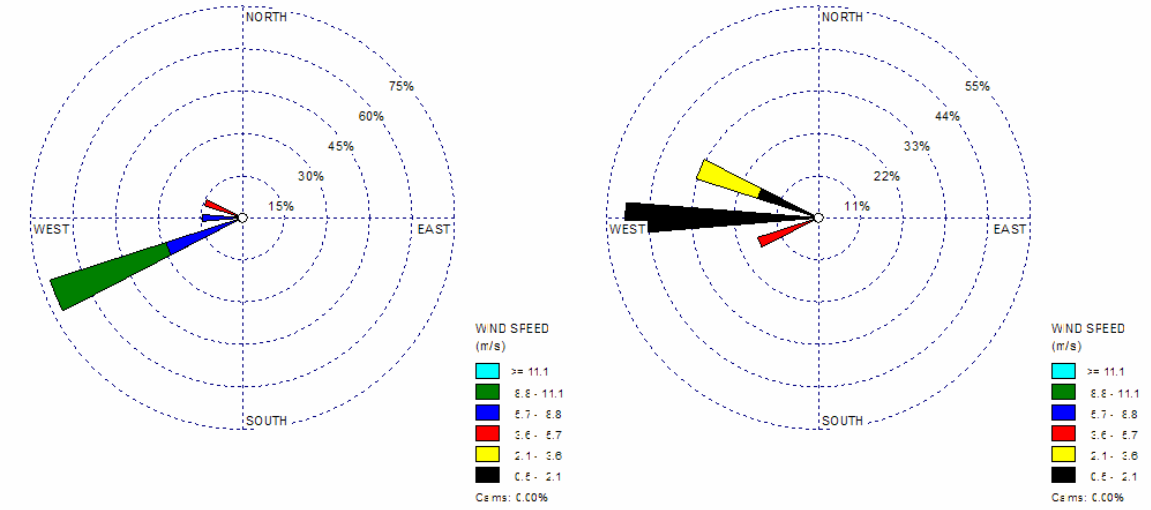

Figure AI6. West 43rd Wind Rose for 10th March 2006: Hour 11-17 (Left) and Hour 18-23 (Right)

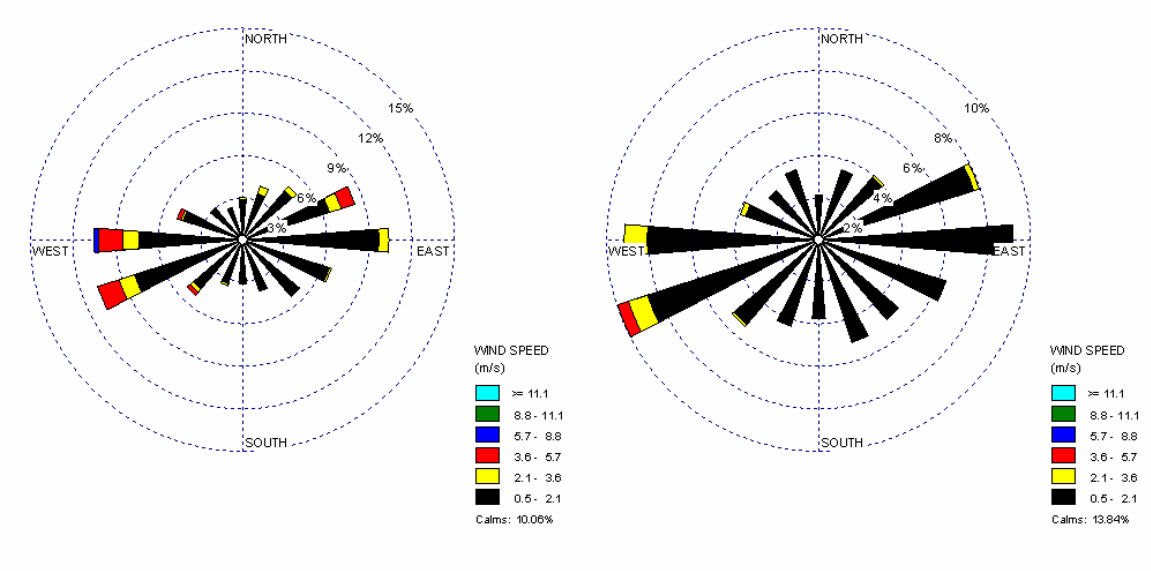

Figure AI7 Durango Complex Wind rose: November, 05 (left) and December, 05 (right)

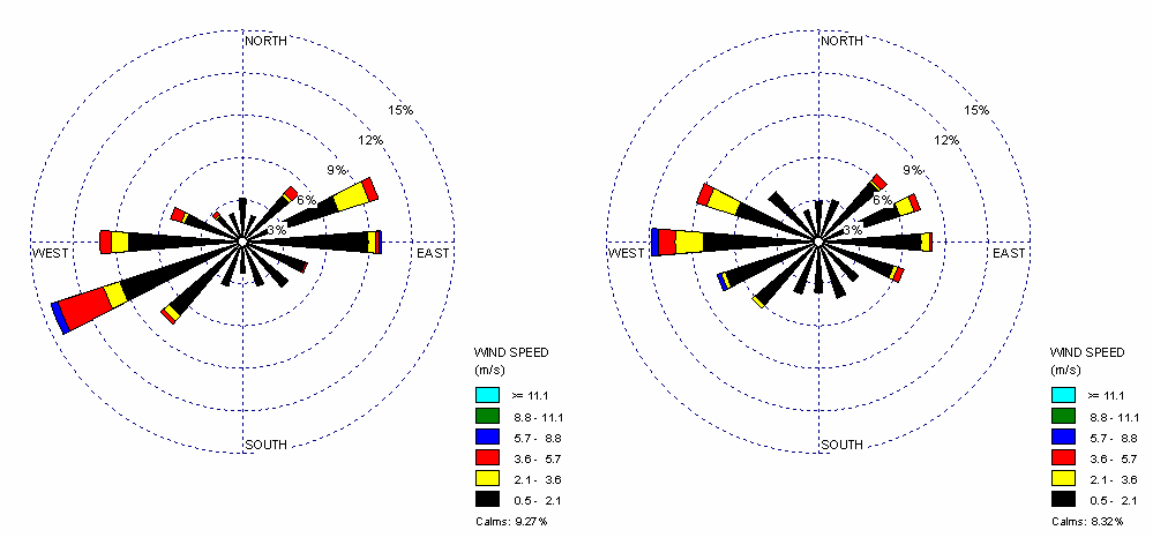

Figure AI8 Durango Complex Wind rose: January, 06 (left) and February, 06 (right)

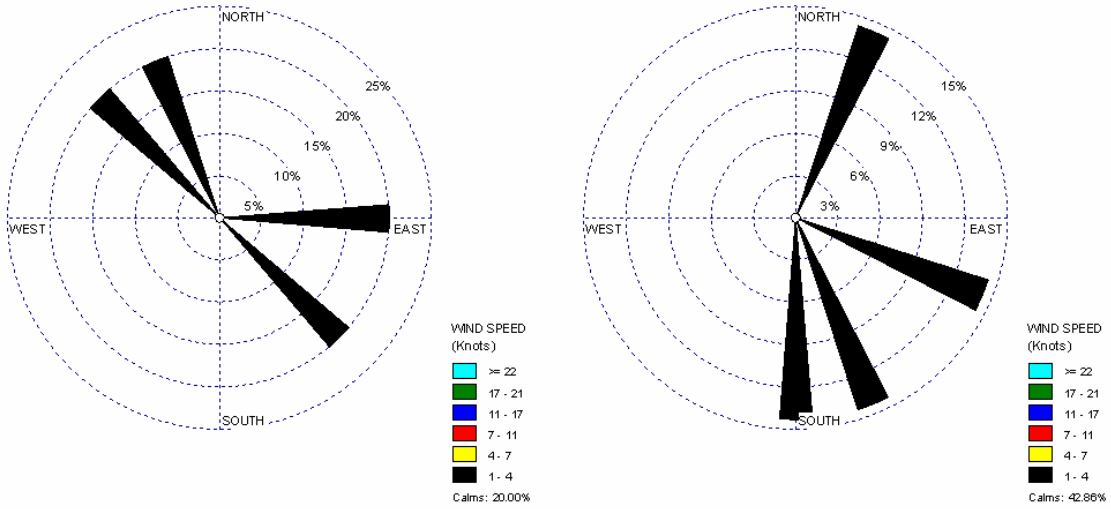

Figure AI9 Durango Complex Wind Rose for 12th December, 2005: Hour 00-04 (Left) and Hour 05-10 (Right)

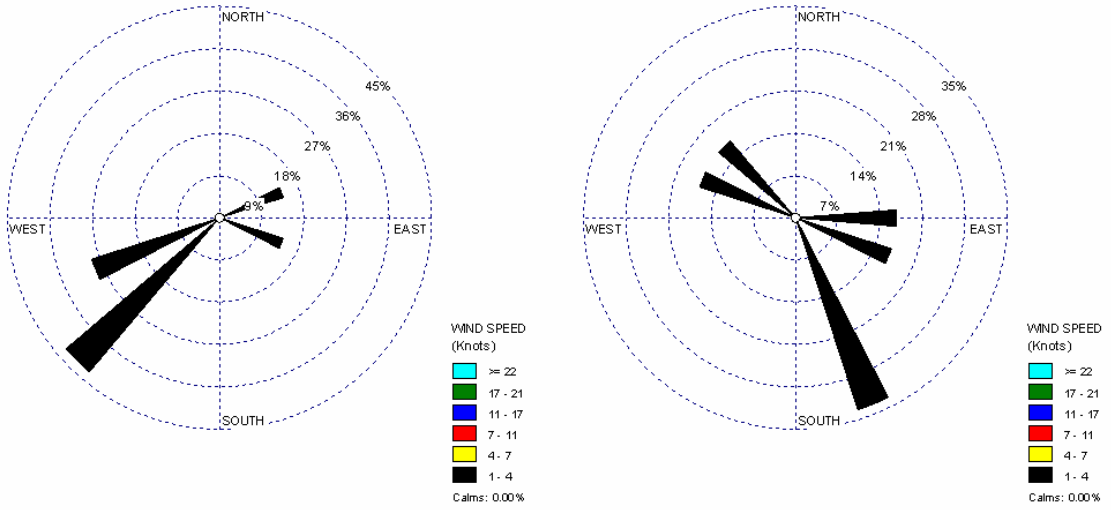

Figure AI10. Durango Complex Wind Rose for 12th December, 2005: Hour 11-17 (Left) and Hour 18-23 (Right)

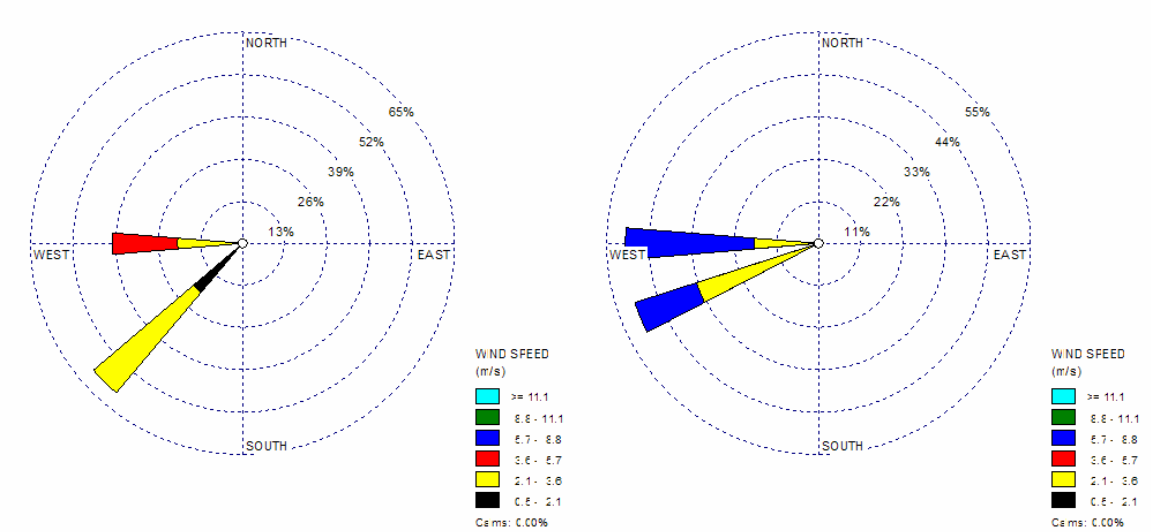

Figure AI11. Durango Complex Wind Rose for 10th March, 2006: Hour 00-04 (Left) and Hour 05-10 (Right)

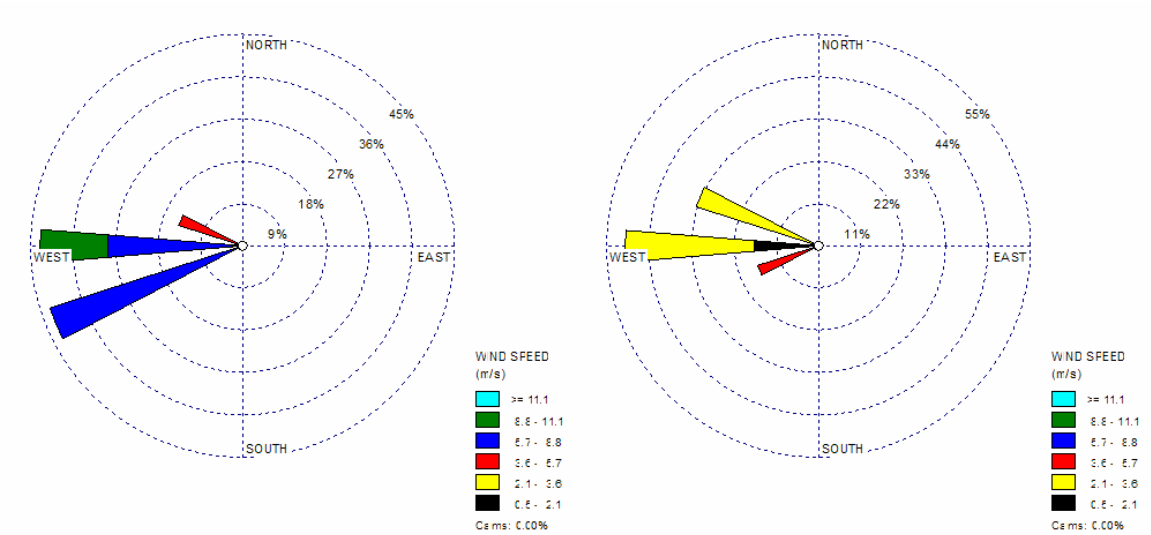

Figure AI12. Durango Complex Wind Rose for 10th March, 2006: Hour 11-17 (Left) and Hour 18-23 (Right)

