



MEMORANDUM

Pima County Department of Environmental Quality

DATE: September 25, 2009

TO: Raul Ochoa
Assistant Superintendent Operations & Facilities Planning

FROM: Beth Gorman
Program Manager

RE: Pima County DEQ Beryllium Monitoring Report 2nd Quarter 2009

Attached is the Pima County Department of Environmental Quality's (PDEQ) Air Monitoring Division Beryllium Monitoring Network Summary for the 2nd Quarter of 2009.

Highlights:

- 110 samples collected resulting in 105 valid and 5 invalid samples (95.5% data recovery). EPA requires monitoring data recovery at 75%.
- No beryllium values were detected over the Practical Quantitation Limit (PQL).
- Analysis of all backlogged filters has been completed – ahead of the October schedule.
- PDEQ and SUSD staff are continuing to employ stringent monitoring protocols to ensure quality data is being collected properly to better protect public health.

For additional information on this report, please contact me at Pima County Department of Environmental Quality at (520) 740-3340.

Attachment

Cc: Ursula Kramer, Pima County Department of Environmental Quality Director
Richard Grimaldi, Pima County Department of Environmental Deputy Director



Pima County

Department of Environmental Quality

Air Monitoring Division

Beryllium Monitoring Network Summary

2nd Quarter 2009



*Pima County Department of Environmental Quality
150 West Congress St., 1st Floor
Tucson, Arizona 85701*

Summary

The Pima County Department of Environmental Quality has contracted with the Pima County Regional Wastewater Reclamation Department (RWRD) to perform analysis on filters sampled in the Beryllium Monitoring Network located in the Sunnyside Unified School District.

For the 2nd quarter of 2009 there was a total of 110 PM₁₀ samples collected resulting in 105 valid and 5 invalid samples; for a data recovery of 95.5 %. Twelve samples were collected to be used as precision checks as recommended in *40 CFR, Part 58, Appendix A, Section 5.3.1*. All samples run for a 24-hour period as specified in *40 CFR, Part 50, Appendix B*.

There were a total of 107 samples analyzed for beryllium. Beryllium concentrations are reported as <0.265 ng/m³ PQL (Practical Quantitation Level. In the preamble to a November 13, 1985 rulemaking (50 FR 46906), the PQL was defined as “the lowest concentration of an analyte that can be reliably measured within specific limits of precision and accuracy during routine laboratory operating conditions.” The Agency has used the PQL to estimate or evaluate the minimum concentration at which most laboratories can be expected to reliably measure a specific chemical contaminant during day-to-day analysis.

The following pages display the sampling dates, sampling locations, PM₁₀ concentrations (µg/m³) calculated in standard conditions, PM₁₀ 24-hour NAAQS standard, precision measurements, Beryllium analysis results, accompanying graphs and a brief explanation of all invalid samples for the 2nd quarter of 2009.

PM₁₀ /Beryllium Concentrations

Monthly Summary of PM₁₀/Beryllium Data

April - 2009

Date	Location	Standard Concentration PM ₁₀ (µg/m ³)	24-hour NAAQS PM ₁₀ (µg/m ³)	Beryllium (ng/m ³)
04/01/09	Ocotillo #1	26.7	150	<0.265
04/01/09	Ocotillo #2	27.9	150	<0.265
04/02/09	Los Amigos	45.0	150	<0.265
04/03/09	Los Niños	85.8	150	<0.265
04/04/09	Chaparral M.S.	32.6	150	<0.265
04/05/09	Transportation Bldg	19.4	150	<0.265
04/06/09	Sunnyside H.S.	31.3	150	<0.265
04/07/09	Ocotillo #1	16.6	150	<0.265
04/07/09	Ocotillo #2	17.7	150	<0.265
04/08/09	Los Amigos	23.8	150	<0.265
04/09/09	Los Niños	28.1	150	<0.265
04/10/09	Chaparral M.S.	77.9	150	<0.265
04/11/09	Transportation Bldg	6.3	150	<0.265
04/12/09	Sunnyside H.S.	9.1	150	<0.265
04/13/09	Ocotillo #1	12.5	150	<0.265
04/13/09	Ocotillo #2	13.0	150	<0.265
04/14/09	Los Amigos	20.2	150	<0.265
04/15/09	Los Niños	29.3	150	<0.265
04/16/09	Chaparral M.S.	33.3	150	<0.265
04/17/09	Transportation Bldg	17.2	150	<0.265
04/18/09	Sunnyside H.S.	15.4	150	<0.265
04/19/09	Ocotillo #1	13.8	150	<0.265
04/19/09	Ocotillo #2	13.9	150	<0.265
04/20/09	Los Amigos	14.2	150	<0.265
04/21/09	Los Niños	INVALID	150	INVALID*
04/22/09	Chaparral M.S.	19.9	150	<0.265
04/23/09	Transportation Bldg	14.7	150	<0.265
04/24/09	Sunnyside H.S.	18.3	150	<0.265
04/25/09	Ocotillo #1	17.9	150	<0.265
04/25/09	Ocotillo #2	17.9	150	<0.265
04/26/09	Los Amigos	17.9	150	<0.265
04/27/09	Los Ninos	18.9	150	<0.265
04/28/09	Chaparral M.S.	30.2	150	<0.265
04/29/09	Transportation Bldg	25.3	150	<0.265
04/30/09	Sunnyside H.S.	38.0	150	<0.265

