Pinal County Monitoring Data Pinal County Housing and Cowtown sites

PM_{10} Stakeholder Meeting

April 17, 2009

24- HOUR Particulate Matter Standards

- PM10 – 24 Hour Standard
  - Any value over 150 $\mu g/m^3$ is an exceedance
  - The three year average of the expected exceedance rate must be less than or equal to one
  - Effectively allows one exceedance per year
- PM2.5 – 24 Hour Standard
  - The three year average of the 98th percentile must be less than or equal to 35 $\mu g/m^3$
  - The 98th percentile value is:
    - The 2nd highest value when monitoring once every six days
    - The 3rd highest value when monitoring once every six days

PINAL COUNTY HOUSING PM_{10} 2008 TEOM Data

24 Hour Averages (ug/m^3)

	January	February	March	April	May	June	July	August	September	October	November	December
1	264.9	29.6	50.6	76.9	62.8	64.7	159.2	76.5	16.0	79.5	122.1	36.9
2	71.8	23.9	51.5	62.4	67.0	58.5	64.6	69.6	32.4	118.3	77.2	41.9
3	53.9	34.7	36.4	57.3	106.5	63.6	106.2	32.7	47.7	85.6	72.9	45.2
4	32.1	8.6	55.4	69.9	60.6	99.3	67.1	39.6	50.7	144.6	57.6	100.5
5	33.4	7.5	61.7	72.0	63.3	64.7	61.9	59.8	80.7	81.1	93.7	68.3
6	9.0	12.3	75.9	36.3	113.3	93.9	75.8	22.0	65.2	93.7	120.6	66.7
7	9.4	36.4	65.8	64.1	47.6	79.4	22.8	60.5	53.8	101.4	96.5	54.1
8	7.8	19.4	64.0	70.3	68.4	71.0	55.1	69.3	129.9	95.4	122.3	BJ
9	11.8	24.7	54.7	71.4	88.6	80.7	33.4	31.0	68.1	70.4	285.2	BJ
10	15.2	27.6	51.9	59.6	130.8	65.6	23.4	38.2	33.6	71.9	81.2	46.6
11	23.3	29.7	63.9	64.9	AN	62.2	22.4	50.4	217.1	97.5	47.3	77.9
12	18.1	32.6	56.7	116.5	AN	76.8	17.4	60.1	55.9	50.1	50.3	93.2
13	18.3	27.1	60.3	65.5	AN	100.4	24.0	58.7	40.1	85.9	86.4	141.0
14	17.1	50.6	66.1	77.2	52.4	110.2	27.2	25.4	70.3	88.5	83.5	30.8
15	23.5	12.3	54.8	64.9	221.1	64.0	37.3	204.1	92.3	78.3	81.3	20.3
16	38.4	8.1	37.5	78.8	36.9	75.5	55.3	89.1	46.7	90.8	47.7	14.7
17	44.0	12.1	29.7	67.7	AN	80.0	77.9	22.2	64.4	81.2	81.5	11.3
18	60.1	18.1	45.5	102.7	AN	105.6	61.0	42.0	80.0	62.5	79.5	10.1
19	43.7	24.4	83.1	102.3	AN	88.0	77.9	43.5	87.3	60.7	130.3	22.4
20	42.0	19.6	75.9	46.9	64.0	110.9	12.9	54.3	61.0	79.5	160.6	22.2
21	46.9	34.1	73.5	67.4	273.8	86.4	24.7	66.3	31.7	78.2	98.8	31.1
22	68.0	18.5	78.3	73.8	98.7	141.6	49.4	66.8	60.7	94.5	116.3	29.5
23	58.7	24.5	72.4	83.0	24.4	89.7	46.5	67.7	59.1	106.2	94.4	13.3
24	27.4	25.1	69.9	83.8	25.6	73.9	54.1	57.1	57.0	117.7	84.4	13.7
25	37.6	50.4	107.5	94.8	18.6	103.3	71.2	45.9	65.5	89.7	AN	36.3
26	53.0	42.1	80.2	75.1	17.6	71.0	27.5	15.1	56.4	85.3	AN	30.9
27	14.3	38.4	63.7	127.7	33.1	33.6	29.1	23.6	66.4	153.3	9.3	11.5
28	5.8	44.1	95.6	83.7	33.8	55.3	52.2	19.7	47.9	78.6	13.4	15.0
29	20.1	63.2	49.2	72.4	44.9	68.3	74.8	16.6	68.3	178.0	28.2	22.5
30	16.7		80.1	106.0	51.8	64.2	59.8	22.6	86.9	140.7	19.8	33.3
31	14.0		66.8		49.6		96.9	37.6		159.1		40.1

