3-Year Quality Assurance Report for Calendar Years 1999, 2000 and 2001

The SLAMS $PM_{2.5}$ Ambient Air Monitoring Program

EPA-454/R-04-001
March, 2004

3-Year Quality Assurance Report for Calendar Years 1999, 2000 and 2001

The SLAMS $PM_{2.5}$ Ambient Air Monitoring Program

U.S. Environmental Protection Agency
Office of Air Quality Planning and Standards
Emission Monitoring and Analysis Division
Monitoring and Quality Assurance Group
RTP, NC 27711

Foreword

This document is available on hardcopy as well as accessible as a PDF file on the Internet under the Ambient Monitoring Technical Information Center (AMTIC) Homepage (http://www.epa.gov/ttn/amtic/pmqa.html). The document can be read and printed using Adobe Acrobat Reader software, which is freeware that is available from many Internet sites (including the EPA web site). Hardcopy versions are available by writing or calling:

OAQPS Library

RTP, NC 27711
(919)541-5514

Abstract

This report documents the quality assurance activities that were undertaken for the SLAMS $PM_{2.5}$ environmental data operations for the calendar years 1999, 2000 and 2001 which are the first three years of implementation of the $PM_{2.5}$ monitoring program. The QA Report evaluates the adherence to the quality assurance requirements described in *40 CFR 58 App. A* and evaluates the data quality indicators of precision, accuracy, bias, and completeness.

The criteria pollutant defined as particulate matter is a general term used to describe a broad class of substances that exist as liquid or solid particles over a wide range of sizes. As part of the Ambient Air Quality Monitoring Program, EPA measures two particle size fractions: those less than or equal to [a nominal]10 micrometers, and those less than or equal to [a nominal] 2.5 micrometers, hereafter referred to as PM_{10} or $PM_{2.5}$ respectively. In general, the measurement goal of the $PM_{2.5}$ Ambient Air Quality Monitoring Program is to estimate the concentration, in units of micrograms per cubic meter ($\mu g/m^3$), of particulates less than or equal to 2.5 micrometers (μm) that have been collected on a 46.2mm polytetrafluoroethylene (PTFE) filter. For the State and Local Air Monitoring Network (SLAMS), the primary goal is to compare the $PM_{2.5}$ concentrations to the annual and 24-hour National Ambient Air Quality Standard (NAAQS). The national primary and secondary ambient air quality standards for $PM_{2.5}$ are 15.0 micrograms per cubic meter ($\mu g/m^3$) annual arithmetic mean concentration and 65 $\mu g/m^3$ 24-hour average concentration measured in ambient air. A description of the NAAQS and its calculation can be found in the July 18,1997 Federal Register Notice.

A quality system for the $PM_{2.5}$ program was developed in order to achieve the data quality objectives (DQOs) that were developed for this program. In order to meet these DQOs, measurement quality objectives were developed for the data quality indicators of precision, bias, accuracy and completeness. The report identifies the data quality indicators and how the estimates of these indicators were derived, evaluates the results, and provides conclusions and recommendations for future improvements.

The data evaluated in this report are based upon a data extraction in AIRS-AQS on 7/08/02.

In general, the results show a marked increase in completeness for routine and QA data from CY99 to CY01. Once sites start collecting data, the average data capture rate is 86%. Precision, accuracy and bias estimates at national levels of aggregation in general are meeting the data quality objectives of the program. Over 99% of the SLAMS sites are within the acceptable uncertainty limits of the $PM_{2.5}$ DQOs.

Contents

Section ***Page***

Figures

Tables

List of Abbreviations

AIRS	Aerometric Information Retrieval System
AQS	Air Quality Subsystem
CFR	*Code of Federal Regulations*µ
CV	coefficient of variation
DQA	data quality assessment
DQOs	data quality objectives
EDO	environmental data operation
EMAD	Emissions, Monitoring, and Analysis Division
EPA	Environmental Protection Agency
ESAT	Environmental Services Assistance Team
FEM	Federal Equivalent Method
FRM	Federal Reference Method
FS	field scientist- Performance Evaluation Program
MQAG	Monitoring and Quality Assurance Group
MQOs	measurement quality objectives
NAAQS	National Ambient Air Quality Standards
NAMS	national air monitoring stations
NERL	National Exposure Research Laboratory
NIST	National Institute of Standards and Technology
OAQPS	Office of Air Quality Planning and Standards
ORD	Office of Research and Development
PE	performance evaluation
PEP	Performance Evaluation Program
$PM_{2.5}$	particulate matter $\leq$ 2.5 microns
PTFE	polytetrafluoroethylene
QA	quality assurance
QAPP	quality assurance project plan
QA/QC	quality assurance/quality control
QMP	quality management plan
R&P	Rupprecht and Patashnick
SLAMS	state and local monitoring stations
SOP	standard operating procedure
TSA	technical systems audit

Executive Summary

This report documents the quality assurance activities that were undertaken for EPA's $PM_{2.5}$ environmental data operations for the calendar years 1999, 2000 and 2001 which are the first 3 years of implementation of the $PM_{2.5}$ monitoring program. Based on the OAQPS 3-year data quality assessment, it is felt that the ambient air monitoring network, in general, has been operated in a manner so that decisions can be made within acceptable levels of uncertainty.

In general, the measurement goal of the $PM_{2.5}$ SLAMS Ambient Air Quality Monitoring Program is to estimate the concentration, in units of micrograms per cubic meter ($\mu g/m^3$), of particulate matter less than or equal to [a nominal] 2.5 micrometers (μm) that have been collected on a 46.2mm polytetrafluoroethylene (PTFE) filter. For the State and Local Air Monitoring Network (SLAMS), the primary goal is to compare the $PM_{2.5}$ concentrations to the annual and 24-hour National Ambient Air Quality Standard (NAAQS). The national primary and secondary ambient air quality standards for $PM_{2.5}$ are 15.0 micrograms per cubic meter ($\mu g/m^3$) annual arithmetic mean concentration and 65 $\mu g/m^3$ 98^{th} percentile 24-hour average concentration measured in ambient air. A description of the NAAQS and its calculation can be found in the July 18, 1997 Federal Register Notice.

In the ambient air monitoring network our measurements are always an estimate or a representation of the true ambient air concentration. It is impossible to know with certainty the true value for any measured quantity or estimate. This is due to the potential for measurement uncertainty (measure the same thing twice and you will probably get two different answers) and due to population uncertainty (does the measurement here represent the value 4 feet away or does the measurement today represent the value tomorrow). As a result, we may sometimes report an estimate that is above some important cutpoint (e.g. the level of an air quality standard) when in fact the true value is below, or we may sometimes report an estimate that is below some important cutpoint when in fact the true value is above. There is no way around this. Incorrect decisions can and will be made.

