



Pima County
Department of Environmental Quality
Air Monitoring Division

Beryllium Monitoring Network Summary
1st Quarter 2008



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

Summary

PDEQ reports that there have been only minor problems with the beryllium monitoring network during the 1st quarter of 2008. One of the problems observed were motor malfunctions on the Chaparral Middle School sampler. The original motor was performing with an unacceptable drift in the flow which resulted in the average motor flow rate being outside of the operational requirements. The malfunctioning motor was replaced with a new motor, and was in operation for a total of 8 sampling runs before it also developed problems that resulted in the motor burning up. A third motor was installed and is currently operating with satisfactory results. The two malfunctioning motors have been sent back to the supplier for repair and/or replacement. The motor problems resulted in three samples being invalidated. The only other problem observed was a group of filters not being changed due to bad, rainy weather. SUSD personnel were informed that any time a filter change cannot be performed, PDEQ is to be notified so arraignments can be made.

For the 1st quarter of 2008 there was a total of 110 samples collected resulting in 93 valid and 17 invalid samples; for a data recovery of 84.5%. Six 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 93 samples (including three field blank) analyzed for beryllium. Beryllium concentrations are reported as $<0.001 \mu\text{g}/\text{m}^3$, which is stated by the lab as the Minimum Reporting limit (MRL) for the graphite furnace atomic absorption spectroscopy (GFAAS) type of analysis.

The following pages display the sampling dates, sampling locations, PM_{10} concentrations ($\mu\text{g}/\text{m}^3$) calculated in standard conditions, PM_{10} 24-hour NAAQS standard, precision measurements, Beryllium analysis results, accompanying graphs and a brief explanation of all invalid samples for each month of the 1st quarter of 2008.

PM₁₀ /Beryllium Concentrations

Monthly Summary of PM₁₀/Beryllium Data

January - 2008

Date	Location	Standard Concentration PM ₁₀ (µg/m ³)	24-hour NAAQS PM ₁₀ (µg/m ³)	Beryllium (µg/m ³)
01/01/08	Ocotillo #1	40.5	150	<0.001
01/01/08	Ocotillo #2	45.9	150	<0.001
01/02/08	Los Amigos	40.5	150	<0.001
01/03/08	Los Niños	21.6	150	<0.001
01/04/08	Chaparral M.S.	11.1	150	<0.001
01/05/08	Transportation Bldg	9.2	150	<0.001
01/06/08	Sunnyside H.S.	5.1	150	<0.001
01/07/08	Ocotillo #1	9.4	150	<0.001
01/07/08	Ocotillo #2	9.0	150	<0.001
01/08/08	Los Amigos	9.6	150	<0.001
01/09/08	Los Niños	13.5	150	<0.001
01/10/08	Chaparral M.S.	INVALID	150	<0.001
01/11/08	Transportation Bldg	16.9	150	<0.001
01/12/08	Sunnyside H.S.	13.2	150	<0.001
01/13/08	Ocotillo #1	11.6	150	<0.001
01/13/08	Ocotillo #2	12.4	150	<0.001
01/14/08	Los Amigos	22.3	150	<0.001
01/15/08	Los Niños	15.8	150	<0.001
01/16/08	Chaparral M.S.	16.9	150	<0.001
01/17/08	Transportation Bldg	25.6	150	<0.001
01/18/08	Sunnyside H.S.	32.2	150	<0.001
01/19/08	Ocotillo #1	17.8	150	<0.001
01/19/08	Ocotillo #2	21.9	150	<0.001
01/20/08	Los Amigos	17.3	150	<0.001
01/21/08	Los Niños	22.2	150	<0.001
01/22/08	Chaparral M.S.	27.9	150	<0.001
01/23/08	Transportation Bldg	24.9	150	<0.001
01/24/08	Sunnyside H.S.	21.5	150	<0.001
01/25/08	Ocotillo #1	INVALID	150	<0.001
01/25/08	Ocotillo #2	14.2	150	<0.001
01/26/08	Los Amigos	4.4	150	<0.001
01/27/08	Los Niños	6.1	150	<0.001
01/28/08	Chaparral M.S.	INVALID	150	<0.001
01/29/08	Transportation Bldg	INVALID	150	<0.001
01/30/08	Sunnyside H.S.	20.5	150	<0.001
01/31/08	Ocotillo #1	13.2	150	<0.001
01/31/08	Ocotillo #2	14.8	150	<0.001

Sample running on 01/10/08 invalid due to sampler average flow being too high (range = 36-44 CFM).

Sample running on 01/25/08 invalid due to the corner of the filter missing resulting in an invalid representative weight.

Sample running on 01/28/08 invalid due to the sampler average flow being too low (range = 36-44 CFM).

Sample running on 01/29/08 invalid due to double exposure.

Note: All invalid samples due to double exposure are the result of filters not being changed by SUSD.