CWTN 1400 PM_{10} 2008 TEOM Data

24 Hour Averages (ug/m^3)

	January	February	March	April	May	June	July	August	September	October	November	December
1	67.7	35.2	111.3	239.0	239.0	133.7	200.3	169.6	26.4	299.8	192.5	42.1
2	86.4	34.5	135.5	230.4	327.4	240.1	172.2	126.1	87.6	286.1	147.5	38.1
3	110.1	30.8	50.9	354.8	306.3	264.2	211.3	137.4	100.5	271.4	219.8	54.1
4	51.3	20.3	167.7	436.1	303.5	216.1	91.3	99.9	126.0	237.7	146.8	63.0
5	44.2	15.7	114.9	240.7	243.5	280.9	88.7	306.4	163.2	188.8	148.9	63.4
6	10.9	15.0	106.4	216.7	303.8	169.4	155.6	56.1	149.3	255.7	207.1	98.6
7	22.8	AN	182.6	323.7	199.7	174.2	77.3	336.4	174.0	153.9	283.7	62.1
8	14.5	AN	106.1	419.9	225.6	226.5	217.9	47.0	172.8	275.6	313.1	45.1
9	19.1	AN	127.8	276.9	272.1	226.0	131.9	41.9	64.2	204.6	527.8	44.2
10	22.5	AN	183.3	301.5	344.1	289.3	104.6	61.9	43.0	177.2	156.0	59.4
11	27.6	68.7	294.2	389.4	352.7	195.7	21.3	76.1	63.7	326.1	177.8	83.4
12	31.4	68.1	159.8	369.6	304.4	228.5	19.9	106.3	70.4	188.3	196.0	91.8
13	23.8	65.2	437.9	163.9	180.4	313.4	49.4	114.7	83.8	168.1	216.1	58.6
14	13.9	123.6	310.3	337.6	200.9	262.7	23.8	70.5	160.9	263.1	264.8	65.2
15	58.4	30.2	224.5	326.4	265.1	217.5	54.8	63.2	83.1	210.1	125.7	59.3
16	47.9	11.9	93.3	376.0	268.7	198.3	98.6	73.7	AN	191.8	45.7	38.8
17	31.8	13.5	206.8	327.4	363.8	195.4	100.3	82.0	AN	344.6	268.5	9.5
18	80.0	28.9	334.1	361.6	290.0	306.3	110.2	102.0	AN	207.6	209.4	21.4
19	63.9	37.8	123.3	306.1	224.1	363.8	128.0	185.0	216.8	218.1	400.5	21.8
20	61.4	75.3	228.7	162.8	375.2	367.8	25.4	199.3	133.7	223.7	345.0	18.4
21	50.7	48.0	539.3	266.6	608.6	250.9	51.9	237.1	173.9	256.3	174.5	19.9
22	88.7	27.6	406.0	213.6	167.8	293.5	64.6	126.4	262.8	172.0	379.7	18.7
23	59.3	55.3	237.7	226.5	27.9	249.4	92.0	239.6	136.4	337.2	268.7	18.9
24	35.5	AN	372.6	336.6	24.8	326.3	149.6	106.6	166.3	273.4	273.5	13.4
25	23.0	AN	496.8	404.6	21.3	196.9	147.3	142.8	75.4	288.2	274.5	9.8
26	57.6	58.4	335.7	246.2	30.8	114.2	21.3	69.4	218.6	367.6	85.9	19.9
27	20.8	54.8	252.9	168.3	58.8	143.8	47.3	53.6	155.9	279.7	13.1	14.9
28	11.4	79.4	273.7	238.0	77.0	165.4	83.4	31.5	104.4	247.9	18.2	17.7
29	26.5	64.0	225.3	334.6	84.8	135.3	121.0	29.1	210.1	188.8	19.1	20.0
30	33.0		267.9	285.0	113.5	242.5	105.5	37.5	241.2	244.5	17.6	43.7
31	14.1		134.7		117.2		143.5	17.0		176.7		54.6