Sample running on 04/21/09 invalid due to a power failure.

*Sample invalid for use in Beryllium analysis.

NAAQS = National Ambient Air Quality Standard for PM₁₀

PM₁₀ /Beryllium Concentrations (continued)

Monthly Summary of PM₁₀/Beryllium Data

May - 2009

Date	Location	Standard Concentration PM ₁₀ (µg/m ³)	24-hour NAAQS PM ₁₀ (µg/m ³)	Beryllium (ng/m ³)
05/01/09	Ocotillo #1	30.7	150	<0.265
05/01/09	Ocotillo #2	31.9	150	<0.265
05/02/09	Los Amigos	INVALID	150	INVALID*
05/03/09	Los Niños	26.4	150	<0.265
05/04/09	Chaparral M.S.	37.3	150	<0.265
05/05/09	Transportation Bldg	32.6	150	<0.265
05/06/09	Sunnyside H.S.	30.3	150	<0.265
05/07/09	Ocotillo #1	27.7	150	<0.265
05/07/09	Ocotillo #2	28.4	150	<0.265
05/08/09	Los Amigos	28.9	150	<0.265
05/09/09	Los Niños	INVALID	150	<0.265
05/10/09	Chaparral M.S.	23.5	150	<0.265
05/11/09	Transportation Bldg	21.2	150	<0.265
05/12/09	Sunnyside H.S.	23.4	150	<0.265
05/13/09	Ocotillo #1	23.2	150	<0.265
05/13/09	Ocotillo #2	26.6	150	<0.265
05/14/09	Los Amigos	39.7	150	<0.265
05/15/09	Los Niños	37.9	150	<0.265
05/16/09	Chaparral M.S.	32.7	150	<0.265
05/17/09	Transportation Bldg	32.2	150	<0.265
05/18/09	Sunnyside H.S.	38.9	150	<0.265
05/19/09	Ocotillo #1	27.1	150	<0.265
05/19/09	Ocotillo #2	28.7	150	<0.265
05/20/09	Los Amigos	20.5	150	<0.265
05/21/09	Los Ninos	10.5	150	<0.265
05/22/09	Chaparral M.S.	12.2	150	<0.265
05/23/09	Transportation Bldg	15.0	150	<0.265
05/24/09	Sunnyside H.S.	19.8	150	<0.265
05/25/09	Ocotillo #1	16.4	150	<0.265
05/25/09	Ocotillo #2	16.4	150	<0.265
05/26/09	Los Amigos	20.4	150	<0.265
05/27/09	Los Ninos	23.6	150	<0.265
05/28/09	Chaparral M.S.	23.2	150	<0.265
05/29/09	Transportation Bldg	23.8	150	<0.265
05/30/09	Sunnyside H.S.	21.1	150	<0.265
05/31/09	Ocotillo #1	13.2	150	<0.265
05/31/09	Ocotillo #2	14.0	150	<0.265

Sample running on 05/02/09 invalid due to no chart recorder returned with filter, resulting in PDEQ not being able to calculate the average flow or sample run time.

Sample running on 05/09/09 invalid due to ink from the chart recorder being transferred onto the filter resulting in an invalid representative post weight.

* Sample invalid for use in Beryllium analysis.

