PM2.5 Performance Evaluations

Record Last Changed: 8/24/2012

PE Filter ID: T2635509 **AIRS Site Code: YBB101** POC: 1 Site Name

Distance from AQS Lat/long (m): **Sampler ID: BGI0590** AQS Site Addr:

AQS Site Name:

Filter Lot: 2011 Sampler Serial No.: 0590 Audited By: Reg4

PE Cassette ID: 8764 Companion Filter: Sampler Model: BGI PQ200A

Companion Cassette: Secondary Separator Type: WINS

PE Run Time	
PE Start Date:	**07/31/2012 0:00**
Elapsed Time (days):	0.999
PE Stop Date:	07/31/2012 23:59
Filter Removed Date:	08/01/2012 0:00

Concentration	
Measured by PE Sampler (µg/m³):	**18.976**
Measured by Site (µg/m³):	
Percent Difference:	

Field Flag:

Comment:

Sample Flow/Volume	
Flow Avg (L/min).:	16.71
Flow CV:	0.61
Sample Vol. (m³):	24.03

Ambient Sample Temperature (ºC)	
Average:	24.5
Minimum:	21.2
Maximum:	28.2

Barometric Pressure (mm Hg)	
Average:	754
Minimum:	753
Maximum:	758

Out of Spec.	
Time:	☐
Temperature:	☐
Flow:	☐

Field Verifications	
BP:	☑
Temperature:	☑
Flow:	☑

Field Blank	
Cassette ID:	
Filter ID:	
Pre- Wt. (mg):	
Post- Wt. (mg):	
Wt. Change (mg):	

Trip Blank	
Cassette ID:	
Filter ID:	
Pre- Wt. (mg):	
Post- Wt. (mg):	
Wt. Change (mg):	

Lab Blank	
Cassette ID:	N/A
Filter ID:	T2635515
Pre- Wt. (mg):	369.299
Post- Wt. (mg):	369.300
Wt. Change (mg):	0.001

Collocated Samplers	
Collocated:	☐
Count.:	
Std. Dev.:	
Mean:	
Max CV (%):	

	Pre-sample (Unexposed)			Post-sample (Exposed)			Pre/Post
Weigh Sessions							
Equilibration Tray:	TR12		07/13/2012 14:42	TR04		08/07/2012 15:46	
Equilibration Time (hours):	264			50			
Weigh Session ID:	000009671PML			000009710PML			(Sample Mass)
Holding Time (days):	7			9			
Filter Weight (mg):	372.303		07/24/2012 14:14	372.759		08/09/2012 17:01	0.456
Weighing Room Conditions							
Avg. Temperature (ºC):	21.4			21.4			
Temp. Std. Dev. (ºC):	0.091			0.1			(RH Diff.)
Avg. Relative Humidity (%):	36.9			36.8			-0.100
RH Std. Dev. (%):	0.513			0.511			
Batch Duplicates							
Filter ID:	T2635507			T2635500			
Primary Weight (mg):	390.302		07/24/2012 14:12	385.176		08/09/2012 16:54	
Duplicate Weight (mg):	390.302		07/24/2012 14:20	385.177		08/09/2012 17:12	
Weight Change (mg):	0.000			0.001			
Low Mass Balance Checks							
Verified Weight (mg):	300.002		04/30/2012 13:54	300.002		04/30/2012 13:54	
Minimum Weight (mg):	300.002	0.000	07/24/2012 14:11	300.000	-0.002	08/09/2012 17:04	(Max. Overall Wt. Diff.)
Maximum Weight (mg)	300.002	0.000	07/24/2012 14:11	300.004	0.002	08/09/2012 16:50	
Maximum Wt. Diff. (mg)	0.000			-0.002			-0.002
High Mass Balance Checks							
Verified Weight (mg):	500.002		04/30/2012 13:55	500.002		04/30/2012 13:55	
Minimum Weight (mg):	500.001	-0.001	07/24/2012 14:12	500.000	-0.002	08/09/2012 17:05	(Max. Overall Wt. Diff.)
Maximum Weight (mg):	500.002	0.000	07/24/2012 14:25	500.003	0.001	08/09/2012 17:19	
Maximum Wt. Diff. (mg):	-0.001			-0.002			-0.002

Lab Approval	
Valid Data:	☑
PE Rejected:	☐
Complete:	☑

QA Manager Approval	
Approval:	☑
Initials:	GN
Date:	11/1/2012

PM2.5 Performance Evaluations

Record Last Changed: 8/24/2012

PE Filter ID: T2635509 **AIRS Site Code: YBB101** POC: 1 Site Name

Distance from AQS Lat/long (m): **Sampler ID: BGI0590** AQS Site Addr:

AQS Site Name:

Quality Control Checks Check Date: 8/24/2012 3:49:56 PM

Check ID	Code	Description	Check Value	Auto QC Pass	Auto QC Fail	Override Pass	Override Fail	Comment
Critical criteria			**3 points per failure, if not overridden**					
1	DAM	no filter damage (visual defect)	True	☑	☐	☐	☐	
2	EST	sample period 1380-1500 min	1439 min	☑	☐	☐	☐	
3	FLR_1	flow rate <= ± 5% of 16.67 L/min	16.71 L/min	☑	☐	☐	☐	
4	FLR_2	flow rate <= 2% CV	0.61	☑	☐	☐	☐	
5	FVL	no flow rate excursions > ± 5% for > 5 min	True	☑	☐	☐	☐	
6	HTE_1	sample recovery <= 96 hours from sample end date	1 hour	☑	☐	☐	☐	
7	HTE_2	post-sample weighing <= 10 days at 25 deg C or <= 30 days at 4 deg C	9 days, 0 deg C (cold pack:)	☑	☐	☐	☐	
8	ISP_1	pre-sample minimum 24 hour equilibration	264 hours	☑	☐	☐	☐	
9	ISP_2	pre-sample mean temperature 20-23 degrees C	21.4 degrees C	☑	☐	☐	☐	
10	ISP_3	pre-sample temperature control ± 2 degrees C over 24 hours	0.091 degrees C	☑	☐	☐	☐	
11	ISP_4	pre-sample mean RH 30-40%	36.9 percent	☑	☐	☐	☐	
12	ISP_5	pre-sample RH SD control ± 5%	0.513 percent	☑	☐	☐	☐	
13	ISP_6	post-sample minimum 24 hour equilibration	50 hours	☑	☐	☐	☐	
14	ISP_7	post-sample mean temperature 20-23 degrees C	21.4 degrees C	☑	☐	☐	☐	
15	ISP_8	post-sample temperature control ± 2 degrees C over 24 hours	0.1 degrees C	☑	☐	☐	☐	
16	ISP_9	post-sample mean RH 30-40%	36.8 percent	☑	☐	☐	☐	
17	ISP_10	post-sample RH SD control ± 5%	0.511 percent	☑	☐	☐	☐	
18	ISP_11	pre/post sample RH ± 5%	-0.1 percent	☑	☐	☐	☐	
Sample batch validation with major and minor flags			**3 points per failure, if not overridden**					
19	FIS_1	pre-sample 100 mg balance check (max diff from verified wt) <= ± 3 ug	0 ug	☑	☐	☐	☐	
20	FIS_2	pre-sample 200 mg balance check (max diff from verified wt) <= ± 3 ug	-1 ug	☑	☐	☐	☐	
21	FLD_1	pre-sample duplicate filter weight ± 15 ug	0 ug	☑	☐	☐	☐	
22	FIS_3	post-sample 100 mg balance check (max diff from verified wt) <= ± 3 ug	-2 ug	☑	☐	☐	☐	
23	FIS_4	post-sample 200 mg balance check (max diff from verified wt) <= ± 3 ug	-2 ug	☑	☐	☐	☐	
24	FLD_2	post-sample duplicate filter weight ± 15 ug	1 ug	☑	☐	☐	☐	
25	FLB	lab blanks ± 15 ug	1 ug	☑	☐	☐	☐	
26	FFB	field blanks ± 30 ug	No Field Blank	☑	☐	☐	☐	
Operational evaluation criteria			**1 point per failure, if not overridden**					
27	FLT	filter temperature, no excursions of > 5 degrees C lasting longer than 30 min	True	☑	☐	☐	☐	
28	FAT	temperature verification ± 2 degrees C	True	☑	☐	☐	☐	
29	FPC	barometric pressure verification ± 10 mm Hg	True	☑	☐	☐	☐	
30	FSC	flow rate verification ± 4%	True	☑	☐	☐	☐	
31	HTE_3	(pre-sample) filter holding <= 30 days from pre-weigh	7 days	☑	☐	☐	☐	
32	BDL	lower detection limit (PM2.5 conc. >= 2 ug/m3)	18.976 ug/m3	☑	☐	☐	☐	
33		upper concentration limit (PM2.5 conc. <= 200 ug/m3)	18.976 ug/m3	☑	☐	☐	☐	
34	FCS	collocated CV <= 10%	Not Collocated	☑	☐	☐	☐	
39	FRW_5	pre-sample filter replicates <= 5 ug between weighings (single filter)	3 ug (diff.)	☑	☐	☐	☐	
40	FRW_6	post-sample batch stability test < 15 ug between weighings (consecutive weights for 2 of 3 filters)	3 of 3 filters < 15 ug	☑	☐	☐	☐	

Total Score: 0 **(Events with total score < 3 meet scoring criteria.)**

Meets Criteria

PM2.5 Performance Evaluations

Record Last Changed: 8/24/2012

PE Filter ID: T2635512 **AIRS Site Code: YBBTSP1** POC: 1 Site Name

Distance from AQS Lat/long (m): **Sampler ID: BGI0597** AQS Site Addr:

AQS Site Name:

Filter Lot: 2011 Sampler Serial No.: 0597 Audited By: Reg4

PE Cassette ID: 2153 Companion Filter: Sampler Model: BGI PQ200A

Companion Cassette: Secondary Separator Type: WINS

PE Run Time	
PE Start Date:	**07/31/2012 0:00**
Elapsed Time (days):	0.999
PE Stop Date:	07/31/2012 23:59
Filter Removed Date:	08/01/2012 9:41

Concentration	
Measured by PE Sampler (µg/m³):	**18.641**
Measured by Site (µg/m³):	
Percent Difference:	

Field Flag:

Comment:

Sample Flow/Volume		Ambient Sample Temperature (ºC)		Barometric Pressure (mm Hg)		Out of Spec.		Field Verifications	
Flow Avg (L/min).:	16.7	Average:	24.4	Average:	754	Time:	☐	BP:	☑
Flow CV:	0.45	Minimum:	21	Minimum:	752	Temperature:	☐	Temperature:	☑
Sample Vol. (m³):	24.033	Maximum:	28.1	Maximum:	758	Flow:	☐	Flow:	☑

Field Blank		Trip Blank		Lab Blank		Collocated Samplers	
Cassette ID:		Cassette ID:		Cassette ID:	N/A	Collocated:	☐
Filter ID:		Filter ID:		Filter ID:	T2635515	Count.:	
Pre- Wt. (mg):		Pre- Wt. (mg):		Pre- Wt. (mg):	369.299	Std. Dev.:	
Post- Wt. (mg):		Post- Wt. (mg):		Post- Wt. (mg):	369.300	Mean:	
Wt. Change (mg):		Wt. Change (mg):		Wt. Change (mg):	0.001	Max CV (%):	

	Pre-sample (Unexposed)			Post-sample (Exposed)			Pre/Post
Weigh Sessions							
Equilibration Tray:	TR12		07/13/2012 14:42	TR04		08/07/2012 15:46	
Equilibration Time (hours):	264			50			
Weigh Session ID:	000009671PML			000009710PML			(Sample Mass)
Holding Time (days):	7			9			
Filter Weight (mg):	372.664		07/24/2012 14:17	373.112		08/09/2012 17:06	0.448
Weighing Room Conditions							
Avg. Temperature (ºC):	21.4			21.4			
Temp. Std. Dev. (ºC):	0.091			0.1			(RH Diff.)
Avg. Relative Humidity (%):	36.9			36.8			-0.100
RH Std. Dev. (%):	0.513			0.511			
Batch Duplicates							
Filter ID:	T2635507			T2635500			
Primary Weight (mg):	390.302		07/24/2012 14:12	385.176		08/09/2012 16:54	
Duplicate Weight (mg):	390.302		07/24/2012 14:20	385.177		08/09/2012 17:12	
Weight Change (mg):	0.000			0.001			
Low Mass Balance Checks							
Verified Weight (mg):	300.002		04/30/2012 13:54	300.002		04/30/2012 13:54	
Minimum Weight (mg):	300.002	0.000	07/24/2012 14:11	300.000	-0.002	08/09/2012 17:04	(Max. Overall Wt. Diff.)
Maximum Weight (mg)	300.002	0.000	07/24/2012 14:11	300.004	0.002	08/09/2012 16:50	
Maximum Wt. Diff. (mg)	0.000			-0.002			-0.002
High Mass Balance Checks							
Verified Weight (mg):	500.002		04/30/2012 13:55	500.002		04/30/2012 13:55	
Minimum Weight (mg):	500.001	-0.001	07/24/2012 14:12	500.000	-0.002	08/09/2012 17:05	(Max. Overall Wt. Diff.)
Maximum Weight (mg):	500.002	0.000	07/24/2012 14:25	500.003	0.001	08/09/2012 17:19	
Maximum Wt. Diff. (mg):	-0.001			-0.002			-0.002

Lab Approval	
Valid Data:	☑
PE Rejected:	☐
Complete:	☑

QA Manager Approval	
Approval:	☑
Initials:	GN
Date:	11/1/2012

PM2.5 Performance Evaluations

Record Last Changed: 8/24/2012

PE Filter ID: T2635512 **AIRS Site Code: YBBTSP1** POC: 1 Site Name

Distance from AQS Lat/long (m): **Sampler ID: BGI0597** AQS Site Addr:

AQS Site Name:

Quality Control Checks Check Date: 8/24/2012 3:48:43 PM

Check ID	Code	Description	Check Value	Auto QC Pass	Auto QC Fail	Override Pass	Override Fail	Comment
Critical criteria			**3 points per failure, if not overridden**					
1	DAM	no filter damage (visual defect)	True	☑	☐	☐	☐	
2	EST	sample period 1380-1500 min	1439 min	☑	☐	☐	☐	
3	FLR_1	flow rate <= ± 5% of 16.67 L/min	16.7 L/min	☑	☐	☐	☐	
4	FLR_2	flow rate <= 2% CV	0.45	☑	☐	☐	☐	
5	FVL	no flow rate excursions > ± 5% for > 5 min	True	☑	☐	☐	☐	
6	HTE_1	sample recovery <= 96 hours from sample end date	10 hours	☑	☐	☐	☐	
7	HTE_2	post-sample weighing <= 10 days at 25 deg C or <= 30 days at 4 deg C	9 days, 0 deg C (cold pack:)	☑	☐	☐	☐	
8	ISP_1	pre-sample minimum 24 hour equilibration	264 hours	☑	☐	☐	☐	
9	ISP_2	pre-sample mean temperature 20-23 degrees C	21.4 degrees C	☑	☐	☐	☐	
10	ISP_3	pre-sample temperature control ± 2 degrees C over 24 hours	0.091 degrees C	☑	☐	☐	☐	
11	ISP_4	pre-sample mean RH 30-40%	36.9 percent	☑	☐	☐	☐	
12	ISP_5	pre-sample RH SD control ± 5%	0.513 percent	☑	☐	☐	☐	
13	ISP_6	post-sample minimum 24 hour equilibration	50 hours	☑	☐	☐	☐	
14	ISP_7	post-sample mean temperature 20-23 degrees C	21.4 degrees C	☑	☐	☐	☐	
15	ISP_8	post-sample temperature control ± 2 degrees C over 24 hours	0.1 degrees C	☑	☐	☐	☐	
16	ISP_9	post-sample mean RH 30-40%	36.8 percent	☑	☐	☐	☐	
17	ISP_10	post-sample RH SD control ± 5%	0.511 percent	☑	☐	☐	☐	
18	ISP_11	pre/post sample RH ± 5%	-0.1 percent	☑	☐	☐	☐	
Sample batch validation with major and minor flags			**3 points per failure, if not overridden**					
19	FIS_1	pre-sample 100 mg balance check (max diff from verified wt) <= ± 3 ug	0 ug	☑	☐	☐	☐	
20	FIS_2	pre-sample 200 mg balance check (max diff from verified wt) <= ± 3 ug	-1 ug	☑	☐	☐	☐	
21	FLD_1	pre-sample duplicate filter weight ± 15 ug	0 ug	☑	☐	☐	☐	
22	FIS_3	post-sample 100 mg balance check (max diff from verified wt) <= ± 3 ug	-2 ug	☑	☐	☐	☐	
23	FIS_4	post-sample 200 mg balance check (max diff from verified wt) <= ± 3 ug	-2 ug	☑	☐	☐	☐	
24	FLD_2	post-sample duplicate filter weight ± 15 ug	1 ug	☑	☐	☐	☐	
25	FLB	lab blanks ± 15 ug	1 ug	☑	☐	☐	☐	
26	FFB	field blanks ± 30 ug	No Field Blank	☑	☐	☐	☐	
Operational evaluation criteria			**1 point per failure, if not overridden**					
27	FLT	filter temperature, no excursions of > 5 degrees C lasting longer than 30 min	True	☑	☐	☐	☐	
28	FAT	temperature verification ± 2 degrees C	True	☑	☐	☐	☐	
29	FPC	barometric pressure verification ± 10 mm Hg	True	☑	☐	☐	☐	
30	FSC	flow rate verification ± 4%	True	☑	☐	☐	☐	
31	HTE_3	(pre-sample) filter holding <= 30 days from pre-weigh	7 days	☑	☐	☐	☐	
32	BDL	lower detection limit (PM2.5 conc. >= 2 ug/m3)	18.641 ug/m3	☑	☐	☐	☐	
33		upper concentration limit (PM2.5 conc. <= 200 ug/m3)	18.641 ug/m3	☑	☐	☐	☐	
34	FCS	collocated CV <= 10%	Not Collocated	☑	☐	☐	☐	
39	FRW_5	pre-sample filter replicates <= 5 ug between weighings (single filter)	1 ug (diff.)	☑	☐	☐	☐	
40	FRW_6	post-sample batch stability test < 15 ug between weighings (consecutive weights for 2 of 3 filters)	3 of 3 filters < 15 ug	☑	☐	☐	☐	

Total Score: 0 **(Events with total score < 3 meet scoring criteria.)**

Meets Criteria

PM2.5 Performance Evaluations

Record Last Changed: 8/24/2012

PE Filter ID: T2635513 **AIRS Site Code: YBA25C1** POC: 1 Site Name

Distance from AQS Lat/long (m): **Sampler ID: BGI0594** AQS Site Addr:

AQS Site Name:

Filter Lot: 2011 Sampler Serial No.: 0594 Audited By: Reg4

PE Cassette ID: 5049 Companion Filter: Sampler Model: BGI PQ200A

Companion Cassette: Secondary Separator Type: WINS

PE Run Time	
PE Start Date:	**07/31/2012 0:00**
Elapsed Time (days):	0.999
PE Stop Date:	07/31/2012 23:59
Filter Removed Date:	08/01/2012 10:44

Concentration	
Measured by PE Sampler (µg/m³):	**10.984**
Measured by Site (µg/m³):	
Percent Difference:	

Field Flag:

Comment:

Sample Flow/Volume		Ambient Sample Temperature (ºC)		Barometric Pressure (mm Hg)		Out of Spec.		Field Verifications	
Flow Avg (L/min).:	16.71	Average:	24.3	Average:	756	Time:	☐	BP:	☑
Flow CV:	0.51	Minimum:	21.6	Minimum:	754	Temperature:	☐	Temperature:	☑
Sample Vol. (m³):	24.034	Maximum:	29	Maximum:	760	Flow:	☐	Flow:	☑

Field Blank		Trip Blank		Lab Blank		Collocated Samplers	
Cassette ID:		Cassette ID:		Cassette ID:	N/A	Collocated:	☐
Filter ID:		Filter ID:		Filter ID:	T2635515	Count.:	
Pre- Wt. (mg):		Pre- Wt. (mg):		Pre- Wt. (mg):	369.299	Std. Dev.:	
Post- Wt. (mg):		Post- Wt. (mg):		Post- Wt. (mg):	369.300	Mean:	
Wt. Change (mg):		Wt. Change (mg):		Wt. Change (mg):	0.001	Max CV (%):	

	Pre-sample (Unexposed)			Post-sample (Exposed)			Pre/Post
Weigh Sessions							
Equilibration Tray:	TR12		07/13/2012 14:42	TR04		08/07/2012 15:46	
Equilibration Time (hours):	264			50			
Weigh Session ID:	000009671PML			000009710PML			(Sample Mass)
Holding Time (days):	7			9			
Filter Weight (mg):	374.414		07/24/2012 14:18	374.678		08/09/2012 17:07	0.264
Weighing Room Conditions							
Avg. Temperature (ºC):	21.4			21.4			
Temp. Std. Dev. (ºC):	0.091			0.1			(RH Diff.)
Avg. Relative Humidity (%):	36.9			36.8			-0.100
RH Std. Dev. (%):	0.513			0.511			
Batch Duplicates							
Filter ID:	T2635507			T2635500			
Primary Weight (mg):	390.302		07/24/2012 14:12	385.176		08/09/2012 16:54	
Duplicate Weight (mg):	390.302		07/24/2012 14:20	385.177		08/09/2012 17:12	
Weight Change (mg):	0.000			0.001			
Low Mass Balance Checks							
Verified Weight (mg):	300.002		04/30/2012 13:54	300.002		04/30/2012 13:54	
Minimum Weight (mg):	300.002	0.000	07/24/2012 14:11	300.000	-0.002	08/09/2012 17:04	(Max. Overall Wt. Diff.)
Maximum Weight (mg)	300.002	0.000	07/24/2012 14:11	300.004	0.002	08/09/2012 16:50	
Maximum Wt. Diff. (mg)	0.000			-0.002			-0.002
High Mass Balance Checks							
Verified Weight (mg):	500.002		04/30/2012 13:55	500.002		04/30/2012 13:55	
Minimum Weight (mg):	500.001	-0.001	07/24/2012 14:12	500.000	-0.002	08/09/2012 17:05	(Max. Overall Wt. Diff.)
Maximum Weight (mg):	500.002	0.000	07/24/2012 14:25	500.003	0.001	08/09/2012 17:19	
Maximum Wt. Diff. (mg):	-0.001			-0.002			-0.002

Lab Approval	
Valid Data:	☑
PE Rejected:	☐
Complete:	☑

QA Manager Approval	
Approval:	☑
Initials:	GN
Date:	11/1/2012

PM2.5 Performance Evaluations

Record Last Changed: 8/24/2012

PE Filter ID: T2635513 **AIRS Site Code: YBA25C1** POC: 1 Site Name

Distance from AQS Lat/long (m): **Sampler ID: BGI0594** AQS Site Addr:

AQS Site Name:

Quality Control Checks Check Date: 8/24/2012 3:46:32 PM

Check ID	Code	Description	Check Value	Auto QC Pass	Auto QC Fail	Override Pass	Override Fail	Comment
Critical criteria			**3 points per failure, if not overridden**					
1	DAM	no filter damage (visual defect)	True	☑	☐	☐	☐	
2	EST	sample period 1380-1500 min	1439 min	☑	☐	☐	☐	
3	FLR_1	flow rate <= ± 5% of 16.67 L/min	16.71 L/min	☑	☐	☐	☐	
4	FLR_2	flow rate <= 2% CV	0.51	☑	☐	☐	☐	
5	FVL	no flow rate excursions > ± 5% for > 5 min	True	☑	☐	☐	☐	
6	HTE_1	sample recovery <= 96 hours from sample end date	11 hours	☑	☐	☐	☐	
7	HTE_2	post-sample weighing <= 10 days at 25 deg C or <= 30 days at 4 deg C	9 days, 0 deg C (cold pack:)	☑	☐	☐	☐	
8	ISP_1	pre-sample minimum 24 hour equilibration	264 hours	☑	☐	☐	☐	
9	ISP_2	pre-sample mean temperature 20-23 degrees C	21.4 degrees C	☑	☐	☐	☐	
10	ISP_3	pre-sample temperature control ± 2 degrees C over 24 hours	0.091 degrees C	☑	☐	☐	☐	
11	ISP_4	pre-sample mean RH 30-40%	36.9 percent	☑	☐	☐	☐	
12	ISP_5	pre-sample RH SD control ± 5%	0.513 percent	☑	☐	☐	☐	
13	ISP_6	post-sample minimum 24 hour equilibration	50 hours	☑	☐	☐	☐	
14	ISP_7	post-sample mean temperature 20-23 degrees C	21.4 degrees C	☑	☐	☐	☐	
15	ISP_8	post-sample temperature control ± 2 degrees C over 24 hours	0.1 degrees C	☑	☐	☐	☐	
16	ISP_9	post-sample mean RH 30-40%	36.8 percent	☑	☐	☐	☐	
17	ISP_10	post-sample RH SD control ± 5%	0.511 percent	☑	☐	☐	☐	
18	ISP_11	pre/post sample RH ± 5%	-0.1 percent	☑	☐	☐	☐	
Sample batch validation with major and minor flags			**3 points per failure, if not overridden**					
19	FIS_1	pre-sample 100 mg balance check (max diff from verified wt) <= ± 3 ug	0 ug	☑	☐	☐	☐	
20	FIS_2	pre-sample 200 mg balance check (max diff from verified wt) <= ± 3 ug	-1 ug	☑	☐	☐	☐	
21	FLD_1	pre-sample duplicate filter weight ± 15 ug	0 ug	☑	☐	☐	☐	
22	FIS_3	post-sample 100 mg balance check (max diff from verified wt) <= ± 3 ug	-2 ug	☑	☐	☐	☐	
23	FIS_4	post-sample 200 mg balance check (max diff from verified wt) <= ± 3 ug	-2 ug	☑	☐	☐	☐	
24	FLD_2	post-sample duplicate filter weight ± 15 ug	1 ug	☑	☐	☐	☐	
25	FLB	lab blanks ± 15 ug	1 ug	☑	☐	☐	☐	
26	FFB	field blanks ± 30 ug	No Field Blank	☑	☐	☐	☐	
Operational evaluation criteria			**1 point per failure, if not overridden**					
27	FLT	filter temperature, no excursions of > 5 degrees C lasting longer than 30 min	True	☑	☐	☐	☐	
28	FAT	temperature verification ± 2 degrees C	True	☑	☐	☐	☐	
29	FPC	barometric pressure verification ± 10 mm Hg	True	☑	☐	☐	☐	
30	FSC	flow rate verification ± 4%	True	☑	☐	☐	☐	
31	HTE_3	(pre-sample) filter holding <= 30 days from pre-weigh	7 days	☑	☐	☐	☐	
32	BDL	lower detection limit (PM2.5 conc. >= 2 ug/m3)	10.984 ug/m3	☑	☐	☐	☐	
33		upper concentration limit (PM2.5 conc. <= 200 ug/m3)	10.984 ug/m3	☑	☐	☐	☐	
34	FCS	collocated CV <= 10%	Not Collocated	☑	☐	☐	☐	
39	FRW_5	pre-sample filter replicates <= 5 ug between weighings (single filter)	4 ug (diff.)	☑	☐	☐	☐	
40	FRW_6	post-sample batch stability test < 15 ug between weighings (consecutive weights for 2 of 3 filters)	3 of 3 filters < 15 ug	☑	☐	☐	☐	

Total Score: 0 **(Events with total score < 3 meet scoring criteria.)**

Meets Criteria

PM2.5 Performance Evaluations

Record Last Changed: 8/24/2012

PE Filter ID: T2635514 **AIRS Site Code: YBB251** POC: 1 Site Name

Distance from AQS Lat/long (m): **Sampler ID: BGI0587** AQS Site Addr:

AQS Site Name:

Filter Lot: 2011 Sampler Serial No.: 0587 Audited By: Reg4

PE Cassette ID: 1810 Companion Filter: Sampler Model: BGI PQ200A

Companion Cassette: Secondary Separator Type: WINS

PE Run Time	
PE Start Date:	**07/31/2012 0:00**
Elapsed Time (days):	0.999
PE Stop Date:	07/31/2012 23:59
Filter Removed Date:	08/01/2012 9:14

Concentration	
Measured by PE Sampler (µg/m³):	**9.861**
Measured by Site (µg/m³):	
Percent Difference:	

Field Flag:

Comment:

Sample Flow/Volume	
Flow Avg (L/min).:	16.7
Flow CV:	0.41
Sample Vol. (m³):	24.033

Ambient Sample Temperature (°C)	
Average:	24.8
Minimum:	21.5
Maximum:	28.1

Barometric Pressure (mm Hg)	
Average:	759
Minimum:	757
Maximum:	762

Out of Spec.	
Time:	☐
Temperature:	☐
Flow:	☐

Field Verifications	
BP:	☑
Temperature:	☑
Flow:	☑

Field Blank	
Cassette ID:	
Filter ID:	
Pre- Wt. (mg):	
Post- Wt. (mg):	
Wt. Change (mg):	

Trip Blank	
Cassette ID:	
Filter ID:	
Pre- Wt. (mg):	
Post- Wt. (mg):	
Wt. Change (mg):	

Lab Blank	
Cassette ID:	N/A
Filter ID:	T2635515
Pre- Wt. (mg):	369.299
Post- Wt. (mg):	369.300
Wt. Change (mg):	0.001

Collocated Samplers	
Collocated:	☐
Count.:	
Std. Dev.:	
Mean:	
Max CV (%):	

	Pre-sample (Unexposed)		Post-sample (Exposed)		Pre/Post
Weigh Sessions					
Equilibration Tray:	TR12	07/13/2012 14:42	TR04	08/07/2012 15:46	
Equilibration Time (hours):	264		50		
Weigh Session ID:	000009671PML		000009710PML		(Sample Mass)
Holding Time (days):	7		9		
Filter Weight (mg):	376.184	07/24/2012 14:19	376.421	08/09/2012 17:08	0.237
Weighing Room Conditions					
Avg. Temperature (°C):	21.4		21.4		
Temp. Std. Dev. (°C):	0.091		0.1		(RH Diff.)
Avg. Relative Humidity (%):	36.9		36.8		-0.100
RH Std. Dev. (%):	0.513		0.511		
Batch Duplicates					
Filter ID:	T2635507		T2635500		
Primary Weight (mg):	390.302	07/24/2012 14:12	385.176	08/09/2012 16:54	
Duplicate Weight (mg):	390.302	07/24/2012 14:20	385.177	08/09/2012 17:12	
Weight Change (mg):	0.000		0.001		
Low Mass Balance Checks					
Verified Weight (mg):	300.002	04/30/2012 13:54	300.002	04/30/2012 13:54	
Minimum Weight (mg):	300.002 0.000	07/24/2012 14:11	300.000 -0.002	08/09/2012 17:04	(Max. Overall Wt. Diff.)
Maximum Weight (mg)	300.002 0.000	07/24/2012 14:11	300.004 0.002	08/09/2012 16:50	
Maximum Wt. Diff. (mg)	0.000		-0.002		-0.002
High Mass Balance Checks					
Verified Weight (mg):	500.002	04/30/2012 13:55	500.002	04/30/2012 13:55	
Minimum Weight (mg):	500.001 -0.001	07/24/2012 14:12	500.000 -0.002	08/09/2012 17:05	(Max. Overall Wt. Diff.)
Maximum Weight (mg):	500.002 0.000	07/24/2012 14:25	500.003 0.001	08/09/2012 17:19	
Maximum Wt. Diff. (mg):	-0.001		-0.002		-0.002

Lab Approval	
Valid Data:	☑
PE Rejected:	☐
Complete:	☑

QA Manager Approval	
Approval:	☑
Initials:	GN
Date:	11/1/2012

PM2.5 Performance Evaluations

Record Last Changed: 8/24/2012

PE Filter ID: T2635514 **AIRS Site Code: YBB251** POC: 1 Site Name

Distance from AQS Lat/long (m): **Sampler ID: BGI0587** AQS Site Addr:

AQS Site Name:

Quality Control Checks Check Date: 8/24/2012 3:48:31 PM

Check ID	Code	Description	Check Value	Auto QC Pass	Auto QC Fail	Override Pass	Override Fail	Comment
Critical criteria			**3 points per failure, if not overridden**					
1	DAM	no filter damage (visual defect)	True	☑	☐	☐	☐	
2	EST	sample period 1380-1500 min	1439 min	☑	☐	☐	☐	
3	FLR_1	flow rate <= ± 5% of 16.67 L/min	16.7 L/min	☑	☐	☐	☐	
4	FLR_2	flow rate <= 2% CV	0.41	☑	☐	☐	☐	
5	FVL	no flow rate excursions > ± 5% for > 5 min	True	☑	☐	☐	☐	
6	HTE_1	sample recovery <= 96 hours from sample end date	10 hours	☑	☐	☐	☐	
7	HTE_2	post-sample weighing <= 10 days at 25 deg C or <= 30 days at 4 deg C	9 days, 0 deg C (cold pack:)	☑	☐	☐	☐	
8	ISP_1	pre-sample minimum 24 hour equilibration	264 hours	☑	☐	☐	☐	
9	ISP_2	pre-sample mean temperature 20-23 degrees C	21.4 degrees C	☑	☐	☐	☐	
10	ISP_3	pre-sample temperature control ± 2 degrees C over 24 hours	0.091 degrees C	☑	☐	☐	☐	
11	ISP_4	pre-sample mean RH 30-40%	36.9 percent	☑	☐	☐	☐	
12	ISP_5	pre-sample RH SD control ± 5%	0.513 percent	☑	☐	☐	☐	
13	ISP_6	post-sample minimum 24 hour equilibration	50 hours	☑	☐	☐	☐	
14	ISP_7	post-sample mean temperature 20-23 degrees C	21.4 degrees C	☑	☐	☐	☐	
15	ISP_8	post-sample temperature control ± 2 degrees C over 24 hours	0.1 degrees C	☑	☐	☐	☐	
16	ISP_9	post-sample mean RH 30-40%	36.8 percent	☑	☐	☐	☐	
17	ISP_10	post-sample RH SD control ± 5%	0.511 percent	☑	☐	☐	☐	
18	ISP_11	pre/post sample RH ± 5%	-0.1 percent	☑	☐	☐	☐	
Sample batch validation with major and minor flags			**3 points per failure, if not overridden**					
19	FIS_1	pre-sample 100 mg balance check (max diff from verified wt) <= ± 3 ug	0 ug	☑	☐	☐	☐	
20	FIS_2	pre-sample 200 mg balance check (max diff from verified wt) <= ± 3 ug	-1 ug	☑	☐	☐	☐	
21	FLD_1	pre-sample duplicate filter weight ± 15 ug	0 ug	☑	☐	☐	☐	
22	FIS_3	post-sample 100 mg balance check (max diff from verified wt) <= ± 3 ug	-2 ug	☑	☐	☐	☐	
23	FIS_4	post-sample 200 mg balance check (max diff from verified wt) <= ± 3 ug	-2 ug	☑	☐	☐	☐	
24	FLD_2	post-sample duplicate filter weight ± 15 ug	1 ug	☑	☐	☐	☐	
25	FLB	lab blanks ± 15 ug	1 ug	☑	☐	☐	☐	
26	FFB	field blanks ± 30 ug	No Field Blank	☑	☐	☐	☐	
Operational evaluation criteria			**1 point per failure, if not overridden**					
27	FLT	filter temperature, no excursions of > 5 degrees C lasting longer than 30 min	True	☑	☐	☐	☐	
28	FAT	temperature verification ± 2 degrees C	True	☑	☐	☐	☐	
29	FPC	barometric pressure verification ± 10 mm Hg	True	☑	☐	☐	☐	
30	FSC	flow rate verification ± 4%	True	☑	☐	☐	☐	
31	HTE_3	(pre-sample) filter holding <= 30 days from pre-weigh	7 days	☑	☐	☐	☐	
32	BDL	lower detection limit (PM2.5 conc. >= 2 ug/m3)	9.861 ug/m3	☑	☐	☐	☐	
33		upper concentration limit (PM2.5 conc. <= 200 ug/m3)	9.861 ug/m3	☑	☐	☐	☐	
34	FCS	collocated CV <= 10%	Not Collocated	☑	☐	☐	☐	
39	FRW_5	pre-sample filter replicates <= 5 ug between weighings (single filter)	0 ug (diff.)	☑	☐	☐	☐	
40	FRW_6	post-sample batch stability test < 15 ug between weighings (consecutive weights for 2 of 3 filters)	3 of 3 filters < 15 ug	☑	☐	☐	☐	

Total Score: 0 **(Events with total score < 3 meet scoring criteria.)**

Meets Criteria

PM2.5 Performance Evaluations

Record Last Changed: 8/24/2012

PE Filter ID: T2635516 **AIRS Site Code: YBATSP1** POC: 1 Site Name

Distance from AQS Lat/long (m): **Sampler ID: BGI0588** AQS Site Addr:

AQS Site Name:

Filter Lot: 2011 Sampler Serial No.: 0588 Audited By: Reg4

PE Cassette ID: 9187 Companion Filter: Sampler Model: BGI PQ200A

Companion Cassette: Secondary Separator Type: WINS

PE Run Time	
PE Start Date:	**07/31/2012 0:00**
Elapsed Time (days):	0.999
PE Stop Date:	07/31/2012 23:59
Filter Removed Date:	08/01/2012 10:39

Concentration	
Measured by PE Sampler (µg/m³):	**18.320**
Measured by Site (µg/m³):	
Percent Difference:	

Field Flag:

Comment:

Sample Flow/Volume	
Flow Avg (L/min).:	16.7
Flow CV:	0.35
Sample Vol. (m³):	24.017

Ambient Sample Temperature (ºC)	
Average:	24.4
Minimum:	21.5
Maximum:	29.9

Barometric Pressure (mm Hg)	
Average:	755
Minimum:	754
Maximum:	759

Out of Spec.	
Time:	☐
Temperature:	☐
Flow:	☐

Field Verifications	
BP:	☑
Temperature:	☑
Flow:	☑

Field Blank	
Cassette ID:	
Filter ID:	
Pre- Wt. (mg):	
Post- Wt. (mg):	
Wt. Change (mg):	

Trip Blank	
Cassette ID:	
Filter ID:	
Pre- Wt. (mg):	
Post- Wt. (mg):	
Wt. Change (mg):	

Lab Blank	
Cassette ID:	N/A
Filter ID:	T2635520
Pre- Wt. (mg):	368.263
Post- Wt. (mg):	368.266
Wt. Change (mg):	0.003

Collocated Samplers	
Collocated:	☐
Count.:	
Std. Dev.:	
Mean:	
Max CV (%):	

	Pre-sample (Unexposed)			Post-sample (Exposed)			Pre/Post
Weigh Sessions							
Equilibration Tray:	TR12		07/13/2012 14:42	TR04		08/07/2012 15:46	
Equilibration Time (hours):	286			50			
Weigh Session ID:	000009675PML			000009710PML			(Sample Mass)
Holding Time (days):	6			9			
Filter Weight (mg):	366.209		07/25/2012 12:03	366.649		08/09/2012 17:09	0.440
Weighing Room Conditions							
Avg. Temperature (ºC):	21.4			21.4			
Temp. Std. Dev. (ºC):	0.081			0.1			(RH Diff.)
Avg. Relative Humidity (%):	36.9			36.8			-0.100
RH Std. Dev. (%):	0.596			0.511			
Batch Duplicates							
Filter ID:	T2635516			T2635500			
Primary Weight (mg):	366.209		07/25/2012 12:03	385.176		08/09/2012 16:54	
Duplicate Weight (mg):	366.209		07/25/2012 12:06	385.177		08/09/2012 17:12	
Weight Change (mg):	0.000			0.001			
Low Mass Balance Checks							
Verified Weight (mg):	300.002		04/30/2012 13:54	300.002		04/30/2012 13:54	
Minimum Weight (mg):	300.000	-0.002	07/25/2012 12:08	300.000	-0.002	08/09/2012 17:04	(Max. Overall Wt. Diff.)
Maximum Weight (mg)	300.002	0.000	07/25/2012 12:01	300.004	0.002	08/09/2012 16:50	
Maximum Wt. Diff. (mg)	-0.002			-0.002			-0.002
High Mass Balance Checks							
Verified Weight (mg):	500.002		04/30/2012 13:55	500.002		04/30/2012 13:55	
Minimum Weight (mg):	500.003	0.001	07/25/2012 12:02	500.000	-0.002	08/09/2012 17:05	(Max. Overall Wt. Diff.)
Maximum Weight (mg):	500.003	0.001	07/25/2012 12:02	500.003	0.001	08/09/2012 17:19	
Maximum Wt. Diff. (mg):	0.001			-0.002			-0.002

Lab Approval	
Valid Data:	☑
PE Rejected:	☐
Complete:	☑

QA Manager Approval	
Approval:	☑
Initials:	GN
Date:	11/1/2012

PM2.5 Performance Evaluations

Record Last Changed: 8/24/2012

PE Filter ID: T2635516 **AIRS Site Code: YBATSP1** POC: 1 Site Name

Distance from AQS Lat/long (m): **Sampler ID: BGI0588** AQS Site Addr:

AQS Site Name:

Quality Control Checks Check Date: 8/24/2012 3:47:56 PM

Check ID	Code	Description	Check Value	Auto QC Pass	Auto QC Fail	Override Pass	Override Fail	Comment
Critical criteria			**3 points per failure, if not overridden**					
1	DAM	no filter damage (visual defect)	True	☑	☐	☐	☐	
2	EST	sample period 1380-1500 min	1439 min	☑	☐	☐	☐	
3	FLR_1	flow rate <= ± 5% of 16.67 L/min	16.7 L/min	☑	☐	☐	☐	
4	FLR_2	flow rate <= 2% CV	0.35	☑	☐	☐	☐	
5	FVL	no flow rate excursions > ± 5% for > 5 min	True	☑	☐	☐	☐	
6	HTE_1	sample recovery <= 96 hours from sample end date	11 hours	☑	☐	☐	☐	
7	HTE_2	post-sample weighing <= 10 days at 25 deg C or <= 30 days at 4 deg C	9 days, 0 deg C (cold pack:)	☑	☐	☐	☐	
8	ISP_1	pre-sample minimum 24 hour equilibration	286 hours	☑	☐	☐	☐	
9	ISP_2	pre-sample mean temperature 20-23 degrees C	21.4 degrees C	☑	☐	☐	☐	
10	ISP_3	pre-sample temperature control ± 2 degrees C over 24 hours	0.081 degrees C	☑	☐	☐	☐	
11	ISP_4	pre-sample mean RH 30-40%	36.9 percent	☑	☐	☐	☐	
12	ISP_5	pre-sample RH SD control ± 5%	0.596 percent	☑	☐	☐	☐	
13	ISP_6	post-sample minimum 24 hour equilibration	50 hours	☑	☐	☐	☐	
14	ISP_7	post-sample mean temperature 20-23 degrees C	21.4 degrees C	☑	☐	☐	☐	
15	ISP_8	post-sample temperature control ± 2 degrees C over 24 hours	0.1 degrees C	☑	☐	☐	☐	
16	ISP_9	post-sample mean RH 30-40%	36.8 percent	☑	☐	☐	☐	
17	ISP_10	post-sample RH SD control ± 5%	0.511 percent	☑	☐	☐	☐	
18	ISP_11	pre/post sample RH ± 5%	-0.1 percent	☑	☐	☐	☐	
Sample batch validation with major and minor flags			**3 points per failure, if not overridden**					
19	FIS_1	pre-sample 100 mg balance check (max diff from verified wt) <= ± 3 ug	-2 ug	☑	☐	☐	☐	
20	FIS_2	pre-sample 200 mg balance check (max diff from verified wt) <= ± 3 ug	1 ug	☑	☐	☐	☐	
21	FLD_1	pre-sample duplicate filter weight ± 15 ug	0 ug	☑	☐	☐	☐	
22	FIS_3	post-sample 100 mg balance check (max diff from verified wt) <= ± 3 ug	-2 ug	☑	☐	☐	☐	
23	FIS_4	post-sample 200 mg balance check (max diff from verified wt) <= ± 3 ug	-2 ug	☑	☐	☐	☐	
24	FLD_2	post-sample duplicate filter weight ± 15 ug	1 ug	☑	☐	☐	☐	
25	FLB	lab blanks ± 15 ug	3 ug	☑	☐	☐	☐	
26	FFB	field blanks ± 30 ug	No Field Blank	☑	☐	☐	☐	
Operational evaluation criteria			**1 point per failure, if not overridden**					
27	FLT	filter temperature, no excursions of > 5 degrees C lasting longer than 30 min	True	☑	☐	☐	☐	
28	FAT	temperature verification ± 2 degrees C	True	☑	☐	☐	☐	
29	FPC	barometric pressure verification ± 10 mm Hg	True	☑	☐	☐	☐	
30	FSC	flow rate verification ± 4%	True	☑	☐	☐	☐	
31	HTE_3	(pre-sample) filter holding <= 30 days from pre-weigh	6 days	☑	☐	☐	☐	
32	BDL	lower detection limit (PM2.5 conc. >= 2 ug/m3)	18.32 ug/m3	☑	☐	☐	☐	
33		upper concentration limit (PM2.5 conc. <= 200 ug/m3)	18.32 ug/m3	☑	☐	☐	☐	
34	FCS	collocated CV <= 10%	Not Collocated	☑	☐	☐	☐	
39	FRW_5	pre-sample filter replicates <= 5 ug between weighings (single filter)	1 ug (diff.)	☑	☐	☐	☐	
40	FRW_6	post-sample batch stability test < 15 ug between weighings (consecutive weights for 2 of 3 filters)	3 of 3 filters < 15 ug	☑	☐	☐	☐	

Total Score: 0 **(Events with total score < 3 meet scoring criteria.)**

Meets Criteria

PM2.5 Performance Evaluations

Record Last Changed: 8/24/2012

PE Filter ID: T2635518 **AIRS Site Code: YBA101** POC: 1 Site Name

Distance from AQS Lat/long (m): **Sampler ID: BGI0592** AQS Site Addr:

AQS Site Name:

Filter Lot: 2011 Sampler Serial No.: 0592 Audited By: Reg4

PE Cassette ID: 4206 Companion Filter: Sampler Model: BGI PQ200A

Companion Cassette: Secondary Separator Type: WINS

PE Run Time	
PE Start Date:	**07/31/2012 0:00**
Elapsed Time (days):	0.999
PE Stop Date:	07/31/2012 23:59
Filter Removed Date:	08/01/2012 10:50

Concentration	
Measured by PE Sampler (µg/m³):	**17.474**
Measured by Site (µg/m³):	
Percent Difference:	

Field Flag:

Comment:

Sample Flow/Volume		Ambient Sample Temperature (ºC)		Barometric Pressure (mm Hg)		Out of Spec.		Field Verifications	
Flow Avg (L/min).:	16.7	Average:	24.2	Average:	751	Time:	☐	BP:	☑
Flow CV:	0.52	Minimum:	21.4	Minimum:	746	Temperature:	☐	Temperature:	☑
Sample Vol. (m³):	24.036	Maximum:	28.7	Maximum:	755	Flow:	☐	Flow:	☑

Field Blank		Trip Blank		Lab Blank		Collocated Samplers	
Cassette ID:		Cassette ID:		Cassette ID:	N/A	Collocated:	☐
Filter ID:		Filter ID:		Filter ID:	T2635520	Count.:	
Pre- Wt. (mg):		Pre- Wt. (mg):		Pre- Wt. (mg):	368.263	Std. Dev.:	
Post- Wt. (mg):		Post- Wt. (mg):		Post- Wt. (mg):	368.266	Mean:	
Wt. Change (mg):		Wt. Change (mg):		Wt. Change (mg):	0.003	Max CV (%):	