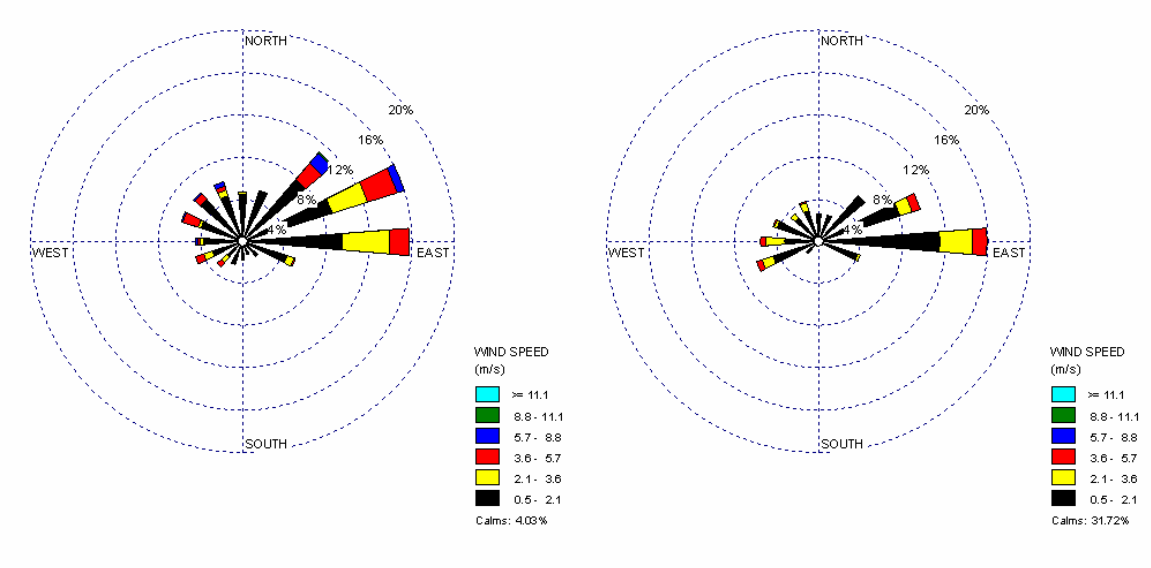

Figure AI13. Buckeye Wind rose: November, 05 (left) and December, 05 (right)

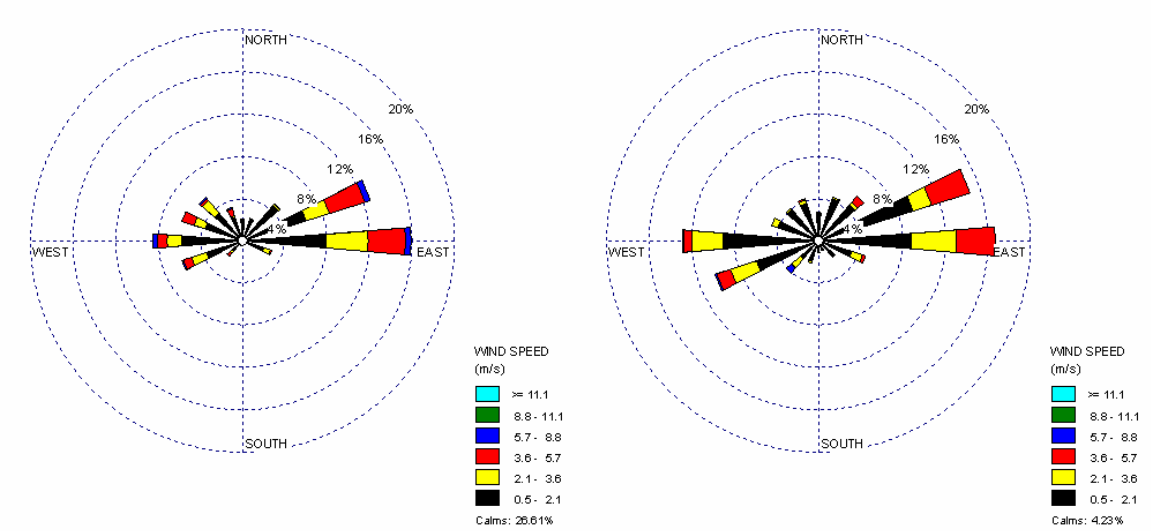

Figure AI14. Buckeye Wind rose: January, 06 (left) and February, 06 (right)

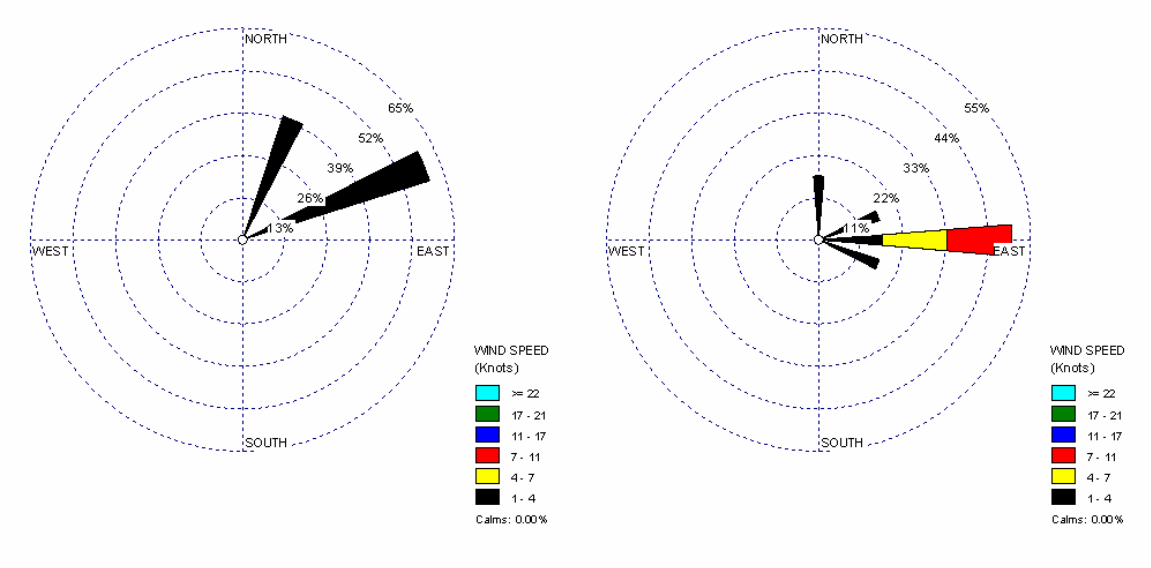

Figure AI15. Buckeye Wind Rose for 14th February 2006: Hour 00-04 (Left) and Hour 05-10 (Right)

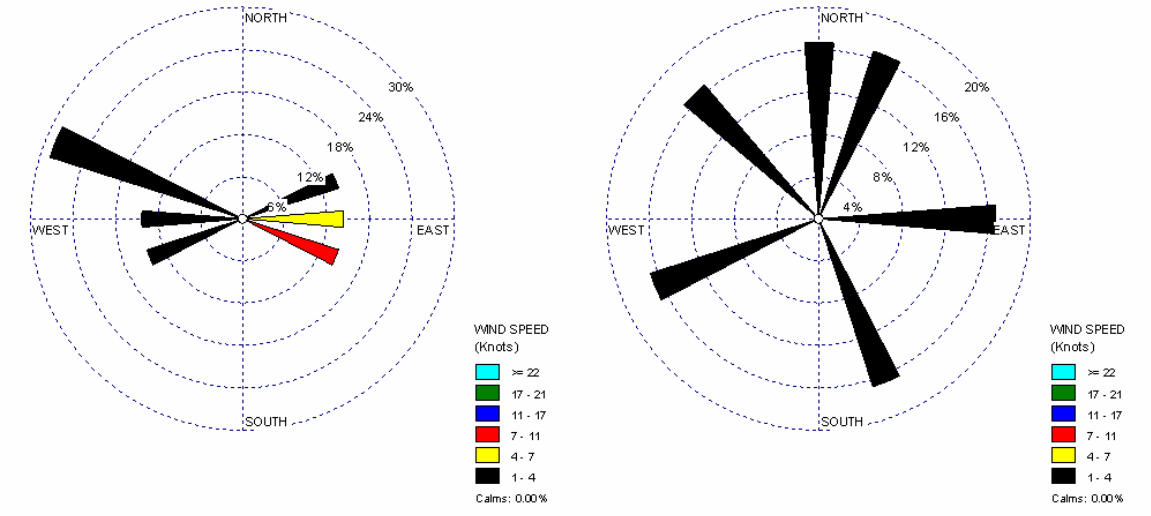

Figure AI16. Buckeye Wind Rose for 14th February, 2006: Hour 11-17 (Left) and Hour 18-23 (Right)

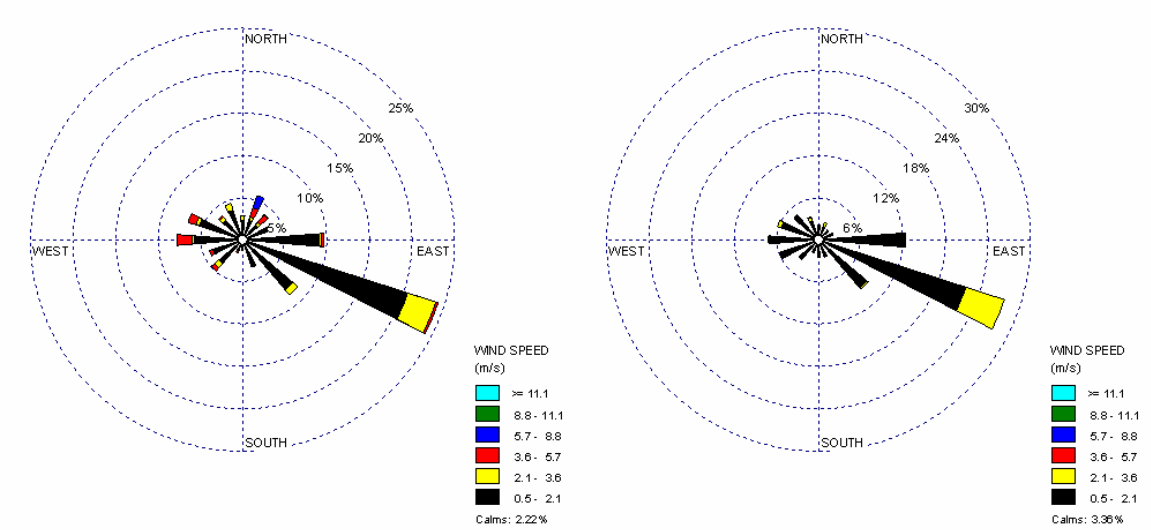

Figure AI17. Higley Wind Rose for November 05 (Left) and December 05 (Right)

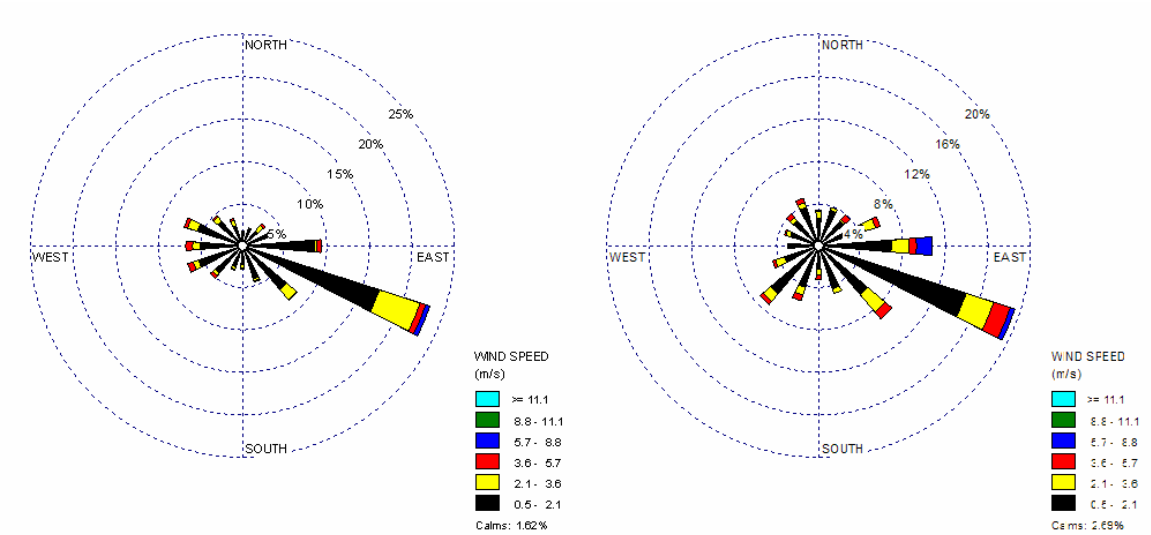

Figure AI18. Higley Wind Rose for January 06 (Left) and February 06 (Right)

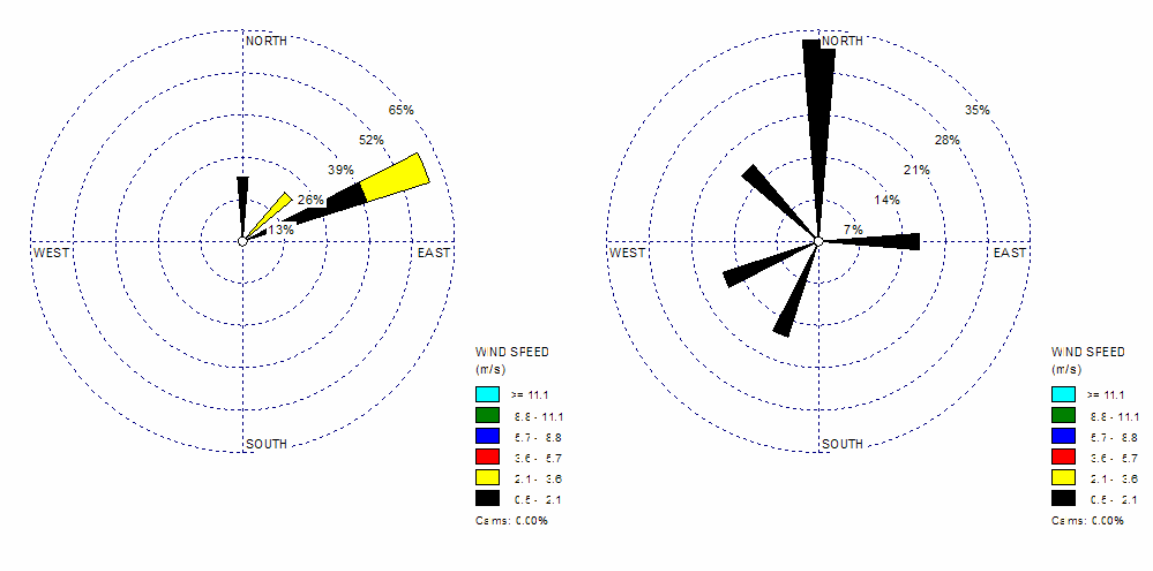

Figure AI19. Higley Wind Rose for 24th January 2006: Hour 00-04 (Left) and Hour 05-10 (Right)