PINAL CO HOUSING PM_{10} 2009 TEOM Data

24 Hour Averages (ug/m^3)

	January	February	March	April	May	June	July	August	September	October	November	December
1	32.0	42.2	72.1	62.8								
2	46.4	52.0	80.4	66.1								
3	40.3	63.4	102.0	**381.0**								
4	17.5	73.2	72.3	51.2								
5	7.7	65.3	61.1	46.2								
6	17.8	35.5	66.2	79.1								
7	23.3	23.2	41.3	52.9								
8	34.6	5.2	70.1	80.9								
9	45.3	68.2	25.3	63.5								
10	29.4	11.1	29.7	113.2								
11	22.4	14.3	42.2	12.0								
12	72.2	19.1	53.9	17.0								
13	82.1	21.2	54.5	45.8								
14	72.5	19.1	55.9	100.6								
15	75.9	23.7	48.5	**161.5**								
16	72.5	23.4	72.2	39.6								
17	58.4	8.8	91.6									
18	45.8	12.9	79.1									
19	55.4	21.8	80.5									
20	71.9	33.5	109.0									
21	93.2	36.9	55.4									
22	18.3	49.4	**170.6**									
23	11.9	66.1	96.4									
24	12.3	57.6	86.8									
25	14.3	59.5	58.4									
26	22.8	54.2	**337.1**									
27	30.9	59.1	44.0									
28	56.8	55.4	85.1									
29	36.9		68.6									
30	66.9		63.9									
31	50.5		72.5									

COWTOWN PM_{10} 2009 TEOM Data

24 Hour Averages (ug/m^3)

	January	February	March	April	May	June	July	August	September	October	November	December
1	37.9	111.2	64.6	100.4								
2	53.6	90.5	140.0	71.1								
3	30.8	128.6	106.7	**199.4**								
4	28.5	**205.2**	77.7	95.5								
5	21.9	**182.6**	77.2	72.5								
6	31.1	78.3	103.0	71.1								
7	27.3	59.0	72.9	109.6								
8	31.1	9.8	125.1	105.4								
9	45.4	33.7	55.1	74.0								
10	24.4	14.8	78.0	94.9								
11	39.3	22.2	97.2	21.4								
12	55.0	53.8	78.3	44.0								
13	53.8	40.4	86.2	38.6								
14	60.1	34.5	86.2	70.3								
15	96.6	40.3	67.1	138.4								
16	145.1	57.9	62.6	57.9								
17	135.8	23.4	124.2									
18	76.5	26.5	112.3									
19	42.2	40.7	82.8									
20	64.3	43.1	132.8									
21	93.8	45.1	82.6									
22	20.0	50.2	**332.1**									
23	22.7	82.3	134.4									
24	19.7	80.0	75.7									
25	20.7	66.7	94.0									
26	77.0	74.8	**224.6**									
27	74.4	72.2	79.7									
28	108.1	71.7	109.3									
29	59.7		94.1									
30	82.3		**158.3**									
31	134.1		85.5									