To reduce the number of incorrect decisions and estimate their probability of occurrence, we carefully design monitoring networks and quality systems. By conducting quality control measurements and periodically evaluating them, we can estimate, in the long run, the proportion of incorrect decisions made. We emphasize *in the long run*. A decision based on an individual measurement or an estimate (such as an annual average) at any individual site may or may not be correct. We can not know the "truth" about one particular decision. But as we make decision after decision after decision, in the long run we'll know the percentage of the time that we are making the correct decision. As such, we should not try to defend an individual measurement or an aggregate of measurements from an individual monitor. Instead, we ensure that the monitoring network has been designed and is being operated in a manner so that the errors in the decisions are within an acceptable level.

The data quality objectives process, a seven step planning approach to develop sampling designs for data collection activities that support decision making, was used to provide a framework for linking measurement uncertainty, population uncertainty and the decision makers tolerance for making a decision error. Once the DQOs were determined, OAQPS developed a quality system to control and assess completeness, precision, bias, and accuracy in order to ensure one would make correct decisions an acceptable percentage of the time. Table 1 summarizes data completeness and Table 2

summarizes estimates of the primary data quality indicators of precision, accuracy, and bias at a national level. Comments about these tables follow. In addition , Table 4 provides QA summary information at the EPA Region, State and reporting organization level. The data evaluated in this report was extracted for the Aerometric Information Retrieval System (AIRS) Air Quality Subsystem (AQS) on 7/08/02.

Table 1. National $PM_{2.5}$ Completeness Summary (as of 7/08/02)

Data Type (base # sites) (75% considered acceptable)	Calendar Years			3-Year Average
	1999	2000	2001	
Routine Data (1027/602) *	28%	57%	72%	16% / 28%*
Collocation Precision	58%	70%	73%	67%
Flow Rate Accuracy)	66%	82%	79%	76%
Performance Evaluations	70%	97%	89%	85%

* 1027 are sites with $PM_{2.5}$ data collected in any quarter, 602 sites collected data in all 12 quarters from 1999 -2001. 3 year average completeness provided for two types of sites

Table 2. National $PM_{2.5}$ Estimates of Primary Data Quality Indicators (as of 7/08/02)

Data Type	Acceptance Criteria	% of RO[1] Meeting Criteria	National Estimates Calendar Years			3-Year Average National Estimates
			1999	2000	2001	
Precision -Collocation	10%	86%	9.0%	6.7%	6.3%	7.2%
Accuracy-Flow Rate	$\pm$ 4%	99%	0.1%	0.2%	0.2%	0.2%
Bias -Performance Evaluations	$\pm$ 10%	91%	0.8%	-1.1%	-4.6%	-2.1%

[1] RO = reporting organizations

Completeness - Completeness is the percentage of data collected from the amount that was expected or required to be collected. For this report, routine data completeness has been assessed by two methods. The first method is based upon the strictest interpretation of the completeness requirement in *40 CFR 50, App N* that a site must collect 75% valid data in every quarter (12 quarters) in order for comparison to the NAAQS. As Table 1 indicates, the routine completeness percentages for each year based on this requirement are fairly low but showed improvement over the three year period. The low completeness is generally associated with initial start up issues in the first quarter of 1999 since any site that was not operating in this quarter could not be considered complete. Therefore, the 3-year completeness estimate of 28%, based on the 602 sites that operated in all 12 quarters is the best estimate of completeness for NAAQS purposes. The second method of estimating routine data completeness is called average capture and is related to completeness during actual operation of a sampler (sampler start date and end date). The national 3-year average capture rate is 86%, which presents a different picture than the NAAQS required completeness. Once a site was operating it generally maintained an acceptable level of completeness and has improved each successive year.

The completeness for the collocated precision, the flow rate accuracy check and the bias assessment

(Performance Evaluation Program) have improved over the three years as Table 1 indicates. However, improvements in completeness are needed at some reporting organizations.

Precision, Accuracy, Bias Assessments

Precision Assessment- (Collocated Precision Data)

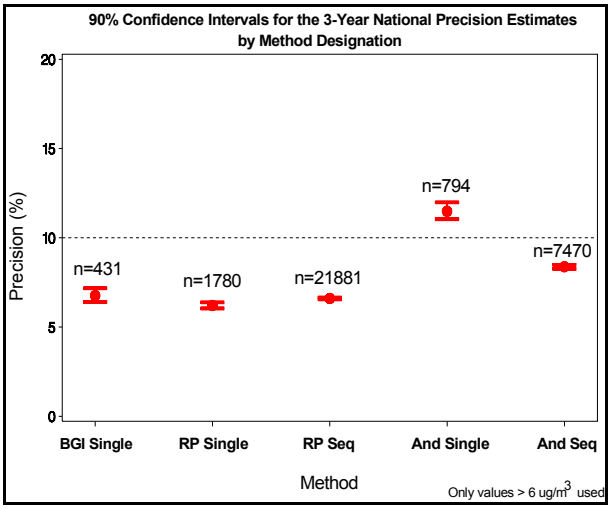

Figure 1 3-Year precision estimates by method designation

Precision is the measure of mutual agreement among individual measurements of the same property. The precision data quality objective (DQO) is based on three years of precision data (75% complete). Therefore, any one year or any quarter may exceed the criteria and still meet the precision data quality objectives. The national precision estimate is 7.2% CV and is based on 32,356 collocated paired values where both values are > 6 $\mu g/m^3$. 13 of the 96 reporting organizations had precision CV's greater than the 10% DQO goal and 3 reported no data to estimate precision. The average CV of the these 13 reporting organizations is 12.6% with no CV greater than 20%.

OAQPS investigated whether there was any significant difference in precision for the various method designations. Figure 1 provides 3-year precision estimates and 90% confidence intervals for all 5 federal reference methods that operated in the first three years of $PM_{2.5}$ implementation. With the exception of the Andersen single channel instrument, the precision estimates are fairly similar and below the DQO. Reporting organizations in only five states currently use or have used the single channel Andersen instrument. Two States had 3-year precision estimates greater than 10 % CV which raised the national precision estimate for the Andersen instruments above 10% CV DQO.
Based upon the assessments of precision in the 1999 and 2000 $PM_{2.5}$ QA Reports and the effect of precision on the $PM_{2.5}$ data quality objectives, OAQPS determined that the 25% site collocation requirement could be reduced to 15%. A Direct Final Rule was promulgated to this effect and was posted in the Federal Register Tuesday, December 31, 2002.

Accuracy Assessment (Quarterly Flow Rate Audit Data)

For the information available, the results of the accuracy audits are very good. The national average accuracy estimate is 0.18% which is well within the acceptance criteria of ±4% of the standard and ±5% of the design value (see Table 2). The percentage of audits meeting the criterion (all method designations) of ±4% of the standard was 95% and the percentage meeting the criterion of $\pm$ 5% of the 16.67 L/min design flow rate was 97%. There was some difference between the audit failure rates of the two major method designations. The Andersen sequential sampler with 2830 flow audits failed the 4% criteria ~9% of the time and the 5% design standard ~6% of the time; whereas the Rupprecht and Patashnick (R&P) sequential with 7639 flow audits failed the 4% standard ~4% of the time and the 5% design standard ~2% of the time.