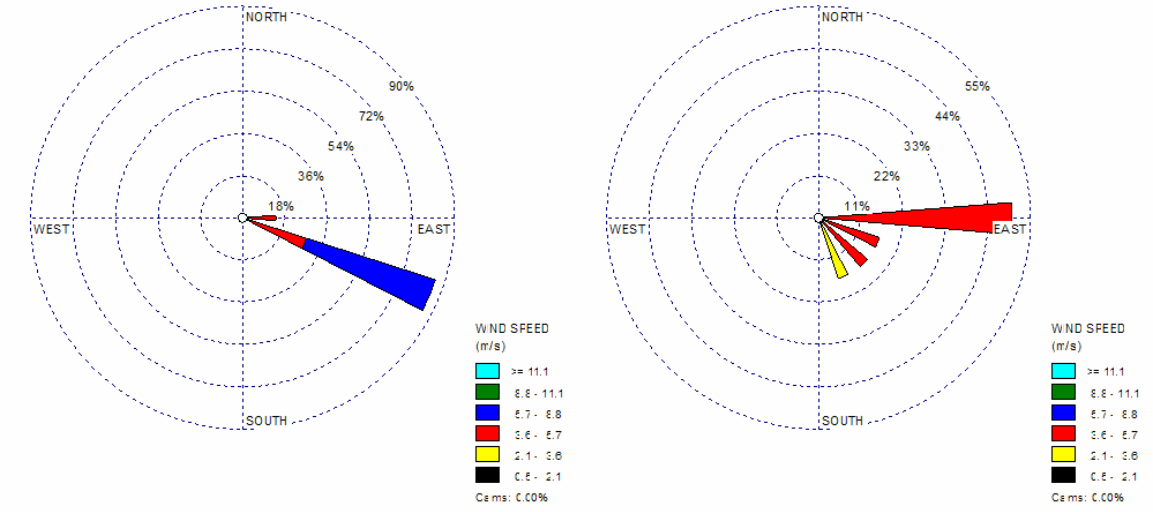

Figure AI20. Higley Wind Rose for 24th January 2006: Hour 11-17 (Left) and Hour 18-23 (Right)

APPENDIX A1-B – PM-10 Exceedance Days

Table BI1. Continuous PM-10 Monitoring Data for All Exceedance Days at West 43rd Avenue Site

Date	Hour	WSPD mph	WDIR	PRESS	DELT °F	PM-10 ug/m3	TEMP °F	WSMAX mph	24-Hour PM10 Avg (ug/m3)
	0	1.3	36	28.76	2.5	40.9	60.7	7.7	
	1	1.1	41	28.76	2.6	41.7	59	9.5	
	2	0.5	104	28.77	2.6	48.7	56.1	8.4	
	3	3.2	83	28.77	2.1	61.9	55.9	6.5	
	4	1.6	76	28.78	1.2	93.1	55.9	5.3	
	5	1.4	116	28.77	0.5	174.4	55.1	6.7	
	6	1.7	243	28.78	-0.7	219	53.6	7.6	
	7	1.7	300	28.8	-1.9	220.8	57.4	4.4	
	8	0.6	220	28.8	-2.6	266	63.9	5	
	9	3.3	296	28.8	-4.5	151.7	70	9.2	
4/4/2005	10	3.9	262	28.79	-4.1	67.8	73.2	18.9	**172.7**
	11	12.2	241	28.79	-4.6	129.5	76.5	21.5	
	12	12.8	252	28.76	-4.5	229.3	78	28.6	
	13	17.1	248	28.76	-3.8	652.5	78.2	37.3	
	14	19	249	28.75	-3.4	560.4	77.4	36.8	
	15	18.8	264	28.74	-2.8	563.6	77	34.9	
	16	16.7	279	28.75	-2.3	168.4	75.5	31.5	
	17	17.5	292	28.77	-1.7	131.4	73.1	31.8	
	18	13.4	293	28.79	-0.9	76.8	69.8	29.3	
	19	10.8	310	28.83	-0.3	58.1	65.5	20.8	
	20	10.4	322	28.86	0	44.6	63.1	22	
	21	3.6	277	28.89	0	44.5	61	10.9	
	22	4.4	248	28.91	-0.1	55.1	58.6	11.5	
	23	6.9	259	28.92	-0.2	45	58.3	12.4	
	0	1.6	233	29.05	1.2	97.3	56.3	3.7	
	1	0.3	168	29.05	2.7	111	54.6	3.9	
	2	1.8	88	29.04	2.6	88.9	54.3	4.4	
	3	1.6	266	29.02	2.2	115.4	54	5.4	
	4	0.9	316	29.02	3.4	144.6	54.3	5.5	
	5	0.6	18	29.02	2.7	266.3	53	2.8	
	6	2.1	278	29.04	1.2	296.3	54.3	7.1	
	7	0.7	78	29.06	0.6	432.7	56.9	4.2	
	8	0.7	71	29.07	-1.1	463.8	65.5	3.3	
	9	3.5	88	29.07	-0.9	266.6	73.1	7.9	
11/1/2005	10	7.8	74	29.06	-1.2	86.1	79.7	14.9	**166.4**
	11	6.3	80	29.03	-1.3	65.1	82	14.4	
	12	5.7	89	28.99	-1.4	43.1	83.8	13.6	
	13	5.1	90	28.96	-1.4	40.3	85.3	16.1	
	14	3.3	77	28.94	-1.2	37.2	86.1	12.1	
	15	3.7	109	28.92	-1	29.7	86.7	10.6	
	16	1.2	85	28.91	-0.3	42.3	85.8	5.6	
	17	1.3	357	28.9	1.7	115.3	81.5	3.8	
	18	2.1	214	28.91	1.4	364.3	74.6	4.8	

	19	2.5	200	28.91	1.5	237.4	69.9	3.9	
	20	0.6	171	28.91	1.7	188.5	66.5	4.1	
	21	1.9	151	28.92	2.3	147.3	64.1	4.5	
	22	1.8	85	28.92	1.5	143.3	62.8	3.6	
	23	1.9	103	28.92	2.2	170.8	61.8	3.5	
	0	0.6	231	28.92	2.1	93.6	59.9	3.6	
	1	3.1	284	28.92	-0.1	100.5	59.4	5.8	
	2	1.3	303	28.91	0.9	79.2	57.2	4.2	
	3	1.4	237	28.91	0.8	114.6	55.4	4.5	
	4	1.3	309	28.91	0.6	124.5	53.7	3.5	
	5	1.6	239	28.92	-0.2	214.7	53.7	3.7	
	6	0.1	236	28.93	0.5	202.7	52.5	3.1	
	7	1.4	255	28.94	-0.1	309.4	56.9	4.4	
	8	1.3	216	28.97	-1.3	522.5	62.4	4.2	
	9	0.5	81	28.98	-1.5	245.5	70.1	4.4	
11/2/2005	10	0.8	39	28.98	-1.6	-999	76	4.6	**173.9**
	11	4.1	65	28.96	-2	-999	80	12.2	
	12	2.8	141	28.92	-1.6	89.2	81.9	8.5	
	13	0.7	190	28.89	-1.8	94	84	6.7	
	14	3.1	301	28.88	-3.2	88.9	86.7	8.3	
	15	2.3	327	28.87	-1.8	77.8	85.7	7.7	
	16	2.4	299	28.86	-1.2	71.2	85.2	6.1	
	17	4.1	290	28.86	0	89.4	80.4	7.3	
	18	1.6	258	28.86	1.5	240.3	74	5.4	
	19	2.9	182	28.87	1.2	286.4	69.9	4.9	
	20	2.3	199	28.88	0.7	234.1	67.7	4	
	21	0.5	351	28.88	2.8	212.5	64.2	3.4	
	22	1.6	150	28.89	1.9	231.4	62.6	6.2	
	23	1.1	212	28.9	0.3	104.2	62.4	7.5	
	0	2.8	91	28.91	1.4	50.1	64.7	5.2	
	1	0.9	193	28.91	1.7	38.2	65.5	4.9	
	2	3.2	230	28.91	0	72.8	63.2	6.1	
	3	0.1	247	28.9	0.7	61	59.7	2.7	
	4	1.9	78	28.9	0.8	89.3	58.9	5.3	
	5	0.6	347	28.9	0.3	145.6	59.7	2.8	
	6	2.1	260	28.92	-0.5	247.7	58.6	6.4	
	7	1.5	187	28.94	-0.5	251.2	59.3	6	
	8	1.7	277	28.95	-1.7	253.5	62.6	5.6	
	9	0.8	55	28.96	-0.9	264.3	64.1	5.9	
	10	2.4	111	28.95	-0.8	170.1	67	6.3	
	11	1.9	215	28.94	-1.5	178.5	70.1	7.8	
11/10/2005	12	2.2	294	28.91	-1.8	154.4	72.8	7.7	**166.2**
	13	1.1	333	28.88	-1.2	115.6	74.4	7.4	
	14	3.6	283	28.86	-1.6	178.5	74.5	8.1	
	15	3.1	261	28.84	-1.7	198.3	75.2	7	
	16	1.8	229	28.83	-0.8	204.7	74.3	5.1	
	17	1.8	235	28.82	-0.3	218.6	71	4.6	
	18	1.5	196	28.82	0.3	265.3	66.6	3.4	
	19	2	129	28.82	1.3	232.1	63.7	4.5	
	20	2	219	28.82	0.8	194.2	62.7	4.6	
	21	2	239	28.83	0.5	194.2	60.1	4.4	
	22	2.7	278	28.83	0.3	130.8	58.6	6.3	
	23	4.9	283	28.83	-0.1	79.5	59.4	10.9	
	0	1.6	138	28.99	3.1	93.6	47.6	4.8	

	1	0.9	177	28.99	1.8	94	47.3	3.4	
	2	2	202	29	1.2	83.1	45	5.7	
	3	0.9	271	29	1.4	87.1	44.6	4.3	
	4	1.7	327	29	1	148.7	45.2	3.8	
	5	0.7	102	29	1.9	159.2	43.1	3.5	
	6	0.4	217	29.01	1.4	323.1	43.8	4.1	
	7	1.9	233	29.02	0	476.7	45.5	4.3	
	8	1.5	250	29.04	-2	297.1	51.2	5	
	9	1.5	293	29.04	-2.6	190.9	58.8	5.6	
11/22/2005	10	1.9	343	29.04	-2.6	184.4	65.4	5	**173.4**
	11	1.7	74	29.01	-1.2	105.5	70.2	5.2	
	12	1.8	102	28.98	-0.9	73	72.7	5.3	
	13	1.4	160	28.95	-1.3	69	75.4	7.6	
	14	1.7	231	28.94	-1.9	54.1	77.3	6	
	15	1.5	271	28.94	-1.1	62.9	77.1	5.4	
	16	2.6	234	28.93	-0.2	174.3	74.8	4.5	
	17	2	215	28.93	0.8	310.8	69.5	3.6	
	18	1	167	28.94	2	270.1	63.2	3.2	
	19	1.6	65	28.95	2.4	254.5	60.7	2.8	
	20	2.1	73	28.95	3.9	159	58.5	3.6	
	21	1.8	127	28.96	2.5	162.3	57	3.9	
	22	0.7	262	28.96	1.3	181.5	55.5	3.9	
	23	1.4	240	28.96	1.6	147.6	53.1	4.6	
	0	0.7	164	28.95	2.2	126.1	51	2.7	
	1	2.1	144	28.95	2.1	114.7	49.9	4.6	
	2	0.8	218	28.95	1.3	135.8	48.6	3.8	
	3	1.8	39	28.94	2.8	130	48.4	4.8	
	4	4.8	72	28.93	1.6	66.7	50.4	7.8	
	5	1.2	248	28.94	0.3	173.3	49.3	6.3	
	6	2.5	283	28.95	-0.5	208.3	48.5	5	
	7	2.2	297	28.96	0.1	212.3	51.6	8.6	
	8	1	263	28.97	-0.7	355.1	54.8	4.2	
	9	0.7	255	28.97	-0.9	438.4	58.9	5.7	
11/23/2005	10	2	119	28.96	-0.4	278.1	63.6	5.7	**175.5**
	11	2.8	255	28.95	-1.5	170.7	66.4	7.5	
	12	3.6	267	28.92	-1.9	91.9	67.9	7.3	
	13	1.6	291	28.89	-1.3	81.3	68.3	4.5	
	14	1.4	357	28.87	-1.1	86.1	69.6	4.4	
	15	4.4	52	28.85	-0.3	155.7	71	7.6	
	16	1.5	98	28.84	0	193.6	71	6.9	
	17	2.2	274	28.86	0.5	233.2	67.3	5	
	18	2.6	320	28.86	0.6	195.8	63.1	5.9	
	19	0.8	215	28.87	0.1	234.3	61.5	8.2	
	20	3.7	276	28.89	0.2	154.5	61.2	8.2	
	21	1.7	111	28.88	0.6	137.5	60	8.1	
	22	2.8	170	28.88	0.5	102.2	59.4	7.6	
	23	2.3	55	28.87	1.5	137.2	58.7	4.8	
	0	2.1	305	28.93	0.7	133.4	49.4	4.3	
	1	2.1	301	28.92	1.3	131.3	48.4	4.7	
	2	1.3	267	28.92	0.4	134.2	46.4	4.1	
	3	2.1	236	28.93	0.3	122.7	45.1	4	
	4	1.4	256	28.92	0	130.5	44	4.1	
	5	1.7	328	28.91	0.5	151.7	43.3	3.7	
	6	1.3	264	28.92	0.4	270.4	43.5	4.9	