	Pre-sample (Unexposed)			Post-sample (Exposed)			Pre/Post
Weigh Sessions							
Equilibration Tray:	TR12		07/13/2012 14:42	TR04		08/07/2012 15:46	
Equilibration Time (hours):	286			50			
Weigh Session ID:	000009675PML			000009710PML			(Sample Mass)
Holding Time (days):	6			9			
Filter Weight (mg):	370.743		07/25/2012 12:04	371.163		08/09/2012 17:11	0.420
Weighing Room Conditions							
Avg. Temperature (ºC):	21.4			21.4			
Temp. Std. Dev. (ºC):	0.081			0.1			(RH Diff.)
Avg. Relative Humidity (%):	36.9			36.8			-0.100
RH Std. Dev. (%):	0.596			0.511			
Batch Duplicates							
Filter ID:	T2635516			T2635500			
Primary Weight (mg):	366.209		07/25/2012 12:03	385.176		08/09/2012 16:54	
Duplicate Weight (mg):	366.209		07/25/2012 12:06	385.177		08/09/2012 17:12	
Weight Change (mg):	0.000			0.001			
Low Mass Balance Checks							
Verified Weight (mg):	300.002		04/30/2012 13:54	300.002		04/30/2012 13:54	
Minimum Weight (mg):	300.000	-0.002	07/25/2012 12:08	300.000	-0.002	08/09/2012 17:04	(Max. Overall Wt. Diff.)
Maximum Weight (mg)	300.002	0.000	07/25/2012 12:01	300.004	0.002	08/09/2012 16:50	
Maximum Wt. Diff. (mg)	-0.002			-0.002			-0.002
High Mass Balance Checks							
Verified Weight (mg):	500.002		04/30/2012 13:55	500.002		04/30/2012 13:55	
Minimum Weight (mg):	500.003	0.001	07/25/2012 12:02	500.000	-0.002	08/09/2012 17:05	(Max. Overall Wt. Diff.)
Maximum Weight (mg):	500.003	0.001	07/25/2012 12:02	500.003	0.001	08/09/2012 17:19	
Maximum Wt. Diff. (mg):	0.001			-0.002			-0.002

Lab Approval	
Valid Data:	☑
PE Rejected:	☐
Complete:	☑

QA Manager Approval	
Approval:	☑
Initials:	GN
Date:	11/1/2012

PM2.5 Performance Evaluations

Record Last Changed: 8/24/2012

PE Filter ID: T2635518 **AIRS Site Code: YBA101** POC: 1 Site Name

Distance from AQS Lat/long (m): **Sampler ID: BGI0592** AQS Site Addr:

AQS Site Name:

Quality Control Checks Check Date: 8/24/2012 3:46:44 PM

Check ID	Code	Description	Check Value	Auto QC Pass	Auto QC Fail	Override Pass	Override Fail	Comment
Critical criteria			**3 points per failure, if not overridden**					
1	DAM	no filter damage (visual defect)	True	☑	☐	☐	☐	
2	EST	sample period 1380-1500 min	1439 min	☑	☐	☐	☐	
3	FLR_1	flow rate <= ± 5% of 16.67 L/min	16.7 L/min	☑	☐	☐	☐	
4	FLR_2	flow rate <= 2% CV	0.52	☑	☐	☐	☐	
5	FVL	no flow rate excursions > ± 5% for > 5 min	True	☑	☐	☐	☐	
6	HTE_1	sample recovery <= 96 hours from sample end date	11 hours	☑	☐	☐	☐	
7	HTE_2	post-sample weighing <= 10 days at 25 deg C or <= 30 days at 4 deg C	9 days, 0 deg C (cold pack:)	☑	☐	☐	☐	
8	ISP_1	pre-sample minimum 24 hour equilibration	286 hours	☑	☐	☐	☐	
9	ISP_2	pre-sample mean temperature 20-23 degrees C	21.4 degrees C	☑	☐	☐	☐	
10	ISP_3	pre-sample temperature control ± 2 degrees C over 24 hours	0.081 degrees C	☑	☐	☐	☐	
11	ISP_4	pre-sample mean RH 30-40%	36.9 percent	☑	☐	☐	☐	
12	ISP_5	pre-sample RH SD control ± 5%	0.596 percent	☑	☐	☐	☐	
13	ISP_6	post-sample minimum 24 hour equilibration	50 hours	☑	☐	☐	☐	
14	ISP_7	post-sample mean temperature 20-23 degrees C	21.4 degrees C	☑	☐	☐	☐	
15	ISP_8	post-sample temperature control ± 2 degrees C over 24 hours	0.1 degrees C	☑	☐	☐	☐	
16	ISP_9	post-sample mean RH 30-40%	36.8 percent	☑	☐	☐	☐	
17	ISP_10	post-sample RH SD control ± 5%	0.511 percent	☑	☐	☐	☐	
18	ISP_11	pre/post sample RH ± 5%	-0.1 percent	☑	☐	☐	☐	
Sample batch validation with major and minor flags			**3 points per failure, if not overridden**					
19	FIS_1	pre-sample 100 mg balance check (max diff from verified wt) <= ± 3 ug	-2 ug	☑	☐	☐	☐	
20	FIS_2	pre-sample 200 mg balance check (max diff from verified wt) <= ± 3 ug	1 ug	☑	☐	☐	☐	
21	FLD_1	pre-sample duplicate filter weight ± 15 ug	0 ug	☑	☐	☐	☐	
22	FIS_3	post-sample 100 mg balance check (max diff from verified wt) <= ± 3 ug	-2 ug	☑	☐	☐	☐	
23	FIS_4	post-sample 200 mg balance check (max diff from verified wt) <= ± 3 ug	-2 ug	☑	☐	☐	☐	
24	FLD_2	post-sample duplicate filter weight ± 15 ug	1 ug	☑	☐	☐	☐	
25	FLB	lab blanks ± 15 ug	3 ug	☑	☐	☐	☐	
26	FFB	field blanks ± 30 ug	No Field Blank	☑	☐	☐	☐	
Operational evaluation criteria			**1 point per failure, if not overridden**					
27	FLT	filter temperature, no excursions of > 5 degrees C lasting longer than 30 min	True	☑	☐	☐	☐	
28	FAT	temperature verification ± 2 degrees C	True	☑	☐	☐	☐	
29	FPC	barometric pressure verification ± 10 mm Hg	True	☑	☐	☐	☐	
30	FSC	flow rate verification ± 4%	True	☑	☐	☐	☐	
31	HTE_3	(pre-sample) filter holding <= 30 days from pre-weigh	6 days	☑	☐	☐	☐	
32	BDL	lower detection limit (PM2.5 conc. >= 2 ug/m3)	17.474 ug/m3	☑	☐	☐	☐	
33		upper concentration limit (PM2.5 conc. <= 200 ug/m3)	17.474 ug/m3	☑	☐	☐	☐	
34	FCS	collocated CV <= 10%	Not Collocated	☑	☐	☐	☐	
39	FRW_5	pre-sample filter replicates <= 5 ug between weighings (single filter)	3 ug (diff.)	☑	☐	☐	☐	
40	FRW_6	post-sample batch stability test < 15 ug between weighings (consecutive weights for 2 of 3 filters)	3 of 3 filters < 15 ug	☑	☐	☐	☐	

Total Score: 0 **(Events with total score < 3 meet scoring criteria.)**

Meets Criteria

PM2.5 Performance Evaluations

Record Last Changed: 8/24/2012

PE Filter ID: T2635519 **AIRS Site Code: YBA251** POC: 1 Site Name

Distance from AQS Lat/long (m): **Sampler ID: BGI0595** AQS Site Addr:

AQS Site Name:

Filter Lot: 2011 Sampler Serial No.: 0595 Audited By: Reg4

PE Cassette ID: 9449 Companion Filter: Sampler Model: BGI PQ200A

Companion Cassette: Secondary Separator Type: WINS

PE Run Time	
PE Start Date:	**07/31/2012 0:00**
Elapsed Time (days):	0.999
PE Stop Date:	07/31/2012 23:59
Filter Removed Date:	08/01/2012 10:31

Concentration	
Measured by PE Sampler (µg/m³):	**10.120**
Measured by Site (µg/m³):	
Percent Difference:	

Field Flag:

Comment:

Sample Flow/Volume		Ambient Sample Temperature (ºC)		Barometric Pressure (mm Hg)		Out of Spec.		Field Verifications	
Flow Avg (L/min).:	16.69	Average:	24.2	Average:	755	Time:	☐	BP:	☑
Flow CV:	0	Minimum:	21.5	Minimum:	752	Temperature:	☐	Temperature:	☑
Sample Vol. (m³):	24.012	Maximum:	29	Maximum:	759	Flow:	☐	Flow:	☑

Field Blank		Trip Blank		Lab Blank		Collocated Samplers	
Cassette ID:	9654	Cassette ID:		Cassette ID:	N/A	Collocated:	☐
Filter ID:	T2635517	Filter ID:		Filter ID:	T2635520	Count.:	
Pre- Wt. (mg):	371.193	Pre- Wt. (mg):		Pre- Wt. (mg):	368.263	Std. Dev.:	
Post- Wt. (mg):	371.201	Post- Wt. (mg):		Post- Wt. (mg):	368.266	Mean:	
Wt. Change (mg):	0.008	Wt. Change (mg):		Wt. Change (mg):	0.003	Max CV (%):	

	Pre-sample (Unexposed)			Post-sample (Exposed)			Pre/Post
Weigh Sessions							
Equilibration Tray:	TR12		07/13/2012 14:42	TR04		08/07/2012 15:46	
Equilibration Time (hours):	286			50			
Weigh Session ID:	000009675PML			000009710PML			(Sample Mass)
Holding Time (days):	6			9			
Filter Weight (mg):	374.443		07/25/2012 12:05	374.686		08/09/2012 17:12	0.243
Weighing Room Conditions							
Avg. Temperature (ºC):	21.4			21.4			
Temp. Std. Dev. (ºC):	0.081			0.1			(RH Diff.)
Avg. Relative Humidity (%):	36.9			36.8			-0.100
RH Std. Dev. (%):	0.596			0.511			
Batch Duplicates							
Filter ID:	T2635516			T2635500			
Primary Weight (mg):	366.209		07/25/2012 12:03	385.176		08/09/2012 16:54	
Duplicate Weight (mg):	366.209		07/25/2012 12:06	385.177		08/09/2012 17:12	
Weight Change (mg):	0.000			0.001			
Low Mass Balance Checks							
Verified Weight (mg):	300.002		04/30/2012 13:54	300.002		04/30/2012 13:54	
Minimum Weight (mg):	300.000	-0.002	07/25/2012 12:08	300.000	-0.002	08/09/2012 17:04	(Max. Overall Wt. Diff.)
Maximum Weight (mg)	300.002	0.000	07/25/2012 12:01	300.004	0.002	08/09/2012 16:50	
Maximum Wt. Diff. (mg)	-0.002			-0.002			-0.002
High Mass Balance Checks							
Verified Weight (mg):	500.002		04/30/2012 13:55	500.002		04/30/2012 13:55	
Minimum Weight (mg):	500.003	0.001	07/25/2012 12:02	500.000	-0.002	08/09/2012 17:05	(Max. Overall Wt. Diff.)
Maximum Weight (mg):	500.003	0.001	07/25/2012 12:02	500.003	0.001	08/09/2012 17:19	
Maximum Wt. Diff. (mg):	0.001			-0.002			-0.002

Lab Approval	
Valid Data:	☑
PE Rejected:	☐
Complete:	☑

QA Manager Approval	
Approval:	☑
Initials:	GN
Date:	11/1/2012

PM2.5 Performance Evaluations

Record Last Changed: 8/24/2012

PE Filter ID: T2635519 **AIRS Site Code: YBA251** POC: 1 Site Name

Distance from AQS Lat/long (m): **Sampler ID: BGI0595** AQS Site Addr:

AQS Site Name:

Quality Control Checks Check Date: 8/24/2012 3:47:08 PM

ID	Check Code	Description	Check Value	Auto QC Pass	Auto QC Fail	Override Pass	Override Fail	Comment
Critical criteria			**3 points per failure, if not overridden**					
1	DAM	no filter damage (visual defect)	True	☑	☐	☐	☐	
2	EST	sample period 1380-1500 min	1439 min	☑	☐	☐	☐	
3	FLR_1	flow rate <= ± 5% of 16.67 L/min	16.69 L/min	☑	☐	☐	☐	
4	FLR_2	flow rate <= 2% CV	0	☑	☐	☐	☐	
5	FVL	no flow rate excursions > ± 5% for > 5 min	True	☑	☐	☐	☐	
6	HTE_1	sample recovery <= 96 hours from sample end date	11 hours	☑	☐	☐	☐	
7	HTE_2	post-sample weighing <= 10 days at 25 deg C or <= 30 days at 4 deg C	9 days, 0 deg C (cold pack:)	☑	☐	☐	☐	
8	ISP_1	pre-sample minimum 24 hour equilibration	286 hours	☑	☐	☐	☐	
9	ISP_2	pre-sample mean temperature 20-23 degrees C	21.4 degrees C	☑	☐	☐	☐	
10	ISP_3	pre-sample temperature control ± 2 degrees C over 24 hours	0.081 degrees C	☑	☐	☐	☐	
11	ISP_4	pre-sample mean RH 30-40%	36.9 percent	☑	☐	☐	☐	
12	ISP_5	pre-sample RH SD control ± 5%	0.596 percent	☑	☐	☐	☐	
13	ISP_6	post-sample minimum 24 hour equilibration	50 hours	☑	☐	☐	☐	
14	ISP_7	post-sample mean temperature 20-23 degrees C	21.4 degrees C	☑	☐	☐	☐	
15	ISP_8	post-sample temperature control ± 2 degrees C over 24 hours	0.1 degrees C	☑	☐	☐	☐	
16	ISP_9	post-sample mean RH 30-40%	36.8 percent	☑	☐	☐	☐	
17	ISP_10	post-sample RH SD control ± 5%	0.511 percent	☑	☐	☐	☐	
18	ISP_11	pre/post sample RH ± 5%	-0.1 percent	☑	☐	☐	☐	
Sample batch validation with major and minor flags			**3 points per failure, if not overridden**					
19	FIS_1	pre-sample 100 mg balance check (max diff from verified wt) <= ± 3 ug	-2 ug	☑	☐	☐	☐	
20	FIS_2	pre-sample 200 mg balance check (max diff from verified wt) <= ± 3 ug	1 ug	☑	☐	☐	☐	
21	FLD_1	pre-sample duplicate filter weight ± 15 ug	0 ug	☑	☐	☐	☐	
22	FIS_3	post-sample 100 mg balance check (max diff from verified wt) <= ± 3 ug	-2 ug	☑	☐	☐	☐	
23	FIS_4	post-sample 200 mg balance check (max diff from verified wt) <= ± 3 ug	-2 ug	☑	☐	☐	☐	
24	FLD_2	post-sample duplicate filter weight ± 15 ug	1 ug	☑	☐	☐	☐	
25	FLB	lab blanks ± 15 ug	3 ug	☑	☐	☐	☐	
26	FFB	field blanks ± 30 ug	8 ug	☑	☐	☐	☐	
Operational evaluation criteria			**1 point per failure, if not overridden**					
27	FLT	filter temperature, no excursions of > 5 degrees C lasting longer than 30 min	True	☑	☐	☐	☐	
28	FAT	temperature verification ± 2 degrees C	True	☑	☐	☐	☐	
29	FPC	barometric pressure verification ± 10 mm Hg	True	☑	☐	☐	☐	
30	FSC	flow rate verification ± 4%	True	☑	☐	☐	☐	
31	HTE_3	(pre-sample) filter holding <= 30 days from pre-weigh	6 days	☑	☐	☐	☐	
32	BDL	lower detection limit (PM2.5 conc. >= 2 ug/m3)	10.12 ug/m3	☑	☐	☐	☐	
33		upper concentration limit (PM2.5 conc. <= 200 ug/m3)	10.12 ug/m3	☑	☐	☐	☐	
34	FCS	collocated CV <= 10%	Not Collocated	☑	☐	☐	☐	
39	FRW_5	pre-sample filter replicates <= 5 ug between weighings (single filter)	1 ug (diff.)	☑	☐	☐	☐	
40	FRW_6	post-sample batch stability test < 15 ug between weighings (consecutive weights for 2 of 3 filters)	3 of 3 filters < 15 ug	☑	☐	☐	☐	

Total Score: 0 **(Events with total score < 3 meet scoring criteria.)**

Meets Criteria

PM2.5 Performance Evaluations

Record Last Changed: 9/7/2012

PE Filter ID: T2635501 **AIRS Site Code: YBB252** POC: 1 Site Name

Distance from AQS Lat/long (m): **Sampler ID: BGI0587** AQS Site Addr:

AQS Site Name:

Filter Lot: 2011 Sampler Serial No.: 0587 Audited By: Reg4

PE Cassette ID: 1581 Companion Filter: Sampler Model: BGI PQ200A

Companion Cassette: Secondary Separator Type: WINS

PE Run Time	
PE Start Date:	**08/01/2012 11:00**
Elapsed Time (days):	0.999
PE Stop Date:	08/02/2012 10:59
Filter Removed Date:	08/02/2012 11:22

Concentration	
Measured by PE Sampler (µg/m³):	**20.179**
Measured by Site (µg/m³):	
Percent Difference:	

Field Flag:

Comment:

Sample Flow/Volume		Ambient Sample Temperature (ºC)		Barometric Pressure (mm Hg)		Out of Spec.		Field Verifications	
Flow Avg (L/min).:	16.7	Average:	29.5	Average:	757	Time:	☐	BP:	☑
Flow CV:	0.56	Minimum:	23.8	Minimum:	756	Temperature:	☐	Temperature:	☑
Sample Vol. (m³):	24.035	Maximum:	37.6	Maximum:	760	Flow:	☐	Flow:	☑

Field Blank		Trip Blank		Lab Blank		Collocated Samplers	
Cassette ID:		Cassette ID:		Cassette ID:	N/A	Collocated:	☐
Filter ID:		Filter ID:		Filter ID:	T2635506	Count.:	
Pre- Wt. (mg):		Pre- Wt. (mg):		Pre- Wt. (mg):	372.144	Std. Dev.:	
Post- Wt. (mg):		Post- Wt. (mg):		Post- Wt. (mg):	372.144	Mean:	
Wt. Change (mg):		Wt. Change (mg):		Wt. Change (mg):	0.000	Max CV (%):	

	Pre-sample (Unexposed)			Post-sample (Exposed)			Pre/Post
Weigh Sessions							
Equilibration Tray:	TR12		07/13/2012 14:42	TR04		08/07/2012 15:46	
Equilibration Time (hours):	261			49			
Weigh Session ID:	000009669PML			000009710PML			(Sample Mass)
Holding Time (days):	8			7			
Filter Weight (mg):	372.241		07/24/2012 11:34	372.726		08/09/2012 16:55	0.485
Weighing Room Conditions							
Avg. Temperature (ºC):	21.4			21.4			
Temp. Std. Dev. (ºC):	0.091			0.1			(RH Diff.)
Avg. Relative Humidity (%):	36.9			36.8			-0.100
RH Std. Dev. (%):	0.513			0.511			
Batch Duplicates							
Filter ID:	T2635485			T2635500			
Primary Weight (mg):	389.958		07/24/2012 11:14	385.176		08/09/2012 16:54	
Duplicate Weight (mg):	389.958		07/24/2012 11:37	385.177		08/09/2012 17:12	
Weight Change (mg):	0.000			0.001			
Low Mass Balance Checks							
Verified Weight (mg):	300.002		04/30/2012 13:54	300.002		04/30/2012 13:54	
Minimum Weight (mg):	300.001	-0.001	07/24/2012 11:26	300.000	-0.002	08/09/2012 17:04	(Max. Overall Wt. Diff.)
Maximum Weight (mg)	300.004	0.002	07/24/2012 11:41	300.004	0.002	08/09/2012 16:50	
Maximum Wt. Diff. (mg)	0.002			-0.002			0.002
High Mass Balance Checks							
Verified Weight (mg):	500.002		04/30/2012 13:55	500.002		04/30/2012 13:55	
Minimum Weight (mg):	500.003	0.001	07/24/2012 11:14	500.000	-0.002	08/09/2012 17:05	(Max. Overall Wt. Diff.)
Maximum Weight (mg):	500.003	0.001	07/24/2012 11:14	500.003	0.001	08/09/2012 17:19	
Maximum Wt. Diff. (mg):	0.001			-0.002			-0.002

Lab Approval	
Valid Data:	☑
PE Rejected:	☐
Complete:	☑

QA Manager Approval	
Approval:	☑
Initials:	GN
Date:	11/1/2012

PM2.5 Performance Evaluations

Record Last Changed: 9/7/2012

PE Filter ID: T2635501 **AIRS Site Code: YBB252** POC: 1 Site Name

Distance from AQS Lat/long (m): **Sampler ID: BGI0587** AQS Site Addr:

AQS Site Name:

Quality Control Checks Check Date: 9/7/2012 2:38:14 PM

Check ID	Code	Description	Check Value	Auto QC Pass	Auto QC Fail	Override Pass	Override Fail	Comment
Critical criteria			**3 points per failure, if not overridden**					
1	DAM	no filter damage (visual defect)	True	☑	☐	☐	☐	
2	EST	sample period 1380-1500 min	1439 min	☑	☐	☐	☐	
3	FLR_1	flow rate <= ± 5% of 16.67 L/min	16.7 L/min	☑	☐	☐	☐	
4	FLR_2	flow rate <= 2% CV	0.56	☑	☐	☐	☐	
5	FVL	no flow rate excursions > ± 5% for > 5 min	True	☑	☐	☐	☐	
6	HTE_1	sample recovery <= 96 hours from sample end date	1 hour	☑	☐	☐	☐	
7	HTE_2	post-sample weighing <= 10 days at 25 deg C or <= 30 days at 4 deg C	7 days, 0 deg C (cold pack:)	☑	☐	☐	☐	
8	ISP_1	pre-sample minimum 24 hour equilibration	261 hours	☑	☐	☐	☐	
9	ISP_2	pre-sample mean temperature 20-23 degrees C	21.4 degrees C	☑	☐	☐	☐	
10	ISP_3	pre-sample temperature control ± 2 degrees C over 24 hours	0.091 degrees C	☑	☐	☐	☐	
11	ISP_4	pre-sample mean RH 30-40%	36.9 percent	☑	☐	☐	☐	
12	ISP_5	pre-sample RH SD control ± 5%	0.513 percent	☑	☐	☐	☐	
13	ISP_6	post-sample minimum 24 hour equilibration	49 hours	☑	☐	☐	☐	
14	ISP_7	post-sample mean temperature 20-23 degrees C	21.4 degrees C	☑	☐	☐	☐	
15	ISP_8	post-sample temperature control ± 2 degrees C over 24 hours	0.1 degrees C	☑	☐	☐	☐	
16	ISP_9	post-sample mean RH 30-40%	36.8 percent	☑	☐	☐	☐	
17	ISP_10	post-sample RH SD control ± 5%	0.511 percent	☑	☐	☐	☐	
18	ISP_11	pre/post sample RH ± 5%	-0.1 percent	☑	☐	☐	☐	
Sample batch validation with major and minor flags			**3 points per failure, if not overridden**					
19	FIS_1	pre-sample 100 mg balance check (max diff from verified wt) <= ± 3 ug	2 ug	☑	☐	☐	☐	
20	FIS_2	pre-sample 200 mg balance check (max diff from verified wt) <= ± 3 ug	1 ug	☑	☐	☐	☐	
21	FLD_1	pre-sample duplicate filter weight ± 15 ug	0 ug	☑	☐	☐	☐	
22	FIS_3	post-sample 100 mg balance check (max diff from verified wt) <= ± 3 ug	-2 ug	☑	☐	☐	☐	
23	FIS_4	post-sample 200 mg balance check (max diff from verified wt) <= ± 3 ug	-2 ug	☑	☐	☐	☐	
24	FLD_2	post-sample duplicate filter weight ± 15 ug	1 ug	☑	☐	☐	☐	
25	FLB	lab blanks ± 15 ug	0 ug	☑	☐	☐	☐	
26	FFB	field blanks ± 30 ug	No Field Blank	☑	☐	☐	☐	
Operational evaluation criteria			**1 point per failure, if not overridden**					
27	FLT	filter temperature, no excursions of > 5 degrees C lasting longer than 30 min	True	☑	☐	☐	☐	
28	FAT	temperature verification ± 2 degrees C	True	☑	☐	☐	☐	
29	FPC	barometric pressure verification ± 10 mm Hg	True	☑	☐	☐	☐	
30	FSC	flow rate verification ± 4%	True	☑	☐	☐	☐	
31	HTE_3	(pre-sample) filter holding <= 30 days from pre-weigh	8 days	☑	☐	☐	☐	
32	BDL	lower detection limit (PM2.5 conc. >= 2 ug/m3)	20.179 ug/m3	☑	☐	☐	☐	
33		upper concentration limit (PM2.5 conc. <= 200 ug/m3)	20.179 ug/m3	☑	☐	☐	☐	
34	FCS	collocated CV <= 10%	Not Collocated	☑	☐	☐	☐	
39	FRW_5	pre-sample filter replicates <= 5 ug between weighings (single filter)	2 ug (diff.)	☑	☐	☐	☐	
40	FRW_6	post-sample batch stability test < 15 ug between weighings (consecutive weights for 2 of 3 filters)	3 of 3 filters < 15 ug	☑	☐	☐	☐	