Bias Assessment - (Performance Evaluation Program and Routine Data)

Bias is the systematic or persistent distortion of a measurement process that causes errors in one direction. As with precision, the bias data quality objective is based on three years of bias data (75% complete). At a national level, the average bias is estimated at -2.1% and it appears that the bias data quality objective is being met. Figure 2 provides further bias detail for the two major method designations, the Andersen sequential and the R&P sequential, for the 3-year implementation period. These two method designations represent over 90% of the monitors in the $PM_{2.5}$ network. In general, there has been a downward trend toward a negative bias for the most used method designations over the 3-year period. This trend is more pronounced with the R & P Sequential sampler. With the exception of the first quarter in 1999, the two major method designations are within the bias DQOs at a national level of estimation. By the third quarter of 2000, the Andersen sequential would appear to be providing unbiased estimates. The bias for the R&P sequential has had less variability from quarter to quarter but appears to be trending down throughout the 3-year period. OAQPS will closely monitor the apparent trend over the next year. There are only 11 reporting organizations that are exceeding the ± 10% DQO, and with the exception of Hawaii, which only had one valid pair of values (most concentrations < 6 µg/m^3), the other 10 reporting organizations have bias estimates between 10 and 15%.

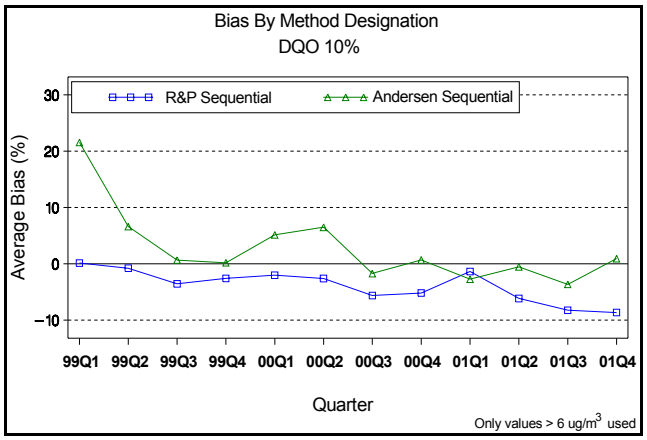

Figure 2 Quarterly bias estimates of major method designations

Data Summary

Precision, accuracy and bias quality control requirements are being met at a national level which is a positive sign. However, uncertainty estimates at the reporting organization may require some attention. Of the 96 reporting organizations submitting $PM_{2.5}$ data to the AQS, 13 reporting organizations (13%), had precision estimates greater than the precision goal and 10 (10%) had bias estimates greater than the bias goal. Table 4 provides a summary assessment, at the reporting organization and state level, of the data quality indicators of completeness, precision and bias.

Achievement of Data Quality Objectives

The ultimate goal of the $PM_{2.5}$ Ambient Air Quality Monitoring Program quality system is to provide data of adequate quality to the decision makers. One way to judge this is to determine whether reporting organizations and their respective sites are meeting the $PM_{2.5}$ DQOs. A discussion of the development and use of the data quality objectives are described in Section 1. In order to determine whether a site was meeting the DQOs, the DQO assumption variables that are listed in Table 3 had to be determined for each site, and input into a software tool developed to estimate gray zones based on specified data uncertainty values. Gray zones are the area of the performance curve where it is either not feasible to control decision errors to desired levels due to resource requirements to do so or cannot be controlled due to expected or normal population and

Table 3 DQO Assumption Variables

DQO Assumption Variables	PM2.5 DQO	National Average
Seasonal Ratio	5.3	2.2
Population CV	0.8	0.58
Auto Correlation	0	0.1
Sampling Frequency	1 in 6 day	1 in 3 day
Completeness	.75	.83
Bias	.1	.04
Meas. CV	.1	.07
Gray Zone	12.2 - 18.8 µg/m^3	13.7 - 16.4 µg/m^3

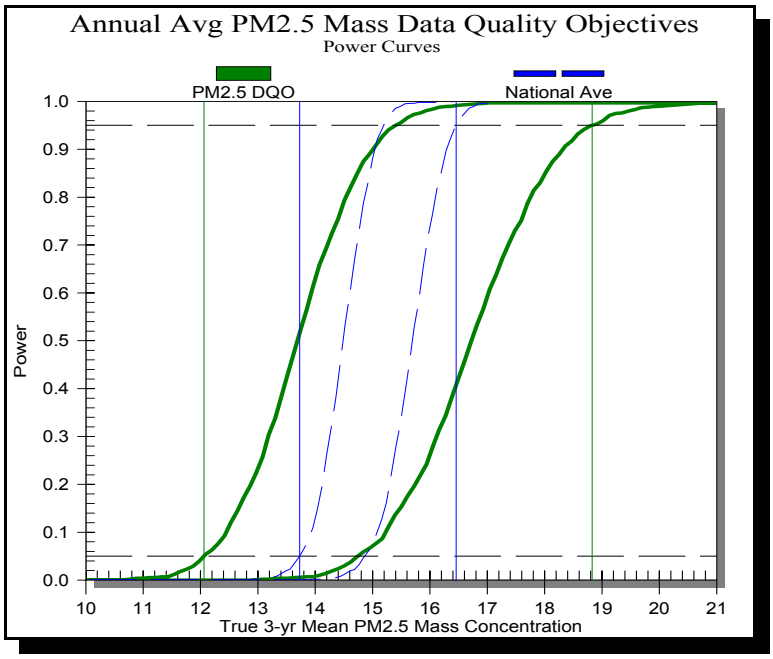

Figure 3 Power curve for PM2.5 DQO and for a site based on the average DQO input assumption values

measurement uncertainty. These gray zones were then compared to the $PM_{2.5}$ DQO gray zones to determine whether the sites gray zone fell within $PM_{2.5}$ DQO gray zones. Since bias and measurement CV (collocated precision) are not estimated for individual sites, precision and bias data were averaged by reporting organization and the average used to represent the site value within that reporting organization. Figure 3 provides a comparison of the $PM_{2.5}$ DQO (green solid) to the national average (blue/dotted) based on the DQO assumption variables listed in Table 3. As is illustrated, the average national gray zone falls well within the $PM_{2.5}$ DQO. The DQO evaluation showed that population uncertainty (sampling frequency, distribution of population variability) and measurement bias play a significant role in the width of the gray zone. Measurement precision did not have a significant effect on the gray zone which suggests more imprecision could be tolerated with little effect on decision errors. Based on this finding, OAQPS proposed reducing the collocated sampling requirement from 25% to 15% as a direct final rule which was promulgated December 31, 2002.