NAAQS = National Ambient Air Quality Standard for PM₁₀

PM₁₀ /Beryllium Concentrations (continued)

Monthly Summary of PM₁₀/Beryllium Data

June - 2009

Date	Location	Standard Concentration PM₁₀ (µg/m³)	24-hour NAAQS PM₁₀ (µg/m³)	Beryllium (ng/m³)
06/01/09	Los Amigos	15.5	150	<0.265
06/02/09	Los Niños	17.1	150	<0.265
06/03/09	Chaparral M.S.	18.7	150	<0.265
06/04/09	Transportation Bldg	16.1	150	<0.265
06/05/09	Sunnyside H.S.	20.7	150	<0.265
06/06/09	Ocotillo #1	22.7	150	<0.265
06/06/09	Ocotillo #2	23.8	150	<0.265
06/07/09	Los Amigos	16.1	150	<0.265
06/08/09	Los Niños	22.7	150	<0.265
06/09/09	Chaparral M.S.	23.1	150	<0.265
06/10/09	Transportation Bldg	14.1	150	<0.265
06/11/09	Sunnyside H.S.	21.6	150	<0.265
06/12/09	Ocotillo #1	19.9	150	<0.265
06/12/09	Ocotillo #2	21.1	150	<0.265
06/13/09	Los Amigos	16.6	150	<0.265
06/14/09	Los Niños	20.2	150	<0.265
06/15/09	Chaparral M.S.	23.7	150	<0.265
06/16/09	Transportation Bldg	18.3	150	<0.265
06/17/09	Sunnyside H.S.	28.2	150	<0.265
06/18/09	Ocotillo #1	17.4	150	<0.265
06/18/09	Ocotillo #2	18.5	150	<0.265
06/19/09	Los Amigos	20.1	150	<0.265
06/20/09	Los Niños	16.7	150	<0.265
06/21/09	Chaparral M.S.	23.3	150	<0.265
06/22/09	Transportation Bldg	22.1	150	<0.265
06/23/09	Sunnyside H.S.	24.6	150	<0.265
06/24/09	Ocotillo #1	20.4	150	<0.265
06/24/09	Ocotillo #2	21.2	150	<0.265
06/25/09	Los Amigos	19.6	150	<0.265
06/26/09	Los Ninos	INVALID	150	INVALID*
06/27/09	Chaparral M.S.	INVALID	150	<0.265
06/28/09	Transportation Bldg	10.6	150	<0.265
06/29/09	Sunnyside H.S.	23.2	150	<0.265
06/30/09	Ocotillo #1	14.7	150	<0.265
06/30/09	Ocotillo #2	14.8	150	<0.265

Sample running on 06/26/09 invalid due to double exposure caused by the filter not being changed by SUSD.

Sample running on 06/27/09 invalid due to flow rate being greater than 36-44 CFM.

* Sample invalid for use in Beryllium analysis.

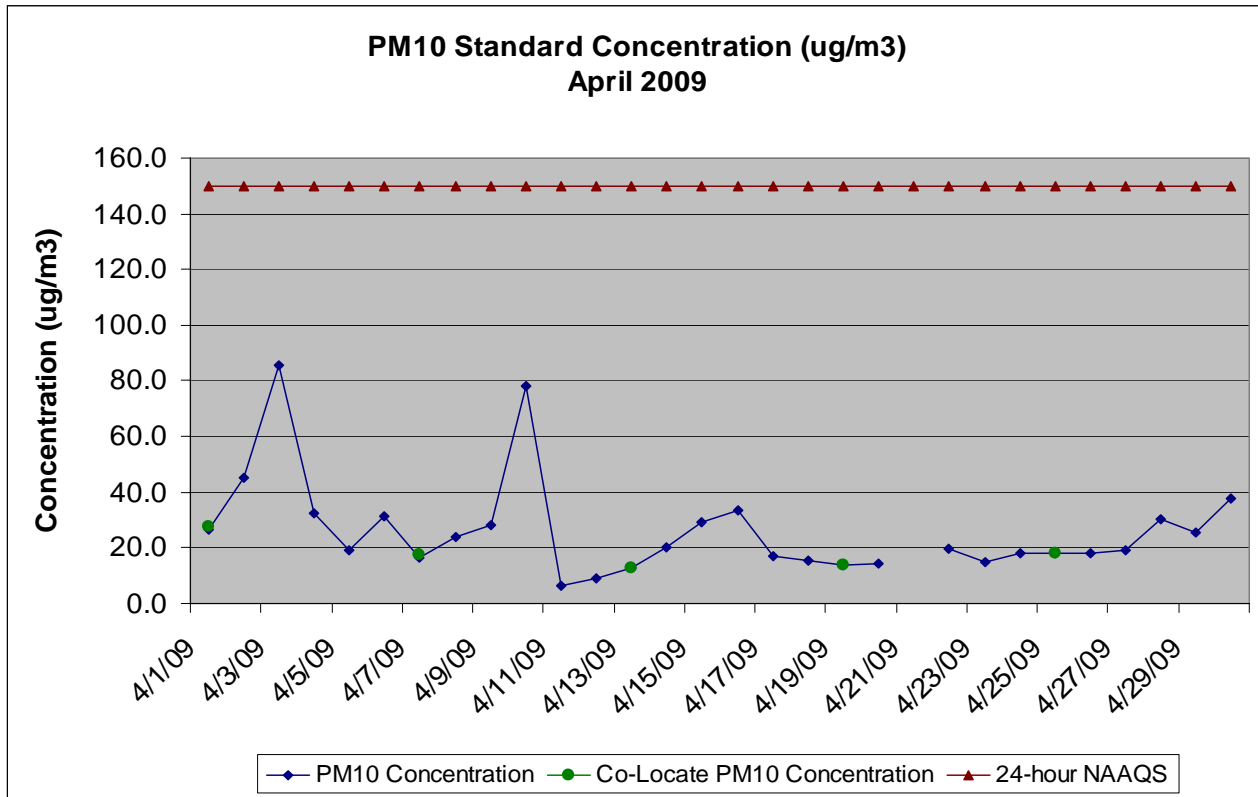
NAAQS = National Ambient Air Quality Standard for PM₁₀