	7	2.5	269	28.93	-0.2	337.6	44.8	7.9	
	8	1.2	282	28.94	-1.5	262	48	4.9	
	9	0.3	145	28.95	-1.2	295.6	53.5	4.8	
12/2/2005	10	1.8	143	28.95	-0.8	215.1	57.6	7.3	**195.2**
	11	1.8	243	28.93	-2.1	150.5	62.1	6.5	
	12	0.2	213	28.9	-0.9	128.5	64	5.4	
	13	2	45	28.87	-0.7	120.3	66.3	5.7	
	14	1.5	4	28.86	-0.9	114.1	68.4	5.2	
	15	2.1	351	28.84	-0.8	106.2	68.9	5.1	
	16	1.6	354	28.84	0	104	67.7	4.3	
	17	0.7	241	28.83	0.8	212.8	63.6	3.5	
	18	1.3	225	28.83	0.4	345.1	59.6	3.7	
	19	1.8	151	28.83	0.8	326.3	57.2	4.8	
	20	1.5	275	28.83	0.2	272.1	56.3	4.8	
	21	1.1	181	28.83	0.6	251.5	54.7	5.3	
	22	2.4	175	28.81	0.8	206.5	53.6	6.5	
	23	1.3	252	28.81	0	163.5	53.6	6.2	
	0	1.3	68	28.96	2.2	139.8	45.7	4	
	1	1.6	308	28.95	0.3	154.4	46.2	4.9	
	2	0.9	229	28.94	-0.4	149.5	44.6	5.7	
	3	2.2	194	28.94	-1.2	119.8	45.1	5	
	4	1.7	277	28.94	-0.7	130	44.4	7.2	
	5	1	247	28.96	-0.8	152.4	43.7	5.3	
	6	0.3	167	28.97	-0.6	294.4	44.4	4	
	7	1.3	102	28.98	-0.3	534.7	46	4.8	
	8	0.9	212	28.98	-1	432.8	48	4.6	
	9	0.8	48	29	-1.1	197.4	51.5	3	
12/12/2005	10	2.2	272	29.01	-2.6	412.2	55.2	4.9	**233.1**
	11	2.4	234	28.98	-3	523.7	57.7	6.7	
	12	3.6	246	28.95	-3.6	323.7	61.1	8	
	13	2.6	274	28.94	-3	153.8	61.8	6.1	
	14	1.8	279	28.93	-3	150.9	62.8	4.8	
	15	1.3	230	28.92	-1.8	138.4	62.2	4.3	
	16	1.5	265	28.93	-0.9	165	61.2	4.4	
	17	0.9	311	28.92	-0.1	163.5	57.7	3.5	
	18	1.6	181	28.93	-0.3	223	55.6	6.5	
	19	1	336	28.94	0.1	226.7	54.4	4	
	20	2.4	100	28.94	0.3	210.9	53.2	6	
	21	1	200	28.95	0	171.7	52.4	4.4	
	22	2.5	292	28.95	0.5	209.2	49.7	5.1	
	23	2.2	213	28.95	0.4	216.3	46.8	5.4	
	0	1.9	147	28.94	1.8	122.1	44.8	5.8	
	1	1.8	270	28.94	0.8	142.8	43.7	5.2	
	2	2.2	225	28.95	0.7	160	40.9	4	
	3	2.2	218	28.95	0.6	138.7	39.4	4	
	4	0.7	202	28.95	0.9	160.1	38	2.5	
	5	1.8	214	28.95	0.6	254.8	37.3	3.7	
	6	1.4	222	28.95	0.2	351	36.4	3.1	
	7	1.3	229	28.97	0.2	329.4	36.9	3.8	
	8	1.5	178	28.99	-1.7	253.2	41.4	5.2	
	9	1.6	165	29	-3.1	165.5	47.6	4.8	
12/13/2005	10	1.8	211	29	-4.9	109.7	55	6.2	**167.7**
	11	2.3	267	28.99	-7.1	106.1	62	5.8	
	12	2.2	243	28.95	-5.8	89.7	64.3	7.3	

	13	-999	-999	28.92	-999	75.5	-999	-999	
	14	-999	-999	28.91	-999	70.3	-999	-999	
	15	2.6	281	28.91	-1.9	70.5	63.9	5.9	
	16	1.9	245	28.91	-0.5	113.9	62.1	4	
	17	1.7	152	28.91	0.9	168.2	56.9	3.8	
	18	1	126	28.92	2.1	203.4	52.6	3.3	
	19	2	122	28.93	1.4	222.7	48.8	5.4	
	20	3.2	89	28.94	1.7	172.1	47	5	
	21	3.1	50	28.94	2.3	180.7	46.7	5	
	22	1.4	253	28.95	1.1	171.4	44.8	4.4	
	23	1.1	105	28.96	2.8	193.4	42.8	3.6	
	0	2.4	212	28.96	0.5	169.2	40.7	4.8	
	1	1.7	294	28.96	0.7	127	38.8	4.3	
	2	0.6	166	28.97	1.6	106.2	37.2	3.9	
	3	0.6	208	28.97	1.3	124.5	36.3	3.8	
	4	0.6	171	28.97	1.6	126.5	35.2	2.8	
	5	0.3	130	28.97	1.4	235.5	34.9	2.8	
	6	1.5	266	28.99	0.6	297.2	34.6	4	
	7	2	302	29.02	0.3	329.2	35.3	5.4	
	8	2	261	29.04	-2.3	383	42.1	5.2	
	9	1.4	266	29.07	-4.9	288.3	48.2	4.8	
12/14/2005	10	2.2	100	29.07	-3.9	162.7	52.9	5.7	**177.1**
	11	1.7	141	29.04	-4.6	111	58.3	6.2	
	12	2.1	205	29	-5.5	-999	63.3	7	
	13	2.4	238	28.96	-5.7	-999	66.2	7.7	
	14	2.3	259	28.95	-4.6	86.4	67.2	7	
	15	3.7	273	28.94	-2.5	76.1	66.2	8.8	
	16	3.9	266	28.94	-0.5	66	63.7	7.8	
	17	1.5	216	28.94	1.2	131.1	58.4	3.4	
	18	0.9	154	28.94	2.2	247.4	53.3	5.5	
	19	2.6	109	28.95	1.6	161.7	49.8	4.8	
	20	1.1	75	28.96	1.5	166.4	48.8	6.3	
	21	1.3	263	28.97	1.7	166.5	46.3	7.7	
	22	2	206	28.98	1	179.9	44.4	5.1	
	23	0.6	241	28.98	1.6	155	42.5	5	
	0	0.9	294	29.09	1.8	183.9	45.5	4.8	
	1	2.1	227	29.09	0.5	155.9	43.8	4.4	
	2	1.5	148	29.1	1.7	108.6	41.9	5.5	
	3	0.1	234	29.09	1.3	100.9	42.4	4.8	
	4	0.5	95	29.08	1.5	115	40.9	5.6	
	5	2	72	29.08	1.7	145.1	42.5	4.7	
	6	1.6	286	29.09	0.6	237.1	41.5	5.5	
	7	2	223	29.11	0	259	40.8	4.7	
	8	0.1	42	29.13	-0.8	240.3	45.5	4.8	
	9	0.7	102	29.14	-0.8	245.8	52.3	4.3	
12/21/2005	10	0.6	331	29.14	-1.8	263.9	59.2	4.9	**200.6**
	11	1.3	294	29.11	-2.5	276.1	65.6	4.2	
	12	1.5	45	29.07	-1.2	152.6	68.7	5.6	
	13	2.4	62	29.03	-0.9	132.8	72.6	9.2	
	14	3.3	50	29.02	-0.4	59.2	73.9	6.2	
	15	4.7	360	29.01	-0.6	128.1	73.7	7.8	
	16	2	340	29.01	0.1	166.6	72.2	3.8	
	17	0.5	297	29.01	2	252.7	66.7	3.7	
	18	0.5	143	29.01	3.5	298.7	59.8	3.4	

	19	0.9	106	29.02	2.6	341.2	55.8	4.1	
	20	2	94	29.03	2.8	336.1	54	7.1	
	21	2.1	140	29.02	3.2	213.8	52.2	4.8	
	22	1.5	76	29.02	2.9	184.1	51	3.9	
	23	1.7	344	29.02	2.1	217.3	50	5.4	
	0	1.8	228	29.02	1.2	201.8	47.8	8	
	1	0.2	242	29.01	1.9	156	45.3	3.1	
	2	3.1	151	29.01	2.1	133.1	43.9	7	
	3	2.1	15	29	1.8	118.1	44.2	5.5	
	4	1.8	289	29	1.8	195.7	43.4	5.4	
	5	1	223	28.99	1.1	228.3	41.8	5.4	
	6	0.9	190	29	0.2	246.5	41	3.1	
	7	2	289	29.01	0	266.1	43.9	6.6	
	8	3.6	271	29.04	-0.8	194.8	46.9	7.2	
	9	1.3	210	29.05	-1.3	193.4	51.3	7.2	
12/22/2005	10	0.6	228	29.05	-1.1	244.8	57.3	5.2	**168.4**
	11	1.8	118	29.02	-0.7	258	63.9	5.7	
	12	0.5	283	28.99	-1.4	160.7	69.2	4.9	
	13	1.7	108	28.95	-0.7	81.3	71.5	7.7	
	14	1.7	294	28.94	-1.7	77.6	74.2	6.2	
	15	1.1	290	28.93	-0.8	64.2	73.9	4.6	
	16	1.8	303	28.93	0.2	69.1	72.8	3.6	
	17	2.4	295	28.94	1.4	91.9	68	4.9	
	18	1.8	245	28.95	2.2	169.2	61.7	5.1	
	19	2.1	174	28.96	2	225.3	57.3	3.4	
	20	1.8	143	28.96	2.2	204.2	54.2	3.5	
	21	0.4	148	28.96	2.5	140.8	53.2	4.1	
	22	0.7	215	28.97	2	150.3	50.9	5.1	
	23	1.5	268	28.99	1.1	169.7	50.5	4.3	
	0	2.7	142	28.99	1.7	130.2	48.8	7.9	
	1	0.6	78	28.96	0.7	91.4	49.7	9.6	
	2	2.5	321	29	0	99.1	49.7	9.9	
	3	3.9	120	28.99	0.7	84.6	48.1	7.3	
	4	2.9	289	28.99	0.1	96.9	47.2	6	
	5	1	223	29.01	0.6	124.6	45.3	6.3	
	6	1.2	277	28.99	0.5	143.6	44	4.6	
	7	1.7	307	29.02	0.8	242.5	45.1	4.1	
	8	1	126	29.03	0	340.6	48.2	5	
	9	2	287	29.06	-1.9	405.1	54.1	5.3	
12/23/2005	10	1.1	266	29.05	-2.1	190.5	59.5	4.9	**156.7**
	11	1.6	249	29.02	-2.5	145.8	65.2	6.2	
	12	1.5	249	28.98	-1.7	113.8	68.7	6.9	
	13	2.9	295	28.96	-2.8	78.2	72.1	8.2	
	14	5	300	28.96	-2.6	63.2	74.1	10.2	
	15	3.7	300	28.95	-1.7	47.9	74.3	10	
	16	3	301	28.96	-0.7	54.1	73.2	6.7	
	17	1.9	252	28.97	1	121.1	67.4	3.6	
	18	2.9	86	28.98	2.3	175.8	61.4	5.1	
	19	3.6	90	29	2.8	298.1	58.5	5.4	
	20	2.4	82	29.01	2.3	251.1	55.8	4.5	
	21	0.5	106	29.02	2.3	186.9	53.6	3.8	
	22	1.1	248	29.03	1.5	157.2	52.6	6.7	
	23	1.5	272	29.03	0.8	118.4	49.6	5.3	
	0	2	183	29.11	2.7	67.6	41	5.2	

	1	1.4	176	29.11	3.4	62.7	40.9	5.2	
	2	0.3	202	29.11	3.1	58.2	39.6	4	
	3	1	355	29.1	3.8	95.1	38.9	3.4	
	4	0.7	55	29.09	3.7	173.1	37.7	3.1	
	5	1	44	29.08	3	227.5	37.6	2.9	
	6	0.8	302	29.09	2.5	512	37.6	3	
	7	1.2	274	29.1	2.1	688.7	38.7	2.8	
	8	0.4	332	29.11	0.6	637.2	43.9	2.2	
	9	1.5	308	29.12	-2.1	538	53.3	3.2	
1/10/2006	10	2.7	54	29.12	-0.9	162.9	59.1	6.4	**190.5**
	11	5.4	69	29.09	-0.8	89.3	64.3	13.2	
	12	8.2	91	29.05	-1	64.4	67.3	14.6	
	13	5.8	96	29.02	-0.8	29.5	68.7	12.2	
	14	4.1	106	28.99	-0.7	35.9	70.2	10.9	
	15	3	117	28.98	-0.5	35.6	70.8	9.2	
	16	1.9	65	28.97	0	33.5	70.3	5.4	
	17	2.1	216	28.96	0.7	181.4	66.8	5.9	
	18	2.5	227	28.96	1.4	160.9	59.1	5.5	
	19	1	291	28.96	3.2	131.7	54.6	4	
	20	2.2	124	28.97	3.8	188.2	50.8	3.7	
	21	1.5	178	28.98	2.6	138.1	48	4.2	
	22	1.2	267	28.98	2.2	142.4	46.6	7.5	
	23	1.8	211	28.98	1.1	117.8	43.5	5.2	
	0	3.2	124	28.97	2.5	148.5	41.4	6.2	
	1	1.1	245	28.96	1.5	105.6	41	5.8	
	2	2.6	208	28.97	1.4	122.5	39.1	4.4	
	3	2.1	221	28.96	0.9	89.1	38.1	5.2	
	4	1.2	324	28.96	1.6	108.8	37.2	7.9	
	5	0.9	330	28.96	1.9	218.2	36.9	3.9	
	6	1.2	223	28.96	1.2	364	35.4	4.2	
	7	0.8	252	28.97	0.7	366	35.2	3.2	
	8	2.4	294	28.98	-0.7	398.5	39.5	5	
	9	1.1	266	28.99	-1.8	356.5	47.3	4.4	
1/11/2006	10	2.7	84	28.99	-0.9	176.2	55.2	8	**165.7**
	11	1.9	171	28.96	-1.2	156.7	59.4	8.7	
	12	2	145	28.92	-1.1	77	62.4	7.1	
	13	3.8	113	28.88	-0.8	52	66.1	10	
	14	1.8	270	28.86	-1.9	46.2	69.5	8.2	
	15	3.3	284	28.86	-2	51.3	70.1	8.4	
	16	1.2	270	28.85	-0.2	33.7	68.3	4.1	
	17	3.8	280	28.85	0.9	109.1	63.9	6.8	
	18	2.9	284	28.86	1.8	98.6	58.6	5.6	
	19	1.6	163	28.86	3.4	128.1	54	4.3	
	20	2.6	106	28.85	2.7	198.9	50	6.9	
	21	0.4	56	28.85	2.3	170.1	48.1	5.2	
	22	2	13	28.86	2.2	203.1	46.1	4.5	
	23	1.5	83	28.87	2.7	199	44.1	3.9	
	0	2.2	199	28.88	1.4	171.8	41.6	7.2	
	1	1	224	28.87	1.1	140.1	39.3	4.5	
	2	2.9	36	28.89	2.7	160	39.5	5.3	
	3	0.4	80	28.88	1.9	149.7	39	3.5	
	4	1.1	243	28.88	1.2	203.3	36.4	3.5	
	5	3	293	28.89	0	159	36.1	6.9	
	6	2.3	242	28.91	0.1	221.3	35	6.3	