NAAQS = National Ambient Air Quality Standard for PM₁₀

PM₁₀ /Beryllium Concentrations (continued)

Monthly Summary of PM₁₀/Beryllium Data

February - 2008

Date	Location	Standard Concentration PM₁₀ (µg/m³)	24-hour NAAQS PM₁₀ (µg/m³)	Beryllium (µg/m³)
02/01/08	Los Amigos	11.4	150	<0.001
02/02/08	Los Niños	13.8	150	<0.001
02/03/08	Chaparral M.S.	INVALID	150	<0.001
02/04/08	Transportation Bldg	INVALID	150	<0.001
02/05/08	Sunnyside H.S.	11.9	150	<0.001
02/06/08	Ocotillo #1	18.6	150	<0.001
02/06/08	Ocotillo #2	21.5	150	<0.001
02/07/08	Los Amigos	20.4	150	<0.001
02/08/08	Los Niños	INVALID	150	<0.001
02/09/08	Chaparral M.S.	19.9	150	<0.001
02/10/08	Transportation Bldg	21.3	150	<0.001
02/11/08	Sunnyside H.S.	INVALID	150	<0.001
02/12/08	Ocotillo #1	INVALID	150	<0.001
02/12/08	Ocotillo #2	INVALID	150	<0.001
02/13/08	Los Amigos	INVALID	150	<0.001
02/14/08	Los Niños	INVALID	150	<0.001
02/15/08	Chaparral M.S.	4.2	150	<0.001
02/16/08	Transportation Bldg	11.6	150	<0.001
02/17/08	Sunnyside H.S.	INVALID	150	<0.001
02/18/08	Ocotillo #1	INVALID	150	<0.001
02/18/08	Ocotillo #2	INVALID	150	<0.001
02/19/08	Los Amigos	INVALID	150	<0.001
02/20/08	Los Niños	16.5	150	<0.001
02/21/08	Chaparral M.S.	19.4	150	<0.001
02/22/08	Transportation Bldg	13.2	150	<0.001
02/23/08	Sunnyside H.S.	16.2	150	<0.001
02/24/08	Ocotillo #1	23.3	150	<0.001
02/24/08	Ocotillo #2	16.7	150	<0.001
02/25/08	Los Amigos	23.0	150	<0.001
02/26/08	Los Niños	20.4	150	<0.001
02/27/08	Chaparral M.S.	15.7	150	<0.001
02/28/08	Transportation Bldg	21.2	150	<0.001
02/29/08	Sunnyside H.S.	29.1	150	<0.001

Sample running on 02/03/08 invalid due to sampler average flow too low (range = 36-44 CFM)

Samples running on 02/04/08, 02/08/08, 02/11/08, 02/12/08, 02/13/08, 02/14/08, 02/17/08, 02/18/08 and 02/19/08 invalid due to double exposure.

Note: All invalid samples due to double exposure are the result of filters not being changed by SUSD.

NAAQS = National Ambient Air Quality Standard for PM₁₀

PM₁₀ /Beryllium Concentrations (continued)

Monthly Summary of PM₁₀/Beryllium Data

March - 2008

Date	Location	Standard Concentration PM₁₀ (µg/m³)	24-hour NAAQS PM₁₀ (µg/m³)	Beryllium (µg/m³)
03/01/08	Ocotillo #1	26.8	150	<0.001
03/01/08	Ocotillo #2	26.4	150	<0.001
03/02/08	Los Amigos	29.1	150	<0.001
03/03/08	Los Niños	22.6	150	<0.001
03/04/08	Chaparral M.S.	INVALID	150	<0.001
03/05/08	Transportation Bldg	28.0	150	<0.001
03/06/08	Sunnyside H.S.	20.8	150	<0.001
03/07/08	Ocotillo #1	19.6	150	<0.001
03/07/08	Ocotillo #2	20.3	150	<0.001
03/08/08	Los Amigos	19.2	150	<0.001
03/09/08	Los Niños	17.4	150	<0.001
03/10/08	Chaparral M.S.	16.9	150	<0.001
03/11/08	Transportation Bldg	26.4	150	<0.001
03/12/08	Sunnyside H.S.	31.1	150	<0.001
03/13/08	Ocotillo #1	23.3	150	<0.001
03/13/08	Ocotillo #2	25.3	150	<0.001
03/14/08	Los Amigos	54.9	150	<0.001
03/15/08	Los Niños	21.9	150	<0.001
03/16/08	Chaparral M.S.	16.1	150	<0.001
03/17/08	Transportation Bldg	7.5	150	<0.001
03/18/08	Sunnyside H.S.	17.1	150	<0.001
03/19/08	Ocotillo #1	21.9	150	<0.001
03/19/08	Ocotillo #2	22.3	150	<0.001
03/20/08	Los Amigos	22.7	150	<0.001
03/21/08	Los Niños	21.5	150	<0.001
03/22/08	Chaparral M.S.	24.3	150	<0.001
03/23/08	Transportation Bldg	23.7	150	<0.001
03/24/08	Sunnyside H.S.	46.3	150	<0.001
03/25/08	Ocotillo #1	28.1	150	<0.001
03/25/08	Ocotillo #2	29.2	150	<0.001
03/26/08	Los Amigos	30.4	150	<0.001
03/27/08	Los Niños	24.4	150	<0.001
03/28/08	Chaparral M.S.	21.8	150	<0.001
03/29/08	Transportation Bldg	16.8	150	<0.001
03/30/08	Sunnyside H.S.	23.2	150	<0.001
03/31/08	Ocotillo #1	24.4	150	<0.001
03/31/08	Ocotillo #2	24.2	150	<0.001

Sample running on 03/04/08 invalid due to no post flow rate annotated by SUSD on chart recorder resulting in PDEQ not being able to calculate an average flow rate.