Precision of Duplicate Pairs – PM10

At low concentrations, agreement between the measurements of collocated samplers, expressed as relative percent difference, may be relatively poor. For this reason, collocated measurement pairs are selected for use in the precision and bias calculations only when both measurement pairs are equal to or above 15µg/m³ (40CFR58, Appendix A, Section 4c).

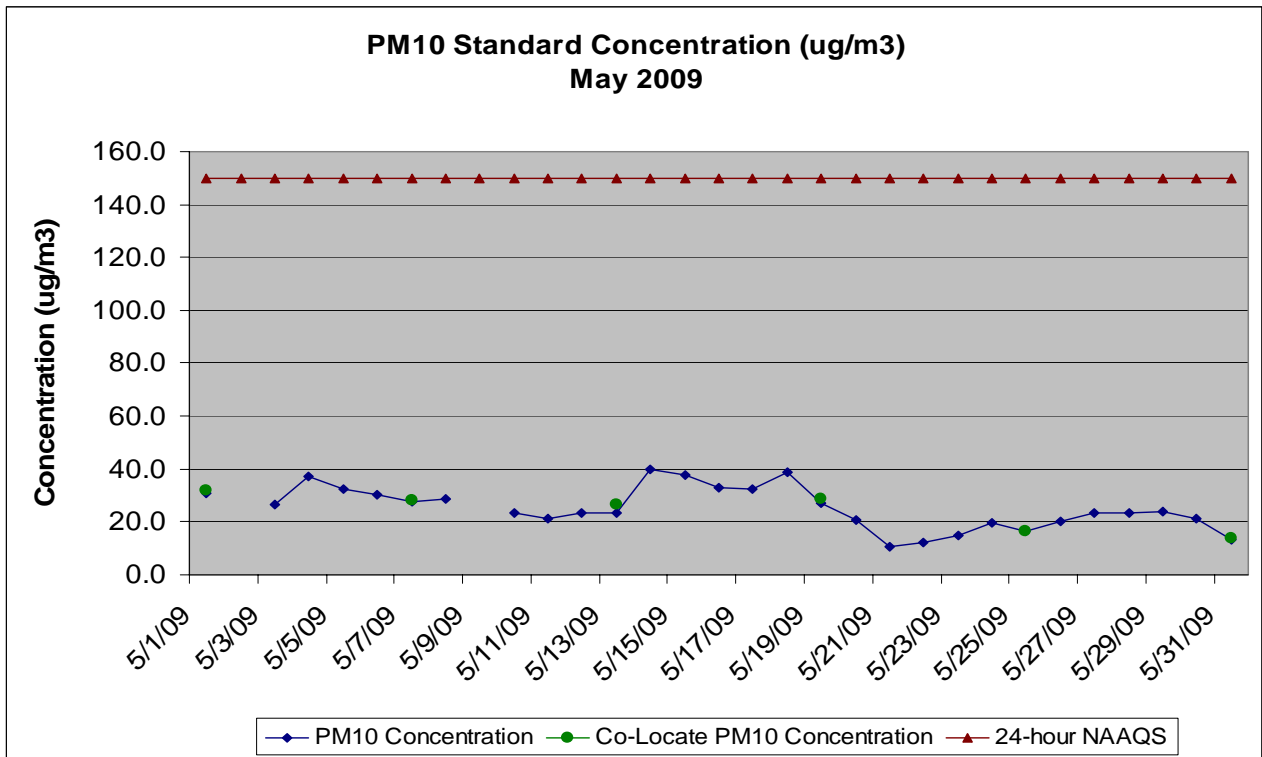
Sample Date	Primary Sampler Number	Measured PM ₁₀ (µg/m ³)	Duplicate Sampler Number	Measured PM ₁₀ (µg/m ³)	Difference (µg/m ³)	Percent Difference %
04/01/09	1	26.7	2	27.9	1.2	4.40
04/07/09	1	16.6	2	17.7	1.1	6.41
04/25/09	1	17.9	2	17.9	0.0	0.00
05/01/09	1	30.7	2	31.9	1.2	3.83
05/07/09	1	27.7	2	28.4	0.7	2.50
05/13/09	1	23.2	2	26.6	3.4	13.65
05/19/09	1	27.1	2	28.7	1.6	5.73
05/25/09	1	16.4	2	16.4	0.0	0.00
06/06/09	1	22.7	2	23.8	1.1	4.73
06/12/09	1	19.9	2	21.1	1.2	5.85
06/18/09	1	17.4	2	18.5	1.1	6.13
06/24/09	1	20.4	2	21.2	0.8	3.85