Total Score: 0 **(Events with total score < 3 meet scoring criteria.)**

Meets Criteria

PM2.5 Performance Evaluations

Record Last Changed: 9/7/2012

PE Filter ID: T2635507 **AIRS Site Code: YBBTSP2** POC: 1 Site Name

Distance from AQS Lat/long (m): **Sampler ID: BGI0597** AQS Site Addr:

AQS Site Name:

Filter Lot: 2011 Sampler Serial No.: 0597 Audited By: Reg4

PE Cassette ID: 2313 Companion Filter: Sampler Model: BGI PQ200A

Companion Cassette: Secondary Separator Type: WINS

PE Run Time	
PE Start Date:	**08/01/2012 11:00**
Elapsed Time (days):	0.999
PE Stop Date:	08/02/2012 10:59
Filter Removed Date:	08/02/2012 11:32

Concentration	
Measured by PE Sampler (µg/m³):	**33.030**
Measured by Site (µg/m³):	
Percent Difference:	

Field Flag:

Comment:

Sample Flow/Volume		Ambient Sample Temperature (ºC)		Barometric Pressure (mm Hg)		Out of Spec.		Field Verifications	
Flow Avg (L/min).:	16.7	Average:	29	Average:	753	Time:	☐	BP:	☑
Flow CV:	0.5	Minimum:	23.4	Minimum:	752	Temperature:	☐	Temperature:	☑
Sample Vol. (m³):	24.039	Maximum:	36.9	Maximum:	755	Flow:	☐	Flow:	☑

Field Blank		Trip Blank		Lab Blank		Collocated Samplers	
Cassette ID:		Cassette ID:		Cassette ID:	N/A	Collocated:	☐
Filter ID:		Filter ID:		Filter ID:	T2635515	Count.:	
Pre- Wt. (mg):		Pre- Wt. (mg):		Pre- Wt. (mg):	369.299	Std. Dev.:	
Post- Wt. (mg):		Post- Wt. (mg):		Post- Wt. (mg):	369.300	Mean:	
Wt. Change (mg):		Wt. Change (mg):		Wt. Change (mg):	0.001	Max CV (%):	

	Pre-sample (Unexposed)			Post-sample (Exposed)			Pre/Post
Weigh Sessions							
Equilibration Tray:	TR12		07/13/2012 14:42	TR04		08/07/2012 15:46	
Equilibration Time (hours):	264			50			
Weigh Session ID:	000009671PML			000009710PML			(Sample Mass)
Holding Time (days):	8			7			
Filter Weight (mg):	390.302		07/24/2012 14:12	391.096		08/09/2012 17:00	0.794
Weighing Room Conditions							
Avg. Temperature (ºC):	21.4			21.4			
Temp. Std. Dev. (ºC):	0.091			0.1			(RH Diff.)
Avg. Relative Humidity (%):	36.9			36.8			-0.100
RH Std. Dev. (%):	0.513			0.511			
Batch Duplicates							
Filter ID:	T2635507			T2635500			
Primary Weight (mg):	390.302		07/24/2012 14:12	385.176		08/09/2012 16:54	
Duplicate Weight (mg):	390.302		07/24/2012 14:20	385.177		08/09/2012 17:12	
Weight Change (mg):	0.000			0.001			
Low Mass Balance Checks							
Verified Weight (mg):	300.002		04/30/2012 13:54	300.002		04/30/2012 13:54	
Minimum Weight (mg):	300.002	0.000	07/24/2012 14:11	300.000	-0.002	08/09/2012 17:04	(Max. Overall Wt. Diff.)
Maximum Weight (mg)	300.002	0.000	07/24/2012 14:11	300.004	0.002	08/09/2012 16:50	
Maximum Wt. Diff. (mg)	0.000			-0.002			-0.002
High Mass Balance Checks							
Verified Weight (mg):	500.002		04/30/2012 13:55	500.002		04/30/2012 13:55	
Minimum Weight (mg):	500.001	-0.001	07/24/2012 14:12	500.000	-0.002	08/09/2012 17:05	(Max. Overall Wt. Diff.)
Maximum Weight (mg):	500.002	0.000	07/24/2012 14:25	500.003	0.001	08/09/2012 17:19	
Maximum Wt. Diff. (mg):	-0.001			-0.002			-0.002

Lab Approval	
Valid Data:	☑
PE Rejected:	☐
Complete:	☑

QA Manager Approval	
Approval:	☑
Initials:	GN
Date:	11/1/2012

PM2.5 Performance Evaluations

Record Last Changed: 9/7/2012

PE Filter ID: T2635507 **AIRS Site Code: YBBTSP2** POC: 1 Site Name

Distance from AQS Lat/long (m): **Sampler ID: BGI0597** AQS Site Addr:

AQS Site Name:

Quality Control Checks Check Date: 9/7/2012 2:38:02 PM

Check ID	Code	Description	Check Value	Auto QC Pass	Auto QC Fail	Override Pass	Override Fail	Comment
Critical criteria			**3 points per failure, if not overridden**					
1	DAM	no filter damage (visual defect)	True	☑	☐	☐	☐	
2	EST	sample period 1380-1500 min	1439 min	☑	☐	☐	☐	
3	FLR_1	flow rate <= ± 5% of 16.67 L/min	16.7 L/min	☑	☐	☐	☐	
4	FLR_2	flow rate <= 2% CV	0.5	☑	☐	☐	☐	
5	FVL	no flow rate excursions > ± 5% for > 5 min	True	☑	☐	☐	☐	
6	HTE_1	sample recovery <= 96 hours from sample end date	1 hour	☑	☐	☐	☐	
7	HTE_2	post-sample weighing <= 10 days at 25 deg C or <= 30 days at 4 deg C	7 days, 0 deg C (cold pack:)	☑	☐	☐	☐	
8	ISP_1	pre-sample minimum 24 hour equilibration	264 hours	☑	☐	☐	☐	
9	ISP_2	pre-sample mean temperature 20-23 degrees C	21.4 degrees C	☑	☐	☐	☐	
10	ISP_3	pre-sample temperature control ± 2 degrees C over 24 hours	0.091 degrees C	☑	☐	☐	☐	
11	ISP_4	pre-sample mean RH 30-40%	36.9 percent	☑	☐	☐	☐	
12	ISP_5	pre-sample RH SD control ± 5%	0.513 percent	☑	☐	☐	☐	
13	ISP_6	post-sample minimum 24 hour equilibration	50 hours	☑	☐	☐	☐	
14	ISP_7	post-sample mean temperature 20-23 degrees C	21.4 degrees C	☑	☐	☐	☐	
15	ISP_8	post-sample temperature control ± 2 degrees C over 24 hours	0.1 degrees C	☑	☐	☐	☐	
16	ISP_9	post-sample mean RH 30-40%	36.8 percent	☑	☐	☐	☐	
17	ISP_10	post-sample RH SD control ± 5%	0.511 percent	☑	☐	☐	☐	
18	ISP_11	pre/post sample RH ± 5%	-0.1 percent	☑	☐	☐	☐	
Sample batch validation with major and minor flags			**3 points per failure, if not overridden**					
19	FIS_1	pre-sample 100 mg balance check (max diff from verified wt) <= ± 3 ug	0 ug	☑	☐	☐	☐	
20	FIS_2	pre-sample 200 mg balance check (max diff from verified wt) <= ± 3 ug	-1 ug	☑	☐	☐	☐	
21	FLD_1	pre-sample duplicate filter weight ± 15 ug	0 ug	☑	☐	☐	☐	
22	FIS_3	post-sample 100 mg balance check (max diff from verified wt) <= ± 3 ug	-2 ug	☑	☐	☐	☐	
23	FIS_4	post-sample 200 mg balance check (max diff from verified wt) <= ± 3 ug	-2 ug	☑	☐	☐	☐	
24	FLD_2	post-sample duplicate filter weight ± 15 ug	1 ug	☑	☐	☐	☐	
25	FLB	lab blanks ± 15 ug	1 ug	☑	☐	☐	☐	
26	FFB	field blanks ± 30 ug	No Field Blank	☑	☐	☐	☐	
Operational evaluation criteria			**1 point per failure, if not overridden**					
27	FLT	filter temperature, no excursions of > 5 degrees C lasting longer than 30 min	True	☑	☐	☐	☐	
28	FAT	temperature verification ± 2 degrees C	True	☑	☐	☐	☐	
29	FPC	barometric pressure verification ± 10 mm Hg	True	☑	☐	☐	☐	
30	FSC	flow rate verification ± 4%	True	☑	☐	☐	☐	
31	HTE_3	(pre-sample) filter holding <= 30 days from pre-weigh	8 days	☑	☐	☐	☐	
32	BDL	lower detection limit (PM2.5 conc. >= 2 ug/m3)	33.03 ug/m3	☑	☐	☐	☐	
33		upper concentration limit (PM2.5 conc. <= 200 ug/m3)	33.03 ug/m3	☑	☐	☐	☐	
34	FCS	collocated CV <= 10%	Not Collocated	☑	☐	☐	☐	
39	FRW_5	pre-sample filter replicates <= 5 ug between weighings (single filter)	0 ug (diff.)	☑	☐	☐	☐	
40	FRW_6	post-sample batch stability test < 15 ug between weighings (consecutive weights for 2 of 3 filters)	3 of 3 filters < 15 ug	☑	☐	☐	☐	

Total Score: 0 **(Events with total score < 3 meet scoring criteria.)**

Meets Criteria

PM2.5 Performance Evaluations

Record Last Changed: 9/7/2012

PE Filter ID: T2635508 **AIRS Site Code: YBB102** POC: 1 Site Name

Distance from AQS Lat/long (m): **Sampler ID: BGI0590** AQS Site Addr:

AQS Site Name:

Filter Lot: 2011 Sampler Serial No.: 0590 Audited By: Reg4

PE Cassette ID: 1207 Companion Filter: Sampler Model: BGI PQ200A

Companion Cassette: Secondary Separator Type: WINS

PE Run Time	
PE Start Date:	**08/01/2012 11:00**
Elapsed Time (days):	0.999
PE Stop Date:	08/02/2012 10:59
Filter Removed Date:	08/02/2012 11:28

Concentration	
Measured by PE Sampler (µg/m³):	**29.332**
Measured by Site (µg/m³):	
Percent Difference:	

Field Flag:

Comment:

Sample Flow/Volume	
Flow Avg (L/min).:	16.7
Flow CV:	0.52
Sample Vol. (m³):	24.035

Ambient Sample Temperature (ºC)	
Average:	29.2
Minimum:	23.5
Maximum:	37.3

Barometric Pressure (mm Hg)	
Average:	753
Minimum:	752
Maximum:	756

Out of Spec.	
Time:	☐
Temperature:	☐
Flow:	☐

Field Verifications	
BP:	☑
Temperature:	☑
Flow:	☑

Field Blank	
Cassette ID:	
Filter ID:	
Pre- Wt. (mg):	
Post- Wt. (mg):	
Wt. Change (mg):	

Trip Blank	
Cassette ID:	
Filter ID:	
Pre- Wt. (mg):	
Post- Wt. (mg):	
Wt. Change (mg):	

Lab Blank	
Cassette ID:	N/A
Filter ID:	T2635515
Pre- Wt. (mg):	369.299
Post- Wt. (mg):	369.300
Wt. Change (mg):	0.001

Collocated Samplers	
Collocated:	☐
Count.:	
Std. Dev.:	
Mean:	
Max CV (%):	

	Pre-sample (Unexposed)			Post-sample (Exposed)			Pre/Post
Weigh Sessions							
Equilibration Tray:	TR12		07/13/2012 14:42	TR04		08/07/2012 15:46	
Equilibration Time (hours):	264			50			
Weigh Session ID:	000009671PML			000009710PML			(Sample Mass)
Holding Time (days):	8			7			
Filter Weight (mg):	372.648		07/24/2012 14:13	373.353		08/09/2012 17:00	0.705
Weighing Room Conditions							
Avg. Temperature (ºC):	21.4			21.4			
Temp. Std. Dev. (ºC):	0.091			0.1			(RH Diff.)
Avg. Relative Humidity (%):	36.9			36.8			-0.100
RH Std. Dev. (%):	0.513			0.511			
Batch Duplicates							
Filter ID:	T2635507			T2635500			
Primary Weight (mg):	390.302		07/24/2012 14:12	385.176		08/09/2012 16:54	
Duplicate Weight (mg):	390.302		07/24/2012 14:20	385.177		08/09/2012 17:12	
Weight Change (mg):	0.000			0.001			
Low Mass Balance Checks							
Verified Weight (mg):	300.002		04/30/2012 13:54	300.002		04/30/2012 13:54	
Minimum Weight (mg):	300.002	0.000	07/24/2012 14:11	300.000	-0.002	08/09/2012 17:04	(Max. Overall Wt. Diff.)
Maximum Weight (mg)	300.002	0.000	07/24/2012 14:11	300.004	0.002	08/09/2012 16:50	
Maximum Wt. Diff. (mg)	0.000			-0.002			-0.002
High Mass Balance Checks							
Verified Weight (mg):	500.002		04/30/2012 13:55	500.002		04/30/2012 13:55	
Minimum Weight (mg):	500.001	-0.001	07/24/2012 14:12	500.000	-0.002	08/09/2012 17:05	(Max. Overall Wt. Diff.)
Maximum Weight (mg):	500.002	0.000	07/24/2012 14:25	500.003	0.001	08/09/2012 17:19	
Maximum Wt. Diff. (mg):	-0.001			-0.002			-0.002

Lab Approval	
Valid Data:	☑
PE Rejected:	☐
Complete:	☑

QA Manager Approval	
Approval:	☑
Initials:	GN
Date:	11/1/2012

PM2.5 Performance Evaluations

Record Last Changed: 9/7/2012

PE Filter ID: T2635508 **AIRS Site Code: YBB102** POC: 1 Site Name

Distance from AQS Lat/long (m): **Sampler ID: BGI0590** AQS Site Addr:

AQS Site Name:

Quality Control Checks Check Date: 9/7/2012 2:37:40 PM

Check ID	Code	Description	Check Value	Auto QC Pass	Auto QC Fail	Override Pass	Override Fail	Comment
Critical criteria			**3 points per failure, if not overridden**					
1	DAM	no filter damage (visual defect)	True	☑	☐	☐	☐	
2	EST	sample period 1380-1500 min	1439 min	☑	☐	☐	☐	
3	FLR_1	flow rate <= ± 5% of 16.67 L/min	16.7 L/min	☑	☐	☐	☐	
4	FLR_2	flow rate <= 2% CV	0.52	☑	☐	☐	☐	
5	FVL	no flow rate excursions > ± 5% for > 5 min	True	☑	☐	☐	☐	
6	HTE_1	sample recovery <= 96 hours from sample end date	1 hour	☑	☐	☐	☐	
7	HTE_2	post-sample weighing <= 10 days at 25 deg C or <= 30 days at 4 deg C	7 days, 0 deg C (cold pack:)	☑	☐	☐	☐	
8	ISP_1	pre-sample minimum 24 hour equilibration	264 hours	☑	☐	☐	☐	
9	ISP_2	pre-sample mean temperature 20-23 degrees C	21.4 degrees C	☑	☐	☐	☐	
10	ISP_3	pre-sample temperature control ± 2 degrees C over 24 hours	0.091 degrees C	☑	☐	☐	☐	
11	ISP_4	pre-sample mean RH 30-40%	36.9 percent	☑	☐	☐	☐	
12	ISP_5	pre-sample RH SD control ± 5%	0.513 percent	☑	☐	☐	☐	
13	ISP_6	post-sample minimum 24 hour equilibration	50 hours	☑	☐	☐	☐	
14	ISP_7	post-sample mean temperature 20-23 degrees C	21.4 degrees C	☑	☐	☐	☐	
15	ISP_8	post-sample temperature control ± 2 degrees C over 24 hours	0.1 degrees C	☑	☐	☐	☐	
16	ISP_9	post-sample mean RH 30-40%	36.8 percent	☑	☐	☐	☐	
17	ISP_10	post-sample RH SD control ± 5%	0.511 percent	☑	☐	☐	☐	
18	ISP_11	pre/post sample RH ± 5%	-0.1 percent	☑	☐	☐	☐	
Sample batch validation with major and minor flags			**3 points per failure, if not overridden**					
19	FIS_1	pre-sample 100 mg balance check (max diff from verified wt) <= ± 3 ug	0 ug	☑	☐	☐	☐	
20	FIS_2	pre-sample 200 mg balance check (max diff from verified wt) <= ± 3 ug	-1 ug	☑	☐	☐	☐	
21	FLD_1	pre-sample duplicate filter weight ± 15 ug	0 ug	☑	☐	☐	☐	
22	FIS_3	post-sample 100 mg balance check (max diff from verified wt) <= ± 3 ug	-2 ug	☑	☐	☐	☐	
23	FIS_4	post-sample 200 mg balance check (max diff from verified wt) <= ± 3 ug	-2 ug	☑	☐	☐	☐	
24	FLD_2	post-sample duplicate filter weight ± 15 ug	1 ug	☑	☐	☐	☐	
25	FLB	lab blanks ± 15 ug	1 ug	☑	☐	☐	☐	
26	FFB	field blanks ± 30 ug	No Field Blank	☑	☐	☐	☐	
Operational evaluation criteria			**1 point per failure, if not overridden**					
27	FLT	filter temperature, no excursions of > 5 degrees C lasting longer than 30 min	True	☑	☐	☐	☐	
28	FAT	temperature verification ± 2 degrees C	True	☑	☐	☐	☐	
29	FPC	barometric pressure verification ± 10 mm Hg	True	☑	☐	☐	☐	
30	FSC	flow rate verification ± 4%	True	☑	☐	☐	☐	
31	HTE_3	(pre-sample) filter holding <= 30 days from pre-weigh	8 days	☑	☐	☐	☐	
32	BDL	lower detection limit (PM2.5 conc. >= 2 ug/m3)	29.332 ug/m3	☑	☐	☐	☐	
33		upper concentration limit (PM2.5 conc. <= 200 ug/m3)	29.332 ug/m3	☑	☐	☐	☐	
34	FCS	collocated CV <= 10%	Not Collocated	☑	☐	☐	☐	
39	FRW_5	pre-sample filter replicates <= 5 ug between weighings (single filter)	1 ug (diff.)	☑	☐	☐	☐	
40	FRW_6	post-sample batch stability test < 15 ug between weighings (consecutive weights for 2 of 3 filters)	3 of 3 filters < 15 ug	☑	☐	☐	☐	

Total Score: 0 **(Events with total score < 3 meet scoring criteria.)**

Meets Criteria

PM2.5 Performance Evaluations

Record Last Changed: 9/7/2012

PE Filter ID: T2635510 **AIRS Site Code: YBA 102** POC: 1 Site Name

Distance from AQS Lat/long (m): **Sampler ID: BGI0592** AQS Site Addr:

AQS Site Name:

Filter Lot: 2011 Sampler Serial No.: 0592 Audited By: Reg4

PE Cassette ID: 2653 Companion Filter: Sampler Model: BGI PQ200A

Companion Cassette: Secondary Separator Type: WINS

PE Run Time	
PE Start Date:	**08/01/2012 11:30**
Elapsed Time (days):	0.999
PE Stop Date:	08/02/2012 11:29
Filter Removed Date:	08/02/2012 12:55

Concentration	
Measured by PE Sampler (µg/m³):	**31.182**
Measured by Site (µg/m³):	
Percent Difference:	

Field Flag:

Comment:

Sample Flow/Volume	
Flow Avg (L/min).:	16.71
Flow CV:	0.5
Sample Vol. (m³):	24.02

Ambient Sample Temperature (ºC)	
Average:	28.6
Minimum:	24
Maximum:	35

Barometric Pressure (mm Hg)	
Average:	750
Minimum:	749
Maximum:	753

Out of Spec.	
Time:	☐
Temperature:	☐
Flow:	☐

Field Verifications	
BP:	☑
Temperature:	☑
Flow:	☑

Field Blank	
Cassette ID:	1092
Filter ID:	T2635486
Pre- Wt. (mg):	373.034
Post- Wt. (mg):	373.037
Wt. Change (mg):	0.003

Trip Blank	
Cassette ID:	
Filter ID:	
Pre- Wt. (mg):	
Post- Wt. (mg):	
Wt. Change (mg):	

Lab Blank	
Cassette ID:	N/A
Filter ID:	T2635515
Pre- Wt. (mg):	369.299
Post- Wt. (mg):	369.300
Wt. Change (mg):	0.001

Collocated Samplers	
Collocated:	☐
Count.:	
Std. Dev.:	
Mean:	
Max CV (%):	

	Pre-sample (Unexposed)			Post-sample (Exposed)			Pre/Post
Weigh Sessions							
Equilibration Tray:	TR12		07/13/2012 14:42	TR04		08/07/2012 15:46	
Equilibration Time (hours):	264			50			
Weigh Session ID:	000009671PML			000009710PML			(Sample Mass)
Holding Time (days):	8			7			
Filter Weight (mg):	370.455		07/24/2012 14:15	371.204		08/09/2012 17:02	0.749
Weighing Room Conditions							
Avg. Temperature (ºC):	21.4			21.4			
Temp. Std. Dev. (ºC):	0.091			0.1			(RH Diff.)
Avg. Relative Humidity (%):	36.9			36.8			-0.100
RH Std. Dev. (%):	0.513			0.511			
Batch Duplicates							
Filter ID:	T2635507			T2635500			
Primary Weight (mg):	390.302		07/24/2012 14:12	385.176		08/09/2012 16:54	
Duplicate Weight (mg):	390.302		07/24/2012 14:20	385.177		08/09/2012 17:12	
Weight Change (mg):	0.000			0.001			
Low Mass Balance Checks							
Verified Weight (mg):	300.002		04/30/2012 13:54	300.002		04/30/2012 13:54	
Minimum Weight (mg):	300.002	0.000	07/24/2012 14:11	300.000	-0.002	08/09/2012 17:04	(Max. Overall Wt. Diff.)
Maximum Weight (mg)	300.002	0.000	07/24/2012 14:11	300.004	0.002	08/09/2012 16:50	
Maximum Wt. Diff. (mg)	0.000			-0.002			-0.002
High Mass Balance Checks							
Verified Weight (mg):	500.002		04/30/2012 13:55	500.002		04/30/2012 13:55	
Minimum Weight (mg):	500.001	-0.001	07/24/2012 14:12	500.000	-0.002	08/09/2012 17:05	(Max. Overall Wt. Diff.)
Maximum Weight (mg):	500.002	0.000	07/24/2012 14:25	500.003	0.001	08/09/2012 17:19	
Maximum Wt. Diff. (mg):	-0.001			-0.002			-0.002

Lab Approval	
Valid Data:	☑
PE Rejected:	☐
Complete:	☑

QA Manager Approval	
Approval:	☑
Initials:	GN
Date:	11/1/2012

PM2.5 Performance Evaluations

Record Last Changed: 9/7/2012

PE Filter ID: T2635510 **AIRS Site Code: YBA 102** POC: 1 Site Name

Distance from AQS Lat/long (m): **Sampler ID: BGI0592** AQS Site Addr:

AQS Site Name:

Quality Control Checks Check Date: 9/7/2012 2:38:40 PM

Check ID	Code	Description	Check Value	Auto QC Pass	Auto QC Fail	Override Pass	Override Fail	Comment
Critical criteria			**3 points per failure, if not overridden**					
1	DAM	no filter damage (visual defect)	True	☑	☐	☐	☐	
2	EST	sample period 1380-1500 min	1439 min	☑	☐	☐	☐	
3	FLR_1	flow rate <= ± 5% of 16.67 L/min	16.71 L/min	☑	☐	☐	☐	
4	FLR_2	flow rate <= 2% CV	0.5	☑	☐	☐	☐	
5	FVL	no flow rate excursions > ± 5% for > 5 min	True	☑	☐	☐	☐	
6	HTE_1	sample recovery <= 96 hours from sample end date	1 hour	☑	☐	☐	☐	
7	HTE_2	post-sample weighing <= 10 days at 25 deg C or <= 30 days at 4 deg C	7 days, 0 deg C (cold pack:)	☑	☐	☐	☐	
8	ISP_1	pre-sample minimum 24 hour equilibration	264 hours	☑	☐	☐	☐	
9	ISP_2	pre-sample mean temperature 20-23 degrees C	21.4 degrees C	☑	☐	☐	☐	
10	ISP_3	pre-sample temperature control ± 2 degrees C over 24 hours	0.091 degrees C	☑	☐	☐	☐	
11	ISP_4	pre-sample mean RH 30-40%	36.9 percent	☑	☐	☐	☐	
12	ISP_5	pre-sample RH SD control ± 5%	0.513 percent	☑	☐	☐	☐	
13	ISP_6	post-sample minimum 24 hour equilibration	50 hours	☑	☐	☐	☐	
14	ISP_7	post-sample mean temperature 20-23 degrees C	21.4 degrees C	☑	☐	☐	☐	
15	ISP_8	post-sample temperature control ± 2 degrees C over 24 hours	0.1 degrees C	☑	☐	☐	☐	
16	ISP_9	post-sample mean RH 30-40%	36.8 percent	☑	☐	☐	☐	
17	ISP_10	post-sample RH SD control ± 5%	0.511 percent	☑	☐	☐	☐	
18	ISP_11	pre/post sample RH ± 5%	-0.1 percent	☑	☐	☐	☐	
Sample batch validation with major and minor flags			**3 points per failure, if not overridden**					
19	FIS_1	pre-sample 100 mg balance check (max diff from verified wt) <= ± 3 ug	0 ug	☑	☐	☐	☐	
20	FIS_2	pre-sample 200 mg balance check (max diff from verified wt) <= ± 3 ug	-1 ug	☑	☐	☐	☐	
21	FLD_1	pre-sample duplicate filter weight ± 15 ug	0 ug	☑	☐	☐	☐	
22	FIS_3	post-sample 100 mg balance check (max diff from verified wt) <= ± 3 ug	-2 ug	☑	☐	☐	☐	
23	FIS_4	post-sample 200 mg balance check (max diff from verified wt) <= ± 3 ug	-2 ug	☑	☐	☐	☐	
24	FLD_2	post-sample duplicate filter weight ± 15 ug	1 ug	☑	☐	☐	☐	
25	FLB	lab blanks ± 15 ug	1 ug	☑	☐	☐	☐	
26	FFB	field blanks ± 30 ug	3 ug	☑	☐	☐	☐	
Operational evaluation criteria			**1 point per failure, if not overridden**					
27	FLT	filter temperature, no excursions of > 5 degrees C lasting longer than 30 min	True	☑	☐	☐	☐	
28	FAT	temperature verification ± 2 degrees C	True	☑	☐	☐	☐	
29	FPC	barometric pressure verification ± 10 mm Hg	True	☑	☐	☐	☐	
30	FSC	flow rate verification ± 4%	True	☑	☐	☐	☐	
31	HTE_3	(pre-sample) filter holding <= 30 days from pre-weigh	8 days	☑	☐	☐	☐	
32	BDL	lower detection limit (PM2.5 conc. >= 2 ug/m3)	31.182 ug/m3	☑	☐	☐	☐	
33		upper concentration limit (PM2.5 conc. <= 200 ug/m3)	31.182 ug/m3	☑	☐	☐	☐	
34	FCS	collocated CV <= 10%	Not Collocated	☑	☐	☐	☐	
39	FRW_5	pre-sample filter replicates <= 5 ug between weighings (single filter)	2 ug (diff.)	☑	☐	☐	☐	
40	FRW_6	post-sample batch stability test < 15 ug between weighings (consecutive weights for 2 of 3 filters)	3 of 3 filters < 15 ug	☑	☐	☐	☐	

Total Score: 0 **(Events with total score < 3 meet scoring criteria.)**

Meets Criteria

PM2.5 Performance Evaluations

Record Last Changed: 9/7/2012

PE Filter ID: T2635502 **AIRS Site Code: YBA10C2** POC: 1 Site Name

Distance from AQS Lat/long (m): **Sampler ID: BGI0594** AQS Site Addr:

AQS Site Name:

Filter Lot: 2011 Sampler Serial No.: 0594 Audited By: Reg4

PE Cassette ID: 4671 Companion Filter: Sampler Model: BGI PQ200A

Companion Cassette: Secondary Separator Type: WINS

PE Run Time	
PE Start Date:	**08/01/2012 11:30**
Elapsed Time (days):	0.999
PE Stop Date:	08/02/2012 11:29
Filter Removed Date:	08/02/2012 12:57

Concentration	
Measured by PE Sampler (µg/m³):	**31.592**
Measured by Site (µg/m³):	
Percent Difference:	

Field Flag:

Comment:

Sample Flow/Volume	
Flow Avg (L/min).:	16.7
Flow CV:	0.42
Sample Vol. (m³):	24.025

Ambient Sample Temperature (ºC)	
Average:	28.8
Minimum:	24
Maximum:	35.6

Barometric Pressure (mm Hg)	
Average:	755
Minimum:	754
Maximum:	758

Out of Spec.	
Time:	☐
Temperature:	☐
Flow:	☐

Field Verifications	
BP:	☑
Temperature:	☑
Flow:	☑

Field Blank	
Cassette ID:	
Filter ID:	
Pre- Wt. (mg):	
Post- Wt. (mg):	
Wt. Change (mg):	

Trip Blank	
Cassette ID:	
Filter ID:	
Pre- Wt. (mg):	
Post- Wt. (mg):	
Wt. Change (mg):	

Lab Blank	
Cassette ID:	N/A
Filter ID:	T2635506
Pre- Wt. (mg):	372.144
Post- Wt. (mg):	372.144
Wt. Change (mg):	0.000

Collocated Samplers	
Collocated:	☐
Count.:	
Std. Dev.:	
Mean:	
Max CV (%):	

	Pre-sample (Unexposed)			Post-sample (Exposed)			Pre/Post
Weigh Sessions							
Equilibration Tray:	TR12		07/13/2012 14:42	TR04		08/07/2012 15:46	
Equilibration Time (hours):	261			49			
Weigh Session ID:	000009669PML			000009710PML			(Sample Mass)
Holding Time (days):	8			7			
Filter Weight (mg):	370.915		07/24/2012 11:35	371.674		08/09/2012 16:56	0.759
Weighing Room Conditions							
Avg. Temperature (ºC):	21.4			21.4			
Temp. Std. Dev. (ºC):	0.091			0.1			(RH Diff.)
Avg. Relative Humidity (%):	36.9			36.8			-0.100
RH Std. Dev. (%):	0.513			0.511			
Batch Duplicates							
Filter ID:	T2635485			T2635500			
Primary Weight (mg):	389.958		07/24/2012 11:14	385.176		08/09/2012 16:54	
Duplicate Weight (mg):	389.958		07/24/2012 11:37	385.177		08/09/2012 17:12	
Weight Change (mg):	0.000			0.001			
Low Mass Balance Checks							
Verified Weight (mg):	300.002		04/30/2012 13:54	300.002		04/30/2012 13:54	
Minimum Weight (mg):	300.001	-0.001	07/24/2012 11:26	300.000	-0.002	08/09/2012 17:04	(Max. Overall Wt. Diff.)
Maximum Weight (mg)	300.004	0.002	07/24/2012 11:41	300.004	0.002	08/09/2012 16:50	
Maximum Wt. Diff. (mg)	0.002			-0.002			0.002
High Mass Balance Checks							
Verified Weight (mg):	500.002		04/30/2012 13:55	500.002		04/30/2012 13:55	
Minimum Weight (mg):	500.003	0.001	07/24/2012 11:14	500.000	-0.002	08/09/2012 17:05	(Max. Overall Wt. Diff.)
Maximum Weight (mg):	500.003	0.001	07/24/2012 11:14	500.003	0.001	08/09/2012 17:19	
Maximum Wt. Diff. (mg):	0.001			-0.002			-0.002

Lab Approval	
Valid Data:	☑
PE Rejected:	☐
Complete:	☑

QA Manager Approval	
Approval:	☑
Initials:	GN
Date:	11/1/2012

PM2.5 Performance Evaluations

Record Last Changed: 9/7/2012

PE Filter ID: T2635502 **AIRS Site Code: YBA10C2** POC: 1 Site Name

Distance from AQS Lat/long (m): **Sampler ID: BGI0594** AQS Site Addr:

AQS Site Name:

Quality Control Checks Check Date: 9/7/2012 2:36:27 PM

Check ID	Code	Description	Check Value	Auto QC Pass	Auto QC Fail	Override Pass	Override Fail	Comment
Critical criteria			**3 points per failure, if not overridden**					
1	DAM	no filter damage (visual defect)	True	☑	☐	☐	☐	
2	EST	sample period 1380-1500 min	1439 min	☑	☐	☐	☐	
3	FLR_1	flow rate <= ± 5% of 16.67 L/min	16.7 L/min	☑	☐	☐	☐	
4	FLR_2	flow rate <= 2% CV	0.42	☑	☐	☐	☐	
5	FVL	no flow rate excursions > ± 5% for > 5 min	True	☑	☐	☐	☐	
6	HTE_1	sample recovery <= 96 hours from sample end date	1 hour	☑	☐	☐	☐	
7	HTE_2	post-sample weighing <= 10 days at 25 deg C or <= 30 days at 4 deg C	7 days, 0 deg C (cold pack:)	☑	☐	☐	☐	
8	ISP_1	pre-sample minimum 24 hour equilibration	261 hours	☑	☐	☐	☐	
9	ISP_2	pre-sample mean temperature 20-23 degrees C	21.4 degrees C	☑	☐	☐	☐	
10	ISP_3	pre-sample temperature control ± 2 degrees C over 24 hours	0.091 degrees C	☑	☐	☐	☐	
11	ISP_4	pre-sample mean RH 30-40%	36.9 percent	☑	☐	☐	☐	
12	ISP_5	pre-sample RH SD control ± 5%	0.513 percent	☑	☐	☐	☐	
13	ISP_6	post-sample minimum 24 hour equilibration	49 hours	☑	☐	☐	☐	
14	ISP_7	post-sample mean temperature 20-23 degrees C	21.4 degrees C	☑	☐	☐	☐	
15	ISP_8	post-sample temperature control ± 2 degrees C over 24 hours	0.1 degrees C	☑	☐	☐	☐	
16	ISP_9	post-sample mean RH 30-40%	36.8 percent	☑	☐	☐	☐	
17	ISP_10	post-sample RH SD control ± 5%	0.511 percent	☑	☐	☐	☐	
18	ISP_11	pre/post sample RH ± 5%	-0.1 percent	☑	☐	☐	☐	
Sample batch validation with major and minor flags			**3 points per failure, if not overridden**					
19	FIS_1	pre-sample 100 mg balance check (max diff from verified wt) <= ± 3 ug	2 ug	☑	☐	☐	☐	
20	FIS_2	pre-sample 200 mg balance check (max diff from verified wt) <= ± 3 ug	1 ug	☑	☐	☐	☐	
21	FLD_1	pre-sample duplicate filter weight ± 15 ug	0 ug	☑	☐	☐	☐	
22	FIS_3	post-sample 100 mg balance check (max diff from verified wt) <= ± 3 ug	-2 ug	☑	☐	☐	☐	
23	FIS_4	post-sample 200 mg balance check (max diff from verified wt) <= ± 3 ug	-2 ug	☑	☐	☐	☐	
24	FLD_2	post-sample duplicate filter weight ± 15 ug	1 ug	☑	☐	☐	☐	
25	FLB	lab blanks ± 15 ug	0 ug	☑	☐	☐	☐	
26	FFB	field blanks ± 30 ug	No Field Blank	☑	☐	☐	☐	
Operational evaluation criteria			**1 point per failure, if not overridden**					
27	FLT	filter temperature, no excursions of > 5 degrees C lasting longer than 30 min	True	☑	☐	☐	☐	
28	FAT	temperature verification ± 2 degrees C	True	☑	☐	☐	☐	
29	FPC	barometric pressure verification ± 10 mm Hg	True	☑	☐	☐	☐	
30	FSC	flow rate verification ± 4%	True	☑	☐	☐	☐	
31	HTE_3	(pre-sample) filter holding <= 30 days from pre-weigh	8 days	☑	☐	☐	☐	
32	BDL	lower detection limit (PM2.5 conc. >= 2 ug/m3)	31.592 ug/m3	☑	☐	☐	☐	
33		upper concentration limit (PM2.5 conc. <= 200 ug/m3)	31.592 ug/m3	☑	☐	☐	☐	
34	FCS	collocated CV <= 10%	Not Collocated	☑	☐	☐	☐	
39	FRW_5	pre-sample filter replicates <= 5 ug between weighings (single filter)	4 ug (diff.)	☑	☐	☐	☐	
40	FRW_6	post-sample batch stability test < 15 ug between weighings (consecutive weights for 2 of 3 filters)	3 of 3 filters < 15 ug	☑	☐	☐	☐	

Total Score: 0 **(Events with total score < 3 meet scoring criteria.)**

Meets Criteria

PM2.5 Performance Evaluations

Record Last Changed: 9/7/2012

PE Filter ID: T2635504 **AIRS Site Code: YBA252** POC: 1 Site Name

Distance from AQS Lat/long (m): **Sampler ID: BGI0595** AQS Site Addr:

AQS Site Name:

Filter Lot: 2011 Sampler Serial No.: 0595 Audited By: Reg4

PE Cassette ID: 2595 Companion Filter: Sampler Model: BGI PQ200A

Companion Cassette: Secondary Separator Type: WINS

PE Run Time	
PE Start Date:	**08/01/2012 11:30**
Elapsed Time (days):	0.999
PE Stop Date:	08/02/2012 11:29
Filter Removed Date:	08/02/2012 12:43

Concentration	
Measured by PE Sampler (µg/m³):	**20.335**
Measured by Site (µg/m³):	
Percent Difference:	

Field Flag:

Comment:

Sample Flow/Volume	
Flow Avg (L/min).:	16.69
Flow CV:	0.11
Sample Vol. (m³):	23.998

Ambient Sample Temperature (ºC)	
Average:	28.8
Minimum:	24
Maximum:	35.5

Barometric Pressure (mm Hg)	
Average:	753
Minimum:	753
Maximum:	756

Out of Spec.	
Time:	☐
Temperature:	☐
Flow:	☐

Field Verifications	
BP:	☑
Temperature:	☑
Flow:	☑

Field Blank	
Cassette ID:	
Filter ID:	
Pre- Wt. (mg):	
Post- Wt. (mg):	
Wt. Change (mg):	

Trip Blank	
Cassette ID:	
Filter ID:	
Pre- Wt. (mg):	
Post- Wt. (mg):	
Wt. Change (mg):	

Lab Blank	
Cassette ID:	N/A
Filter ID:	T2635506
Pre- Wt. (mg):	372.144
Post- Wt. (mg):	372.144
Wt. Change (mg):	0.000

Collocated Samplers	
Collocated:	☐
Count.:	
Std. Dev.:	
Mean:	
Max CV (%):	

	Pre-sample (Unexposed)			Post-sample (Exposed)			Pre/Post
Weigh Sessions							
Equilibration Tray:	TR12		07/13/2012 14:42	TR04		08/07/2012 15:46	
Equilibration Time (hours):	261			49			
Weigh Session ID:	000009669PML			000009710PML			(Sample Mass)
Holding Time (days):	8			7			
Filter Weight (mg):	368.672		07/24/2012 11:36	369.160		08/09/2012 16:58	0.488
Weighing Room Conditions							
Avg. Temperature (ºC):	21.4			21.4			
Temp. Std. Dev. (ºC):	0.091			0.1			(RH Diff.)
Avg. Relative Humidity (%):	36.9			36.8			-0.100
RH Std. Dev. (%):	0.513			0.511			
Batch Duplicates							
Filter ID:	T2635485			T2635500			
Primary Weight (mg):	389.958		07/24/2012 11:14	385.176		08/09/2012 16:54	
Duplicate Weight (mg):	389.958		07/24/2012 11:37	385.177		08/09/2012 17:12	
Weight Change (mg):	0.000			0.001			
Low Mass Balance Checks							
Verified Weight (mg):	300.002		04/30/2012 13:54	300.002		04/30/2012 13:54	
Minimum Weight (mg):	300.001	-0.001	07/24/2012 11:26	300.000	-0.002	08/09/2012 17:04	(Max. Overall Wt. Diff.)
Maximum Weight (mg)	300.004	0.002	07/24/2012 11:41	300.004	0.002	08/09/2012 16:50	
Maximum Wt. Diff. (mg)	0.002			-0.002			0.002
High Mass Balance Checks							
Verified Weight (mg):	500.002		04/30/2012 13:55	500.002		04/30/2012 13:55	
Minimum Weight (mg):	500.003	0.001	07/24/2012 11:14	500.000	-0.002	08/09/2012 17:05	(Max. Overall Wt. Diff.)
Maximum Weight (mg):	500.003	0.001	07/24/2012 11:14	500.003	0.001	08/09/2012 17:19	
Maximum Wt. Diff. (mg):	0.001			-0.002			-0.002

Lab Approval	
Valid Data:	☑
PE Rejected:	☐
Complete:	☑

QA Manager Approval	
Approval:	☑
Initials:	GN
Date:	11/1/2012

PM2.5 Performance Evaluations

Record Last Changed: 9/7/2012

PE Filter ID: T2635504 **AIRS Site Code: YBA252** POC: 1 Site Name

Distance from AQS Lat/long (m): **Sampler ID: BGI0595** AQS Site Addr:

AQS Site Name:

Quality Control Checks Check Date: 9/7/2012 2:37:03 PM

Check ID	Code	Description	Check Value	Auto QC Pass	Auto QC Fail	Override Pass	Override Fail	Comment
Critical criteria			**3 points per failure, if not overridden**					
1	DAM	no filter damage (visual defect)	True	☑	☐	☐	☐	
2	EST	sample period 1380-1500 min	1439 min	☑	☐	☐	☐	
3	FLR_1	flow rate <= ± 5% of 16.67 L/min	16.69 L/min	☑	☐	☐	☐	
4	FLR_2	flow rate <= 2% CV	0.11	☑	☐	☐	☐	
5	FVL	no flow rate excursions > ± 5% for > 5 min	True	☑	☐	☐	☐	
6	HTE_1	sample recovery <= 96 hours from sample end date	1 hour	☑	☐	☐	☐	
7	HTE_2	post-sample weighing <= 10 days at 25 deg C or <= 30 days at 4 deg C	7 days, 0 deg C (cold pack:)	☑	☐	☐	☐	
8	ISP_1	pre-sample minimum 24 hour equilibration	261 hours	☑	☐	☐	☐	
9	ISP_2	pre-sample mean temperature 20-23 degrees C	21.4 degrees C	☑	☐	☐	☐	
10	ISP_3	pre-sample temperature control ± 2 degrees C over 24 hours	0.091 degrees C	☑	☐	☐	☐	
11	ISP_4	pre-sample mean RH 30-40%	36.9 percent	☑	☐	☐	☐	
12	ISP_5	pre-sample RH SD control ± 5%	0.513 percent	☑	☐	☐	☐	
13	ISP_6	post-sample minimum 24 hour equilibration	49 hours	☑	☐	☐	☐	
14	ISP_7	post-sample mean temperature 20-23 degrees C	21.4 degrees C	☑	☐	☐	☐	
15	ISP_8	post-sample temperature control ± 2 degrees C over 24 hours	0.1 degrees C	☑	☐	☐	☐	
16	ISP_9	post-sample mean RH 30-40%	36.8 percent	☑	☐	☐	☐	
17	ISP_10	post-sample RH SD control ± 5%	0.511 percent	☑	☐	☐	☐	
18	ISP_11	pre/post sample RH ± 5%	-0.1 percent	☑	☐	☐	☐	
Sample batch validation with major and minor flags			**3 points per failure, if not overridden**					
19	FIS_1	pre-sample 100 mg balance check (max diff from verified wt) <= ± 3 ug	2 ug	☑	☐	☐	☐	
20	FIS_2	pre-sample 200 mg balance check (max diff from verified wt) <= ± 3 ug	1 ug	☑	☐	☐	☐	
21	FLD_1	pre-sample duplicate filter weight ± 15 ug	0 ug	☑	☐	☐	☐	
22	FIS_3	post-sample 100 mg balance check (max diff from verified wt) <= ± 3 ug	-2 ug	☑	☐	☐	☐	
23	FIS_4	post-sample 200 mg balance check (max diff from verified wt) <= ± 3 ug	-2 ug	☑	☐	☐	☐	
24	FLD_2	post-sample duplicate filter weight ± 15 ug	1 ug	☑	☐	☐	☐	
25	FLB	lab blanks ± 15 ug	0 ug	☑	☐	☐	☐	
26	FFB	field blanks ± 30 ug	No Field Blank	☑	☐	☐	☐	
Operational evaluation criteria			**1 point per failure, if not overridden**					
27	FLT	filter temperature, no excursions of > 5 degrees C lasting longer than 30 min	True	☑	☐	☐	☐	
28	FAT	temperature verification ± 2 degrees C	True	☑	☐	☐	☐	
29	FPC	barometric pressure verification ± 10 mm Hg	True	☑	☐	☐	☐	
30	FSC	flow rate verification ± 4%	True	☑	☐	☐	☐	
31	HTE_3	(pre-sample) filter holding <= 30 days from pre-weigh	8 days	☑	☐	☐	☐	
32	BDL	lower detection limit (PM2.5 conc. >= 2 ug/m3)	20.335 ug/m3	☑	☐	☐	☐	
33		upper concentration limit (PM2.5 conc. <= 200 ug/m3)	20.335 ug/m3	☑	☐	☐	☐	
34	FCS	collocated CV <= 10%	Not Collocated	☑	☐	☐	☐	
39	FRW_5	pre-sample filter replicates <= 5 ug between weighings (single filter)	0 ug (diff.)	☑	☐	☐	☐	
40	FRW_6	post-sample batch stability test < 15 ug between weighings (consecutive weights for 2 of 3 filters)	3 of 3 filters < 15 ug	☑	☐	☐	☐	

Total Score: 0 **(Events with total score < 3 meet scoring criteria.)**

Meets Criteria

PM2.5 Performance Evaluations

Record Last Changed: 9/7/2012

PE Filter ID: T2635511 **AIRS Site Code: YBATSP2** POC: 1 Site Name

Distance from AQS Lat/long (m): **Sampler ID: BGI0588** AQS Site Addr:

AQS Site Name:

Filter Lot: 2011 Sampler Serial No.: 0588 Audited By: Reg4

PE Cassette ID: 2426 Companion Filter: Sampler Model: BGI PQ200A

Companion Cassette: Secondary Separator Type: WINS

PE Run Time	
PE Start Date:	**08/01/2012 11:30**
Elapsed Time (days):	0.999
PE Stop Date:	08/02/2012 11:29
Filter Removed Date:	08/02/2012 12:53

Concentration	
Measured by PE Sampler (µg/m³):	**33.052**
Measured by Site (µg/m³):	
Percent Difference:	

Field Flag:

Comment:

Sample Flow/Volume	
Flow Avg (L/min).:	16.7
Flow CV:	0.44
Sample Vol. (m³):	24.023