NAAQS = National Ambient Air Quality Standard for PM₁₀

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LABORATORY ANALYSIS REPORT

High-Volume Filter Beryllium Analysis by NIOSH 7102M

ACCOUNT #: 3690-08-3
CLIENT: Pima County Procurement Department
ADDRESS: 150 West Congress, 1st Floor
Tucson, AZ 85701

DATE COLLECTED: 01/01/2008
DATE RECEIVED: 02/13/2008
DATE ANALYZED: 02/27/2008
DATE REPORTED: 2/28/2008

PROJECT NAME: PDEQ Beryllium Study

JOB LOCATION: Tucson, Arizona

PROJECT NO.:

PO NO.: B504685 Rev. No: 000

Sample Type: PM10

SLI Sample No.	Client Sample No.	Filter Type	Filter Sample Date	Sample Location	Flow Rate (L/min)	Sample Volume (m ³)	Total Beryllium (µg)*	Beryllium Conc (µg/m ³)
29630126	Q4113530	PM10	1/1/08	Ocotillo Elementary #1	1127.30	1,541.14	<0.20	<0.001
29630413	Q4113529	PM10	1/1/08	Ocotillo Elementary #2	1105.20	1,510.89	< 0.20	< 0.001
29630414	Q4113528	PM10	1/2/08	Los Amigos Elementary	1100.30	1,504.30	< 0.20	< 0.001
29630415	Q4113527	PM10	1/3/08	Los Niños Elementary	1141.60	1,560.69	< 0.20	< 0.001
29630416	Q4113526	PM10	1/4/08	Chaparral Middle School	1143.80	1,563.66	< 0.20	< 0.001
29630417	Q4113525	PM10	1/5/08	Transportation Building	1167.70	1,584.40	< 0.20	< 0.001
29630418	Q4113524	PM10	1/6/08	Sunnyside High School	1137.50	1,543.38	< 0.20	< 0.001
29630419	Q4113523	PM10	1/7/08	Ocotillo Elementary #1	1133.50	1,537.90	< 0.20	< 0.001
29630420	Q4113522	PM10	1/7/08	Ocotillo Elementary #2	1150.50	1,561.01	< 0.20	< 0.001
29630127	Q4113521	PM10	1/8/08	Los Amigos Elementary	1145.40	1,565.97	< 0.20	< 0.001
29630421	Q4113520	PM10	1/9/08	Los Niños Elementary	1194.50	1,633.01	< 0.20	< 0.001
29630422	Q4113517	PM10	1/11/08	Transportation Building	1155.20	1,567.40	< 0.20	< 0.001
29630424	Q4113515	PM10	1/13/08	Ocotillo Elementary #1	1183.30	1,605.53	< 0.20	< 0.001
29630425	Q4113514	PM10	1/13/08	Ocotillo Elementary #2	1210.80	1,642.79	< 0.20	< 0.001
29630426	Q4113513	PM10	1/14/08	Los Amigos Elementary	1132.00	1,535.87	< 0.20	< 0.001
29630128	Q4113512	PM10	1/15/08	Los Niños Elementary	1168.30	1,585.14	< 0.20	< 0.001
29630427	Q4113500	PM10	1/16/08	Chaparral Middle School	1088.60	1,477.01	< 0.20	< 0.001
29630428	Q4113510	PM10	1/17/08	Transportation Building	1180.10	1,601.21	< 0.20	< 0.001
29630429	Q4113509	PM10	1/18/08	Sunnyside High School	1150.60	1,561.19	< 0.20	< 0.001

Total Number of Pages in Report: 2

. Results relate only to samples as received by the laboratory

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LABORATORY ANALYSIS REPORT

High-Volume Filter Beryllium Analysis by NIOSH 7102M

ACCOUNT #: 3690-08-4 **DATE COLLECTED:** 2/1/2008
CLIENT: Pima County Procurement Department **DATE RECEIVED:** 3/18/2008
ADDRESS: 150 West Congress **DATE ANALYZED:** 4/2/2008
Tucson, AZ 85701 **DATE REPORTED:** 4/3/2008

PROJECT NAME: PDEQ Beryllium Study
JOB LOCATION: Tucson, AZ

PROJECT NO.:

PO NO.: B504685 Rev. No: 000

Sample Type: PM10

SLI Sample No.	Client Sample No.	Filter Type	Filter Sample Date	Sample Location	Flow Rate (L/min)	Sample Volume (m ³)	Total Beryllium (µg)*	Beryllium Conc. (µg/m ³)
29667590	Q4113619	PM10	2/1/08	Los Amigos Elementary	1132.00	1,535.87	<0.20	<0.001
29667591	Q4113618	PM10	2/2/08	Los Niños Elementary	1180.50	1,601.69	< 0.20	< 0.001
29667460	Q4113615	PM10	2/5/08	Sunnyside High School	1137.00	1,543.59	< 0.20	< 0.001
29667592	Q4113614	PM10	2/6/08	Ocotillo Elementary #1	1107.60	1,502.84	< 0.20	< 0.001
29667593	Q4113613	PM10	2/6/08	Ocotillo Elementary #2	1099.50	1,491.82	< 0.20	< 0.001
29667594	Q4113611	PM10	2/7/08	Los Amigos Elementary	1106.60	1,501.44	< 0.20	< 0.001
29667595	Q4113609	PM10	2/9/08	Chaparral Middle School	1131.70	1,515.07	< 0.20	< 0.001
29667461	Q4113608	PM10	2/10/08	Transportation Building	1192.00	1,618.09	< 0.20	< 0.001
29667596	Q4113602	PM10	2/15/08	Chaparral Middle School	1131.70	1,515.07	< 0.20	< 0.001
29667597	Q4113601	PM10	2/16/08	Transportation Building	1129.70	1,532.77	< 0.20	< 0.001
29667598	Q4113596	PM10	2/20/08	Los Niños Elementary	1143.40	1,551.44	< 0.20	< 0.001
29667462	Q4113595	PM10	2/21/08	Chaparral Middle School	1183.00	1,584.57	< 0.20	< 0.001
29667599	Q4113594	PM10	2/22/08	Transportation Building	1155.20	1,567.40	< 0.20	< 0.001
29667600	Q4113593	PM10	2/23/08	Sunnyside High School	1097.40	1,489.02	< 0.20	< 0.001
29667601	Q4113592	PM10	2/24/08	Ocotillo Elementary #1	1120.60	1,520.48	< 0.20	< 0.001
29667602	Q4113591	PM10	2/24/08	Ocotillo Elementary #2	1125.30	1,526.87	< 0.20	< 0.001
29667603	Q4113590	PM10	2/25/08	Los Amigos Elementary	1119.30	1,518.75	< 0.20	< 0.001
29667463	Q4113589	PM10	2/26/08	Los Niños Elementary	1104.00	1,499.35	< 0.20	< 0.001
29667604	Q4113588	PM10	2/27/08	Chaparral Middle School	1091.30	1,461.00	< 0.20	< 0.001