PM₁₀ Concentration Charts



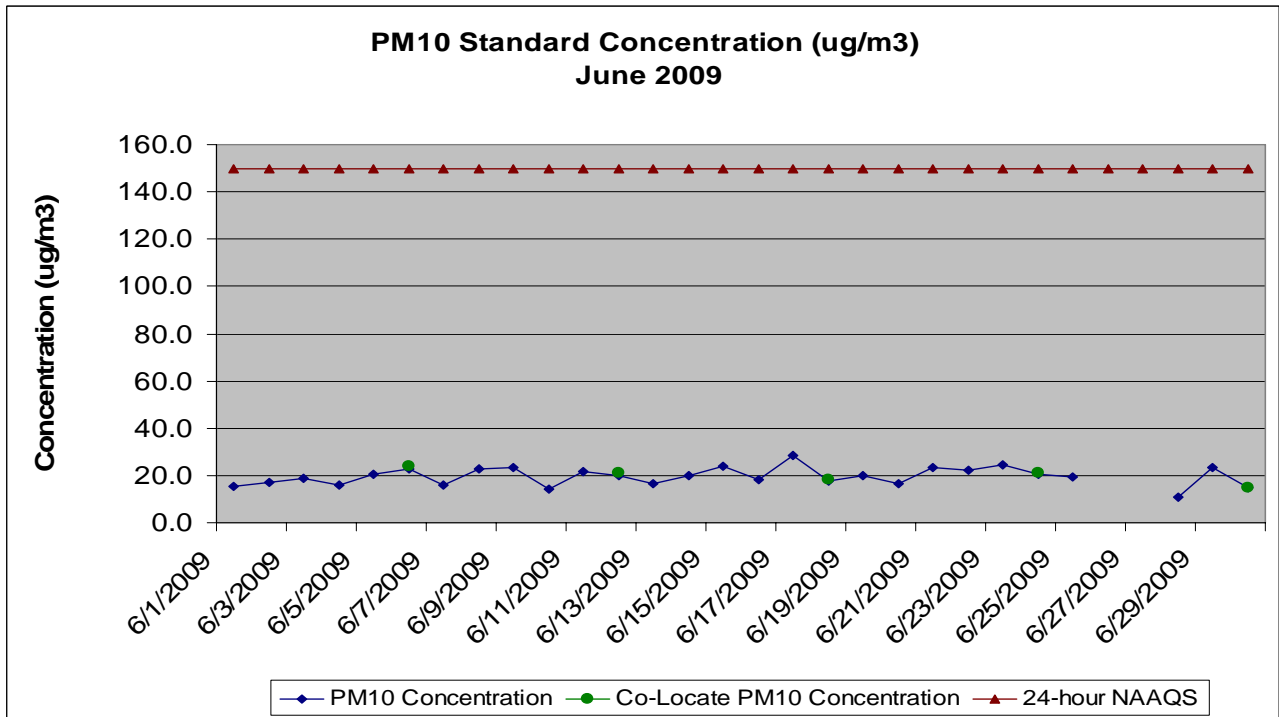
Sample running on 04/21/09 invalid due to a power failure.