	7	2.2	336	28.93	1.7	215.3	35.5	5.3	
	8	1.4	192	28.96	0.1	363	38.9	3.7	
	9	1.2	253	28.98	-1.5	394.1	45.8	4.2	
1/12/2006	10	1.7	78	28.99	-0.9	221.9	51.5	6.7	**169.8**
	11	2.8	113	28.98	-0.7	171.7	56.7	8.3	
	12	1.8	132	28.95	-1	116.1	61.6	7.5	
	13	1.3	217	28.92	-2	92	65.6	6.7	
	14	2.6	241	28.91	-2.4	90.5	68	7.2	
	15	3.2	252	28.9	-2.2	60.9	69.2	7.6	
	16	3.1	296	28.9	-0.8	75.1	67.9	5.9	
	17	2.7	302	28.91	0.7	111.8	64.1	5.3	
	18	3.4	319	28.93	1.8	158.3	58.5	5.2	
	19	0.2	257	28.94	3	139.4	55.2	3	
	20	2	110	28.95	3.9	201	51.4	5.9	
	21	2.2	112	28.96	2.8	171.7	48.9	4.6	
	22	1.4	258	28.98	2.8	163.4	47.4	4.7	
	23	2.1	132	28.99	2.7	124.3	44.7	6.2	
	0	2.7	90	29.01	1.8	109	45.2	6	
	1	2.2	289	29.01	1.9	123	43.1	4.4	
	2	2	207	29.03	0.6	111.3	39.9	4.4	
	3	0.6	272	29.03	1.3	112.1	39.1	2.9	
	4	1.4	355	29.04	2.5	179.6	39	5.4	
	5	1	195	29.05	1.2	267.1	37.8	4.2	
	6	1.7	255	29.05	0.8	343.9	37.4	6.1	
	7	1.3	196	29.05	1	299.9	37.6	5.5	
	8	0.9	359	29.06	-0.1	249.5	44.5	2.8	
	9	1.1	146	29.06	-0.9	-999	52.1	5.5	
1/13/2006	10	2.6	235	29.06	-2.5	269.6	58.4	6.1	**157.3**
	11	1.3	344	29.04	-2.2	95.4	64	5.5	
	12	4.7	73	29	-1	103.6	66.6	10.9	
	13	6.4	82	28.95	-1	76.6	70.7	13.7	
	14	1.8	65	28.92	-0.8	45.4	72.7	7.3	
	15	0.3	269	28.92	-1	50.3	74.8	6.1	
	16	2	6	28.9	0.1	51.8	73.3	4.9	
	17	0.6	276	28.89	0.9	110.3	69.9	4.2	
	18	2	254	28.9	2.2	196.2	62.2	5.2	
	19	1	161	28.89	3.6	197.8	57.7	4.1	
	20	2.5	182	28.9	2	192.1	55.1	4.9	
	21	1	196	28.89	2.2	148.5	52.3	4.7	
	22	2	71	28.88	2.1	140.7	52.3	4.7	
	23	0.3	15	28.88	2.9	143.2	51.1	4.1	
	0	1.7	100	28.86	0.7	132.8	45.8	4.5	
	1	0.9	347	28.86	1.1	154.4	43.4	3.9	
	2	1.5	208	28.85	0.1	154.9	43.2	5.3	
	3	0.6	238	28.84	0.1	147.9	41.9	4.4	
	4	1.8	166	28.83	0.3	191.7	41.6	5.9	
	5	1.3	154	28.81	0.1	109.6	41.6	6.1	
	6	0.3	232	28.81	0.1	292.7	41.8	4.2	
	7	4.5	285	28.82	0.3	281.6	41.9	7.2	
	8	2.8	200	28.84	-0.3	284	45.3	7.5	
	9	4.7	234	28.85	-2.2	178.8	55.4	11.6	
	10	12.7	265	28.86	-1.8	348.1	58.8	26.6	
1/19/2006	11	16.6	269	28.85	-1.6	808.1	59.9	29.2	**184.00**
	12	15.4	264	28.85	-2.2	349.8	61.6	27.8	

	13	15.5	268	28.85	-2.3	355.9	62.5	27.2	
	14	13.2	278	28.85	-2	129.5	63	24.8	
	15	13.3	299	28.87	-1.5	186.4	61.6	27.1	
	16	13.4	318	28.89	-0.8	77.1	59.2	23.4	
	17	9.1	298	28.9	-0.2	8.7	56.9	16.4	
	18	4.3	268	28.92	-0.2	24.5	52.9	11.6	
	19	4.4	291	28.94	-0.1	24.1	51.9	10.9	
	20	3.4	280	28.96	0.2	28.8	49.5	7	
	21	3.7	264	28.98	0.6	34.3	46.5	6.2	
	22	1.8	196	28.99	2	35.7	43.8	4.4	
	23	1.1	300	29	3.3	76.8	42	5	
	0	1.4	25	28.99	4.4	222	51	5.7	
	1	0.2	166	28.99	6.6	212	48.6	1.9	
	2	0.7	28	28.98	3.9	227.4	47.2	2.6	
	3	0.6	347	28.98	5.3	247	45.2	2.6	
	4	0.7	5	28.97	4.9	223.2	44.6	2.7	
	5	1.7	325	28.97	6.2	188.3	44.4	4.6	
	6	3	33	28.97	4	246.8	46.2	4.7	
	7	0.9	83	28.98	3.3	454.3	46.1	4.3	
	8	0.8	308	28.99	-0.3	686.3	51.6	3.7	
	9	1.4	256	28.99	-2.4	348.4	60.8	4.3	
2/8/2006	10	5	79	28.99	-1.4	154.4	69.8	17.1	**184.0**
	11	11	90	28.97	-1.2	84.6	75.3	19.4	
	12	11.3	85	28.94	-1.3	54.9	78	21.6	
	13	7.4	91	28.9	-1.3	41.2	80	18.7	
	14	6.9	86	28.86	-1.2	28.4	81.3	15	
	15	6	96	28.85	-0.9	27.4	82.1	14	
	16	5.7	74	28.83	-0.5	22.8	82.3	12.3	
	17	2.5	98	28.82	0.9	69.1	79.5	5.6	
	18	0.9	85	28.82	2.9	124.9	72.4	2.4	
	19	2.3	128	28.83	3.6	220.2	66.7	3.4	
	20	0.9	95	28.84	4.4	169.4	61.8	3.5	
	21	0.9	109	28.85	6.8	121.9	59.9	3.7	
	22	0.9	2	28.86	5.6	136.6	58	7.2	
	23	1.5	59	28.86	6	104.4	58	4.4	
	0	2.4	42	28.86	5.6	146.5	55.5	4.9	
	1	1.5	100	28.85	6.2	108.7	53.9	6.2	
	2	0.6	124	28.85	3.3	60.5	54.2	6.6	
	3	1.2	356	28.84	3.1	136.8	52.1	4.5	
	4	2	47	28.83	4.7	158.8	51.4	4.2	
	5	2.2	291	28.83	1.8	280	51.2	5.6	
	6	1.8	324	28.83	2	367.5	51.6	4.3	
	7	1.3	237	28.84	2.5	551	53.5	3.8	
	8	0.1	73	28.85	0.8	473.7	55.2	5.3	
	9	3.1	283	28.87	-0.7	485.1	58.7	7.4	
2/9/2006	10	1	2	28.87	-0.6	507.1	61.6	4.9	**204.6**
	11	1.2	23	28.87	-1	263.1	68.7	5.6	
	12	2.7	275	28.86	-2.4	169.5	72.3	5.8	
	13	1.1	122	28.84	-0.9	125.9	73.3	5	
	14	3.6	116	28.83	-0.8	86.9	75.2	11.1	
	15	7.2	163	28.83	-1	84.4	76.1	17.4	
	16	10.6	121	28.85	-0.6	236.8	72.3	21.4	
	17	4.1	154	28.84	-0.3	47.7	70.8	9.5	
	18	2.3	232	28.85	-0.2	122.6	67.3	7.7	

	19	1.4	260	28.86	0.6	81.7	63.5	7.1	
	20	1.5	223	28.87	1.8	94.9	60.5	6.8	
	21	1	346	28.88	2.6	90.2	58.2	4.7	
	22	1.8	5	28.89	2.1	130.8	56	5	
	23	2.8	141	28.9	3.4	101.1	53.1	4.8	
	0	4	59	28.74	2.3	100.5	51.4	6.2	
	1	3	59	28.75	1.2	86	50.3	6.2	
	2	0.4	165	28.76	1.6	93.1	46.7	5.3	
	3	0.5	163	28.76	1.9	115.8	42.6	5	
	4	1.3	79	28.77	2	132.9	41.8	4.5	
	5	2.2	157	28.78	2.1	159.4	41.6	7.1	
	6	1.8	135	28.77	1.5	230.6	41.2	7.1	
	7	0.6	184	28.77	0.7	314	44.1	4.6	
	8	3.2	287	28.78	-2	440.6	50.9	8.7	
	9	4.6	276	28.79	-2.8	299.3	58.1	9.7	
2/15/2006	10	5.2	286	28.81	-3.3	133.5	64.2	9.9	**202.2**
	11	3.2	293	28.8	-3.9	51.5	68.4	9.5	
	12	2	287	28.77	-3.1	46.6	69.6	8.7	
	13	3.5	302	28.73	-3.6	66.5	72.5	12	
	14	9.6	243	28.69	-3.6	225.8	75.9	20.7	
	15	15.5	239	28.66	-2.1	829.4	76.5	30.9	
	16	14.6	246	28.64	-1.8	591	75.6	28.8	
	17	15.1	255	28.64	-0.6	274.3	72.2	28	
	18	14.4	257	28.66	-0.4	346.2	67.1	27.6	
	19	12.7	277	28.69	-999	97.5	63.2	25.1	
	20	5.7	275	28.71	-999	48	60.8	16.2	
	21	3.1	242	28.73	-0.4	57	58.6	10.1	
	22	8.8	226	28.74	-0.4	57.8	58.5	16.6	
	23	8.3	224	28.77	-0.4	56	57.8	15.7	
	0	8.3	235	28.55	-0.2	28.7	55.4	15.7	
	1	5.9	233	28.54	-0.1	30.6	54.4	13.4	
	2	10.9	238	28.55	-0.1	61.7	53.8	21.3	
	3	11.2	252	28.54	-0.2	57.4	52.7	22.4	
	4	6.2	260	28.54	-0.4	36.8	51.9	13.9	
	5	5.8	278	28.55	-0.8	45.5	51.8	16.1	
	6	6.5	248	28.57	-0.1	90.4	51.8	16	
	7	8.9	257	28.59	-0.3	89.3	53	18.8	
	8	13.8	254	28.62	-1.4	257.5	55.5	25.7	
	9	16.9	254	28.65	-2.2	654.7	56.8	27.6	
3/10/2006	10	15.3	255	28.66	-2.9	426.2	59.6	28.5	**260.8**
	11	16.3	245	28.65	-3.2	602.9	62.4	31.5	
	12	18.7	254	28.64	-3.3	814.5	64.1	34.6	
	13	20.2	250	28.63	-999	815.1	64.2	37.8	
	14	21	251	28.62	-999	952.7	63.7	37.1	
	15	20.7	256	28.63	-999	729.5	62.6	39.6	
	16	17.9	274	28.62	-2	157.9	60.8	30.9	
	17	12.9	286	28.62	-1.2	38.7	58.4	22.4	
	18	6.7	283	28.61	-0.7	28.2	55	16.9	
	19	4.8	292	28.62	-1	45.9	53.1	8.6	
	20	4.1	265	28.63	-0.8	50	52.1	8.8	
	21	2.7	277	28.65	-0.7	56	50.7	7.5	
	22	4.8	278	28.66	-0.9	46	50.1	7.5	
	23	12.8	241	28.67	-0.7	144.1	50	29.6	

Table BI2. Continuous PM-10 Monitoring Data for All Exceedance Days at the Durango Complex Site