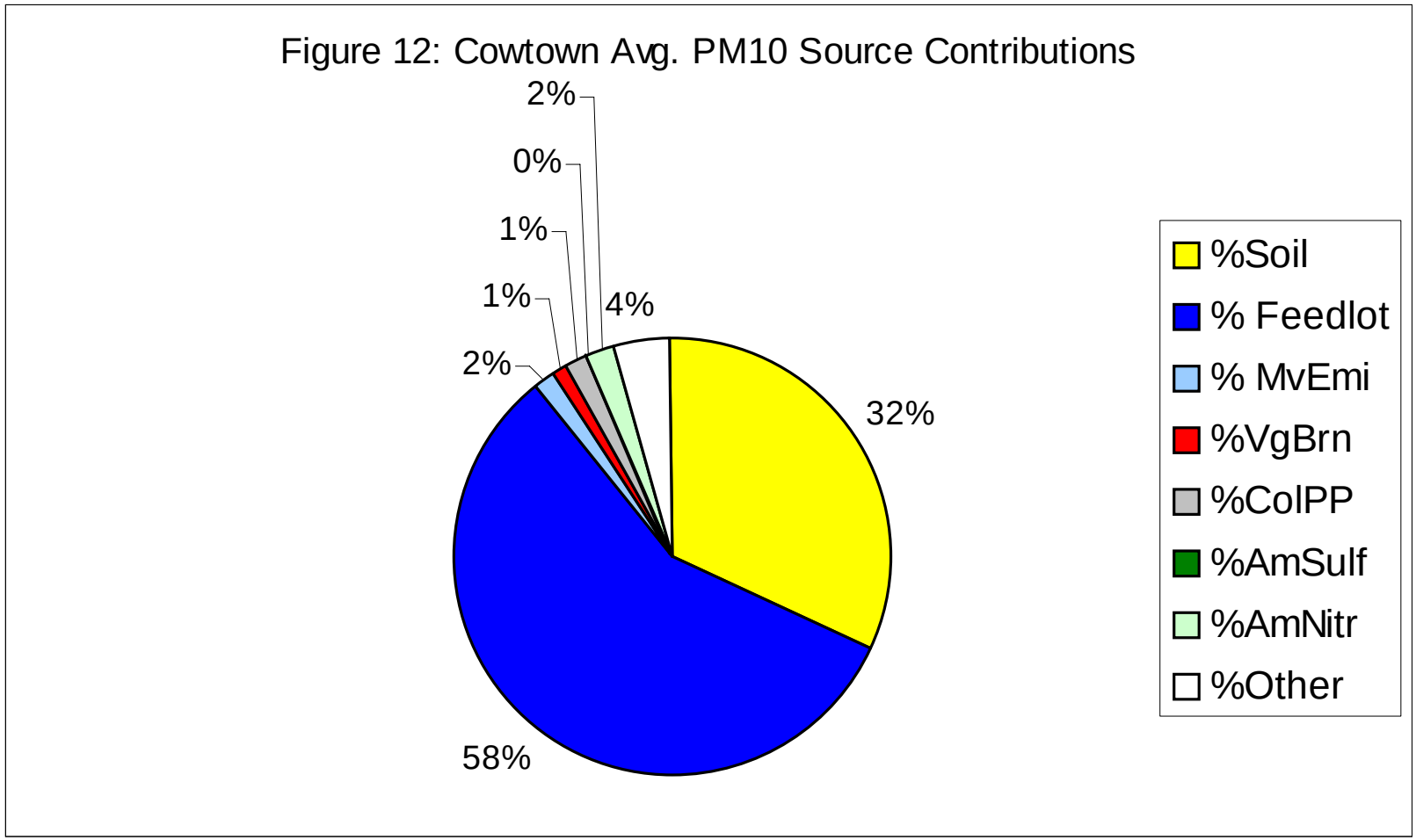
PM2.5 DATA: 24 HOUR AVERAGES (in $\mu g/m^3$)

Standard = In order to meet the standard three year average of the 98th percentile must be less than or equal to 35 $\mu g/m^3$