NAAQS = National Ambient Air Quality Standards for PM₁₀



Sample running on 5/2/09 invalid due to no chart recorder returned with filter, resulting in PDEQ not being able to calculate the average flow or sample run time.
 Sample running on 05/09/09 invalid due to ink from the chart recorder being transferred onto the filter resulting in an invalid representative post weight.

NAAQS = National Ambient Air Quality Standards for PM₁₀



Sample running on 6/26/09 invalid due to double exposure caused by the filter not being changed by SUSD.
 Sample running on 6/27/09 invalid due to the average flow rate being greater than 36-44 CFM.

NAAQS = National Ambient Air Quality Standards for PM₁₀

Audit Results

Audits were performed on all of the samplers for the 2nd quarter of 2009. If the audit flow rate percent difference is $\leq \pm 10\%$, the sampler calibration is accepted. Differences exceeding $\pm 10\%$ require sampler recalibration. Differences exceeding $\pm 15\%$ will result in invalidation of all data subsequent to the last calibration or valid flow check. The following pages display the audit results for each sampling location.

AUDIT SPREADSHEET FOR PARTICULATES

Month	Ts	Ps
Jan	288.8	693.9
Feb	292.4	693.2
Mar	296.0	692.8
Apr	298.9	692.9
May	300.6	692.9
June	300.3	693.4
Jul	297.6	694.0
Aug	293.8	694.5
Sep	290.1	694.9
Oct	287.2	695.3
Nov	285.8	695.2
Dec	286.5	694.7

Sampler: Chaparral M.S. **Ts =** 300.3
Audit Date: 06/19/09 **Ps =** 693.4
Motor: 1424 **Temp c =** 27.78
Temp f: 82.0 **Ta =** 300.8
Press: 27.226 **Pa =** 691.5
Altim: 29.890 **Orifice Calibration Relationship**
 m= 1.30507 b= -0.03648

Plate No.	Orifice dH2O	Qa Orifice	Sampler dPex	Sampler dPext
18	4.13	37.2	2.23	0.98
13	3.49	34.3	1.91	0.91
10	2.91	31.4	1.62	0.84
7	1.95	25.9	1.15	0.71
5	1.29	21.3	0.83	0.60

Orifice dH2O 2.754
 Sample dPex 1.5
 Orifice Qa(m3/m) 0.866568
 Sample Qa dPex 30.52163

Audit flow rate % diff: 5.18 %

Orifice		
dH2O	Qa(CFM)	Qa(M3/m)
2.754	30.59	0.87

Sampler w/Orifice		
dPex	Qa(CFM)	Qa(M3/m)
1.55	31.19	0.91

Sampler Audit Relationship		
m =	0.024	
b =	0.088	
r =	1.000	
	pm10	tsp
Set Point (cfm)	40.2	50.2
Set Point (H2O)	2.5	3.8

AUDIT SPREADSHEET FOR PARTICULATES

Month	Ts	Ps
Jan	288.8	693.9
Feb	292.4	693.2
Mar	296.0	692.8
Apr	298.9	692.9
May	300.6	692.9
June	300.3	693.4
Jul	297.6	694.0
Aug	293.8	694.5
Sep	290.1	694.9
Oct	287.2	695.3
Nov	285.8	695.2
Dec	286.5	694.7

Sampler: Sunnyside H.S. **Ts =** 300.3
Audit Date: 06/19/09 **Ps =** 693.4
Motor: 1418 **Temp c =** 26.67
Temp f: 80.00 **Ta =** 299.7
Press: 27.226 **Pa =** 691.5
Altim: 29.890 **Orifice Calibration Relationship**
 m= 1.30507 b= -0.03648

Plate No.	Orifice dH2O	Qa Orifice	Sampler dPex	Sampler dPext
18	3.83	35.8	2.27	0.99
13	3.26	33.1	1.95	0.92
10	2.73	30.4	1.64	0.84
7	1.84	25.1	1.16	0.71
5	1.22	20.9	0.83	0.60

Orifice dH2O 2.576
 Sample dPex 1.6
 Orifice Qa(m3/m) 0.837514
 Sample Qa dPex 29.51647

Audit flow rate % diff: 5.08 %

Orifice		
dH2O	Qa(CFM)	Qa(M3/m)
2.576	29.56	0.84

Sampler w/Orifice		
dPex	Qa(CFM)	Qa(M3/m)
1.57	31.08	0.88

Sampler Audit Relationship		
m =	0.026	
b =	0.062	
r =	0.999	
	pm10	tsp
Set Point (cfm)	40.0	50.0
Set Point (H2O)	2.8	4.2