Date	Hour	WSPD mph	WDIR	PRESS	DELT °F	PM-10 ug/m3	TEMP °F	WSMAX mph	24-Hour PM10 Avg (ug/m3)
	0	0.5	158	28.75	-0.3	170.5	66.4	3.8	
	1	1.1	189	28.74	0.1	104.9	64.3	3.8	
	2	0.8	57	28.73	1.2	87.5	64.9	3.8	
	3	2	56	28.72	0.3	81.1	66.2	6.5	
	4	2.2	67	28.72	-0.5	55.7	66.1	6.3	
	5	1.1	276	28.73	-1	111.8	65.2	7.1	
	6	1.9	231	28.75	-0.7	183.7	62.2	7.6	
	7	0.7	127	28.76	-0.2	222.7	62.6	2.3	
	8	0.4	226	28.77	-1	356	65.8	3.4	
	9	2.2	302	28.78	-1.5	310.9	69.5	5.9	
11/3/2005	10	2.3	304	28.8	-1.5	171.6	71.8	9.7	**163.8**
	11	2.1	146	28.79	-1	251.7	74	6.5	
	12	0.6	114	28.77	-1.1	209.8	78.4	4.4	
	13	3.4	102	28.73	-1.2	127.8	80.8	8.4	
	14	1.7	14	28.72	-1.5	102.3	81.3	7.7	
	15	1.4	25	28.71	-1.1	79.6	84.5	5.6	
	16	2.5	39	28.69	-0.5	54.9	83.9	6.4	
	17	0.7	57	28.69	0.4	71.4	76.9	3.9	
	18	1.7	277	28.7	1.8	170.6	72.1	4	
	19	1	207	28.71	1.3	210.3	68.8	4.4	
	20	1.4	108	28.7	1.9	126.2	66.9	4.3	
	21	1.2	60	28.71	2	297.2	65.8	3.4	
	22	0.9	349	28.71	1.2	178.4	64.1	3.8	
	23	0.9	212	28.71	2	194.3	61.5	5.9	
	0	0.6	213	28.85	1.3	133.8	55.4	6	
	1	0.9	253	28.85	1.1	155.9	53.5	3.6	
	2	0.6	173	28.85	2.3	129.1	51.3	2.5	
	3	0.1	273	28.84	2.7	108.8	50.8	2.9	
	4	0.7	286	28.83	1.4	133.4	50.3	2.9	
	5	0.8	218	28.84	1.4	196.9	49.6	3.3	
	6	1	311	28.85	1	303.9	48.8	3.2	
	7	0.7	264	28.87	0.2	442.2	54	2.5	
	8	0.4	250	28.89	-1.3	370.7	64.7	2.6	
	9	0.2	220	28.89	-1.2	238.5	73.5	3.4	
11/17/2005	10	0.9	46	28.89	-1.3	134.7	76.6	6.1	**156.2**
	11	2.1	78	28.88	-1.1	67.9	77.4	7.9	
	12	0.5	74	28.84	-1.6	38.1	81.4	5.1	
	13	1.4	260	28.81	-1.9	41.9	81.7	6.4	
	14	1.4	273	28.79	-2	37	82.1	6	
	15	2.9	290	28.77	-1.7	33.2	82.1	7.5	

	16	3.2	268	28.77	-0.9	48.2	80.9	6.7	
	17	3	223	28.77	0.3	123.8	73.4	6.2	
	18	0.9	238	28.78	1.3	108.3	67.4	4.6	
	19	2.1	280	28.8	2	171.8	64.8	4.3	
	20	1.4	83	28.81	3	164.1	62.3	3.3	
	21	1.6	93	28.83	2.9	187.6	60	4.3	
	22	1.2	100	28.85	2.5	190.5	59.1	5.4	
	23	0.1	282	28.87	1.8	188.8	56.7	4.8	
	0	0.5	354	28.84	3.1	185.3	53.3	3.3	
	1	0.6	2	28.84	1.8	158	51.5	3	
	2	0.7	195	28.85	1.2	148	50.1	3.1	
	3	0.4	263	28.85	1.4	90.7	49.2	2.3	
	4	1.9	335	28.84	1	127.1	49.5	4.8	
	5	0.7	299	28.85	1.9	148.1	47.9	2.8	
	6	1.1	312	28.86	1.4	257.1	47.1	3	
	7	0.3	220	28.87	0	334.7	52	3.5	
	8	-999	-999	28.89	-2	358.1	59.8	-999	
	9	-999	-999	28.89	-2.6	316.9	70	-999	
11/22/2005	10	-999	-999	28.89	-2.6	238.9	74.1	-999	**189.6**
	11	-999	-999	28.86	-1.2	163	77.4	-999	
	12	-999	-999	28.83	-0.9	112	80	-999	
	13	-999	-999	28.8	-1.3	117.9	81.5	-999	
	14	-999	-999	28.79	-1.9	39.5	82.2	-999	
	15	-999	-999	28.78	-1.1	65.5	80.5	-999	
	16	-999	-999	28.78	-0.2	120.2	76	-999	
	17	-999	-999	28.78	0.8	132.1	70.3	-999	
	18	-999	-999	28.78	2	153.3	67	-999	
	19	-999	-999	28.79	2.4	247	63.7	-999	
	20	-999	-999	28.79	3.9	242.4	62	-999	
	21	-999	-999	28.8	2.5	268.3	61.4	-999	
	22	-999	-999	28.8	1.3	257	59.4	-999	
	23	-999	-999	28.8	1.6	269.8	57.9	-999	
	0	-999	-999	28.8	2.2	223.9	55.9	-999	
	1	-999	-999	28.79	2.1	203.4	54.5	-999	
	2	-999	-999	28.79	1.3	113	53.2	-999	
	3	-999	-999	28.79	2.8	91.7	53.5	-999	
	4	-999	-999	28.78	1.6	52.8	55	-999	
	5	-999	-999	28.79	0.3	104	55.7	-999	
	6	-999	-999	28.8	-0.5	190.1	55.6	-999	
	7	-999	-999	28.81	0.1	284.2	56.2	-999	
	8	1.6	339	28.82	-0.7	265.8	58.8	5.2	
	9	0.2	123	28.82	-0.9	197.6	63.6	5.1	
11/23/2005	10	2.6	93	28.81	-0.4	221.7	67.8	6.4	**165.1**
	11	1	247	28.79	-1.5	103.1	70.7	5	
	12	3.8	262	28.77	-1.9	186.6	70.7	7.8	
	13	1.6	258	28.74	-1.3	129.9	71.1	4.7	
	14	0.9	280	28.71	-1.1	126.4	74.3	4.2	
	15	2.2	19	28.69	-0.3	162.8	74.3	6.4	

	16	1.4	28	28.69	0	134.6	72.9	6.8	
	17	1.8	245	28.7	0.5	186.4	69.7	4.6	
	18	2.4	304	28.71	0.6	252.3	68.5	6.5	
	19	0.7	209	28.71	0.1	221.8	66.7	8.6	
	20	3	257	28.73	0.2	189.4	65.8	7.5	
	21	0.7	3	28.73	0.6	129.1	65	6.7	
	22	2	158	28.73	0.5	102.2	63.8	8.3	
	23	1.2	7	28.72	1.5	88.9	63.4	3.7	
	0	1.8	97	28.82	0.4	85.1	50.9	6.2	
	1	1	263	28.83	0.5	126.7	47.6	4.2	
	2	0.3	20	28.84	1.2	162.9	47	2.3	
	3	1.6	25	28.83	1.9	85.2	46.8	4.7	
	4	2.2	30	28.83	1.4	77.2	47.5	5.9	
	5	0.8	15	28.84	-0.4	113.1	46.1	3.9	
	6	1.1	147	28.84	0.2	232.2	42.7	6.1	
	7	2.1	277	28.86	-0.5	382.4	45.1	4.9	
	8	1.5	165	28.87	-1.1	323.2	53	4.1	
	9	2.2	95	28.88	-1	263.9	58.6	7.4	
12/1/2005	10	1.2	62	28.89	-1.2	136.2	67.6	4.6	**158.9**
	11	3.8	95	28.86	-0.9	85.8	70.1	8.3	
	12	2.2	74	28.81	-1	58.7	72.6	8	
	13	1.9	88	28.78	-1.2	51.4	75.1	7.5	
	14	1.2	302	28.76	-1.5	46.6	76.2	4.8	
	15	1	238	28.75	-0.6	51	75.3	3.9	
	16	1.6	250	28.74	-0.4	83.1	71.8	4.7	
	17	1.9	271	28.74	0.5	111.3	67.4	4.9	
	18	1.6	145	28.74	1.1	249.7	62.4	3.6	
	19	0.4	284	28.75	1.2	172.7	60	3.1	
	20	0.1	166	28.76	2	230.9	58.4	2.3	
	21	0.6	102	28.77	2.5	267.1	56.1	4.8	
	22	0.4	46	28.77	2.5	237.1	55.4	3.6	
	23	2.5	106	28.78	1.2	179.7	55.2	5.7	
	0	1.9	79	28.77	0.7	65.7	55.3	6.8	
	1	0.3	328	28.77	1.3	74.6	53.5	3.9	
	2	1.7	341	28.77	0.4	81.3	52.4	4.6	
	3	0.9	51	28.77	0.3	107.3	51.5	4.8	
	4	2.4	114	28.76	0	143.2	49.6	6.7	
	5	0.2	197	28.76	0.5	201.2	47.6	2	
	6	0.7	31	28.76	0.4	207.4	48.9	5.6	
	7	1.3	232	28.77	-0.2	286.6	48.4	5	
	8	1.6	260	28.78	-1.5	251	55.1	5.2	
	9	1.6	89	28.79	-1.2	246.4	61.4	7.5	
12/2/2005	10	2.2	147	28.79	-0.8	182.4	65.2	7.4	**165.1**
	11	1.4	192	28.77	-2.1	137.9	68.7	6.7	
	12	0.9	94	28.75	-0.9	106.5	70.6	4.4	
	13	0.8	52	28.71	-0.7	102.4	72.3	5.8	
	14	0.8	336	28.7	-0.9	90.2	72	4.3	
	15	1.8	325	28.69	-0.8	86.6	71.3	4.5	

	16	1.2	341	28.68	0	76.5	69.4	4.5	
	17	0.6	333	28.68	0.8	146	66.7	2.2	
	18	0.8	219	28.67	0.4	179.5	63.6	2.5	
	19	0.8	126	28.67	0.8	265.9	61.9	4.3	
	20	0.5	255	28.67	0.2	267.4	60.7	3.1	
	21	0.5	259	28.67	0.6	265.6	59.4	5.7	
	22	2.5	147	28.66	0.8	226.7	57.6	5.1	
	23	0.7	341	28.66	0	162.9	58.4	3.5	
	0	1.1	100	28.8	2.2	115.3	50.1	3.3	
	1	1.8	327	28.79	0.3	133.9	50.2	4	
	2	0.8	313	28.78	-0.4	127.3	49.2	4.2	
	3	1	136	28.78	-1.2	128.1	49.5	4.8	
	4	0.5	244	28.78	-0.7	148.8	48.1	3.7	
	5	0.4	210	28.79	-0.8	275.9	48.3	3.4	
	6	0.6	171	28.81	-0.6	214.9	48.1	3.1	
	7	0.8	103	28.82	-0.3	292.5	48.7	3.2	
	8	0.9	151	28.83	-1	427.2	50.9	2.6	
	9	0.1	252	28.84	-1.1	321.4	55.7	2.1	
12/12/2005	10	1.4	29	28.85	-2.6	195.9	58.7	4.5	**206.9**
	11	3.7	60	28.82	-3	120.9	62.4	8.6	
	12	2.8	103	28.79	-3.6	117.9	63.7	7.9	
	13	2.4	239	28.79	-3	252.4	63	6.6	
	14	1.9	236	28.77	-3	247.8	64.5	6.4	
	15	1.6	219	28.77	-1.8	218.8	63.6	3.7	
	16	1.5	231	28.77	-0.9	207.5	62.4	5.1	
	17	1.3	244	28.77	-0.1	243.1	60.7	4.4	
	18	0.9	151	28.77	-0.3	223.6	59.4	7.2	
	19	1	315	28.79	0.1	147	58.5	3.8	
	20	1.1	84	28.79	0.3	170.3	57	5.7	
	21	0.8	110	28.8	0	181.1	56.8	3.3	
	22	1.8	291	28.79	0.5	217.9	53.8	4.7	
	23	0.9	161	28.79	0.4	235.1	50.5	4.4	
	0	2.1	122	28.78	1.8	142	48.1	5.1	
	1	0.6	309	28.78	0.8	144.4	46.1	3.3	
	2	0.4	206	28.79	0.7	199.2	44	2.1	
	3	0.4	175	28.79	0.6	185.1	42.5	2.3	
	4	0.4	172	28.79	0.9	196	41.6	2.3	
	5	1.2	161	28.79	0.6	253.7	40.9	3.4	
	6	0.9	181	28.79	0.2	204.7	40	2.8	
	7	1	187	28.81	0.2	267.8	39.5	3.1	
	8	1.1	143	28.83	-1.7	320.1	48.1	3.8	
	9	1.9	149	28.84	-3.1	231	53.3	6.5	
12/13/2005	10	2	162	28.85	-4.9	97.4	59.3	6.7	**166.1**
	11	1.7	250	28.83	-7.1	92	65.2	6	
	12	2.4	232	28.8	-5.8	103.8	65.4	6.4	
	13	2.3	271	28.77	-999	70	66	6.9	
	14	2.8	235	28.75	-999	71.3	67.4	8.1	
	15	2.6	238	28.75	-1.9	82.7	64.9	5.8	

	16	2.4	223	28.75	-0.5	148.2	63.6	5.6	
	17	1	166	28.75	0.9	123.9	58	2.6	
	18	0.7	216	28.76	2.1	196.8	55.6	3.1	
	19	1.4	94	28.77	1.4	186.4	53	4.4	
	20	2.1	71	28.78	1.7	189.4	51.9	4.9	
	21	1.3	16	28.78	2.3	143.9	50.6	3.1	
	22	1.2	324	28.79	1.1	169.3	48.1	3.2	
	23	0.9	122	28.8	2.8	166.7	46.4	3.6	
	0	1.5	157	28.8	0.5	156.4	44.4	3.6	
	1	1.5	275	28.8	0.7	135.9	42.3	3.2	
	2	0.5	355	28.81	1.6	127.6	41.8	3.1	
	3	0.1	103	28.82	1.3	151.6	40.4	2.8	
	4	0.8	77	28.81	1.6	191.7	39.4	3.7	
	5	0.2	335	28.81	1.4	264.7	39.2	3.2	
	6	0.2	90	28.83	0.6	226.7	39.1	4.6	
	7	0.6	268	28.86	0.3	393.6	39.4	4.4	
	8	0.7	217	28.88	-2.3	385.5	48.5	3.4	
	9	1.7	180	28.91	-4.9	344.5	54.1	5.1	
12/14/2005	10	1.8	104	28.92	-3.9	242.1	59.2	5.9	**181.3**
	11	1.8	143	28.88	-4.6	95.4	63.3	6.6	
	12	1.7	160	28.85	-5.5	63.6	65.4	6.4	
	13	1.7	206	28.81	-5.7	60.3	67.1	6.6	
	14	2.3	255	28.79	-4.6	76.9	69	7.3	
	15	3.9	252	28.79	-2.5	76.8	68.3	9	
	16	3	239	28.78	-0.5	104.6	65.1	8.3	
	17	0.8	201	28.78	1.2	135.8	59	2.9	
	18	0.3	269	28.78	2.2	177.4	56.3	4.9	
	19	1.9	86	28.8	1.6	323.8	54.8	4.7	
	20	0.7	61	28.8	1.5	205.3	52.8	4	
	21	1.5	107	28.81	1.7	193.6	51.4	7.8	
	22	1.1	127	28.82	1	95.7	49.6	5.2	
	23	0.4	206	28.82	1.6	120.6	46.6	5	
	0	1.7	336	28.81	2.1	122.4	45.6	6.4	
	1	0.5	141	28.79	1.3	102.8	44.1	3.3	
	2	0.2	345	28.78	1.8	106.5	43	3.5	
	3	0.8	205	28.78	1.1	120.7	42.1	3.8	
	4	0.5	344	28.76	1.2	172.9	43	2.6	
	5	1	226	28.76	0.3	224.3	44.1	5.9	
	6	0.9	8	28.76	0.8	258.2	44.1	3.6	
	7	0.8	17	28.75	0.8	375.7	43.2	2.8	
	8	0.8	156	28.75	-0.3	402	51.3	3.3	
	9	1	272	28.74	-1.8	329.5	54.8	6.2	
12/15/2005	10	5.1	275	28.75	-4.4	-999	58.3	9.6	**156.4**
	11	3	289	28.71	-5.6	-999	61.3	8.2	
	12	1.3	268	28.68	-4.5	70.5	63.9	5.4	
	13	2.4	237	28.64	-2.8	96.1	62.9	7.9	
	14	6.3	235	28.62	-2.2	164.9	60.9	11.6	
	15	6.6	247	28.61	-1.6	162.7	59	12.8	