Only 9 sites out of the 1024 sites (less than 1%) submitting $PM_{2.5}$ data have gray zones that fall outside the $PM_{2.5}$ DQOs. All the gray zone values for the 9 sites are very close to the $PM_{2.5}$ DQO gray zone. Since the DQO software is a simulation model that goes through ten of thousands of iterations to generate the gray zones, when one uses the tool to generate a gray zone it will change slightly from one calculation to the next. Therefore, sites that have gray zones that are close to the $PM_{2.5}$ DQO can flip from being inside to outside of the $PM_{2.5}$ DQO gray zone. All 9 sites are within 0.2 µg/m^3 of the $PM_{2.5}$ DQO gray zone and are therefore within the "noise" of the software. In addition, 3-year mean concentrations that are outside the $PM_{2.5}$ DQO gray zone have a higher probability of correctly determining that their true concentration is above or below 15 µg/m3. Of these nine sites that had gray zones similar to the $PM_{2.5}$ DQO gray zone, 8 sites had 3-year mean concentration values less than 12.2 µg/m^3 (below the gray zone) and one site has a mean concentration within the $PM_{2.5}$ gray zone. Therefore, based upon the current DQOs, the $PM_{2.5}$ quality system being operated in a manner so that the errors in the decisions are within an acceptable level.

Summary Conclusions:

As stated earlier, it is felt that the ambient air monitoring network, in general, has been operated in a manner so that decisions can be made within acceptable levels of uncertainty. Some improvements can be made on data completeness, and OAQPS will continue to pursue concerns about the bias trend.

Summary Table

Table 4 summarizes the completeness and data quality indicators by EPA Region for 1999-2001 data. Statistics are presented at the state and reporting organization level. Details of how the estimates were generated are explained in Attachment 1. Data from both complete and incomplete sites are used to estimate the data quality indicators. If no data have been reported to AQS, the average percent completeness and data quality estimates will have ND (no data) indicated and the number of complete or operating sites will be 0.

For data completeness, highlighted boxes indicate that the state or reporting organization has an average data completeness that is less than 75%. For the data quality estimates, highlighted boxes indicate that the state or reporting organization has a precision estimate that is > 10% or a bias estimate that is > 10% or < -10%

The intent of this table is to help focus on where improvements to the quality system can be made. Incomplete data or data exceeding the acceptance criteria decrease the certainty one has in a mass estimate. One should not construe highlighted cells in Table 4 as implying that the data are invalid. The acceptance criteria are simply goals and are not limits by which one would consider the data unusable.

Table 4. Summary Data Quality Statistics by State and Reporting Organiztion

EPA Region	State	Rep Org	Routine (SLAMS)		Precision		Bias		99-01 Prec. (% CV)	99-01 Bias (%)
			Avg % Completeness 99-01 |Num complete sites 99-01/ Num operated sites 99-01		Avg % Completeness 99-01 | Num operated sites 01/ Num required sites 01		Avg % Completeness 99-01 | Num operated sites 01/ Num required sites 01			
1	CT	ALL	87%	2/10	96%	4/3	83%	2/3	7.3	-5.7
1	MA	ALL	73%	2/20	81%	5/5	80%	5/5	9.8	5.2
1	ME	ALL	90%	0/5	75%	3/1	71%	1/1	6.1	7.0
1	NH	ALL	73%	1/8	73%	3/2	75%	4/2	12.2	0.1
1	RI	ALL	80%	0/6	82%	2/2	100%	2/2	5.4	4.6
1	VT	ALL	92%	3/3	100%	1/1	92%	1/1	10.0	-2.3
2	NJ	ALL	77%	0/21	63%	4/5	95%	5/5	10.9	2.1
2	NY	ALL	77%	3/44	94%	8/11	75%	11/11	5.8	-1.1
2	PR	ALL	70%	0/10	39%	2/3	75%	3/3	6.4	-14.4
2	VI	ALL	55%	0/2	ND	0/1	75%	1/1	10.0	-5.2
3	DC	ALL	76%	0/3	57%	2/1	92%	2/1	8.8	5.3
3	DE	ALL	84%	3/7	99%	2/2	71%	3/2	7.1	0.5
3	MD	ALL	71%	0/19	81%	3/5	72%	4/5	3.9	-6.8
3	PA	0021	72%	0/8	27%	3/2	71%	1/2	2.8	-3.9
3	PA	0851	80%	1/24	73%	6/6	77%	4/6	4.8	-3.8
3	PA	0861	74%	0/5	66%	1/1	67%	2/1	5.8	-0.7
3	PA	ALL	77%	1/37	58%	10/9	73%	7/9	4.7	-3.2
3	VA	ALL	82%	0/19	99%	3/5	82%	5/5	5.3	-5.2
3	WV	1150	92%	3/6	100%	1/2	79%	0/2	5.9	-0.4
3	WV	1151	93%	3/5	100%	1/1	75%	0/1	6.1	-4.0
3	WV	ALL	93%	6/11	100%	2/3	78%	0/3	6.0	-1.5
4	AL	0013	82%	2/11	85%	2/3	85%	2/3	14.5	4.0
4	AL	0300	97%	1/1	95%	1/1	100%	0/1	5.9	-3.5
4	AL	0550	96%	3/3	54%	3/1	92%	1/1	7.6	-2.9
4	AL	ALL	85%	6/15	71%	6/5	88%	3/5	10.6	1.7
4	FL	ALL	90%	15/30	63%	14/8	95%	5/8	8.6	-5.6
4	GA	ALL	82%	4/23	55%	6/6	88%	6/6	7.7	4.1
4	KY	0549	83%	2/4	53%	0/1	92%	1/1	8.2	-2.8
4	KY	0584	87%	0/16	69%	6/4	91%	3/4	7.4	-1.8
4	KY	ALL	86%	2/20	67%	6/5	91%	4/5	7.5	-2.0
4	MS	ALL	90%	3/16	71%	4/4	90%	5/4	6.8	-6.3
4	NC	ALL	88%	11/28	76%	11/7	90%	7/7	6.3	-2.5
4	SC	ALL	88%	5/15	91%	4/4	95%	3/4	3.4	-3.1
4	TN	0170	94%	1/1	100%	1/1	100%	0/1	4.2	2.4
4	TN	1025	83%	4/16	64%	6/4	94%	5/4	8.9	-0.8
4	TN	ALL	84%	5/17	68%	7/5	94%	5/5	8.2	-0.5
5	IL	0258	89%	5/9	59%	3/2	82%	2/2	7.9	6.7
5	IL	0513	91%	15/26	50%	6/7	71%	7/7	6.4	6.0
5	IL	ALL	91%	20/35	53%	8/9	74%	9/9	7.0	6.2
5	IN	0520	82%	3/32	81%	8/8	85%	9/8	7.4	-1.4
5	IN	0523	89%	0/7	92%	2/2	96%	2/2	5.9	1.1
5	IN	ALL	84%	3/39	83%	10/10	88%	11/10	7.1	-0.8
5	MI	ALL	86%	5/27	74%	7/7	79%	6/7	4.6	-1.3
5	MN	ALL	72%	0/16	56%	4/4	67%	4/4	13.8	4.9
5	OH	0012	90%	1/3	82%	1/1	81%	1/1	9.3	5.9
5	OH	0151	93%	2/2	59%	1/1	100%	1/1	10.0	-3.0
5	OH	0220	75%	0/3	23%	1/1	83%	1/1	12.5	3.2
5	OH	0229	91%	3/9	54%	2/2	88%	3/2	6.5	-2.2
5	OH	0287	79%	0/5	74%	1/1	56%	1/1	8.0	-4.0
5	OH	0471	33%	0/0	ND	0/0	ND	0/0	ND	ND
5	OH	0595	94%	1/1	28%	1/1	92%	1/1	5.5	-4.1
5	OH	0634	92%	2/2	60%	1/1	94%	1/1	3.3	1.9
5	OH	0805	86%	1/3	52%	1/1	81%	2/1	12.3	1.0
5	OH	0807	81%	0/2	9%	0/1	50%	1/1	3.7	10.0
5	OH	0809	83%	0/3	42%	1/1	75%	1/1	5.0	3.2
5	OH	0880	76%	0/2	37%	1/1	92%	1/1	10.5	-0.2
5	OH	0979	80%	4/10	93%	3/3	75%	3/3	4.7	-0.8