AUDIT SPREADSHEET FOR PARTICULATES

Month	Ts	Ps
Jan	288.8	693.9
Feb	292.4	693.2
Mar	296.0	692.8
Apr	298.9	692.9
May	300.6	692.9
June	300.3	693.4
Jul	297.6	694.0
Aug	293.8	694.5
Sep	290.1	694.9
Oct	287.2	695.3
Nov	285.8	695.2
Dec	286.5	694.7

Sampler: Los Amigos **Ts =** 300.3
Audit Date: 06/18/09 **Ps =** 693.4
Motor: 1419 **Temp c =** 30.56
Temp f: 87.00 **Ta =** 303.6
Press: 27.226 **Pa =** 691.5
Altim: 29.890 **Orifice Calibration Relationship**
 m= 1.30507 b= -0.03648

Plate No.	Orifice dH20	Qa Orifice	Sampler dPex	Sampler dPext
18	3.25	33.3	1.42	0.79
13	2.75	30.7	1.13	0.70
10	2.30	28.2	0.90	0.63
7	1.58	23.5	0.51	0.47
5	1.05	19.4	0.25	0.33

Orifice dH2O 2.186
 Sample dPex 0.80
 Orifice Qa(m3/m) 0.778541
 Sample Qa dPex 27.70211

Orifice		
dH2O	Qa(CFM)	Qa(M3/m)
2.186	27.48	0.78

Sampler w/Orifice		
dPex	Qa(CFM)	Qa(M3/m)
0.84	28.60	0.81

Sampler Audit Relationship		
m =	0.033	
b =	-0.300	
r =	1.000	
	pm10	tsp
Set Point (cfm)	40.5	50.7
Set Point (H2O)	2.4	4.2

Audit flow rate % diff: 4.02 %

AUDIT SPREADSHEET FOR PARTICULATES

Month	Ts	Ps
Jan	288.8	693.9
Feb	292.4	693.2
Mar	296.0	692.8
Apr	298.9	692.9
May	300.6	692.9
June	300.3	693.4
Jul	297.6	694.0
Aug	293.8	694.5
Sep	290.1	694.9
Oct	287.2	695.3
Nov	285.8	695.2
Dec	286.5	694.7

Sampler: Los Niños **Ts =** 300.3
Audit Date: 06/19/09 **Ps =** 693.4
Motor: 1421 **Temp c =** 27.78
Temp f: 82.00 **Ta =** 300.8
Press: 27.226 **Pa =** 691.5
Altim: 29.890 **Orifice Calibration Relationship**
 m= 1.30507 b= -0.03648

Plate No.	Orifice dH20	Qa Orifice	Sampler dPex	Sampler dPext
18	3.20	32.9	1.29	0.75
13	2.80	30.8	1.04	0.67
10	2.37	28.5	0.83	0.60
7	1.61	23.6	0.50	0.47
5	1.06	19.4	0.21	0.30

Orifice dH2O 2.208
 Sample dPex 0.80
 Orifice Qa(m3/m) 0.778849
 Sample Qa dPex 27.72558

Orifice		
dH2O	Qa(CFM)	Qa(M3/m)
2.208	27.49	0.78

Sampler w/Orifice		
dPex	Qa(CFM)	Qa(M3/m)
0.77	28.61	0.81

Sampler Audit Relationship		
m =	0.032	
b =	-0.308	
r =	0.996	
	pm10	tsp
Set Point (cfm)	40.2	50.2
Set Point (H2O)	2.2	3.9

Audit flow rate % diff: 4.02 %

AUDIT SPREADSHEET FOR PARTICULATES

Month	Ts	Ps
Jan	288.8	693.9
Feb	292.4	693.2
Mar	296.0	692.8
Apr	298.9	692.9
May	300.6	692.9
June	300.3	693.4
Jul	297.6	694.0
Aug	293.8	694.5
Sep	290.1	694.9
Oct	287.2	695.3
Nov	285.8	695.2
Dec	286.5	694.7

Sampler: Ocotillo #1 **Ts =** 300.3
Audit Date: 06/19/09 **Ps =** 693.4
Motor: 1420 **Temp c =** 26.11
Temp f: 79.00 **Ta =** 299.1
Press: 27.226 **Pa =** 691.5
Altim: 29.890 **Orifice Calibration Relationship**
 m= 1.30507 b= -0.03648