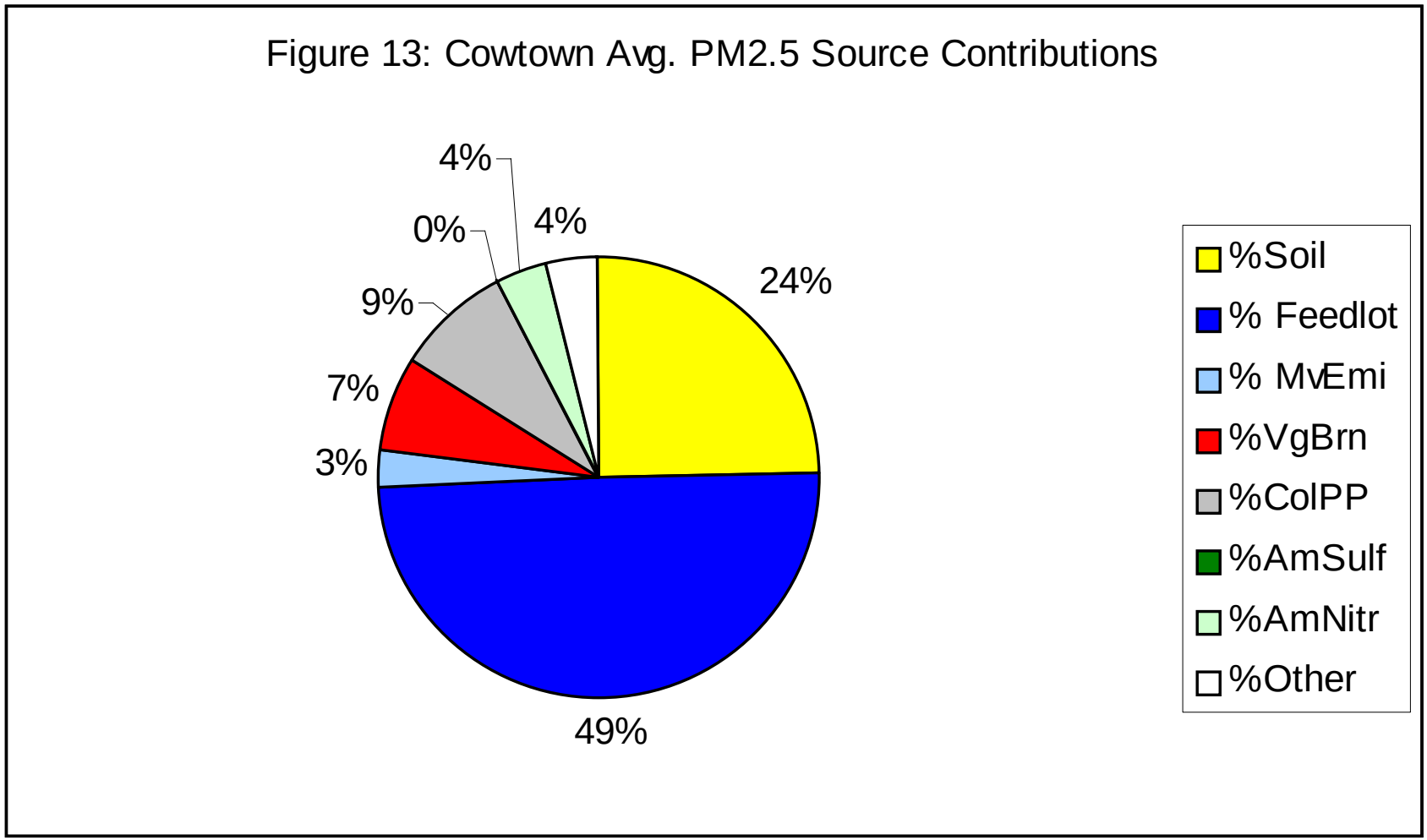
Year	Maximum Reading	98th Percentile	3 year average of the 98th percentile
Apache Junction			
2005	12.7	10.6	14
2006	10.7	9.3	10
2007	15.9	14.6	12
2008	23.3	15.4	13
Casa Grande			
2005	19.3	16.9	19
2006	16.1	15.4	15
2007	26.6	22.4	18
2008	23.5	22.0	20
Cowtown			
2005 [a,b]	144.8	78.9	N/A
2006	69.4	48.9	N/A
2007	59.7	53.9	61
2008	41.7	40.7	48

Footnotes:
a – At least one quarter during this year had less than 75% data recovery
b - 47mm filter based monitoring began at the Cowtown site on 8/14/05, and data reporting began as of 10/1/05.

2003 Speciation Study
Cowtown PM_{10}



2003 Speciation Study
Cowtown $PM_{2.5}$



2005 Highest 30% of PM10 concentrations and wind direction

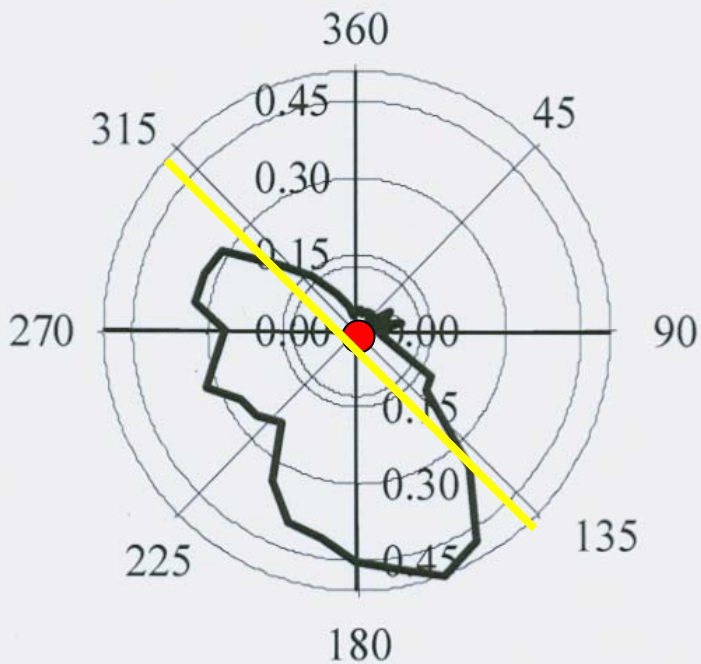



Figure 4: High PM_{10} Probability by Wind Direction Sector – Cowtown