Ambient Sample Temperature (ºC)	
Average:	29
Minimum:	24
Maximum:	35.9

Barometric Pressure (mm Hg)	
Average:	754
Minimum:	753
Maximum:	757

Out of Spec.	
Time:	☐
Temperature:	☐
Flow:	☐

Field Verifications	
BP:	☑
Temperature:	☑
Flow:	☑

Field Blank	
Cassette ID:	
Filter ID:	
Pre- Wt. (mg):	
Post- Wt. (mg):	
Wt. Change (mg):	

Trip Blank	
Cassette ID:	
Filter ID:	
Pre- Wt. (mg):	
Post- Wt. (mg):	
Wt. Change (mg):	

Lab Blank	
Cassette ID:	N/A
Filter ID:	T2635515
Pre- Wt. (mg):	369.299
Post- Wt. (mg):	369.300
Wt. Change (mg):	0.001

Collocated Samplers	
Collocated:	☐
Count.:	
Std. Dev.:	
Mean:	
Max CV (%):	

	Pre-sample (Unexposed)			Post-sample (Exposed)			Pre/Post
Weigh Sessions							
Equilibration Tray:	TR12		07/13/2012 14:42	TR04		08/07/2012 15:46	
Equilibration Time (hours):	264			50			
Weigh Session ID:	000009671PML			000009710PML			(Sample Mass)
Holding Time (days):	8			7			
Filter Weight (mg):	371.705		07/24/2012 14:16	372.499		08/09/2012 17:03	0.794
Weighing Room Conditions							
Avg. Temperature (ºC):	21.4			21.4			
Temp. Std. Dev. (ºC):	0.091			0.1			(RH Diff.)
Avg. Relative Humidity (%):	36.9			36.8			-0.100
RH Std. Dev. (%):	0.513			0.511			
Batch Duplicates							
Filter ID:	T2635507			T2635500			
Primary Weight (mg):	390.302		07/24/2012 14:12	385.176		08/09/2012 16:54	
Duplicate Weight (mg):	390.302		07/24/2012 14:20	385.177		08/09/2012 17:12	
Weight Change (mg):	0.000			0.001			
Low Mass Balance Checks							
Verified Weight (mg):	300.002		04/30/2012 13:54	300.002		04/30/2012 13:54	
Minimum Weight (mg):	300.002	0.000	07/24/2012 14:11	300.000	-0.002	08/09/2012 17:04	(Max. Overall Wt. Diff.)
Maximum Weight (mg)	300.002	0.000	07/24/2012 14:11	300.004	0.002	08/09/2012 16:50	
Maximum Wt. Diff. (mg)	0.000			-0.002			-0.002
High Mass Balance Checks							
Verified Weight (mg):	500.002		04/30/2012 13:55	500.002		04/30/2012 13:55	
Minimum Weight (mg):	500.001	-0.001	07/24/2012 14:12	500.000	-0.002	08/09/2012 17:05	(Max. Overall Wt. Diff.)
Maximum Weight (mg):	500.002	0.000	07/24/2012 14:25	500.003	0.001	08/09/2012 17:19	
Maximum Wt. Diff. (mg):	-0.001			-0.002			-0.002

Lab Approval	
Valid Data:	☑
PE Rejected:	☐
Complete:	☑

QA Manager Approval	
Approval:	☑
Initials:	GN
Date:	11/1/2012

PM2.5 Performance Evaluations

Record Last Changed: 9/7/2012

PE Filter ID: T2635511 **AIRS Site Code: YBATSP2** POC: 1 Site Name

Distance from AQS Lat/long (m): **Sampler ID: BGI0588** AQS Site Addr:

AQS Site Name:

Quality Control Checks Check Date: 9/7/2012 2:37:26 PM

Check ID	Code	Description	Check Value	Auto QC Pass	Auto QC Fail	Override Pass	Override Fail	Comment
Critical criteria			**3 points per failure, if not overridden**					
1	DAM	no filter damage (visual defect)	True	☑	☐	☐	☐	
2	EST	sample period 1380-1500 min	1439 min	☑	☐	☐	☐	
3	FLR_1	flow rate <= ± 5% of 16.67 L/min	16.7 L/min	☑	☐	☐	☐	
4	FLR_2	flow rate <= 2% CV	0.44	☑	☐	☐	☐	
5	FVL	no flow rate excursions > ± 5% for > 5 min	True	☑	☐	☐	☐	
6	HTE_1	sample recovery <= 96 hours from sample end date	1 hour	☑	☐	☐	☐	
7	HTE_2	post-sample weighing <= 10 days at 25 deg C or <= 30 days at 4 deg C	7 days, 0 deg C (cold pack:)	☑	☐	☐	☐	
8	ISP_1	pre-sample minimum 24 hour equilibration	264 hours	☑	☐	☐	☐	
9	ISP_2	pre-sample mean temperature 20-23 degrees C	21.4 degrees C	☑	☐	☐	☐	
10	ISP_3	pre-sample temperature control ± 2 degrees C over 24 hours	0.091 degrees C	☑	☐	☐	☐	
11	ISP_4	pre-sample mean RH 30-40%	36.9 percent	☑	☐	☐	☐	
12	ISP_5	pre-sample RH SD control ± 5%	0.513 percent	☑	☐	☐	☐	
13	ISP_6	post-sample minimum 24 hour equilibration	50 hours	☑	☐	☐	☐	
14	ISP_7	post-sample mean temperature 20-23 degrees C	21.4 degrees C	☑	☐	☐	☐	
15	ISP_8	post-sample temperature control ± 2 degrees C over 24 hours	0.1 degrees C	☑	☐	☐	☐	
16	ISP_9	post-sample mean RH 30-40%	36.8 percent	☑	☐	☐	☐	
17	ISP_10	post-sample RH SD control ± 5%	0.511 percent	☑	☐	☐	☐	
18	ISP_11	pre/post sample RH ± 5%	-0.1 percent	☑	☐	☐	☐	
Sample batch validation with major and minor flags			**3 points per failure, if not overridden**					
19	FIS_1	pre-sample 100 mg balance check (max diff from verified wt) <= ± 3 ug	0 ug	☑	☐	☐	☐	
20	FIS_2	pre-sample 200 mg balance check (max diff from verified wt) <= ± 3 ug	-1 ug	☑	☐	☐	☐	
21	FLD_1	pre-sample duplicate filter weight ± 15 ug	0 ug	☑	☐	☐	☐	
22	FIS_3	post-sample 100 mg balance check (max diff from verified wt) <= ± 3 ug	-2 ug	☑	☐	☐	☐	
23	FIS_4	post-sample 200 mg balance check (max diff from verified wt) <= ± 3 ug	-2 ug	☑	☐	☐	☐	
24	FLD_2	post-sample duplicate filter weight ± 15 ug	1 ug	☑	☐	☐	☐	
25	FLB	lab blanks ± 15 ug	1 ug	☑	☐	☐	☐	
26	FFB	field blanks ± 30 ug	No Field Blank	☑	☐	☐	☐	
Operational evaluation criteria			**1 point per failure, if not overridden**					
27	FLT	filter temperature, no excursions of > 5 degrees C lasting longer than 30 min	True	☑	☐	☐	☐	
28	FAT	temperature verification ± 2 degrees C	True	☑	☐	☐	☐	
29	FPC	barometric pressure verification ± 10 mm Hg	True	☑	☐	☐	☐	
30	FSC	flow rate verification ± 4%	True	☑	☐	☐	☐	
31	HTE_3	(pre-sample) filter holding <= 30 days from pre-weigh	8 days	☑	☐	☐	☐	
32	BDL	lower detection limit (PM2.5 conc. >= 2 ug/m3)	33.052 ug/m3	☑	☐	☐	☐	
33		upper concentration limit (PM2.5 conc. <= 200 ug/m3)	33.052 ug/m3	☑	☐	☐	☐	
34	FCS	collocated CV <= 10%	Not Collocated	☑	☐	☐	☐	
39	FRW_5	pre-sample filter replicates <= 5 ug between weighings (single filter)	0 ug (diff.)	☑	☐	☐	☐	
40	FRW_6	post-sample batch stability test < 15 ug between weighings (consecutive weights for 2 of 3 filters)	3 of 3 filters < 15 ug	☑	☐	☐	☐	

Total Score: 0 **(Events with total score < 3 meet scoring criteria.)**

Meets Criteria

PM2.5 Performance Evaluations

Record Last Changed: 9/7/2012

PE Filter ID: T2635485 **AIRS Site Code: YBBTSP3** POC: 1 Site Name

Distance from AQS Lat/long (m): **Sampler ID: BGI0597** AQS Site Addr:

AQS Site Name:

Filter Lot: 2011 Sampler Serial No.: 0597 Audited By: Reg4

PE Cassette ID: 1412 Companion Filter: Sampler Model: BGI PQ200A

Companion Cassette: Secondary Separator Type: WINS

PE Run Time	
PE Start Date:	**08/02/2012 12:00**
Elapsed Time (days):	0.999
PE Stop Date:	08/03/2012 11:59
Filter Removed Date:	08/03/2012 12:14

Concentration	
Measured by PE Sampler (µg/m³):	**22.424**
Measured by Site (µg/m³):	
Percent Difference:	

Field Flag:

Comment:

Sample Flow/Volume	
Flow Avg (L/min).:	16.7
Flow CV:	0.53
Sample Vol. (m³):	24.037

Ambient Sample Temperature (ºC)	
Average:	26.1
Minimum:	22.2
Maximum:	30.9

Barometric Pressure (mm Hg)	
Average:	753
Minimum:	752
Maximum:	756

Out of Spec.	
Time:	☐
Temperature:	☐
Flow:	☐

Field Verifications	
BP:	☑
Temperature:	☑
Flow:	☑

Field Blank	
Cassette ID:	
Filter ID:	
Pre- Wt. (mg):	
Post- Wt. (mg):	
Wt. Change (mg):	

Trip Blank	
Cassette ID:	
Filter ID:	
Pre- Wt. (mg):	
Post- Wt. (mg):	
Wt. Change (mg):	

Lab Blank	
Cassette ID:	N/A
Filter ID:	T2635506
Pre- Wt. (mg):	372.144
Post- Wt. (mg):	372.145
Wt. Change (mg):	0.001

Collocated Samplers	
Collocated:	☐
Count.:	
Std. Dev.:	
Mean:	
Max CV (%):	

	Pre-sample (Unexposed)			Post-sample (Exposed)			Pre/Post
Weigh Sessions							
Equilibration Tray:	TR17		07/02/2012 14:38	TR03		08/07/2012 15:45	
Equilibration Time (hours):	525			48			
Weigh Session ID:	000009669PML			000009708PML			(Sample Mass)
Holding Time (days):	9			6			
Filter Weight (mg):	389.958		07/24/2012 11:14	390.497		08/09/2012 15:36	0.539
Weighing Room Conditions							
Avg. Temperature (ºC):	21.4			21.4			
Temp. Std. Dev. (ºC):	0.091			0.1			(RH Diff.)
Avg. Relative Humidity (%):	36.9			36.8			-0.100
RH Std. Dev. (%):	0.513			0.511			
Batch Duplicates							
Filter ID:	T2635485			T2635485			
Primary Weight (mg):	389.958		07/24/2012 11:14	390.497		08/09/2012 15:36	
Duplicate Weight (mg):	389.958		07/24/2012 11:37	390.496		08/09/2012 15:48	
Weight Change (mg):	0.000			-0.001			
Low Mass Balance Checks							
Verified Weight (mg):	300.002		04/30/2012 13:54	300.002		04/30/2012 13:54	
Minimum Weight (mg):	300.001	-0.001	07/24/2012 11:26	300.003	0.001	08/09/2012 15:53	(Max. Overall Wt. Diff.)
Maximum Weight (mg)	300.004	0.002	07/24/2012 11:41	300.004	0.002	08/09/2012 15:34	
Maximum Wt. Diff. (mg)	0.002			0.002			0.002
High Mass Balance Checks							
Verified Weight (mg):	500.002		04/30/2012 13:55	500.002		04/30/2012 13:55	
Minimum Weight (mg):	500.003	0.001	07/24/2012 11:14	500.003	0.001	08/09/2012 15:54	(Max. Overall Wt. Diff.)
Maximum Weight (mg):	500.003	0.001	07/24/2012 11:14	500.004	0.002	08/09/2012 15:35	
Maximum Wt. Diff. (mg):	0.001			0.002			0.002

Lab Approval	
Valid Data:	☑
PE Rejected:	☐
Complete:	☑

QA Manager Approval	
Approval:	☑
Initials:	GN
Date:	11/1/2012

PM2.5 Performance Evaluations

Record Last Changed: 9/7/2012

PE Filter ID: T2635485 **AIRS Site Code: YBBTSP3** POC: 1 Site Name

Distance from AQS Lat/long (m): **Sampler ID: BGI0597** AQS Site Addr:

AQS Site Name:

Quality Control Checks Check Date: 9/7/2012 2:36:05 PM

Check ID	Code	Description	Check Value	Auto QC Pass	Auto QC Fail	Override Pass	Override Fail	Comment
Critical criteria			**3 points per failure, if not overridden**					
1	DAM	no filter damage (visual defect)	True	☑	☐	☐	☐	
2	EST	sample period 1380-1500 min	1439 min	☑	☐	☐	☐	
3	FLR_1	flow rate <= ± 5% of 16.67 L/min	16.7 L/min	☑	☐	☐	☐	
4	FLR_2	flow rate <= 2% CV	0.53	☑	☐	☐	☐	
5	FVL	no flow rate excursions > ± 5% for > 5 min	True	☑	☐	☐	☐	
6	HTE_1	sample recovery <= 96 hours from sample end date	1 hour	☑	☐	☐	☐	
7	HTE_2	post-sample weighing <= 10 days at 25 deg C or <= 30 days at 4 deg C	6 days, 0 deg C (cold pack:)	☑	☐	☐	☐	
8	ISP_1	pre-sample minimum 24 hour equilibration	525 hours	☑	☐	☐	☐	
9	ISP_2	pre-sample mean temperature 20-23 degrees C	21.4 degrees C	☑	☐	☐	☐	
10	ISP_3	pre-sample temperature control ± 2 degrees C over 24 hours	0.091 degrees C	☑	☐	☐	☐	
11	ISP_4	pre-sample mean RH 30-40%	36.9 percent	☑	☐	☐	☐	
12	ISP_5	pre-sample RH SD control ± 5%	0.513 percent	☑	☐	☐	☐	
13	ISP_6	post-sample minimum 24 hour equilibration	48 hours	☑	☐	☐	☐	
14	ISP_7	post-sample mean temperature 20-23 degrees C	21.4 degrees C	☑	☐	☐	☐	
15	ISP_8	post-sample temperature control ± 2 degrees C over 24 hours	0.1 degrees C	☑	☐	☐	☐	
16	ISP_9	post-sample mean RH 30-40%	36.8 percent	☑	☐	☐	☐	
17	ISP_10	post-sample RH SD control ± 5%	0.511 percent	☑	☐	☐	☐	
18	ISP_11	pre/post sample RH ± 5%	-0.1 percent	☑	☐	☐	☐	
Sample batch validation with major and minor flags			**3 points per failure, if not overridden**					
19	FIS_1	pre-sample 100 mg balance check (max diff from verified wt) <= ± 3 ug	2 ug	☑	☐	☐	☐	
20	FIS_2	pre-sample 200 mg balance check (max diff from verified wt) <= ± 3 ug	1 ug	☑	☐	☐	☐	
21	FLD_1	pre-sample duplicate filter weight ± 15 ug	0 ug	☑	☐	☐	☐	
22	FIS_3	post-sample 100 mg balance check (max diff from verified wt) <= ± 3 ug	2 ug	☑	☐	☐	☐	
23	FIS_4	post-sample 200 mg balance check (max diff from verified wt) <= ± 3 ug	2 ug	☑	☐	☐	☐	
24	FLD_2	post-sample duplicate filter weight ± 15 ug	-1 ug	☑	☐	☐	☐	
25	FLB	lab blanks ± 15 ug	1 ug	☑	☐	☐	☐	
26	FFB	field blanks ± 30 ug	No Field Blank	☑	☐	☐	☐	
Operational evaluation criteria			**1 point per failure, if not overridden**					
27	FLT	filter temperature, no excursions of > 5 degrees C lasting longer than 30 min	True	☑	☐	☐	☐	
28	FAT	temperature verification ± 2 degrees C	True	☑	☐	☐	☐	
29	FPC	barometric pressure verification ± 10 mm Hg	True	☑	☐	☐	☐	
30	FSC	flow rate verification ± 4%	True	☑	☐	☐	☐	
31	HTE_3	(pre-sample) filter holding <= 30 days from pre-weigh	9 days	☑	☐	☐	☐	
32	BDL	lower detection limit (PM2.5 conc. >= 2 ug/m3)	22.424 ug/m3	☑	☐	☐	☐	
33		upper concentration limit (PM2.5 conc. <= 200 ug/m3)	22.424 ug/m3	☑	☐	☐	☐	
34	FCS	collocated CV <= 10%	Not Collocated	☑	☐	☐	☐	
39	FRW_5	pre-sample filter replicates <= 5 ug between weighings (single filter)	3 ug (diff.)	☑	☐	☐	☐	
40	FRW_6	post-sample batch stability test < 15 ug between weighings (consecutive weights for 2 of 3 filters)	3 of 3 filters < 15 ug	☑	☐	☐	☐	

Total Score: 0 **(Events with total score < 3 meet scoring criteria.)**

Meets Criteria

PM2.5 Performance Evaluations

Record Last Changed: 9/7/2012

PE Filter ID: T2635499 **AIRS Site Code: YBB253** POC: 1 Site Name

Distance from AQS Lat/long (m): **Sampler ID: BGI0587** AQS Site Addr:

AQS Site Name:

Filter Lot: 2011 Sampler Serial No.: 0587 Audited By: Reg4

PE Cassette ID: 8833 Companion Filter: Sampler Model: BGI PQ200A

Companion Cassette: Secondary Separator Type: WINS

PE Run Time	
PE Start Date:	**08/02/2012 12:00**
Elapsed Time (days):	0.999
PE Stop Date:	08/03/2012 11:59
Filter Removed Date:	08/03/2012 12:09

Concentration	
Measured by PE Sampler (µg/m³):	**12.402**
Measured by Site (µg/m³):	
Percent Difference:	

Field Flag:

Comment:

Sample Flow/Volume		Ambient Sample Temperature (ºC)		Barometric Pressure (mm Hg)		Out of Spec.		Field Verifications	
Flow Avg (L/min).:	16.7	Average:	26.5	Average:	758	Time:	☐	BP:	☑
Flow CV:	0.4	Minimum:	22.7	Minimum:	756	Temperature:	☐	Temperature:	☑
Sample Vol. (m³):	24.028	Maximum:	31.6	Maximum:	761	Flow:	☐	Flow:	☑

Field Blank		Trip Blank		Lab Blank		Collocated Samplers	
Cassette ID:		Cassette ID:		Cassette ID:	N/A	Collocated:	☐
Filter ID:		Filter ID:		Filter ID:	T2635506	Count.:	
Pre- Wt. (mg):		Pre- Wt. (mg):		Pre- Wt. (mg):	372.144	Std. Dev.:	
Post- Wt. (mg):		Post- Wt. (mg):		Post- Wt. (mg):	372.145	Mean:	
Wt. Change (mg):		Wt. Change (mg):		Wt. Change (mg):	0.001	Max CV (%):	

	Pre-sample (Unexposed)			Post-sample (Exposed)			Pre/Post
Weigh Sessions							
Equilibration Tray:	TR17		07/02/2012 14:38	TR03		08/07/2012 15:45	
Equilibration Time (hours):	525			48			
Weigh Session ID:	000009669PML			000009708PML			(Sample Mass)
Holding Time (days):	9			6			
Filter Weight (mg):	375.745		07/24/2012 11:32	376.043		08/09/2012 15:46	0.298
Weighing Room Conditions							
Avg. Temperature (ºC):	21.4			21.4			
Temp. Std. Dev. (ºC):	0.091			0.1			(RH Diff.)
Avg. Relative Humidity (%):	36.9			36.8			-0.100
RH Std. Dev. (%):	0.513			0.511			
Batch Duplicates							
Filter ID:	T2635485			T2635485			
Primary Weight (mg):	389.958		07/24/2012 11:14	390.497		08/09/2012 15:36	
Duplicate Weight (mg):	389.958		07/24/2012 11:37	390.496		08/09/2012 15:48	
Weight Change (mg):	0.000			-0.001			
Low Mass Balance Checks							
Verified Weight (mg):	300.002		04/30/2012 13:54	300.002		04/30/2012 13:54	
Minimum Weight (mg):	300.001	-0.001	07/24/2012 11:26	300.003	0.001	08/09/2012 15:53	(Max. Overall Wt. Diff.)
Maximum Weight (mg)	300.004	0.002	07/24/2012 11:41	300.004	0.002	08/09/2012 15:34	
Maximum Wt. Diff. (mg)	0.002			0.002			0.002
High Mass Balance Checks							
Verified Weight (mg):	500.002		04/30/2012 13:55	500.002		04/30/2012 13:55	
Minimum Weight (mg):	500.003	0.001	07/24/2012 11:14	500.003	0.001	08/09/2012 15:54	(Max. Overall Wt. Diff.)
Maximum Weight (mg):	500.003	0.001	07/24/2012 11:14	500.004	0.002	08/09/2012 15:35	
Maximum Wt. Diff. (mg):	0.001			0.002			0.002

Lab Approval	
Valid Data:	☑
PE Rejected:	☐
Complete:	☑

QA Manager Approval	
Approval:	☑
Initials:	GN
Date:	11/1/2012

PM2.5 Performance Evaluations

Record Last Changed: 9/7/2012

PE Filter ID: T2635499 **AIRS Site Code: YBB253** POC: 1 Site Name

Distance from AQS Lat/long (m): **Sampler ID: BGI0587** AQS Site Addr:

AQS Site Name:

Quality Control Checks Check Date: 9/7/2012 2:36:16 PM

Check ID	Code	Description	Check Value	Auto QC Pass	Auto QC Fail	Override Pass	Override Fail	Comment
Critical criteria			**3 points per failure, if not overridden**					
1	DAM	no filter damage (visual defect)	True	☑	☐	☐	☐	
2	EST	sample period 1380-1500 min	1439 min	☑	☐	☐	☐	
3	FLR_1	flow rate <= ± 5% of 16.67 L/min	16.7 L/min	☑	☐	☐	☐	
4	FLR_2	flow rate <= 2% CV	0.4	☑	☐	☐	☐	
5	FVL	no flow rate excursions > ± 5% for > 5 min	True	☑	☐	☐	☐	
6	HTE_1	sample recovery <= 96 hours from sample end date	1 hour	☑	☐	☐	☐	
7	HTE_2	post-sample weighing <= 10 days at 25 deg C or <= 30 days at 4 deg C	6 days, 0 deg C (cold pack:)	☑	☐	☐	☐	
8	ISP_1	pre-sample minimum 24 hour equilibration	525 hours	☑	☐	☐	☐	
9	ISP_2	pre-sample mean temperature 20-23 degrees C	21.4 degrees C	☑	☐	☐	☐	
10	ISP_3	pre-sample temperature control ± 2 degrees C over 24 hours	0.091 degrees C	☑	☐	☐	☐	
11	ISP_4	pre-sample mean RH 30-40%	36.9 percent	☑	☐	☐	☐	
12	ISP_5	pre-sample RH SD control ± 5%	0.513 percent	☑	☐	☐	☐	
13	ISP_6	post-sample minimum 24 hour equilibration	48 hours	☑	☐	☐	☐	
14	ISP_7	post-sample mean temperature 20-23 degrees C	21.4 degrees C	☑	☐	☐	☐	
15	ISP_8	post-sample temperature control ± 2 degrees C over 24 hours	0.1 degrees C	☑	☐	☐	☐	
16	ISP_9	post-sample mean RH 30-40%	36.8 percent	☑	☐	☐	☐	
17	ISP_10	post-sample RH SD control ± 5%	0.511 percent	☑	☐	☐	☐	
18	ISP_11	pre/post sample RH ± 5%	-0.1 percent	☑	☐	☐	☐	
Sample batch validation with major and minor flags			**3 points per failure, if not overridden**					
19	FIS_1	pre-sample 100 mg balance check (max diff from verified wt) <= ± 3 ug	2 ug	☑	☐	☐	☐	
20	FIS_2	pre-sample 200 mg balance check (max diff from verified wt) <= ± 3 ug	1 ug	☑	☐	☐	☐	
21	FLD_1	pre-sample duplicate filter weight ± 15 ug	0 ug	☑	☐	☐	☐	
22	FIS_3	post-sample 100 mg balance check (max diff from verified wt) <= ± 3 ug	2 ug	☑	☐	☐	☐	
23	FIS_4	post-sample 200 mg balance check (max diff from verified wt) <= ± 3 ug	2 ug	☑	☐	☐	☐	
24	FLD_2	post-sample duplicate filter weight ± 15 ug	-1 ug	☑	☐	☐	☐	
25	FLB	lab blanks ± 15 ug	1 ug	☑	☐	☐	☐	
26	FFB	field blanks ± 30 ug	No Field Blank	☑	☐	☐	☐	
Operational evaluation criteria			**1 point per failure, if not overridden**					
27	FLT	filter temperature, no excursions of > 5 degrees C lasting longer than 30 min	True	☑	☐	☐	☐	
28	FAT	temperature verification ± 2 degrees C	True	☑	☐	☐	☐	
29	FPC	barometric pressure verification ± 10 mm Hg	True	☑	☐	☐	☐	
30	FSC	flow rate verification ± 4%	True	☑	☐	☐	☐	
31	HTE_3	(pre-sample) filter holding <= 30 days from pre-weigh	9 days	☑	☐	☐	☐	
32	BDL	lower detection limit (PM2.5 conc. >= 2 ug/m3)	12.402 ug/m3	☑	☐	☐	☐	
33		upper concentration limit (PM2.5 conc. <= 200 ug/m3)	12.402 ug/m3	☑	☐	☐	☐	
34	FCS	collocated CV <= 10%	Not Collocated	☑	☐	☐	☐	
39	FRW_5	pre-sample filter replicates <= 5 ug between weighings (single filter)	1 ug (diff.)	☑	☐	☐	☐	
40	FRW_6	post-sample batch stability test < 15 ug between weighings (consecutive weights for 2 of 3 filters)	3 of 3 filters < 15 ug	☑	☐	☐	☐	