Total Number of Pages in Report: 2

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SLI Sample No.	Client Sample No.	Filter Type	Filter Sample Date	Sample Location	Flow Rate (L/min)	Sample Volume (m ³)	Total Beryllium (µg)*	Beryllium Conc (µg/m ³)
29667605	Q4113587	PM10	2/28/08	Transportation Building	1142.50	1,550.19	< 0.20	< 0.001
29667606	Q4113586	PM10	2/29/08	Sunnyside High School	1137.50	1,543.38	< 0.20	< 0.001
29667607	Q4113612	PM10	2/6/08	FIELD BLANK			<0.20	<0.001

Analysis Run ID: 41391

Analyst: JIM P. ANDERSON

Total Number of Pages in Report: 1 Reviewed By


 Reviewed By **James P. Anderson, Metals Supervisor**

Results relate only to samples as received by the laboratory. Visit www.slabin.com for current certifications.

Results below the Minimum Reporting Limit have been calculated according to the client's request.

*Minimum Reporting Limit: 0.2 µg Total Beryllium. Volume is based on client-supplied information. 24h TWA assumes zero concentration for time not sampled. Results are not blank-corrected unless noted by analyst. Quality control data is available from the laboratory upon request. *Data precision justifies 2 significant figures. Unusual sample conditions, if any, are described.*

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LABORATORY ANALYSIS REPORT

High-Volume Filter Beryllium Analysis by NIOSH 7102M

ACCOUNT #: 3690-08-5

CLIENT: Pima County Procurement Department

ADDRESS: 150 West Congress
Tucson, AZ 85701

PROJECT NAME: PDEQ Beryllium Study

JOB LOCATION: Tucson, Arizona

PROJECT NO.: PO NO.: B504685 Rev. No: 000

DATE COLLECTED: 4/9/2008

DATE RECEIVED: 4/9/2008

DATE ANALYZED: 5/11/2008

DATE REPORTED: 5/12/2008

Sample Type: PM10

SLI Sample No.	Client Sample No.	Filter Type	Filter Sample Date	Sample Location	Flow Rate (L/min)	Sample Volume (m ³)	Total Beryllium (µg)*	Beryllium Conc (µg/m ³)
29694355	Q4113585	PM10	3/1/08	Ocotillo Elementary #1	1195.40	1,621.97	< 0.20	< 0.001
29694356	Q4113584	PM10	3/1/08	Ocotillo Elementary #2	1199.00	1,626.81	< 0.20	< 0.001
29694357	Q4113583	PM10	3/2/08	Los Amigos Elementary	1156.80	1,569.55	< 0.20	< 0.001
29694485	Q4113582	PM10	3/3/08	Los Niños Elementary	1192.5	1618.04	< 0.20	< 0.001
29694358	Q4113580	PM10	3/5/08	Transportation Building	1180.10	1,601.21	< 0.20	< 0.001
29694359	Q4113579	PM10	3/6/08	Sunnyside H.S.	1110.90	1,507.30	< 0.20	< 0.001
29694360	Q4113578	PM10	3/7/08	Ocotillo Elementary #1	1094.50	1,484.98	< 0.20	< 0.001
29694361	Q4113577	PM10	3/7/08	Ocotillo Elementary #2	1125.30	1,526.87	< 0.20	< 0.001
29694362	Q4113576	PM10	3/8/08	Los Amigos Elementary	1093.70	1,483.93	< 0.20	< 0.001
29694363	Q4113575	PM10	3/9/08	Los Niños Elementary	1091.80	1,481.32	< 0.20	< 0.001
29694364	Q4113574	PM10	3/10/08	Chaparral M.S.	1170.70	1,567.25	< 0.20	< 0.001
29694486	Q4113572	PM10	3/11/08	Transportation Building	1140.00	1546.73	< 0.20	< 0.001
29694365	Q4113571	PM10	3/12/08	Sunnyside H.S.	1148.00	1,557.64	< 0.20	< 0.001
29694366	Q4113570	PM10	3/13/08	Ocotillo Elementary #1	1163.60	1,578.86	< 0.20	< 0.001
29694367	Q4113569	PM10	3/13/08	Ocotillo Elementary #2	1189.50	1,613.90	< 0.20	< 0.001
29694368	Q4113568	PM10	3/14/08	Los Amigos Elementary	1156.80	1,569.55	< 0.20	< 0.001
29694369	Q4113567	PM10	3/15/08	Los Niños Elementary	1130.80	1,534.26	< 0.20	< 0.001
29694370	Q4113566	PM10	3/16/08	Chaparral M.S.	1175.80	1,560.54	< 0.20	< 0.001
29694371	Q4113565	PM10	3/17/08	Transportation Building	1150.10	1,560.54	< 0.20	< 0.001

Total Number of Pages in Report: 2

Results relate only to samples as received by the laboratory.