	16	4.7	245	28.6	-0.8	138.5	57.6	9.9	
	17	4.5	262	28.6	-0.2	112.4	55.8	8.6	
	18	3.1	253	28.59	0.2	148.2	53.9	6.7	
	19	6.4	253	28.6	0.3	71.9	53.8	11.8	
	20	6	258	28.59	0.5	55.6	53.2	10	
	21	1.4	250	28.6	1.6	58	48.9	7.6	
	22	0.2	187	28.61	3.2	95.6	45.4	4.3	
	23	1.9	290	28.61	1.7	51.5	46.3	7.4	
	0	0.9	259	28.93	1.8	130.3	50.3	4.5	
	1	0.7	224	28.93	0.5	145.2	48.3	5.4	
	2	1.3	149	28.94	1.7	138	46.4	5.5	
	3	0.5	16	28.93	1.3	112.1	46.3	3.6	
	4	0.4	227	28.92	1.5	164.7	45.8	3.7	
	5	1	43	28.92	1.7	157.1	46.7	4.4	
	6	1.4	328	28.93	0.6	259	46.7	5.6	
	7	1.6	219	28.95	0	264.7	44.9	5.9	
	8	0.3	182	28.97	-0.8	303	53.3	3	
	9	1	120	28.98	-0.8	331.6	61.3	4	
12/21/2005	10	0.7	271	28.98	-1.8	315.6	68.2	2.6	**200.4**
	11	0.9	198	28.96	-2.5	202.7	73	3.4	
	12	0.4	151	28.91	-1.2	143.8	76.3	4.2	
	13	1	84	28.88	-0.9	146.3	78.4	5.5	
	14	1.5	67	28.86	-0.4	74.6	77.2	6.1	
	15	3.2	327	28.86	-0.6	114.7	75.8	6.2	
	16	2.2	320	28.85	0.1	144.4	75.3	4.6	
	17	0.2	331	28.85	2	147.6	68.7	2.6	
	18	0.3	206	28.85	3.5	192.9	62.8	2.4	
	19	1	359	28.86	2.6	253.3	60.5	5.2	
	20	0.7	37	28.87	2.8	306	58	4.2	
	21	2	116	28.87	3.2	259	57	3.9	
	22	0.8	40	28.87	2.9	295.2	54.8	2.6	
	23	1.4	330	28.87	2.1	207.7	52.9	4.7	
	0	0.7	208	28.86	1.2	176.6	51.6	8.1	
	1	0.4	271	28.85	1.9	171.4	49.8	3.9	
	2	2.7	101	28.85	2.1	159.8	48.7	5.5	
	3	1.5	342	28.84	1.8	151.2	48.8	5.1	
	4	0.9	318	28.84	1.8	119.8	47.4	4.6	
	5	0.3	60	28.83	1.1	173.3	46.6	4.3	
	6	0.9	196	28.84	0.2	277.3	45.9	3.9	
	7	1.5	289	28.85	0	369	48	5.4	
	8	1.2	230	28.88	-0.8	335.3	51.3	5.4	
	9	1.1	164	28.89	-1.3	357.7	58.7	7.4	**179.1**
12/22/2005	10	0.2	177	28.9	-1.1	298.9	66.3	4.7	
	11	2.6	95	28.87	-0.7	200.6	73.1	9.2	
	12	2.6	89	28.84	-1.4	27.2	76.2	6.9	
	13	2.8	76	28.8	-0.7	29.9	78.2	8.6	
	14	0.3	52	28.78	-1.7	46.2	79.9	5.3	
	15	1.1	238	28.77	-0.8	53.4	78.7	3.9	

	16	2.3	271	28.77	0.2	113.4	76.9	5.1	
	17	1.6	276	28.78	1.4	105.6	69.3	3	
	18	0.9	240	28.79	2.2	168.3	64.3	2.7	
	19	1.2	151	28.8	2	184.7	61.5	3	
	20	1.8	121	28.8	2.2	137.7	59.9	3	
	21	0.7	121	28.81	2.5	215.2	58.5	3.4	
	22	0.4	87	28.81	2	216.1	56.3	3.3	
	23	1.6	254	28.83	1.1	209.8	55.5	3.8	
	0	1.6	128	28.83	1.7	164.2	52.7	5.3	
	1	3.1	59	28.8	0.7	97.2	55.5	9.1	
	2	2.7	295	28.84	0	161.3	55.1	12.3	
	3	3.4	103	28.83	0.7	128.1	52.8	6.4	
	4	1.2	310	28.83	0.1	126.9	51.1	3.9	
	5	0.6	194	28.85	0.6	181.8	49.5	5.5	
	6	0.5	337	28.83	0.5	210.4	48.6	4.5	
	7	1.2	289	28.86	0.8	263.4	48.9	4	
	8	0.9	128	28.87	0	404.8	52.5	3.4	
	9	1.6	250	28.9	-1.9	306	60.6	4.5	
12/23/2005	10	2.2	100	28.9	-2.1	172	67.4	5.8	**157.6**
	11	2.1	134	28.86	-2.5	134.5	71.9	6	
	12	1.1	144	28.83	-1.7	56.4	75.1	7	
	13	3.3	240	28.8	-2.8	67	75.6	8.5	
	14	4.4	271	28.8	-2.6	58.1	76.3	10	
	15	3.2	257	28.8	-1.7	56.1	77.5	9.8	
	16	2.1	270	28.81	-0.7	54.4	76.1	4.8	
	17	2.3	240	28.81	1	86.3	68.8	4.5	
	18	1.3	55	28.83	2.3	196.9	65.1	4.2	
	19	1.5	50	28.85	2.8	215.6	63.2	3.8	
	20	1.9	84	28.85	2.3	167	60.2	4.3	
	21	1.7	16	28.86	2.3	183.5	58.8	4.9	
	22	0.8	204	28.87	1.5	126.3	56	5.2	
	23	0.9	276	28.88	0.8	163.6	53.5	3.4	
	0	0.9	197	28.95	2.7	94.7	44.6	3.9	
	1	1	172	28.95	3.4	80	44.3	4	
	2	0.4	208	28.95	3.1	71.1	43.4	2.9	
	3	1	311	28.94	3.8	89.1	41.6	3.1	
	4	0.6	340	28.93	3.7	298.2	40.9	2.8	
	5	1.1	331	28.92	3	287.9	40.3	3.1	
	6	1	296	28.93	2.5	334	40.3	2.7	
	7	0.8	271	28.94	2.1	370.9	40.9	2.5	
	8	0.3	325	28.96	0.6	403.6	52.3	2.4	
	9	0.2	319	28.97	-2.1	220.3	64.7	3.9	
1/10/2006	10	0.8	63	28.97	-0.9	132	69.9	5.8	**155.6**
	11	4.7	66	28.93	-0.8	71	71.8	14.6	
	12	6.8	79	28.89	-1	49.4	72.6	14.5	
	13	4.8	71	28.86	-0.8	26.1	74.3	10.7	
	14	4.5	93	28.83	-0.7	24.6	75.4	13.5	
	15	1.8	72	28.82	-0.5	30.4	76.5	10.7	

	16	1.2	44	28.81	0	29.3	75.2	5.5	
	17	1	215	28.8	0.7	48.8	67.2	4	
	18	2.4	229	28.8	1.4	110.5	61.5	5.3	
	19	0.9	327	28.8	3.2	153.5	56.2	2.1	
	20	0.6	67	28.81	3.8	189.9	53.6	2.3	
	21	1.7	137	28.81	2.6	211.7	52.3	2.7	
	22	0.9	253	28.82	2.2	186.6	49.1	5.2	
	23	0.9	178	28.82	1.1	220	47.7	6.3	
	0	2.4	115	28.81	2.5	122.7	46.7	5	
	1	0.5	107	28.8	1.5	90.4	46.1	5.3	
	2	0.8	200	28.81	1.4	157.9	43.3	3.7	
	3	1.7	232	28.8	0.9	132.1	41.6	4.2	
	4	1.2	318	28.8	1.6	141.2	40.7	3.8	
	5	1.7	314	28.8	1.9	212.9	40.7	4.7	
	6	0.7	289	28.8	1.2	264.5	39.6	2.9	
	7	0.7	221	28.81	0.7	418.2	38.6	2.6	
	8	1.5	294	28.82	-0.7	421.5	45	4	
	9	1.3	143	28.83	-1.8	431.8	56.6	4.8	
1/11/2006	10	3.2	61	28.83	-0.9	188	64.3	9.4	**169.3**
	11	1.3	124	28.81	-1.2	84.2	69.2	5.7	
	12	1.3	148	28.77	-1.1	71.4	70.3	6.7	
	13	3.6	96	28.72	-0.8	50.8	71.9	8.7	
	14	0.3	177	28.7	-1.9	44.2	74	7.2	
	15	2.9	252	28.7	-2	65.9	73.6	7.6	
	16	1.9	248	28.69	-0.2	66.4	72.5	5.2	
	17	3.9	260	28.69	0.9	106.8	66.8	6.7	
	18	3.4	263	28.7	1.8	155	61.3	6.1	
	19	1.9	153	28.7	3.4	153.3	56.1	4	
	20	1.8	84	28.69	2.7	136.2	54.8	5.2	
	21	0.8	351	28.69	2.3	180.6	51.3	3.2	
	22	1.5	357	28.69	2.2	165.1	50.7	4.5	
	23	1	9	28.71	2.7	201.4	48.4	3.9	
	0	1.4	130	28.71	1.4	146.2	46.2	4.5	
	1	1.1	158	28.71	1.1	140.4	43.9	4.6	
	2	1.6	1	28.73	2.7	142.5	44	4.7	
	3	0.4	93	28.72	1.9	152.2	41.9	1.8	
	4	1.1	53	28.71	1.2	145	41.9	4.2	
	5	1.4	355	28.73	0	155.3	42.5	5.3	
	6	1.4	145	28.75	0.1	275.3	40.8	3.4	
	7	2	289	28.77	1.7	264.1	39.2	4.8	
	8	1.7	335	28.8	0.1	272.8	45	5.5	
	9	1.2	193	28.82	-1.5	293.4	55	3.9	
1/12/2006	10	0.9	117	28.83	-0.9	190.7	63	3.6	**170.1**
	11	2.1	108	28.82	-0.7	-999	66.1	5.8	
	12	2.6	95	28.79	-1	-999	69	8.6	
	13	1.6	143	28.76	-2	90.4	71.4	6.1	
	14	2.7	227	28.75	-2.4	73.2	72.6	7.1	
	15	3.5	235	28.74	-2.2	63.1	72.1	7.4	

	16	2.5	269	28.74	-0.8	59.4	71.7	5.8	
	17	2.5	284	28.75	0.7	90.2	67	5.2	
	18	1.9	294	28.77	1.8	141.5	61.1	5.6	
	19	0.5	312	28.78	3	189.1	57.2	3.1	
	20	1.3	108	28.79	3.9	162	55.3	3.8	
	21	1.7	85	28.8	2.8	210.3	53.2	3.8	
	22	1	243	28.82	2.8	202.7	51.4	3.8	
	23	1.4	83	28.83	2.7	282.5	49.7	7.1	
	0	2.8	84	28.7	0.7	90.9	51.8	5.4	
	1	2.2	82	28.69	1.1	84.9	50.3	6.6	
	2	1.3	97	28.68	0.1	89	49.7	4.9	
	3	0.7	155	28.67	0.1	136.4	47.2	3.5	
	4	2.6	121	28.66	0.3	129.5	47.5	5.9	
	5	2.6	103	28.65	0.1	115.7	47.7	6	
	6	1.1	78	28.65	0.1	109.7	47.8	3.2	
	7	2.6	269	28.66	0.3	342.4	45.8	6.7	
	8	1.8	204	28.67	-0.3	330.9	51.4	6.3	
	9	3.5	237	28.69	-2.2	160.8	60.7	10	
1/19/2006	10	10.1	240	28.7	-1.8	332.5	61.9	23.3	**183.9**
	11	16.1	246	28.69	-1.6	832.9	62.1	34	
	12	16.2	245	28.68	-2.2	605.2	63.3	32.2	
	13	15.9	245	28.68	-2.3	459.2	63.9	30.9	
	14	12.9	265	28.68	-2	87.4	64.6	27.2	
	15	11.4	285	28.7	-1.5	156.2	63.3	26.4	
	16	10.6	296	28.72	-0.8	71.8	60.9	23.1	
	17	8.5	283	28.74	-0.2	14.2	59.2	19.3	
	18	5.4	267	28.76	-0.2	28.9	57.2	13.1	
	19	3.6	265	28.78	-0.1	33.2	55.3	11.4	
	20	1.9	257	28.8	0.2	32.5	53.4	8.6	
	21	3.8	244	28.82	0.6	46.7	50.6	8.3	
	22	1.1	186	28.83	2	56.2	46.8	4.2	
	23	1.3	264	28.84	3.3	65.7	44.7	3.3	
	0	3.4	43	28.57	2.3	94.7	55.8	8.1	
	1	3.6	52	28.58	1.2	71.3	54.3	8.4	
	2	0.9	65	28.59	1.6	68	51.8	4.9	
	3	1.3	117	28.58	1.9	104	48.5	4.4	
	4	1.3	31	28.59	2	97.2	47.8	5.8	
	5	1.3	101	28.6	2.1	182.1	46.7	8.4	
	6	2.3	86	28.6	1.5	164.3	47.2	7.4	
	7	3	67	28.6	0.7	130.8	53.3	7.9	
	8	3.2	74	28.61	-2	125.4	64	7.8	
	9	1.5	226	28.62	-2.8	243	70.4	6.5	
2/15/2006	10	4	259	28.64	-3.3	147	71.3	9.9	**157.5**
	11	3.4	270	28.63	-3.9	44.1	72.9	9.7	
	12	-999	-999	28.6	-3.1	46.3	74.1	-999	
	13	-999	-999	28.57	-3.6	56.2	75.9	-999	
	14	-999	-999	28.52	-3.6	169.4	77.4	-999	
	15	14.1	239	28.49	-2.1	630.4	78.7	27.9	