Plate No.	Orifice dH20	Qa Orifice	Sampler dPex	Sampler dPext
18	3.39	33.7	1.38	0.77
13	2.86	31.1	1.09	0.69
10	2.41	28.6	0.86	0.61
7	1.65	23.8	0.51	0.47
5	1.08	19.5	0.22	0.31

Orifice dH2O 2.278
 Sample dPex 0.80
 Orifice Qa(m3/m) 0.788543
 Sample Qa dPex 28.07509

Orifice		
dH2O	Qa(CFM)	Qa(M3/m)
2.278	27.84	0.79

Sampler w/Orifice		
dPex	Qa(CFM)	Qa(M3/m)
0.81	28.98	0.82

Sampler Audit Relationship		
m =	0.032	
b =	-0.308	
r =	0.998	
	pm10	tsp
Set Point (cfm)	39.9	49.9
Set Point (H2O)	2.2	3.9

Audit flow rate % diff: 4.08 %

AUDIT SPREADSHEET FOR PARTICULATES

Month	Ts	Ps
Jan	288.8	693.9
Feb	292.4	693.2
Mar	296.0	692.8
Apr	298.9	692.9
May	300.6	692.9
June	300.3	693.4
Jul	297.6	694.0
Aug	293.8	694.5
Sep	290.1	694.9
Oct	287.2	695.3
Nov	285.8	695.2
Dec	286.5	694.7

Sampler: Ocotillo #2 **Ts =** 300.3
Audit Date: 06/19/09 **Ps =** 693.4
Motor: 1417 **Temp c =** 26.11
Temp f: 79.00 **Ta =** 299.1
Press: 27.226 **Pa =** 691.5
Altim: 29.890 **Orifice Calibration Relationship**
 m= 1.30507 b= -0.03648

Plate No.	Orifice dH20	Qa Orifice	Sampler dPex	Sampler dPext
18	3.68	35.1	1.61	0.83
13	3.14	32.5	1.36	0.77
10	2.64	29.9	1.10	0.69
7	1.79	24.8	0.70	0.55
5	1.17	20.2	0.38	0.41

Orifice dH2O 2.484
 Sample dPex 1.00
 Orifice Qa(m3/m) 0.822189
 Sample Qa dPex 29.14246

Orifice		
dH2O	Qa(CFM)	Qa(M3/m)
2.484	29.02	0.82

Sampler w/Orifice		
dPex	Qa(CFM)	Qa(M3/m)
1.03	30.28	0.86

Sampler Audit Relationship		
m =	0.029	
b =	-0.170	
r =	0.999	
	pm10	tsp
Set Point (cfm)	39.9	49.9
Set Point (H2O)	2.2	3.7

Audit flow rate % diff: 4.30 %

AUDIT SPREADSHEET FOR PARTICULATES

Month	Ts	Ps
Jan	288.8	693.9
Feb	292.4	693.2
Mar	296.0	692.8
Apr	298.9	692.9
May	300.6	692.9
June	300.3	693.4
Jul	297.6	694.0
Aug	293.8	694.5
Sep	290.1	694.9
Oct	287.2	695.3
Nov	285.8	695.2
Dec	286.5	694.7

Sampler: Transportation **Ts =** 300.3
Audit Date: 06/19/09 **Ps =** 693.4
Motor: 1422 **Temp c =** 26.67
Temp f: 80.00 **Ta =** 299.7
Press: 27.226 **Pa =** 691.5
Altim: 29.890 **Orifice Calibration Relationship**
 m= 1.30507 b= -0.03648

Plate No.	Orifice dH2O	Qa Orifice	Sampler dPex	Sampler dPext
18	3.00	31.8	1.29	0.75
13	2.58	29.6	1.05	0.67
10	2.24	27.6	0.88	0.62
7	1.51	22.9	0.59	0.51
5	1.00	18.8	0.34	0.38

Orifice dH2O 2.066
 Sample dPex 0.80
 Orifice Qa(m3/m) 0.752960
 Sample Qa dPex 26.65991

Audit flow rate % diff: 4.33 %

dH2O	Orifice	
	Qa(CFM)	Qa(M3/m)
2.066	26.58	0.75

dPex	Sampler w/Orifice	
	Qa(CFM)	Qa(M3/m)
0.83	27.74	0.79

Sampler Audit Relationship		
m =	0.027	
b =	-0.124	
r =	0.997	
	pm10	tsp
Set Point (cfm)	40.0	50.0
Set Point (H2O)	2.1	3.5