SLI Sample No.	Client Sample No.	Filter Type	Filter Sample Date	Sample Location	Flow Rate (L/min)	Sample Volume (m ³)	Total Beryllium (µg)*	Beryllium Conc (µg/m ³)
29694487	Q4113564	PM10	3/18/08	Sunnyside H.S.	1163.60	1,578.86	< 0.20	< 0.001
29694372	Q4113563	PM10	3/19/08	Ocotillo Elementary #1	1183.30	1,605.53	< 0.20	< 0.001
29694373	Q4113562	PM10	3/19/08	Ocotillo Elementary #2	1187.10	1,610.65	< 0.20	< 0.001
29694374	Q4113561	PM10	3/20/08	Los Amigos Elementary	1119.30	1518.75	<0.20	<0.001
29694375	Q4113560	PM10	3/21/08	Los Niños Elementary	1168.30	1585.14	<0.20	<0.001
29694376	Q4113559	PM10	3/22/08	Chaparral M.S.	1170.70	1567.25	<0.20	<0.001
29694377	Q4113558	PM10	3/23/08	Transportation Building	1155.20	1567.40	<0.20	<0.001
29694378	Q4113557	PM10	3/24/08	Sunnyside H.S.	1097.40	1489.02	<0.20	<0.001
29694488	Q4113556	PM10	3/25/08	Ocotillo Elementary #1	1107.60	1502.84	<0.20	<0.001
29694379	Q4113685	PM10	3/25/08	Ocotillo Elementary #2	1125.30	1526.87	<0.20	<0.001
29694380	Q4113684	PM10	3/26/08	Los Amigos Elementary	1093.70	1483.93	<0.20	<0.001
29694381	Q4113683	PM10	3/27/08	Los Niños Elementary	1104.90	1499.21	<0.20	<0.001
29694382	Q4113682	PM10	3/28/08	Chaparral M.S.	1143.00	1510.76	<0.20	<0.001
29694383	Q4113681	PM10	3/29/08	Transportation Building	1142.50	1550.19	<0.20	<0.001
29694384	Q4113680	PM10	3/30/08	Sunnyside H.S.	1110.90	1507.30	<0.20	<0.001
29694385	Q4113679	PM10	3/31/08	Ocotillo Elementary #1	1158.70	1572.11	<0.20	<0.001
29694386	Q4113678	PM10	3/31/08	Ocotillo Elementary #2	1175.00	1594.30	<0.20	<0.001
29694387	Q4113573	PM10	3/5/08	Field Blank			<0.20	<0.001