EPA Region	State	Rep Org	Routine (SLAMS)		Precision		Bias		99-01 Prec. (%	99-01 Bias (%)
			99-01 |Num complete		99-01 |	Num	99-01 |	Num		
5	OH	ALL	85%	14/45	58%	14/15	82%	16/15	7.5	0.1
5	WI	ALL	93%	13/22	82%	6/6	85%	6/6	8.1	0.8
6	AR	ALL	76%	2/21	81%	6/5	68%	6/5	6.0	-8.6
6	LA	ALL	93%	15/22	91%	4/6	100%	5/6	7.0	-9.2
6	NM	0017	86%	0/2	ND	1/1	100%	1/1	5.7	-14.0
6	NM	1218	82%	0/5	69%	2/1	88%	1/1	7.0	-2.5
6	NM	1219	68%	0/1	86%	1/1	88%	1/1	5.3	-3.4
6	NM	ALL	80%	0/8	63%	4/3	94%	3/3	5.8	-7.8
6	OK	0535	77%	0/8	60%	3/2	86%	5/2	10.7	-6.4
6	OK	0812	85%	1/5	64%	1/1	75%	1/1	7.9	-8.6
6	OK	ALL	80%	1/13	61%	4/3	82%	6/3	9.8	-7.3
6	TX	ALL	63%	4/46	60%	12/12	68%	12/12	7.4	-9.6
7	IA	0613	92%	0/3	91%	1/1	50%	0/1	5.4	14.4
7	IA	0874	89%	0/4	100%	1/1	100%	3/1	3.7	-15.2
7	IA	1080	95%	5/10	91%	3/3	79%	3/3	3.6	-15.5
7	IA	ALL	93%	5/17	93%	5/5	83%	6/5	4.0	-14.3
7	KS	ALL	90%	1/12	88%	4/3	86%	4/3	8.2	-2.0
7	MO	0561	93%	3/3	89%	1/1	100%	2/1	2.0	-4.7
7	MO	0588	94%	6/9	96%	3/2	96%	2/2	2.8	-8.7
7	MO	0986	100%	1/1	80%	1/1	ND	0/1	3.6	ND
7	MO	0990	93%	2/3	100%	1/1	92%	1/1	5.8	-4.5
7	MO	0992	94%	1/2	82%	1/1	100%	0/1	6.1	-6.9
7	MO	ALL	94%	13/18	90%	7/6	97%	5/6	4.6	-6.5
7	NE	0752	74%	0/10	68%	2/3	84%	5/3	6.2	-10.4
7	NE	0816	62%	0/3	56%	2/1	75%	2/1	13.8	-8.6
7	NE	ALL	70%	0/13	62%	4/4	82%	7/4	10.1	-9.9
8	CO	ALL	82%	2/13	72%	4/4	92%	4/4	7.3	2.3
8	MT	0250	94%	2/2	93%	1/1	100%	1/1	14.1	-2.9
8	MT	0730	85%	2/7	64%	2/2	70%	3/2	4.9	-7.1
8	MT	0787	83%	0/1	85%	1/1	63%	1/1	11.8	0.6
8	MT	ALL	86%	4/10	77%	4/4	75%	5/4	12.5	-4.8
8	ND	ALL	91%	1/7	97%	2/2	83%	1/2	6.1	5.9
8	SD	ALL	84%	2/10	78%	3/3	73%	3/3	10.5	10.8
8	UT	ALL	90%	8/16	64%	4/4	98%	4/4	7.4	1.4
8	WY	ALL	94%	3/5	89%	1/1	75%	1/1	6.5	7.2
9	AZ	0053	83%	0/3	85%	1/1	92%	2/1	7.4	0.4
9	AZ	0864	72%	0/2	31%	1/1	75%	1/1	10.0	11.6
9	AZ	ALL	80%	0/5	49%	2/2	83%	3/2	8.1	6.0
9	CA	0086	85%	1/15	9%	0/4	93%	4/4	8.2	3.9
9	CA	0145	79%	6/22	72%	6/6	85%	6/6	8.9	0.0
9	CA	0458	38%	0/1	ND	0/1	25%	1/1	ND	ND
9	CA	0709	71%	0/1	64%	1/1	50%	0/1	7.2	10.7
9	CA	0942	73%	1/12	59%	2/3	66%	4/3	9.6	-4.6
9	CA	0972	79%	3/16	58%	5/4	78%	3/4	9.2	-2.2
9	CA	1118	86%	3/14	84%	3/4	89%	2/4	5.4	0.0
9	CA	ALL	80%	14/81	65%	17/23	81%	20/23	8.5	-0.3
9	HI	ALL	88%	2/5	75%	2/1	100%	1/1	16.3	-17.5
9	NV	0145	85%	0/2	ND	0/1	ND	0/1	ND	ND
9	NV	0226	92%	2/5	96%	1/1	81%	1/1	6.0	-6.0
9	NV	1138	98%	1/1	99%	1/1	100%	1/1	2.9	-3.7
9	NV	ALL	92%	3/8	97%	2/3	89%	2/3	4.5	-4.8
10	AK	ALL	85%	0/7	54%	3/2	64%	2/2	7.5	-0.3
10	ID	0511	94%	7/12	56%	4/3	100%	3/3	4.4	-3.5
10	ID	0962	83%	0/1	91%	1/1	ND	0/1	9.1	ND
10	ID	ALL	93%	7/13	60%	5/4	100%	3/4	5.8	-3.5
10	OR	ALL	91%	11/23	85%	7/6	95%	4/6	4.5	-6.3
10	WA	ALL	88%	9/20	80%	6/5	89%	6/5	5.2	-4.1

1. Introduction

The QA Report should be viewed as a 3-year evaluation to determine whether or not the $PM_{2.5}$ monitoring network is providing data of acceptable quality for its primary use, the comparison of routine ambient air quality data to the national ambient air quality standards (NAAQS). The Report will evaluate adherence to the quality assurance requirements described in *40 CFR 58 Appendix A* and assess the data quality indicators of completeness, precision, accuracy, and bias for the calendar years 1999, 2000 and 2001. From this standpoint the report provides a retrospective view on data quality. However, the report will also look at various trends in the data and will take a prospective view on what the more recent data quality is telling the data user.