	16	15.5	247	28.47	-1.8	490.2	78.4	27.4	
	17	15.1	260	28.47	-0.6	323.3	75.2	28.8	
	18	13.3	263	28.48	-0.4	221.8	70.8	25.6	
	19	14	272	28.51	-999	161.2	67.4	26.8	
	20	7.3	271	28.54	-999	64.9	64.8	16.3	
	21	5	254	28.56	-0.4	57.3	62.3	10.5	
	22	6.4	230	28.57	-0.4	47.5	61.2	12.9	
	23	6.6	230	28.6	-0.4	41.5	60.9	14.2	
	0	6.2	233	28.37	-0.2	27.2	58.8	13.1	
	1	4.5	221	28.37	-0.1	25.9	57.5	10	
	2	6.4	227	28.37	-0.1	29.9	56.8	14.9	
	3	9.4	260	28.36	-0.2	40.8	56.1	17.4	
	4	5.8	266	28.36	-0.4	41.9	55.1	14.1	
	5	7	278	28.37	-0.8	50.9	55.4	16.9	
	6	5.8	240	28.4	-0.1	60.7	53.9	14.6	
	7	7.1	257	28.42	-0.3	70.9	55.3	20.1	
	8	13.3	258	28.45	-1.4	214.2	58.6	23.5	
	9	15.1	259	28.47	-2.2	466.6	59.9	27.6	
3/10/2006	10	15.2	270	28.48	-2.9	522.7	61.6	32.1	**240.7**
	11	15.5	251	28.48	-3.2	396.1	64.1	28.1	
	12	17	258	28.47	-3.3	651.6	65.4	36	
	13	18.8	254	28.46	-999	906.1	65.4	34.5	
	14	20.2	260	28.45	-999	948.8	65	36.1	
	15	19.4	267	28.45	-999	739.3	64.9	40.7	
	16	17.1	279	28.45	-2	203.5	62.6	31.2	
	17	11.8	291	28.44	-1.2	42.2	60.2	22.6	
	18	7.4	291	28.44	-0.7	36.6	57.4	15.7	
	19	5.4	293	28.44	-1	41.3	56.8	9.4	
	20	5.2	272	28.45	-0.8	46.9	56	10.7	
	21	4.3	267	28.47	-0.7	56	54.1	11.3	
	22	5.3	280	28.48	-0.9	49.3	53.8	9.3	
	23	11.4	247	28.5	-0.7	108.7	53.6	25.6	

Table BI3. Continuous PM-10 Monitoring Data for All Exceedance Days at Buckeye Site

Date	Hour	WSPD mph	WDIR	PRESS	PM-10 $\mu g/m^3$	TEMP °F	Relative Humidity	WSMAX mph	24-Hour PM-10 Avg ($\mu g/m^3$)
	0	2.1	296	28.84	41.4	92.1	22.5	16.4	
	1	3.5	186	28.85	36.4	89.2	25.6	10	
	2	2.3	280	28.84	54.2	87.2	28.5	5.5	
	3	2.6	276	28.86	54.2	85.1	31.8	6.3	
	4	3.4	335	28.87	61.5	81.6	35.7	6.2	
	5	3.7	12	28.89	88.8	81.3	37.2	6.6	
	6	3	32	28.9	186.4	82.9	38.3	8.3	

	7	0.7	182	28.92	195.8	86.7	37.8	3.5	
	8	1	118	28.93	256.3	86.9	44.1	6.1	
	9	3.2	86	28.93	153.5	93.7	28.3	8.9	
6/21/2005	10	4.2	78	28.94	127.6	99.6	20.3	10.6	**158**
	11	3.4	76	28.92	101.1	103.5	17.2	9.1	
	12	1.7	154	28.9	61.1	106.1	15.2	6.9	
	13	3.1	276	28.87	91.8	109.8	14.2	9.6	
	14	5.9	290	28.85	114	111.7	13.7	10.6	
	15	6.4	289	28.82	72.4	112.4	14.1	12.7	
	16	4.7	297	28.8	46.7	112.4	13.4	10.3	
	17	8.7	211	28.8	654.4	107.8	14.5	50.1	
	18	12.3	275	28.8	448.2	103.9	16.5	36.7	
	19	4.6	311	28.8	148.6	100.3	19.5	12	
	20	0.9	139	28.82	80.6	99.3	21	5.7	
	21	6.6	66	28.85	82.5	98.5	21.3	29.2	
	22	6.1	130	28.92	546.7	99.4	20.8	26.3	
	23	4.8	36	28.9	87.6	98.1	21.3	17.3	
	0	1.3	29	29.17	61.5	50.7	49	8.4	
	1	3.9	45	29.18	53.3	59.7	32	17.1	
	2	13.8	52	29.18	302	67.9	19.2	29.2	
	3	16.5	54	29.18	338.6	67.1	18.6	32.9	
	4	14.8	55	29.19	163.3	65.8	19.2	31.6	
	5	8.6	56	29.23	29.1	62.9	22	19	
	6	13	48	29.24	73.7	63.2	21.8	25.7	
	7	16.4	40	29.25	291	64.6	20.6	33.9	
	8	15.6	45	29.26	533.8	67	18.7	34	
	9	20.4	52	29.26	693.3	69.2	17.3	40.7	
11/18/2005	10	19.7	54	29.27	385.2	71.4	16.4	40.6	**169.6**
	11	18.4	51	29.25	168.3	73.6	15.4	38.3	
	12	14.4	40	29.23	75.1	75.4	15.6	31.6	
	13	11.1	37	29.21	37.6	77	14.9	24.7	
	14	9.2	34	29.18	23.3	78.4	13.9	23.5	
	15	7.6	42	29.17	32.9	78.6	13.7	17.9	
	16	5.1	56	29.15	38.9	77	15.3	13.1	
	17	1.2	42	29.14	186.7	70.9	18.8	4.2	
	18	1.9	302	29.14	228.7	63.7	23.8	5.5	
	19	4.2	313	29.15	91.1	61.4	24.3	8.5	
	20	0.6	108	29.15	67.6	56.2	32.4	7.5	
	21	0.5	350	29.15	81.4	51.4	43.1	3.7	
	22	1.5	208	29.16	73.1	49.9	45.1	6.8	
	23	1.1	311	29.16	42.1	47.2	50.8	6.8	
	0	0.3	65	29.21	50.6	46.6	29.7	3.9	
	1	1.7	344	29.2	46.5	45.6	29.6	5.5	
	2	1.9	93	29.19	62.5	44.2	33.8	6.1	
	3	2	294	29.18	61.3	40.6	43	5	
	4	3	329	29.17	42.5	40.1	39.1	5.8	
	5	1.1	326	29.16	71.1	38.8	39.4	4.9	

	6	2.4	317	29.17	98.7	37.5	56.7	7.6	
	7	1.4	7	29.19	292	39.2	38.1	8.3	
	8	1.7	260	29.2	381.9	44.6	38	6.2	
	9	0.7	241	29.21	188.9	52.3	27.8	3.6	
2/13/2006	10	4.6	74	29.22	107.9	64.4	17.8	14.1	**159.7**
	11	5.3	102	29.2	84.2	67.8	15.2	12.9	
	12	1.2	91	29.18	51.6	70.9	13.3	5.8	
	13	2.9	265	29.14	48.9	75.1	12.4	9.9	
	14	3.1	299	29.1	50.5	76.3	11.6	10.8	
	15	3.1	274	29.07	54.5	77.2	10.3	7.5	
	16	3.5	277	29.05	54.1	77.2	10.8	8.2	
	17	3.3	255	29.05	68.1	74.9	13.4	6	
	18	2.3	243	29.04	81.9	70.2	15.9	3.8	
	19	1.3	313	29.05	412.5	63.2	17.7	5.6	
	20	4.6	351	29.05	438.4	58.1	19.3	10.7	
	21	1.1	153	29.06	274.2	54.6	30.5	6.3	
	22	3.4	96	29.06	324.4	57.1	25.4	9.4	
	23	1.6	27	29.04	485.7	50.1	31.7	4.9	
	0	4.7	33	29.03	613.6	49.2	29.7	9	
	1	2.4	73	29.03	665.7	47.9	37.4	6.7	
	2	2.4	65	29.01	555.3	46.1	40	6.2	
	3	2	63	28.99	333.1	46.2	36	6.1	
	4	3.3	18	28.98	646.1	44	42.1	7.8	
	5	2	353	28.98	257	41.9	35.7	6.9	
	6	2.7	107	28.97	145.8	43.8	40.2	6.8	
	7	0.6	62	28.98	359.1	42.4	49.5	6.7	
	8	4.9	84	28.99	336.2	50.1	34.7	10.8	
	9	6.5	83	28.98	142	55.5	29.4	13.6	
2/14/2006	10	8.7	87	28.98	135.4	62.8	20.3	17.2	**272.9**
	11	8	103	28.97	120	65.6	19.5	13	
	12	6	96	28.94	109.5	68.2	19	14.1	
	13	3.3	74	28.89	58.9	72.5	14.5	8.8	
	14	1	290	28.87	78.5	75.5	12.2	7.4	
	15	3.9	301	28.85	123.3	76.6	11.6	7.9	
	16	3.9	284	28.84	105.8	76.6	13.4	9.1	
	17	4.7	244	28.82	68	73.3	18.5	10.7	
	18	3.1	288	28.82	74.3	68.8	18	9.1	
	19	5.6	213	28.83	82	66.2	19	11.1	
	20	4.2	237	28.84	36.1	62.3	23.3	8.9	
	21	0.8	15	28.85	672.3	59	22.8	5.2	
	22	3.5	34	28.85	254.5	56.4	23.5	10.1	
	23	4.1	27	28.86	577.8	53.1	25.6	6.9	
	0	1.6	340	29.02	275.5	51.2	30.2	5.3	
	1	4.4	337	29.02	589.2	50.5	26.3	7.8	
	2	0.7	220	29.01	210	49.7	35	6.6	
	3	0.5	277	29	222.4	49.1	36.4	4.7	
	4	1.3	70	29	212.9	49.4	36.8	3.6	

	5	0.7	136	29	106.3	48.9	42.6	3.9	
	6	0.6	292	29.01	140.5	48.8	40.2	2.6	
	7	0.7	116	29.02	291.5	49.5	35.3	3.4	
	8	1	73	29.03	224.4	50.9	34.9	3.4	
	9	1.2	35	29.04	170	54.2	29.7	4.1	
2/17/2006	10	1.1	326	29.04	179.9	56.8	27.4	3.4	**191.9**
	11	2.3	242	29.04	197.5	58.5	31.8	4.9	
	12	4	267	29.04	45.7	60.6	24.3	7.9	
	13	6.5	281	29.02	82.4	61.7	18.7	10.3	
	14	6.4	276	29	48.8	62	15.8	10.1	
	15	5.3	276	29	130.7	61	19.2	8.6	
	16	3	281	28.99	155.6	60.4	19.7	6	
	17	2.1	273	28.99	117.6	59.6	19.5	4.2	
	18	2.2	307	28.98	84	58.8	19.3	5.8	
	19	1	41	28.99	299.2	55.3	23	4.8	
	20	0.8	130	29.01	347	51.7	29.5	3.1	
	21	1.9	310	29.03	124.8	46.8	30.6	4.2	
	22	3.1	350	29.04	91.9	43.4	30.1	6.2	
	23	0.5	120	29.05	258	42.6	34.6	3.2	

Table BI4. Continuous PM-10 Monitoring Data for All Exceedance Days at Higley Site

Date	Hour	WSPD mph	WDIR	PRESS	DELT °F	PM-10 $\mu g/m^3$	TEMP °F	WSMAX mph	24-Hour PM-10 Avg ($\mu g/m^3$)
	0	7.2	54	28.53	3.8	47.8	54.6	12.3	
	1	3.8	78	28.51	4.9	49	52.2	7.3	
	2	5.7	70	28.54	5.2	43.8	52.8	13	
	3	2.6	61	28.52	5.9	24.1	50.1	6.4	
	4	2.4	349	28.51	5.1	45.3	47	4.9	
	5	3.2	6	28.51	4.3	78.9	47.2	5.9	
	6	0.9	1	28.52	4.8	178.3	47.1	5.5	
	7	1.1	207	28.53	3.5	149.4	47.9	7.1	
	8	1.6	97	28.54	1.9	376.1	49.6	6.1	
	9	1.9	255	28.57	0.5	218.3	54.9	5.3	
1/24/2006	10	2.5	304	28.57	-0.3	177.4	60.9	7.3	**159.6**
	11	9.5	99	28.55	-0.6	201.6	69.9	23	
	12	11.8	108	28.51	-0.2	302.4	73.5	23.7	
	13	13.8	122	28.49	-0.3	684.3	74.4	28.1	
	14	16.9	116	28.46	0	729.9	74.3	27.8	
	15	15.3	103	28.45	0	267.4	75.2	27.3	
	16	14.6	109	28.45	0.1	191.8	75.1	25.8	
	17	10.2	104	28.45	0.7	82.2	71.2	20.5	
	18	8.7	91	28.45	1.8	37	65.5	11.9	

	19	9	91	28.45	1.8	39.1	63.8	14.4	
	20	10.9	99	28.45	0.7	28.7	66.3	19	
	21	12	105	28.45	0.4	54.7	67.4	22.5	
	22	8.8	127	28.45	1.1	30	65	19.9	
	23	7.2	168	28.48	1.1	53.3	63.7	14.8	

Note: 999 Refer to Data Not Available