Analysis Run ID 41594

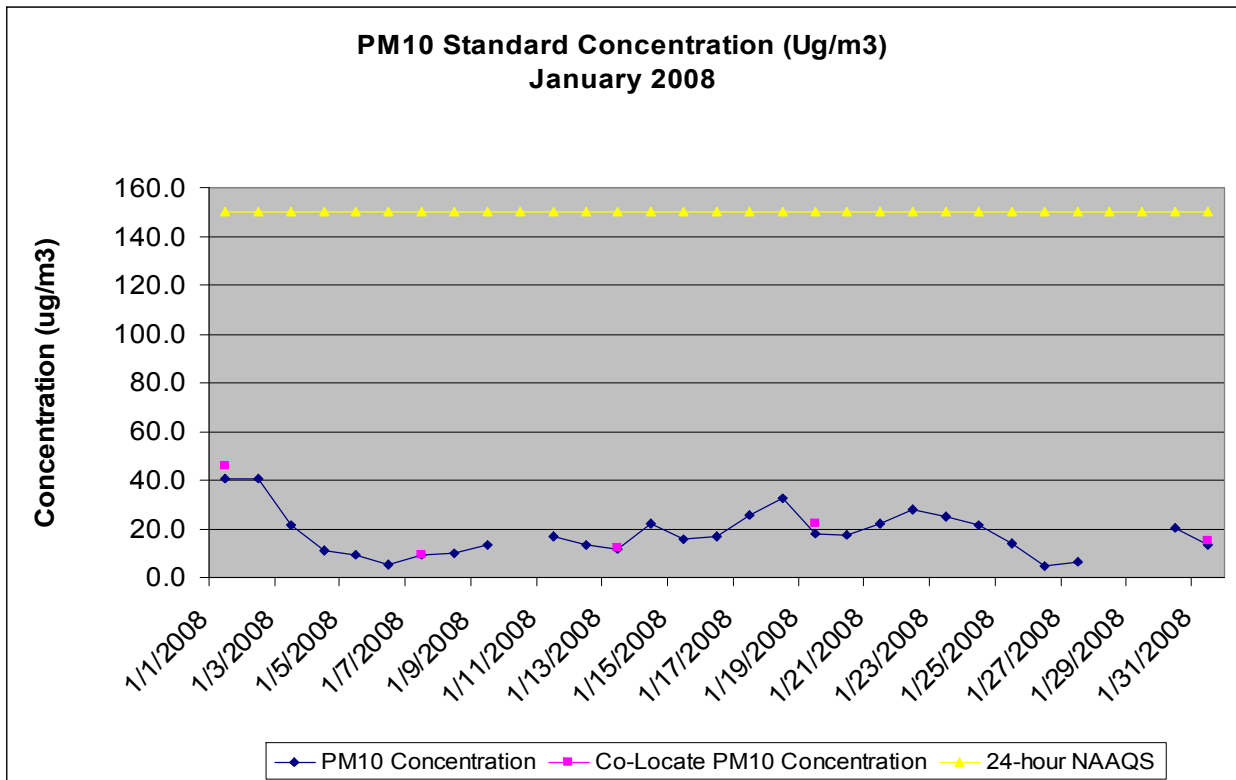
Analyst: JIM P. ANDERSON

Total Number of Pages in Report: 2 Reviewed By

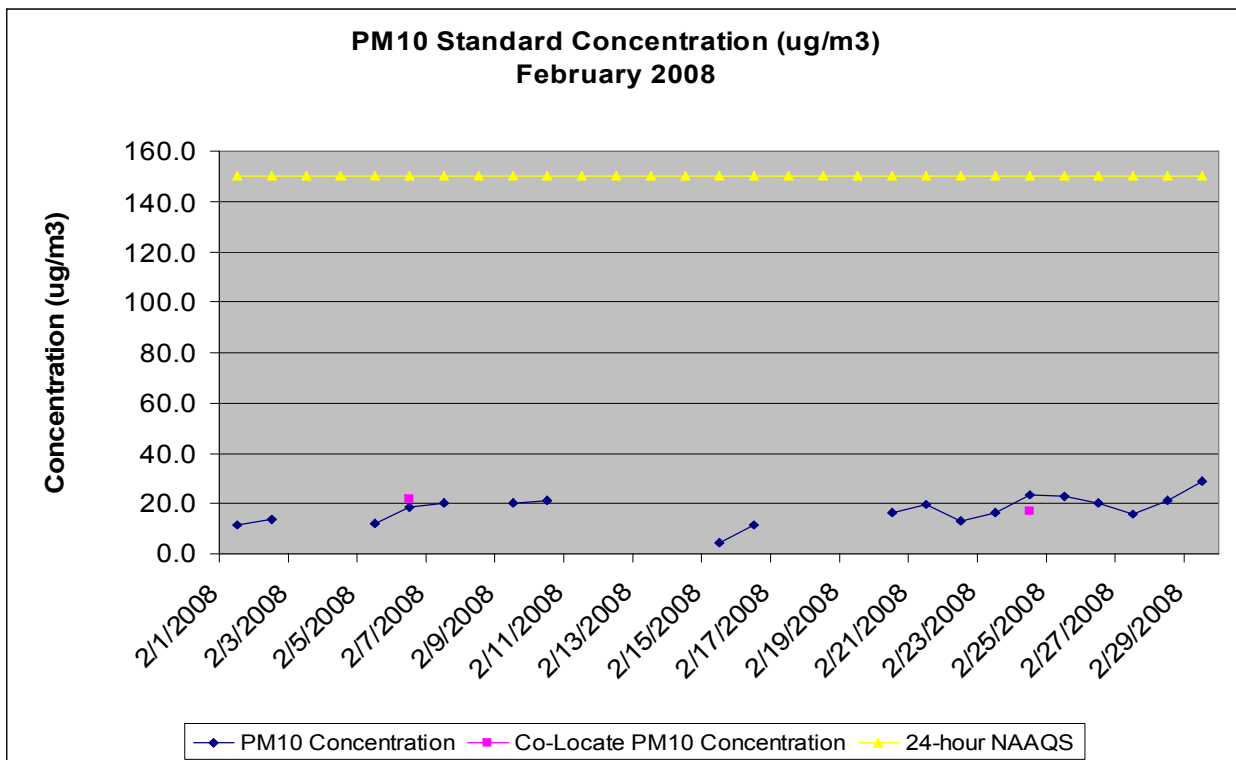
M. Todd Gibson
 Reviewed By **M. Todd Gibson, Metals Manager**

Results relate only to samples as received by the laboratory. Visit www.slabin.com for current certifications.**Amended Report**

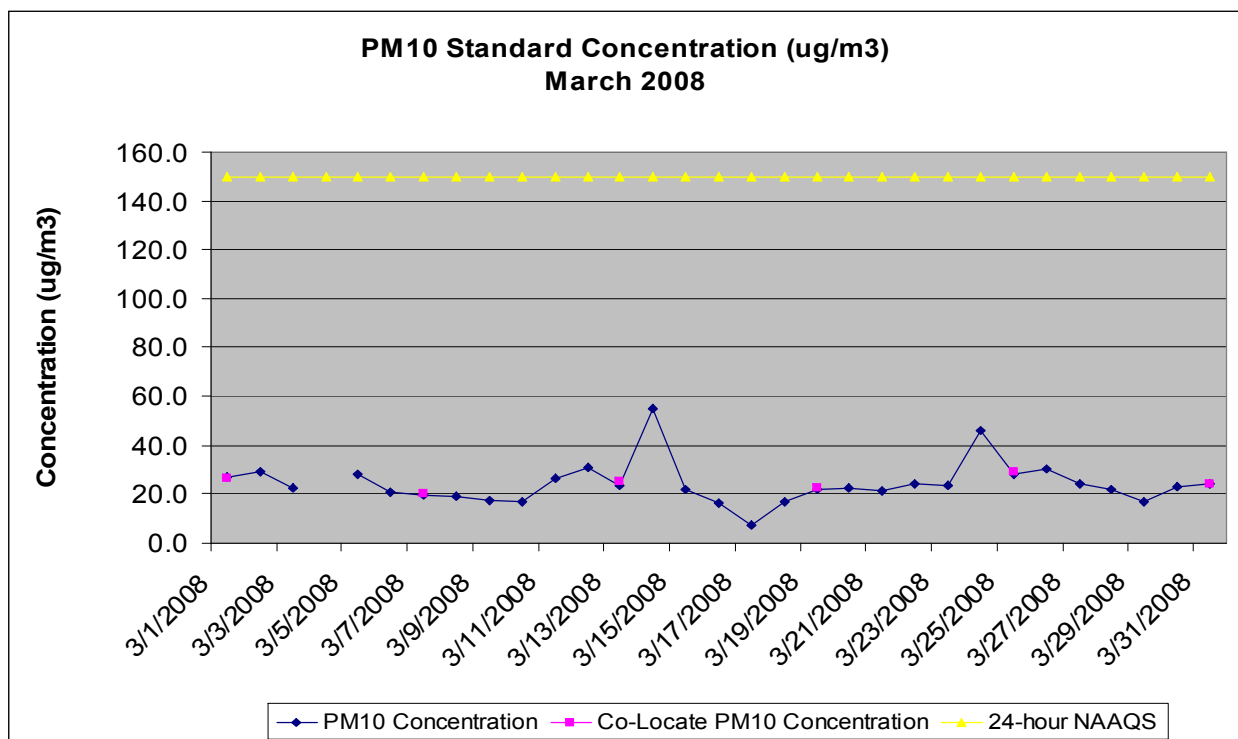
*Minimum Reporting Limit: 0.2 µg Total Beryllium. Volume is based on client-supplied information. 24h TWA assumes zero concentration for time not sampled. Results are not blank-corrected unless noted by analyst. Quality control data is available from the laboratory upon request. *Data precision justifies 2 significant figures. Unusual sample conditions, if any, are described.*