Data used in this report was extracted from the Aerometric Information Retrieval System (AIRS) Air Quality Subsystem (AQS) on 7/08/02 and is for SLAMS/Tribal sites reporting $PM_{2.5}$ data that are collected using the method designation codes 116-120.

Most of the data quality indicator evaluations will be at the national and reporting organization level of aggregation; some evaluations will occur at the method designation and the site level. Some of the graphical representations of the data will be too large to include in the report and will be displayed at the AMTIC Web Site (http://www.epa.gov/ttn/amtic/pmqa.html). Examples of these graphics and the web site location will be included in the appropriate sections of this report.

Organization of QA Report

The report has been organized into 3 main sections:

- **Section 1**: overview of the $PM_{2.5}$ monitoring program, and the implementation aspects of the quality system relative to the quality assurance requirements described in 40 CFR 58 App A.
- **Section 2:** results of the data quality assessment.
- **Section 3**: summary and conclusions of the data quality assessment results and recommendations based upon experiences of three years of implementation of the quality system.

Program Overview

The criteria pollutant defined as "particulate matter" is a general term used to describe a broad class of substances that exist as liquid or solid particles over a wide range of sizes. As part of the Ambient Air Quality Monitoring Program, two particle size fractions are measured; those less than or equal to [a nominal]10 micrometers, and those less than or equal to [a nominal] 2.5 micrometers, hereafter referred to as PM_{10} or $PM_{2.5}$ respectively.

The background and rationale for the implementation of the $PM_{2.5}$ ambient air monitoring can be found in the *Federal Register 40 CFR 50 July 18, 1997* . In general, the measurement goal of the $PM_{2.5}$ network is to estimate the concentration, in units of micrograms per cubic meter ($\mu g/m^3$), of particulate matter less than or equal to [a nominal] 2.5 micrometers (μm) aerodynamic diameter collected over a 24 hour period.

A major objective for the collection of the data is to compare $PM_{2.5}$ concentrations to the annual (15.0 µg/m^3 annual arithmetic mean concentration) and 24-hour (65 µg/m^3 24-hour average concentration) NAAQS. A description of the NAAQS and its calculation can be found in the July 18, 1997 *Federal Register* notice.

As described in the following section (DQOs), OAQPS designed a quality system based upon the primary objective of the network, which was the comparison of data to the NAAQS. For this comparison, State, local, and Tribal monitoring organizations are required to sample using a Federal Reference Method (FRM) or Federal Equivalent Method (FEM). The description of the $PM_{2.5}$ FRM is included in *40 CFR 50, App. L*, published as a final rule in the *Federal Register* on July 18, 1997. There are a number of designated federal reference and equivalent method samplers at this time whose descriptions can be found on the AMTIC Website in **(**http://www.epa.gov/ttn/amtic/pmfrm.html **)** All $PM_{2.5}$ sampling sites that provide data for comparison to either the 24-hour or the annual $PM_{2.5}$ NAAQS for the purposes of addressing attainment and nonattainment decisions must employ designated FRM/FEM sampling techniques.

$PM_{2.5}$ Data Quality Objectives (DQOs)

DQOs are qualitative and quantitative statements derived from the DQO Process that clarify the monitoring objectives, define the appropriate type of data, and specify the tolerable levels of potential decision errors that will be used as the basis for establishing the quality and quantity of data needed to support decisions. The $PM_{2.5}$ DQOs are based on the desire of the decision maker(s) to estimate the annual concentration at a site within acceptable levels of error, especially when the annual concentration is near the NAAQS of 15.0 µg/m^3.

The DQO Process is an iterative, statistics-based process which allows the decision maker to balance tolerable decision errors with the costs of increased data certainty (i.e., more precise or unbiased data, higher sampling frequencies, or larger networks). In order to provide the decision makers information on the various data quality tradeoffs, the DQO Process often uses power curves. A power curve is a statistical tool used to display the potential of decision errors based upon the choice of various assumptions that affect data quality. Therefore, in order to use the $PM_{2.5}$ power curve, a number of data quality assumptions had to be identified. Table 1-1 lists the current $PM_{2.5}$ DQO assumptions. Most of these assumptions are based upon conservative but realistic values. For example, the DQO was generated on the 1 in 6 day sampling frequency at 75% completeness since it is allowed in the Code of Federal Regulation. The variability in the estimate of the mean concentration at this sampling frequency and completeness would be greater than the variability for a mean at an every day sampling frequency with 90% completeness. The assumptions in Table 1-1 are close to the extremes of the realistic data that existed when the DQOs were developed (1997) and revised (2001).

Table 1-1 $PM_{2.5}$ DQO Assumptions

Assumption	Comment
Annual NAAQS is controlling standard	Based on available data. Any site whose concentration is greater than the daily standard (65 $\mu g/m^3$) is also greater then the annual standard (15 $\mu g/m^3$) but the reverse is not true. Therefore DQO was based on the annual standard.
3-year annual average is truth	Since the comparison the NAAQS is based on 3 year of complete data, it is assumed that the three year estimate for this site is the true value. The DQO process is used to show the *potential or probability* of a decision error, not that the estimate is in error.
Bias = $\pm$ 10%	Based upon collocated sampler data from the PM2.5 Performance Evaluation Program (see Section 2)
Precision = 10%	Based upon collocated precision data (see Section 2)
No spatial uncertainty and each monitor stands on its own	Since each site can be compared to the NAAQS a site stands on it own and it is assumed that is does not have any spatial uncertainty.
1 in 6 sampling	The 1 in 6 day sampling frequency is one of three sampling frequencies that are allowable in the SLAMS network. Since the 1 in 6 day frequency would produce an annual mean with the *potential* for more variability than the other two sampling frequencies, it was selected
75% completeness	Since the 75% completeness is allowed, it is used. Based on this completeness requirement and the allowance for 1 in 6 day sampling, one could anticipate ~144 routine data values in a 3 year period.
Lognormal distribution for population variability = 80 % CV	Base upon a review of the monthly and bimonthly variability it was found that about 98% of the sites evaluated were below ~80CV . 80% CV was used as an extreme but realistic value.
Normal distribution for measurement uncertainty	Various distributions of measurement uncertainty were reviewed and since the measurement CV data was relatively low (~10%) the normal distribution was determined to be acceptable.
Season ratio = 5.3	Season ratio is the ratio of the high and the low monthly or bi-monthly mean concentration estimate within a year. Based upon a review of the monthly and bimonthly ratios it was found that about 99% of the sites evaluated were below ~5.3.
No auto correlation	Auto correlation is how well one value compares to the next. Since the 1 in 6 day sampling frequency is used for the DQO, no auto correlation was used.
Decision errors at 5%	For a $PM_{2.5}$ concentration estimate, if the assumptions listed above are at or below the indicated limits using a 5% decision error limit says that the decision maker will make the correct decision (at the gray zone) 95% of the time.