Total Score: 0 **(Events with total score < 3 meet scoring criteria.)**

Meets Criteria

PM2.5 Performance Evaluations

Record Last Changed: 9/7/2012

PE Filter ID: T2635500 **AIRS Site Code: YBB103** POC: 1 Site Name

Distance from AQS Lat/long (m): **Sampler ID: BGI0590** AQS Site Addr:

AQS Site Name:

Filter Lot: 2011 Sampler Serial No.: 0590 Audited By: Reg4

PE Cassette ID: 10026 Companion Filter: Sampler Model: BGI PQ200A

Companion Cassette: Secondary Separator Type: WINS

PE Run Time	
PE Start Date:	**08/02/2012 12:00**
Elapsed Time (days):	0.999
PE Stop Date:	08/03/2012 11:59
Filter Removed Date:	08/03/2012 12:12

Concentration	
Measured by PE Sampler (µg/m³):	**19.596**
Measured by Site (µg/m³):	
Percent Difference:	

Field Flag:

Comment:

Sample Flow/Volume	
Flow Avg (L/min).:	16.7
Flow CV:	0.48
Sample Vol. (m³):	24.036

Ambient Sample Temperature (ºC)	
Average:	26.2
Minimum:	22.4
Maximum:	31.4

Barometric Pressure (mm Hg)	
Average:	753
Minimum:	752
Maximum:	756

Out of Spec.	
Time:	☐
Temperature:	☐
Flow:	☐

Field Verifications	
BP:	☑
Temperature:	☑
Flow:	☑

Field Blank	
Cassette ID:	
Filter ID:	
Pre- Wt. (mg):	
Post- Wt. (mg):	
Wt. Change (mg):	

Trip Blank	
Cassette ID:	1558
Filter ID:	T2635488
Pre- Wt. (mg):	372.677
Post- Wt. (mg):	372.670
Wt. Change (mg):	-0.007

Lab Blank	
Cassette ID:	N/A
Filter ID:	T2635506
Pre- Wt. (mg):	372.144
Post- Wt. (mg):	372.144
Wt. Change (mg):	0.000

Collocated Samplers	
Collocated:	☐
Count.:	
Std. Dev.:	
Mean:	
Max CV (%):	

	Pre-sample (Unexposed)			Post-sample (Exposed)			Pre/Post
Weigh Sessions							
Equilibration Tray:	TR17		07/02/2012 14:38	TR04		08/07/2012 15:46	
Equilibration Time (hours):	525			49			
Weigh Session ID:	000009669PML			000009710PML			(Sample Mass)
Holding Time (days):	9			6			
Filter Weight (mg):	384.705		07/24/2012 11:33	385.176		08/09/2012 16:54	0.471
Weighing Room Conditions							
Avg. Temperature (ºC):	21.4			21.4			
Temp. Std. Dev. (ºC):	0.091			0.1			(RH Diff.)
Avg. Relative Humidity (%):	36.9			36.8			-0.100
RH Std. Dev. (%):	0.513			0.511			
Batch Duplicates							
Filter ID:	T2635485			T2635500			
Primary Weight (mg):	389.958		07/24/2012 11:14	385.176		08/09/2012 16:54	
Duplicate Weight (mg):	389.958		07/24/2012 11:37	385.177		08/09/2012 17:12	
Weight Change (mg):	0.000			0.001			
Low Mass Balance Checks							
Verified Weight (mg):	300.002		04/30/2012 13:54	300.002		04/30/2012 13:54	
Minimum Weight (mg):	300.001	-0.001	07/24/2012 11:26	300.000	-0.002	08/09/2012 17:04	(Max. Overall Wt. Diff.)
Maximum Weight (mg)	300.004	0.002	07/24/2012 11:41	300.004	0.002	08/09/2012 16:50	
Maximum Wt. Diff. (mg)	0.002			-0.002			0.002
High Mass Balance Checks							
Verified Weight (mg):	500.002		04/30/2012 13:55	500.002		04/30/2012 13:55	
Minimum Weight (mg):	500.003	0.001	07/24/2012 11:14	500.000	-0.002	08/09/2012 17:05	(Max. Overall Wt. Diff.)
Maximum Weight (mg):	500.003	0.001	07/24/2012 11:14	500.003	0.001	08/09/2012 17:19	
Maximum Wt. Diff. (mg):	0.001			-0.002			-0.002

Lab Approval	
Valid Data:	☑
PE Rejected:	☐
Complete:	☑

QA Manager Approval	
Approval:	☑
Initials:	GN
Date:	11/1/2012

PM2.5 Performance Evaluations

Record Last Changed: 9/7/2012

PE Filter ID: T2635500 **AIRS Site Code: YBB103** POC: 1 Site Name

Distance from AQS Lat/long (m): **Sampler ID: BGI0590** AQS Site Addr:

AQS Site Name:

Quality Control Checks Check Date: 9/7/2012 2:37:51 PM

Check ID	Code	Description	Check Value	Auto QC Pass	Auto QC Fail	Override Pass	Override Fail	Comment
Critical criteria			**3 points per failure, if not overridden**					
1	DAM	no filter damage (visual defect)	True	☑	☐	☐	☐	
2	EST	sample period 1380-1500 min	1439 min	☑	☐	☐	☐	
3	FLR_1	flow rate <= ± 5% of 16.67 L/min	16.7 L/min	☑	☐	☐	☐	
4	FLR_2	flow rate <= 2% CV	0.48	☑	☐	☐	☐	
5	FVL	no flow rate excursions > ± 5% for > 5 min	True	☑	☐	☐	☐	
6	HTE_1	sample recovery <= 96 hours from sample end date	1 hour	☑	☐	☐	☐	
7	HTE_2	post-sample weighing <= 10 days at 25 deg C or <= 30 days at 4 deg C	6 days, 0 deg C (cold pack:)	☑	☐	☐	☐	
8	ISP_1	pre-sample minimum 24 hour equilibration	525 hours	☑	☐	☐	☐	
9	ISP_2	pre-sample mean temperature 20-23 degrees C	21.4 degrees C	☑	☐	☐	☐	
10	ISP_3	pre-sample temperature control ± 2 degrees C over 24 hours	0.091 degrees C	☑	☐	☐	☐	
11	ISP_4	pre-sample mean RH 30-40%	36.9 percent	☑	☐	☐	☐	
12	ISP_5	pre-sample RH SD control ± 5%	0.513 percent	☑	☐	☐	☐	
13	ISP_6	post-sample minimum 24 hour equilibration	49 hours	☑	☐	☐	☐	
14	ISP_7	post-sample mean temperature 20-23 degrees C	21.4 degrees C	☑	☐	☐	☐	
15	ISP_8	post-sample temperature control ± 2 degrees C over 24 hours	0.1 degrees C	☑	☐	☐	☐	
16	ISP_9	post-sample mean RH 30-40%	36.8 percent	☑	☐	☐	☐	
17	ISP_10	post-sample RH SD control ± 5%	0.511 percent	☑	☐	☐	☐	
18	ISP_11	pre/post sample RH ± 5%	-0.1 percent	☑	☐	☐	☐	
Sample batch validation with major and minor flags			**3 points per failure, if not overridden**					
19	FIS_1	pre-sample 100 mg balance check (max diff from verified wt) <= ± 3 ug	2 ug	☑	☐	☐	☐	
20	FIS_2	pre-sample 200 mg balance check (max diff from verified wt) <= ± 3 ug	1 ug	☑	☐	☐	☐	
21	FLD_1	pre-sample duplicate filter weight ± 15 ug	0 ug	☑	☐	☐	☐	
22	FIS_3	post-sample 100 mg balance check (max diff from verified wt) <= ± 3 ug	-2 ug	☑	☐	☐	☐	
23	FIS_4	post-sample 200 mg balance check (max diff from verified wt) <= ± 3 ug	-2 ug	☑	☐	☐	☐	
24	FLD_2	post-sample duplicate filter weight ± 15 ug	1 ug	☑	☐	☐	☐	
25	FLB	lab blanks ± 15 ug	0 ug	☑	☐	☐	☐	
26	FFB	field blanks ± 30 ug	No Field Blank	☑	☐	☐	☐	
Operational evaluation criteria			**1 point per failure, if not overridden**					
27	FLT	filter temperature, no excursions of > 5 degrees C lasting longer than 30 min	True	☑	☐	☐	☐	
28	FAT	temperature verification ± 2 degrees C	True	☑	☐	☐	☐	
29	FPC	barometric pressure verification ± 10 mm Hg	True	☑	☐	☐	☐	
30	FSC	flow rate verification ± 4%	True	☑	☐	☐	☐	
31	HTE_3	(pre-sample) filter holding <= 30 days from pre-weigh	9 days	☑	☐	☐	☐	
32	BDL	lower detection limit (PM2.5 conc. >= 2 ug/m3)	19.596 ug/m3	☑	☐	☐	☐	
33		upper concentration limit (PM2.5 conc. <= 200 ug/m3)	19.596 ug/m3	☑	☐	☐	☐	
34	FCS	collocated CV <= 10%	Not Collocated	☑	☐	☐	☐	
39	FRW_5	pre-sample filter replicates <= 5 ug between weighings (single filter)	3 ug (diff.)	☑	☐	☐	☐	
40	FRW_6	post-sample batch stability test < 15 ug between weighings (consecutive weights for 2 of 3 filters)	3 of 3 filters < 15 ug	☑	☐	☐	☐	

Total Score: 0 **(Events with total score < 3 meet scoring criteria.)**

Meets Criteria

PM2.5 Performance Evaluations

Record Last Changed: 9/7/2012

PE Filter ID: T2635492 **AIRS Site Code: YBATSP3C** POC: 1 Site Name

Distance from AQS Lat/long (m): **Sampler ID: BGI0594** AQS Site Addr:

AQS Site Name:

Filter Lot: 2011 Sampler Serial No.: 0594 Audited By: Reg4

PE Cassette ID: 4228 Companion Filter: Sampler Model: BGI PQ200A

Companion Cassette: Secondary Separator Type: WINS

PE Run Time	
PE Start Date:	**08/02/2012 13:30**
Elapsed Time (days):	1.000
PE Stop Date:	08/03/2012 13:30
Filter Removed Date:	08/03/2012 14:01

Concentration	
Measured by PE Sampler (µg/m³):	**25.134**
Measured by Site (µg/m³):	
Percent Difference:	

Field Flag:

Comment:

Sample Flow/Volume	
Flow Avg (L/min).:	16.7
Flow CV:	0.44
Sample Vol. (m³):	24.031

Ambient Sample Temperature (ºC)	
Average:	25.6
Minimum:	22.2
Maximum:	34

Barometric Pressure (mm Hg)	
Average:	756
Minimum:	755
Maximum:	758

Out of Spec.	
Time:	☐
Temperature:	☐
Flow:	☐

Field Verifications	
BP:	☑
Temperature:	☑
Flow:	☑

Field Blank	
Cassette ID:	
Filter ID:	
Pre- Wt. (mg):	
Post- Wt. (mg):	
Wt. Change (mg):	

Trip Blank	
Cassette ID:	
Filter ID:	
Pre- Wt. (mg):	
Post- Wt. (mg):	
Wt. Change (mg):	

Lab Blank	
Cassette ID:	N/A
Filter ID:	T2635506
Pre- Wt. (mg):	372.144
Post- Wt. (mg):	372.145
Wt. Change (mg):	0.001

Collocated Samplers	
Collocated:	☐
Count.:	
Std. Dev.:	
Mean:	
Max CV (%):	

	Pre-sample (Unexposed)			Post-sample (Exposed)			Pre/Post
Weigh Sessions							
Equilibration Tray:	TR17		07/02/2012 14:38	TR03		08/07/2012 15:45	
Equilibration Time (hours):	525			48			
Weigh Session ID:	000009669PML			000009708PML			(Sample Mass)
Holding Time (days):	9			6			
Filter Weight (mg):	372.289		07/24/2012 11:23	372.893		08/09/2012 15:41	0.604
Weighing Room Conditions							
Avg. Temperature (ºC):	21.4			21.4			
Temp. Std. Dev. (ºC):	0.091			0.1			(RH Diff.)
Avg. Relative Humidity (%):	36.9			36.8			-0.100
RH Std. Dev. (%):	0.513			0.511			
Batch Duplicates							
Filter ID:	T2635485			T2635485			
Primary Weight (mg):	389.958		07/24/2012 11:14	390.497		08/09/2012 15:36	
Duplicate Weight (mg):	389.958		07/24/2012 11:37	390.496		08/09/2012 15:48	
Weight Change (mg):	0.000			-0.001			
Low Mass Balance Checks							
Verified Weight (mg):	300.002		04/30/2012 13:54	300.002		04/30/2012 13:54	
Minimum Weight (mg):	300.001	-0.001	07/24/2012 11:26	300.003	0.001	08/09/2012 15:53	(Max. Overall Wt. Diff.)
Maximum Weight (mg)	300.004	0.002	07/24/2012 11:41	300.004	0.002	08/09/2012 15:34	
Maximum Wt. Diff. (mg)	0.002			0.002			0.002
High Mass Balance Checks							
Verified Weight (mg):	500.002		04/30/2012 13:55	500.002		04/30/2012 13:55	
Minimum Weight (mg):	500.003	0.001	07/24/2012 11:14	500.003	0.001	08/09/2012 15:54	(Max. Overall Wt. Diff.)
Maximum Weight (mg):	500.003	0.001	07/24/2012 11:14	500.004	0.002	08/09/2012 15:35	
Maximum Wt. Diff. (mg):	0.001			0.002			0.002

Lab Approval	
Valid Data:	☑
PE Rejected:	☐
Complete:	☑

QA Manager Approval	
Approval:	☑
Initials:	GN
Date:	11/1/2012

PM2.5 Performance Evaluations

Record Last Changed: 9/7/2012

PE Filter ID: T2635492 **AIRS Site Code: YBATSP3C** POC: 1 Site Name

Distance from AQS Lat/long (m): **Sampler ID: BGI0594** AQS Site Addr:

AQS Site Name:

Quality Control Checks Check Date: 9/7/2012 2:37:14 PM

Check ID	Code	Description	Check Value	Auto QC Pass	Auto QC Fail	Override Pass	Override Fail	Comment
Critical criteria			**3 points per failure, if not overridden**					
1	DAM	no filter damage (visual defect)	True	☑	☐	☐	☐	
2	EST	sample period 1380-1500 min	1440 min	☑	☐	☐	☐	
3	FLR_1	flow rate <= ± 5% of 16.67 L/min	16.7 L/min	☑	☐	☐	☐	
4	FLR_2	flow rate <= 2% CV	0.44	☑	☐	☐	☐	
5	FVL	no flow rate excursions > ± 5% for > 5 min	True	☑	☐	☐	☐	
6	HTE_1	sample recovery <= 96 hours from sample end date	1 hour	☑	☐	☐	☐	
7	HTE_2	post-sample weighing <= 10 days at 25 deg C or <= 30 days at 4 deg C	6 days, 0 deg C (cold pack:)	☑	☐	☐	☐	
8	ISP_1	pre-sample minimum 24 hour equilibration	525 hours	☑	☐	☐	☐	
9	ISP_2	pre-sample mean temperature 20-23 degrees C	21.4 degrees C	☑	☐	☐	☐	
10	ISP_3	pre-sample temperature control ± 2 degrees C over 24 hours	0.091 degrees C	☑	☐	☐	☐	
11	ISP_4	pre-sample mean RH 30-40%	36.9 percent	☑	☐	☐	☐	
12	ISP_5	pre-sample RH SD control ± 5%	0.513 percent	☑	☐	☐	☐	
13	ISP_6	post-sample minimum 24 hour equilibration	48 hours	☑	☐	☐	☐	
14	ISP_7	post-sample mean temperature 20-23 degrees C	21.4 degrees C	☑	☐	☐	☐	
15	ISP_8	post-sample temperature control ± 2 degrees C over 24 hours	0.1 degrees C	☑	☐	☐	☐	
16	ISP_9	post-sample mean RH 30-40%	36.8 percent	☑	☐	☐	☐	
17	ISP_10	post-sample RH SD control ± 5%	0.511 percent	☑	☐	☐	☐	
18	ISP_11	pre/post sample RH ± 5%	-0.1 percent	☑	☐	☐	☐	
Sample batch validation with major and minor flags			**3 points per failure, if not overridden**					
19	FIS_1	pre-sample 100 mg balance check (max diff from verified wt) <= ± 3 ug	2 ug	☑	☐	☐	☐	
20	FIS_2	pre-sample 200 mg balance check (max diff from verified wt) <= ± 3 ug	1 ug	☑	☐	☐	☐	
21	FLD_1	pre-sample duplicate filter weight ± 15 ug	0 ug	☑	☐	☐	☐	
22	FIS_3	post-sample 100 mg balance check (max diff from verified wt) <= ± 3 ug	2 ug	☑	☐	☐	☐	
23	FIS_4	post-sample 200 mg balance check (max diff from verified wt) <= ± 3 ug	2 ug	☑	☐	☐	☐	
24	FLD_2	post-sample duplicate filter weight ± 15 ug	-1 ug	☑	☐	☐	☐	
25	FLB	lab blanks ± 15 ug	1 ug	☑	☐	☐	☐	
26	FFB	field blanks ± 30 ug	No Field Blank	☑	☐	☐	☐	
Operational evaluation criteria			**1 point per failure, if not overridden**					
27	FLT	filter temperature, no excursions of > 5 degrees C lasting longer than 30 min	True	☑	☐	☐	☐	
28	FAT	temperature verification ± 2 degrees C	True	☑	☐	☐	☐	
29	FPC	barometric pressure verification ± 10 mm Hg	True	☑	☐	☐	☐	
30	FSC	flow rate verification ± 4%	True	☑	☐	☐	☐	
31	HTE_3	(pre-sample) filter holding <= 30 days from pre-weigh	9 days	☑	☐	☐	☐	
32	BDL	lower detection limit (PM2.5 conc. >= 2 ug/m3)	25.134 ug/m3	☑	☐	☐	☐	
33		upper concentration limit (PM2.5 conc. <= 200 ug/m3)	25.134 ug/m3	☑	☐	☐	☐	
34	FCS	collocated CV <= 10%	Not Collocated	☑	☐	☐	☐	
39	FRW_5	pre-sample filter replicates <= 5 ug between weighings (single filter)	2 ug (diff.)	☑	☐	☐	☐	
40	FRW_6	post-sample batch stability test < 15 ug between weighings (consecutive weights for 2 of 3 filters)	3 of 3 filters < 15 ug	☑	☐	☐	☐	

Total Score: 0 **(Events with total score < 3 meet scoring criteria.)**

Meets Criteria

PM2.5 Performance Evaluations

Record Last Changed: 9/7/2012

PE Filter ID: T2635493 **AIRS Site Code: YBATSP3** POC: 1 Site Name

Distance from AQS Lat/long (m): **Sampler ID: BGI0588** AQS Site Addr:

AQS Site Name:

Filter Lot: 2011 Sampler Serial No.: 0588 Audited By: Reg4

PE Cassette ID: 1047 Companion Filter: Sampler Model: BGI PQ200A

Companion Cassette: Secondary Separator Type: WINS

PE Run Time	
PE Start Date:	**08/02/2012 13:30**
Elapsed Time (days):	0.999
PE Stop Date:	08/03/2012 13:29
Filter Removed Date:	08/03/2012 14:00

Concentration	
Measured by PE Sampler (µg/m³):	**24.650**
Measured by Site (µg/m³):	
Percent Difference:	

Field Flag:

Comment:

Sample Flow/Volume		Ambient Sample Temperature (ºC)		Barometric Pressure (mm Hg)		Out of Spec.		Field Verifications	
Flow Avg (L/min).:	16.7	Average:	25.6	Average:	754	Time:	☐	BP:	☑
Flow CV:	0.41	Minimum:	22.2	Minimum:	753	Temperature:	☐	Temperature:	☑
Sample Vol. (m³):	24.016	Maximum:	34.4	Maximum:	757	Flow:	☐	Flow:	☑

Field Blank		Trip Blank		Lab Blank		Collocated Samplers	
Cassette ID:	2415	Cassette ID:		Cassette ID:	N/A	Collocated:	☐
Filter ID:	T2635496	Filter ID:		Filter ID:	T2635506	Count.:	
Pre- Wt. (mg):	365.414	Pre- Wt. (mg):		Pre- Wt. (mg):	372.144	Std. Dev.:	
Post- Wt. (mg):	365.412	Post- Wt. (mg):		Post- Wt. (mg):	372.145	Mean:	
Wt. Change (mg):	-0.002	Wt. Change (mg):		Wt. Change (mg):	0.001	Max CV (%):	

	Pre-sample (Unexposed)			Post-sample (Exposed)			Pre/Post
Weigh Sessions							
Equilibration Tray:	TR17		07/02/2012 14:38	TR03		08/07/2012 15:45	
Equilibration Time (hours):	525			48			
Weigh Session ID:	000009669PML			000009708PML			(Sample Mass)
Holding Time (days):	9			6			
Filter Weight (mg):	371.785		07/24/2012 11:24	372.377		08/09/2012 15:42	0.592
Weighing Room Conditions							
Avg. Temperature (ºC):	21.4			21.4			
Temp. Std. Dev. (ºC):	0.091			0.1			(RH Diff.)
Avg. Relative Humidity (%):	36.9			36.8			-0.100
RH Std. Dev. (%):	0.513			0.511			
Batch Duplicates							
Filter ID:	T2635485			T2635485			
Primary Weight (mg):	389.958		07/24/2012 11:14	390.497		08/09/2012 15:36	
Duplicate Weight (mg):	389.958		07/24/2012 11:37	390.496		08/09/2012 15:48	
Weight Change (mg):	0.000			-0.001			
Low Mass Balance Checks							
Verified Weight (mg):	300.002		04/30/2012 13:54	300.002		04/30/2012 13:54	
Minimum Weight (mg):	300.001	-0.001	07/24/2012 11:26	300.003	0.001	08/09/2012 15:53	(Max. Overall Wt. Diff.)
Maximum Weight (mg)	300.004	0.002	07/24/2012 11:41	300.004	0.002	08/09/2012 15:34	
Maximum Wt. Diff. (mg)	0.002			0.002			0.002
High Mass Balance Checks							
Verified Weight (mg):	500.002		04/30/2012 13:55	500.002		04/30/2012 13:55	
Minimum Weight (mg):	500.003	0.001	07/24/2012 11:14	500.003	0.001	08/09/2012 15:54	(Max. Overall Wt. Diff.)
Maximum Weight (mg):	500.003	0.001	07/24/2012 11:14	500.004	0.002	08/09/2012 15:35	
Maximum Wt. Diff. (mg):	0.001			0.002			0.002