Samples running on 1/10/08 and 1/28/08 invalid due to sampler flow out of range
 Sample running on 1/25/08 invalid due to corner of filter missing
 Sample running on 1/29/08 invalid due to double exposure
 NAAQS = National Ambient Air Quality Standards for PM₁₀



Sample running on 2/3/08 invalid due to sampler flow out of range
 Samples running on 02/04/08, 02/08/08, 02/11/08, 02/12/08, 02/13/08, 02/14/08, 02/17/08, 02/18/08 and 02/19/08, invalid due to double exposure.
 NAAQS = National Ambient Air Quality Standards for PM₁₀



Sample running on 3/4/08 invalid due to no ending flow rate annotated on chart recorder.
 NAAQS = National Ambient Air Quality Standards for PM

Precision of Duplicate Pairs – PM10

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 %
1/1/08	1	40.5	2	45.9	5.4	12.50
3/1/08	1	26.8	2	26.4	0.4	-1.50
3/13/08	1	23.3	2	25.3	2.0	8.23
3/19/08	1	21.9	2	22.3	0.4	1.81
3/25/08	1	28.1	2	29.2	1.1	3.84
3/31/08	1	24.4	2	24.2	0.2	-0.82

Audit Results

Audits were performed on all of the samplers with the audit flow rate percent difference being at or below 5% for all samplers. 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 =** 296.0
Audit Date: 03/14/08 **Ps =** 692.8
Motor: 1423 **Temp c =** 23.50
Temp f: 74.3 **Ta =** 296.5
Press: 27.205 **Pa =** 691.0
Altim: 29.867 **Orifice Calibration Relationship**
 m= 1.31823 b= -0.05678

Plate No.	Orifice dH20	Qa Orifice	Sampler dPex	Sampler dPext
18	3.05	32.2	1.42	0.78
13	2.59	29.8	1.14	0.70
10	2.20	27.5	0.92	0.63
7	1.48	22.9	0.60	0.51
5	1.01	19.2	0.38	0.40

Orifice dH2O 2.066
 Sample dPex 0.9
 Orifice Qa(m3/m) 0.757319
 Sample Qa dPex 26.81591

Audit flow rate % diff: 4.28 %

Orifice		
dH2O	Qa(CFM)	Qa(M3/m)
2.066	26.73	0.76

Sampler w/Orifice		
dPex	Qa(CFM)	Qa(M3/m)
0.89	27.89	0.79

Sampler Audit Relationship		
m =	0.029	
b =	-0.146	
r =	0.997	
Set Point (cfm)	pm10	tsp
Set Point (H20)	40.2	50.2
	2.3	3.9

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 =** 296.0
Audit Date: 03/14/08 **Ps =** 692.8
Motor: 1418 **Temp c =** 23.40
Temp f: 74.12 **Ta =** 296.4
Press: 27.283 **Pa =** 693.0
Altim: 29.952 **Orifice Calibration Relationship**
 m= 1.31823 b= -0.05678

Plate No.	Orifice dH20	Qa Orifice	Sampler dPex	Sampler dPext
18	4.18	37.3	2.41	1.02
13	3.55	34.5	2.10	0.95
10	2.84	31.0	1.76	0.87
7	1.92	25.8	1.18	0.71
5	1.21	20.8	0.81	0.59

Orifice dH2O 2.740
 Sample dPex 1.7
 Orifice Qa(m3/m) 0.864288
 Sample Qa dPex 30.45781

Audit flow rate % diff: 5.00 %

Orifice		
dH2O	Qa(CFM)	Qa(M3/m)
2.740	30.51	0.86

Sampler w/Orifice		
dPex	Qa(CFM)	Qa(M3/m)
1.65	32.04	0.91

Sampler Audit Relationship		
m =	0.026	
b =	0.043	
r =	0.998	
Set Point (cfm)	pm10	tsp
Set Point (H20)	40.0	50.1
	2.8	4.3

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 =** 296.0
Audit Date: 03/19/08 **Ps =** 692.8
Motor: 1419 **Temp c =** 22.30
Temp f: 72.14 **Ta =** 295.3
Press: 27.441 **Pa =** 697.0
Altim: 30.122 **Orifice Calibration Relationship**
 m= 1.31823 b= -0.05678

Plate No.	Orifice dH20	Qa Orifice	Sampler dPex	Sampler dPext
18	3.66	34.9	1.66	0.84
13	3.16	32.5	1.37	0.76
10	2.66	30.0	1.07	0.67
7	1.78	24.8	0.62	0.51
5	1.17	20.4	0.30	0.36

Orifice dH2O 2.486
 Sample dPex 1.0
 Orifice Qa(m3/m) 0.8216
 Sample Qa dPex 29.21718