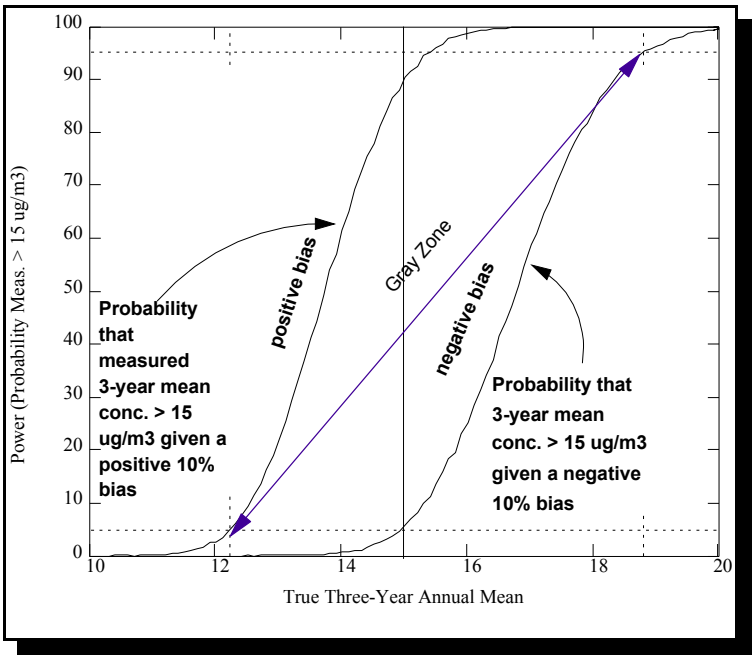

Figure 1.1 PM2.5 Power curve based on 2001 DQO assumptions

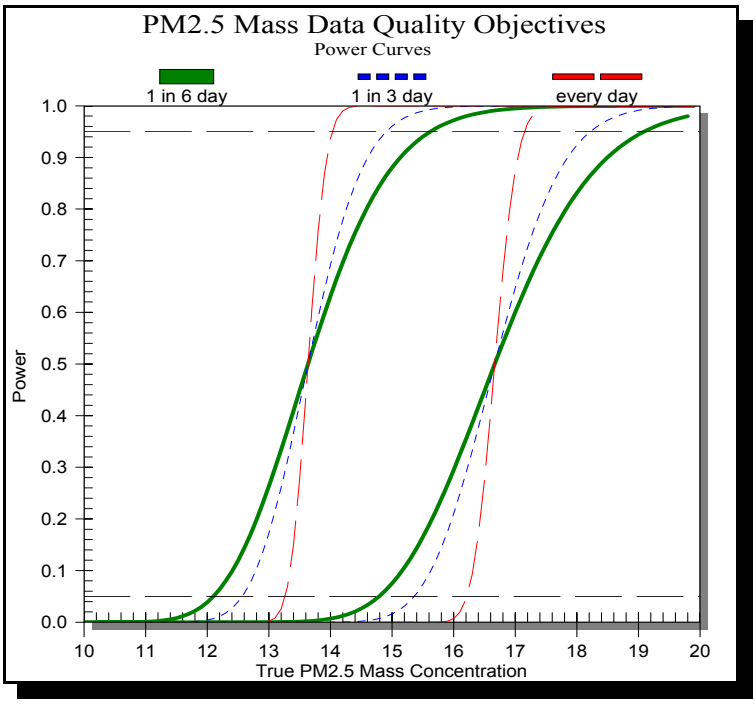

Figure 1.2. Power curve changes due to changes in sampling frequency

A power curve is used to display the potential of decision errors based upon the choice of various assumptions that affect data uncertainty. Figure 1.1 provides the power curve based on the 2001 assumptions. The gray zone is the range of concentrations for which the decision errors are larger than the desired rate of 5%.

Based on the values listed in the 2001 assumptions (Table 1-1), the gray zone is derived at 12.2 to 18.8 $\mu g/m^3$. This means that if all the 2001 assumptions are at the levels in Table 1-1, the decision maker would have a 5% chance of observing a 3-year mean concentration that is greater than 15 $\mu g/m^3$ even though the true mean concentration is 12.2 $\mu g/m^3$ (with a positive 10% bias). Similarly the decision maker would have a 5% chance of observing a 3-year mean concentration that is less than 15 $\mu g/m^3$ even though the true mean concentration is 18.8 $\mu g/m^3$ (with a negative 10% bias) As has been mentioned, the 2001 assumptions are realistic but conservative. Any particular site will not meet all these assumptions at these extreme levels and it will be demonstrated later in this report that the precision and bias estimates at a national level are well within the DQOs. Assumptions that are "better" than those listed in Table 1-1 will tend to decrease the width of the gray zone. Figure 1.2 provides an example of the power curve/gray zone changes for a simple change in sampling frequency from 1 in 6 day (green/solid) to 1 in 3 day (blue/dotted) to every day (red/dashed) while all the other 2001 assumptions remain the same.

Because there is potential for the assumptions to change on a site by site basis, OAQPS commissioned the development of a software tool to help Headquarters and State, local and Tribal organizations determine their potential for decision errors based on their particular

assumptions. Figure 1.2 is generated using this tool and allows for multiple scenarios (power curves) to be reviewed on one table. This tool was placed on AMTIC on 7/15/02 at http:/www.epa.gov/ttn/amtic/dqotool.html. Attachment 7 provides the input assumptions for each reporting organization that can be used with this tool. Section 2 will provide more information about this process.

The DQO evaluation showed that population uncertainty (sampling frequency, distribution of population variability) and measurement bias play a significant role in the width of the gray zone. Measurement precision did not have a significant effect on the gray zone which suggests more imprecision could be tolerated with little effect on decision errors. Based on this finding, OAQPS proposed reducing the collocated sampling requirement from 25% to 15% as a direct final rule which was promulgated December 31, 2002.

Quality System Implementation

The majority of the quality system requirements came from the following documents that were developed prior to the monitoring start date of Jan 1, 1999:

40 CFR Part 50 Appendix L - which describes many of the critical quality control requirements for the FRM sampler, the filter handling requirements and the laboratory facilities and equipment.

40 CFR Part 58 Appendix A - identifies the quality system requirements.

Quality Assurance Guidance Document 2.12 Monitoring PM2.5 in Ambient Air Using Designated Reference or Class I Equivalent Method- provides more detail and guidance to support CFR Parts 50 and 58.