Lab Approval	
Valid Data:	☑
PE Rejected:	☐
Complete:	☑

QA Manager Approval	
Approval:	☑
Initials:	GN
Date:	11/1/2012

PM2.5 Performance Evaluations

Record Last Changed: 9/7/2012

PE Filter ID: T2635493 **AIRS Site Code: YBATSP3** POC: 1 Site Name

Distance from AQS Lat/long (m): **Sampler ID: BGI0588** AQS Site Addr:

AQS Site Name:

Quality Control Checks Check Date: 9/7/2012 2:38:27 PM

Check ID	Code	Description	Check Value	Auto QC Pass	Auto QC Fail	Override Pass	Override Fail	Comment
Critical criteria			**3 points per failure, if not overridden**					
1	DAM	no filter damage (visual defect)	True	☑	☐	☐	☐	
2	EST	sample period 1380-1500 min	1439 min	☑	☐	☐	☐	
3	FLR_1	flow rate <= ± 5% of 16.67 L/min	16.7 L/min	☑	☐	☐	☐	
4	FLR_2	flow rate <= 2% CV	0.41	☑	☐	☐	☐	
5	FVL	no flow rate excursions > ± 5% for > 5 min	True	☑	☐	☐	☐	
6	HTE_1	sample recovery <= 96 hours from sample end date	1 hour	☑	☐	☐	☐	
7	HTE_2	post-sample weighing <= 10 days at 25 deg C or <= 30 days at 4 deg C	6 days, 0 deg C (cold pack:)	☑	☐	☐	☐	
8	ISP_1	pre-sample minimum 24 hour equilibration	525 hours	☑	☐	☐	☐	
9	ISP_2	pre-sample mean temperature 20-23 degrees C	21.4 degrees C	☑	☐	☐	☐	
10	ISP_3	pre-sample temperature control ± 2 degrees C over 24 hours	0.091 degrees C	☑	☐	☐	☐	
11	ISP_4	pre-sample mean RH 30-40%	36.9 percent	☑	☐	☐	☐	
12	ISP_5	pre-sample RH SD control ± 5%	0.513 percent	☑	☐	☐	☐	
13	ISP_6	post-sample minimum 24 hour equilibration	48 hours	☑	☐	☐	☐	
14	ISP_7	post-sample mean temperature 20-23 degrees C	21.4 degrees C	☑	☐	☐	☐	
15	ISP_8	post-sample temperature control ± 2 degrees C over 24 hours	0.1 degrees C	☑	☐	☐	☐	
16	ISP_9	post-sample mean RH 30-40%	36.8 percent	☑	☐	☐	☐	
17	ISP_10	post-sample RH SD control ± 5%	0.511 percent	☑	☐	☐	☐	
18	ISP_11	pre/post sample RH ± 5%	-0.1 percent	☑	☐	☐	☐	
Sample batch validation with major and minor flags			**3 points per failure, if not overridden**					
19	FIS_1	pre-sample 100 mg balance check (max diff from verified wt) <= ± 3 ug	2 ug	☑	☐	☐	☐	
20	FIS_2	pre-sample 200 mg balance check (max diff from verified wt) <= ± 3 ug	1 ug	☑	☐	☐	☐	
21	FLD_1	pre-sample duplicate filter weight ± 15 ug	0 ug	☑	☐	☐	☐	
22	FIS_3	post-sample 100 mg balance check (max diff from verified wt) <= ± 3 ug	2 ug	☑	☐	☐	☐	
23	FIS_4	post-sample 200 mg balance check (max diff from verified wt) <= ± 3 ug	2 ug	☑	☐	☐	☐	
24	FLD_2	post-sample duplicate filter weight ± 15 ug	-1 ug	☑	☐	☐	☐	
25	FLB	lab blanks ± 15 ug	1 ug	☑	☐	☐	☐	
26	FFB	field blanks ± 30 ug	-2 ug	☑	☐	☐	☐	
Operational evaluation criteria			**1 point per failure, if not overridden**					
27	FLT	filter temperature, no excursions of > 5 degrees C lasting longer than 30 min	True	☑	☐	☐	☐	
28	FAT	temperature verification ± 2 degrees C	True	☑	☐	☐	☐	
29	FPC	barometric pressure verification ± 10 mm Hg	True	☑	☐	☐	☐	
30	FSC	flow rate verification ± 4%	True	☑	☐	☐	☐	
31	HTE_3	(pre-sample) filter holding <= 30 days from pre-weigh	9 days	☑	☐	☐	☐	
32	BDL	lower detection limit (PM2.5 conc. >= 2 ug/m3)	24.65 ug/m3	☑	☐	☐	☐	
33		upper concentration limit (PM2.5 conc. <= 200 ug/m3)	24.65 ug/m3	☑	☐	☐	☐	
34	FCS	collocated CV <= 10%	Not Collocated	☑	☐	☐	☐	
39	FRW_5	pre-sample filter replicates <= 5 ug between weighings (single filter)	1 ug (diff.)	☑	☐	☐	☐	
40	FRW_6	post-sample batch stability test < 15 ug between weighings (consecutive weights for 2 of 3 filters)	3 of 3 filters < 15 ug	☑	☐	☐	☐	

Total Score: 0 **(Events with total score < 3 meet scoring criteria.)**

Meets Criteria

PM2.5 Performance Evaluations

Record Last Changed: 9/7/2012

PE Filter ID: T2635498 **AIRS Site Code: YBA103** POC: 1 Site Name

Distance from AQS Lat/long (m): **Sampler ID: BGI0592** AQS Site Addr:

AQS Site Name:

Filter Lot: 2011 Sampler Serial No.: 0592 Audited By: Reg4

PE Cassette ID: 4762 Companion Filter: Sampler Model: BGI PQ200A

Companion Cassette: Secondary Separator Type: WINS

PE Run Time	
PE Start Date:	**08/02/2012 13:30**
Elapsed Time (days):	0.999
PE Stop Date:	08/03/2012 13:29
Filter Removed Date:	08/03/2012 13:58

Concentration	
Measured by PE Sampler (µg/m³):	**23.216**
Measured by Site (µg/m³):	
Percent Difference:	

Field Flag:

Comment:

Sample Flow/Volume	
Flow Avg (L/min).:	16.71
Flow CV:	0.43
Sample Vol. (m³):	24.035

Ambient Sample Temperature (ºC)	
Average:	25.5
Minimum:	22.2
Maximum:	34.3

Barometric Pressure (mm Hg)	
Average:	750
Minimum:	748
Maximum:	753

Out of Spec.	
Time:	☐
Temperature:	☐
Flow:	☐

Field Verifications	
BP:	☑
Temperature:	☑
Flow:	☑

Field Blank	
Cassette ID:	
Filter ID:	
Pre- Wt. (mg):	
Post- Wt. (mg):	
Wt. Change (mg):	

Trip Blank	
Cassette ID:	
Filter ID:	
Pre- Wt. (mg):	
Post- Wt. (mg):	
Wt. Change (mg):	

Lab Blank	
Cassette ID:	N/A
Filter ID:	T2635506
Pre- Wt. (mg):	372.144
Post- Wt. (mg):	372.145
Wt. Change (mg):	0.001

Collocated Samplers	
Collocated:	☐
Count.:	
Std. Dev.:	
Mean:	
Max CV (%):	

	Pre-sample (Unexposed)			Post-sample (Exposed)			Pre/Post
Weigh Sessions							
Equilibration Tray:	TR17		07/02/2012 14:38	TR03		08/07/2012 15:45	
Equilibration Time (hours):	525			48			
Weigh Session ID:	000009669PML			000009708PML			(Sample Mass)
Holding Time (days):	9			6			
Filter Weight (mg):	371.082		07/24/2012 11:31	371.640		08/09/2012 15:45	0.558
Weighing Room Conditions							
Avg. Temperature (ºC):	21.4			21.4			
Temp. Std. Dev. (ºC):	0.091			0.1			(RH Diff.)
Avg. Relative Humidity (%):	36.9			36.8			-0.100
RH Std. Dev. (%):	0.513			0.511			
Batch Duplicates							
Filter ID:	T2635485			T2635485			
Primary Weight (mg):	389.958		07/24/2012 11:14	390.497		08/09/2012 15:36	
Duplicate Weight (mg):	389.958		07/24/2012 11:37	390.496		08/09/2012 15:48	
Weight Change (mg):	0.000			-0.001			
Low Mass Balance Checks							
Verified Weight (mg):	300.002		04/30/2012 13:54	300.002		04/30/2012 13:54	
Minimum Weight (mg):	300.001	-0.001	07/24/2012 11:26	300.003	0.001	08/09/2012 15:53	(Max. Overall Wt. Diff.)
Maximum Weight (mg)	300.004	0.002	07/24/2012 11:41	300.004	0.002	08/09/2012 15:34	
Maximum Wt. Diff. (mg)	0.002			0.002			0.002
High Mass Balance Checks							
Verified Weight (mg):	500.002		04/30/2012 13:55	500.002		04/30/2012 13:55	
Minimum Weight (mg):	500.003	0.001	07/24/2012 11:14	500.003	0.001	08/09/2012 15:54	(Max. Overall Wt. Diff.)
Maximum Weight (mg):	500.003	0.001	07/24/2012 11:14	500.004	0.002	08/09/2012 15:35	
Maximum Wt. Diff. (mg):	0.001			0.002			0.002

Lab Approval	
Valid Data:	☑
PE Rejected:	☐
Complete:	☑

QA Manager Approval	
Approval:	☑
Initials:	GN
Date:	11/1/2012

PM2.5 Performance Evaluations

Record Last Changed: 9/7/2012

PE Filter ID: T2635498 **AIRS Site Code: YBA103** POC: 1 Site Name

Distance from AQS Lat/long (m): **Sampler ID: BGI0592** AQS Site Addr:

AQS Site Name:

Quality Control Checks Check Date: 9/7/2012 2:36:39 PM

Check ID	Code	Description	Check Value	Auto QC Pass	Auto QC Fail	Override Pass	Override Fail	Comment
Critical criteria			**3 points per failure, if not overridden**					
1	DAM	no filter damage (visual defect)	True	☑	☐	☐	☐	
2	EST	sample period 1380-1500 min	1439 min	☑	☐	☐	☐	
3	FLR_1	flow rate <= ± 5% of 16.67 L/min	16.71 L/min	☑	☐	☐	☐	
4	FLR_2	flow rate <= 2% CV	0.43	☑	☐	☐	☐	
5	FVL	no flow rate excursions > ± 5% for > 5 min	True	☑	☐	☐	☐	
6	HTE_1	sample recovery <= 96 hours from sample end date	0 hours	☑	☐	☐	☐	
7	HTE_2	post-sample weighing <= 10 days at 25 deg C or <= 30 days at 4 deg C	6 days, 0 deg C (cold pack:)	☑	☐	☐	☐	
8	ISP_1	pre-sample minimum 24 hour equilibration	525 hours	☑	☐	☐	☐	
9	ISP_2	pre-sample mean temperature 20-23 degrees C	21.4 degrees C	☑	☐	☐	☐	
10	ISP_3	pre-sample temperature control ± 2 degrees C over 24 hours	0.091 degrees C	☑	☐	☐	☐	
11	ISP_4	pre-sample mean RH 30-40%	36.9 percent	☑	☐	☐	☐	
12	ISP_5	pre-sample RH SD control ± 5%	0.513 percent	☑	☐	☐	☐	
13	ISP_6	post-sample minimum 24 hour equilibration	48 hours	☑	☐	☐	☐	
14	ISP_7	post-sample mean temperature 20-23 degrees C	21.4 degrees C	☑	☐	☐	☐	
15	ISP_8	post-sample temperature control ± 2 degrees C over 24 hours	0.1 degrees C	☑	☐	☐	☐	
16	ISP_9	post-sample mean RH 30-40%	36.8 percent	☑	☐	☐	☐	
17	ISP_10	post-sample RH SD control ± 5%	0.511 percent	☑	☐	☐	☐	
18	ISP_11	pre/post sample RH ± 5%	-0.1 percent	☑	☐	☐	☐	
Sample batch validation with major and minor flags			**3 points per failure, if not overridden**					
19	FIS_1	pre-sample 100 mg balance check (max diff from verified wt) <= ± 3 ug	2 ug	☑	☐	☐	☐	
20	FIS_2	pre-sample 200 mg balance check (max diff from verified wt) <= ± 3 ug	1 ug	☑	☐	☐	☐	
21	FLD_1	pre-sample duplicate filter weight ± 15 ug	0 ug	☑	☐	☐	☐	
22	FIS_3	post-sample 100 mg balance check (max diff from verified wt) <= ± 3 ug	2 ug	☑	☐	☐	☐	
23	FIS_4	post-sample 200 mg balance check (max diff from verified wt) <= ± 3 ug	2 ug	☑	☐	☐	☐	
24	FLD_2	post-sample duplicate filter weight ± 15 ug	-1 ug	☑	☐	☐	☐	
25	FLB	lab blanks ± 15 ug	1 ug	☑	☐	☐	☐	
26	FFB	field blanks ± 30 ug	No Field Blank	☑	☐	☐	☐	
Operational evaluation criteria			**1 point per failure, if not overridden**					
27	FLT	filter temperature, no excursions of > 5 degrees C lasting longer than 30 min	True	☑	☐	☐	☐	
28	FAT	temperature verification ± 2 degrees C	True	☑	☐	☐	☐	
29	FPC	barometric pressure verification ± 10 mm Hg	True	☑	☐	☐	☐	
30	FSC	flow rate verification ± 4%	True	☑	☐	☐	☐	
31	HTE_3	(pre-sample) filter holding <= 30 days from pre-weigh	9 days	☑	☐	☐	☐	
32	BDL	lower detection limit (PM2.5 conc. >= 2 ug/m3)	23.216 ug/m3	☑	☐	☐	☐	
33		upper concentration limit (PM2.5 conc. <= 200 ug/m3)	23.216 ug/m3	☑	☐	☐	☐	
34	FCS	collocated CV <= 10%	Not Collocated	☑	☐	☐	☐	
39	FRW_5	pre-sample filter replicates <= 5 ug between weighings (single filter)	2 ug (diff.)	☑	☐	☐	☐	
40	FRW_6	post-sample batch stability test < 15 ug between weighings (consecutive weights for 2 of 3 filters)	3 of 3 filters < 15 ug	☑	☐	☐	☐	

Total Score: 0 **(Events with total score < 3 meet scoring criteria.)**

Meets Criteria

PM2.5 Performance Evaluations

Record Last Changed: 9/7/2012

PE Filter ID: T2635503 **AIRS Site Code: YBA253** POC: 1 Site Name

Distance from AQS Lat/long (m): **Sampler ID: BGI0595** AQS Site Addr:

AQS Site Name:

Filter Lot: 2011 Sampler Serial No.: 0595 Audited By: Reg4

PE Cassette ID: 1398 Companion Filter: Sampler Model: BGI PQ200A

Companion Cassette: Secondary Separator Type: WINS

PE Run Time	
PE Start Date:	**08/02/2012 13:30**
Elapsed Time (days):	0.999
PE Stop Date:	08/03/2012 13:29
Filter Removed Date:	08/03/2012 13:54

Concentration	
Measured by PE Sampler (µg/m³):	**11.121**
Measured by Site (µg/m³):	
Percent Difference:	

Field Flag:

Comment:

Sample Flow/Volume		Ambient Sample Temperature (ºC)		Barometric Pressure (mm Hg)		Out of Spec.		Field Verifications	
Flow Avg (L/min).:	16.69	Average:	25.6	Average:	754	Time:	☐	BP:	☑
Flow CV:	0.11	Minimum:	22.2	Minimum:	752	Temperature:	☐	Temperature:	☑
Sample Vol. (m³):	24.008	Maximum:	34.4	Maximum:	757	Flow:	☐	Flow:	☑

Field Blank		Trip Blank		Lab Blank		Collocated Samplers	
Cassette ID:		Cassette ID:		Cassette ID:	N/A	Collocated:	☐
Filter ID:		Filter ID:		Filter ID:	T2635506	Count.:	
Pre- Wt. (mg):		Pre- Wt. (mg):		Pre- Wt. (mg):	372.144	Std. Dev.:	
Post- Wt. (mg):		Post- Wt. (mg):		Post- Wt. (mg):	372.144	Mean:	
Wt. Change (mg):		Wt. Change (mg):		Wt. Change (mg):	0.000	Max CV (%):	

	Pre-sample (Unexposed)			Post-sample (Exposed)			Pre/Post
Weigh Sessions							
Equilibration Tray:	TR12		07/13/2012 14:42	TR04		08/07/2012 15:46	
Equilibration Time (hours):	261			49			
Weigh Session ID:	000009669PML			000009710PML			(Sample Mass)
Holding Time (days):	9			6			
Filter Weight (mg):	368.380		07/24/2012 11:35	368.647		08/09/2012 16:57	0.267
Weighing Room Conditions							
Avg. Temperature (ºC):	21.4			21.4			
Temp. Std. Dev. (ºC):	0.091			0.1			(RH Diff.)
Avg. Relative Humidity (%):	36.9			36.8			-0.100
RH Std. Dev. (%):	0.513			0.511			
Batch Duplicates							
Filter ID:	T2635485			T2635500			
Primary Weight (mg):	389.958		07/24/2012 11:14	385.176		08/09/2012 16:54	
Duplicate Weight (mg):	389.958		07/24/2012 11:37	385.177		08/09/2012 17:12	
Weight Change (mg):	0.000			0.001			
Low Mass Balance Checks							
Verified Weight (mg):	300.002		04/30/2012 13:54	300.002		04/30/2012 13:54	
Minimum Weight (mg):	300.001	-0.001	07/24/2012 11:26	300.000	-0.002	08/09/2012 17:04	(Max. Overall Wt. Diff.)
Maximum Weight (mg)	300.004	0.002	07/24/2012 11:41	300.004	0.002	08/09/2012 16:50	
Maximum Wt. Diff. (mg)	0.002			-0.002			0.002
High Mass Balance Checks							
Verified Weight (mg):	500.002		04/30/2012 13:55	500.002		04/30/2012 13:55	
Minimum Weight (mg):	500.003	0.001	07/24/2012 11:14	500.000	-0.002	08/09/2012 17:05	(Max. Overall Wt. Diff.)
Maximum Weight (mg):	500.003	0.001	07/24/2012 11:14	500.003	0.001	08/09/2012 17:19	
Maximum Wt. Diff. (mg):	0.001			-0.002			-0.002

Lab Approval	
Valid Data:	☑
PE Rejected:	☐
Complete:	☑

QA Manager Approval	
Approval:	☑
Initials:	GN
Date:	11/1/2012

PM2.5 Performance Evaluations

Record Last Changed: 9/7/2012

PE Filter ID: T2635503 **AIRS Site Code: YBA253** POC: 1 Site Name

Distance from AQS Lat/long (m): **Sampler ID: BGI0595** AQS Site Addr:

AQS Site Name:

Quality Control Checks Check Date: 9/7/2012 2:36:51 PM

Check ID	Code	Description	Check Value	Auto QC Pass	Auto QC Fail	Override Pass	Override Fail	Comment
Critical criteria			**3 points per failure, if not overridden**					
1	DAM	no filter damage (visual defect)	True	☑	☐	☐	☐	
2	EST	sample period 1380-1500 min	1439 min	☑	☐	☐	☐	
3	FLR_1	flow rate <= ± 5% of 16.67 L/min	16.69 L/min	☑	☐	☐	☐	
4	FLR_2	flow rate <= 2% CV	0.11	☑	☐	☐	☐	
5	FVL	no flow rate excursions > ± 5% for > 5 min	True	☑	☐	☐	☐	
6	HTE_1	sample recovery <= 96 hours from sample end date	0 hours	☑	☐	☐	☐	
7	HTE_2	post-sample weighing <= 10 days at 25 deg C or <= 30 days at 4 deg C	6 days, 0 deg C (cold pack:)	☑	☐	☐	☐	
8	ISP_1	pre-sample minimum 24 hour equilibration	261 hours	☑	☐	☐	☐	
9	ISP_2	pre-sample mean temperature 20-23 degrees C	21.4 degrees C	☑	☐	☐	☐	
10	ISP_3	pre-sample temperature control ± 2 degrees C over 24 hours	0.091 degrees C	☑	☐	☐	☐	
11	ISP_4	pre-sample mean RH 30-40%	36.9 percent	☑	☐	☐	☐	
12	ISP_5	pre-sample RH SD control ± 5%	0.513 percent	☑	☐	☐	☐	
13	ISP_6	post-sample minimum 24 hour equilibration	49 hours	☑	☐	☐	☐	
14	ISP_7	post-sample mean temperature 20-23 degrees C	21.4 degrees C	☑	☐	☐	☐	
15	ISP_8	post-sample temperature control ± 2 degrees C over 24 hours	0.1 degrees C	☑	☐	☐	☐	
16	ISP_9	post-sample mean RH 30-40%	36.8 percent	☑	☐	☐	☐	
17	ISP_10	post-sample RH SD control ± 5%	0.511 percent	☑	☐	☐	☐	
18	ISP_11	pre/post sample RH ± 5%	-0.1 percent	☑	☐	☐	☐	
Sample batch validation with major and minor flags			**3 points per failure, if not overridden**					
19	FIS_1	pre-sample 100 mg balance check (max diff from verified wt) <= ± 3 ug	2 ug	☑	☐	☐	☐	
20	FIS_2	pre-sample 200 mg balance check (max diff from verified wt) <= ± 3 ug	1 ug	☑	☐	☐	☐	
21	FLD_1	pre-sample duplicate filter weight ± 15 ug	0 ug	☑	☐	☐	☐	
22	FIS_3	post-sample 100 mg balance check (max diff from verified wt) <= ± 3 ug	-2 ug	☑	☐	☐	☐	
23	FIS_4	post-sample 200 mg balance check (max diff from verified wt) <= ± 3 ug	-2 ug	☑	☐	☐	☐	
24	FLD_2	post-sample duplicate filter weight ± 15 ug	1 ug	☑	☐	☐	☐	
25	FLB	lab blanks ± 15 ug	0 ug	☑	☐	☐	☐	
26	FFB	field blanks ± 30 ug	No Field Blank	☑	☐	☐	☐	
Operational evaluation criteria			**1 point per failure, if not overridden**					
27	FLT	filter temperature, no excursions of > 5 degrees C lasting longer than 30 min	True	☑	☐	☐	☐	
28	FAT	temperature verification ± 2 degrees C	True	☑	☐	☐	☐	
29	FPC	barometric pressure verification ± 10 mm Hg	True	☑	☐	☐	☐	
30	FSC	flow rate verification ± 4%	True	☑	☐	☐	☐	
31	HTE_3	(pre-sample) filter holding <= 30 days from pre-weigh	9 days	☑	☐	☐	☐	
32	BDL	lower detection limit (PM2.5 conc. >= 2 ug/m3)	11.121 ug/m3	☑	☐	☐	☐	
33		upper concentration limit (PM2.5 conc. <= 200 ug/m3)	11.121 ug/m3	☑	☐	☐	☐	
34	FCS	collocated CV <= 10%	Not Collocated	☑	☐	☐	☐	
39	FRW_5	pre-sample filter replicates <= 5 ug between weighings (single filter)	0 ug (diff.)	☑	☐	☐	☐	
40	FRW_6	post-sample batch stability test < 15 ug between weighings (consecutive weights for 2 of 3 filters)	3 of 3 filters < 15 ug	☑	☐	☐	☐	

Total Score: 0 **(Events with total score < 3 meet scoring criteria.)**

Meets Criteria