Audit flow rate % diff: 4.08 %

Orifice		
dH2O	Qa(CFM)	Qa(M3/m)
2.486	29.00	0.82

Sampler w/Orifice		
dPex	Qa(CFM)	Qa(M3/m)
1.00	30.20	0.86

Sampler Audit Relationship		
m =	0.033	
b =	-0.313	
r =	1.000	
pm10		tsp
Set Point (cfm)	39.7	49.6
Set Point (H20)	2.3	4.1

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 =** 296.0
Audit Date: 03/14/08 **Ps =** 692.8
Motor: 1421 **Temp c =** 25.30
Temp f: 77.54 **Ta =** 298.3
Press: 27.205 **Pa =** 691.0
Altim: 29.867 **Orifice Calibration Relationship**
 m= 1.31823 b= -0.05678

Plate No.	Orifice dH20	Qa Orifice	Sampler dPex	Sampler dPext
18	2.91	31.5	1.24	0.73
13	2.53	29.5	0.97	0.65
10	2.12	27.1	0.79	0.58
7	1.46	22.8	0.46	0.45
5	0.98	18.9	0.24	0.32

Orifice dH2O 2.0
 Sample dPex 0.7
 Orifice Qa(m3/m) 0.747948
 Sample Qa dPex 26.58738

Audit flow rate % diff: 3.96 %

Orifice		
dH2O	Qa(CFM)	Qa(M3/m)
2.0	26.40	0.75

Sampler w/Orifice		
dPex	Qa(CFM)	Qa(M3/m)
0.74	27.46	0.78

Sampler Audit Relationship		
m =	0.032	
b =	-0.282	
r =	0.998	
pm10		tsp
Set Point (cfm)	40.4	50.5
Set Point (H20)	2.3	4.1

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 =** 296.0
Audit Date: 03/14/08 **Ps =** 692.8
Motor: 1420 **Temp c =** 22.20
Temp f: 71.96 **Ta =** 295.2
Press: 27.283 **Pa =** 693.0
Altim: 29.952 **Orifice Calibration Relationship**
 m= 1.31823 b= -0.05678

Plate No.	Orifice dH20	Qa Orifice	Sampler dPex	Sampler dPext
18	3.81	35.6	1.62	0.83
13	3.18	32.7	1.34	0.76
10	2.70	30.2	1.02	0.66
7	1.78	24.8	0.56	0.49
5	1.09	19.8	0.25	0.33

Orifice dH2O 2.512
 Sample dPex 1.0
 Orifice Qa(m3/m) 0.827785
 Sample Qa dPex 29.47267

Audit flow rate % diff: 4.19 %

Orifice		
dH2O	Qa(CFM)	Qa(M3/m)
2.512	29.22	0.83

Sampler w/Orifice		
dPex	Qa(CFM)	Qa(M3/m)
0.96	30.46	0.86

Sampler Audit Relationship		
m =	0.032	
b =	-0.311	
r =	0.999	
Set Point (cfm)	pm10	tsp
Set Point (H20)	39.9	49.9
	2.2	3.9

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 =** 296.0
Audit Date: 03/14/08 **Ps =** 692.8
Motor: 1417 **Temp c =** 22.20
Temp f: 71.96 **Ta =** 295.2
Press: 27.283 **Pa =** 693.0
Altim: 29.952 **Orifice Calibration Relationship**
 m= 1.31823 b= -0.05678

Plate No.	Orifice dH20	Qa Orifice	Sampler dPex	Sampler dPext
18	3.86	35.9	1.68	0.85
13	3.22	32.9	1.38	0.77
10	2.66	30.0	1.10	0.68
7	1.75	24.6	0.69	0.54
5	1.16	20.3	0.38	0.40

Orifice dH2O 2.530
 Sample dPex 1.0
 Orifice Qa(m3/m) 0.830592
 Sample Qa dPex 29.43492

Audit flow rate % diff: 4.34 %

Orifice		
dH2O	Qa(CFM)	Qa(M3/m)
2.530	29.32	0.83

Sampler w/Orifice		
dPex	Qa(CFM)	Qa(M3/m)
1.05	30.60	0.87

Sampler Audit Relationship		
m =	0.028	
b =	-0.167	
r =	0.999	
Set Point (cfm)	pm10	tsp
Set Point (H20)	39.9	49.9
	2.2	3.6

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 =** 296.0
Audit Date: 03/14/08 **Ps =** 692.8
Motor: 1422 **Temp c =** 22.40
Temp f: 72.32 **Ta =** 295.4
Press: 27.244 **Pa =** 692.0
Altim: 29.910 **Orifice Calibration Relationship**
 m= 1.31823 b= -0.05678

Plate No.	Orifice dH20	Qa Orifice	Sampler dPex	Sampler dPext
18	3.58	34.6	1.62	0.83
13	3.02	31.9	1.31	0.75
10	2.48	29.1	1.04	0.67
7	1.62	23.8	0.68	0.54
5	1.05	19.5	0.38	0.40

Orifice dH2O 2.350
 Sample dPex 1.0
 Orifice Qa(m3/m) 0.80286
 Sample Qa dPex 28.42672

Audit flow rate % diff: 4.60 %

Orifice		
dH2O	Qa(CFM)	Qa(M3/m)
2.350	28.34	0.80

Sampler w/Orifice		
dPex	Qa(CFM)	Qa(M3/m)
1.01	29.60	0.84

Sampler Audit Relationship		
m =	0.028	
b =	-0.130	
r =	0.998	
	pm10	tsp
Set Point (cfm)	40.0	50.0
Set Point (H2O)	2.2	3.7