Quality Assurance Guidance Document Model Quality Assurance Project Plan for the PM2.5 Ambient Air Monitoring Programs at State and Local Air Monitoring Stations (SLAMS) - provides a model for the development of a $PM_{2.5}$ QA project plan.

Additional QA Guidance provided in CY99.

During CY99 implementation, various technical issues arose that required additional guidance or clarification. The following guidance was developed in CY99 and was distributed to the EPA Regions as well as posted on the AMTIC $PM_{2.5}$ site. Since certification of CY99 data takes place in July of 2000, the guidance distributed in CY00 may apply to CY99 data.

Flexibility in sample transport conditions - guidance was distributed on 1/20/00 that provided an interpolation between the two temperature transport requirements (25ºC/10 day and 4ºC/30 day) that allows one to determine the number of days available for sample weighing from the sample end data and time, based upon the average temperature that the sample arrived at the laboratory.

Standard Time - guidance was distributed on 6/22/99 to set and leave all instruments on local standard time.

Archiving $PM_{2.5}$ Samples - Some additional guidance for acceptable procedures for archiving $PM_{2.5}$ samples was distributed on 2/7/00

Collocated substitution and POC codes- guidance was distributed on 1/3/00 to reiterate earlier PM10 guidance that collocated data can be substituted for routine data when the routine sampler was inoperable or otherwise caused the routine sample to be invalidated. However, in order to identify that the collocated value was used, it was suggested that the value be placed in pollutant occurrence code 2 (POC-2). This would help in completeness assessments for P & A. In addition, this memo went on to designate all POCS (1-9) for the $PM_{2.5}$ monitoring (mass, speciation and continuous).

Flagging - A memo, distributed 3/27/00 from OAQPS to the Regions, provided for the use of 6 data qualifiers.

Additional QA Guidance provided in CY00.

CY00 represented the second full year of implementation of $PM_{2.5}$ ambient air monitoring. The following guidance was developed:

DOW-704 WINS impactor Oil - A number of monitoring organizations reported a gelling or crystallization of the DOW-704 WINS impactor oil, usually during cold sampling events. A joint study was conducted by the EPA National Environmental Research Laboratory (NERL) and the State of Connecticut to determine the effect of this crystallization. Although the crystallization did not appear to have an effect on the "cut point" or concentrations, NERL did provide information on the use of an oil substitute, dioctyl sebacate (DOS), that can be used in place of the DOW-704 oil.

Additional QA Guidance provided in CY01

By CY01, the third year of implementation there was not much additional guidance required but the following guidance did include:

Filter retrieval extension study - A number of State monitoring organizations volunteered to participate in a study to determine if the filter cassette retrieval time could be extended from 4 days (96 hours) to 7 days (177 hours). This study was completed and showed no significant changes in concentration with the extended filter retrieval period. The Office of Research and Development agreed with the study's findings and issued a user modification to allow for a filter retrieval extension from 96 hours to 177 hours.

Implementation of 40 CFR 58 Appendix A Requirements.

40 CFR 58 App. A provides the quality assurance requirements for the State and local air monitoring station (SLAMS) network. The requirements for $PM_{2.5}$ include:

- **Development, submission, approval and implementation of QA project plans**. For the $PM_{2.5}$ Mass network, the majority of State and local QAPPs have been reviewed and approved. This process is somewhat dynamic since various Tribes are also participating in

$PM_{2.5}$ monitoring. Discussions with the regions show that Tribal QAPPs are also being reviewed and approved in the appropriate time frames.

- **Implementation of technical systems audits** - Technical systems audits (TSAs) are a thorough, systematic, on-site, qualitative audit of facilities, equipment, personnel, training, procedures, record keeping, data validation, data management, and reporting aspects of a system. Regions are to perform TSAs on one third of their reporting organizations each year. Table 1-2 provides a summary of the TSAs conducted during for CY99 though CY01.
- **Implementation of quarterly flow rate audits**- See Section 2
- **Implementation of collocated sampling**- See Section 2
- **Implementation of a Performance Evaluation Program**- See Section 2

Table 1-2. Technical System Audits Conducted from CY99, CY00, and CY01

Reg.	State	TSA Type (F=Field, L=Lab FL = Field & Lab)	TSA Date (s)
1	CT		
	MA	FL	3/01
	ME		
	NH		
	RI		
	VT	FL	11/01
2	NJ	L L	01/99 10/99
	NY	L	4/99 9/00
	PR	L L	4/99 6/99
	VI	L	4/99
3	DE	F	9/99
	DC	F	9/99
	MD	F	9/99
	PA - Philadelphia County	F/L	12/01
	PA -Allegheny County	F L	6/00 12/01
	PA	F/L	10/00
	VA	F/L	11/99
	WV	F/L	12/01
4	AL DEM	F F	7/00 8/01
	FL DEP	FL L	9/99 6/00
	GA	F FL	3/99 6/00
	KY DEP	FL	7/00
	MS DEQ	F F	9/99 5/00
	NC DEM	F FL	9/00 3/01
	SC DHEC	FL F	5/99 7/00

Reg.	State	TSA Type (F=Field, L=Lab FL = Field & Lab)	TSA Date (s)
	AL -Birmingham-Jefferson County	FL L	4/00 8/01
	AL- Huntsville	F	8/99
	KY- Louisville-Jefferson County	F FL	8/00 7/01
	TN- DAPC	F FL L	6/99 2/00 5/01
	TN- Chattanooga-Hamilton County	F F	8/99 6/00
	TN- Knoxville	F F	6/99 8/00
	TN-Memphis	F	8/01
	TN-Nashville	F F	6/99 6/01
5	MN	FL FL	6/99 5/01
	WI	FL	4/99
	MI - MDEQ	FL FL	5/99 3/00
	Wayne County	FL FL	4/99 5/01
	OH EPA OH - Toledo Agency	FL FL FL	5/99 5/00 8/00
	Cleveland, OH Hamilton County	FL FL	5/99 4/99
	IL- Illinois EPA Cook County	FL FL	4/99 3/99
	IN -IDEM	FL FL	5/99 8/01
	Indianapolis, IN	FL	5/99
6	AR	FL FL	7/99 12/00
	LA	F F	2//00 4/01
	OK	F	7/99
	NM	L F	8/00 10/00
	NM -Albuquerque	F	10/00
	Texas	F	5/00
	ITEC (Tribal)	F	9/00
	AIPC (Tribal)		
7	MO	FL	9/99
	KS	F	3/00
	IA -Linn County	F	8/01
	IA- Polk County	F	8/01
	NE -	F	4/01
	U of Iowa	F	8/01
8	CO	FL FL	7/99 12/00

Reg.	State	TSA Type (F=Field, L=Lab FL = Field & Lab)	TSA Date (s)
	MT	FL	7/99
	ND	F	9/99
	SD	FL	8/99
	UT	FL	8/99
	WY	F	9/99
9	AZ-DEQ		
	AZ- Pima County		
	CA -ARB		
	CA - Bay Area AQMD	FL	11/01
	CA - South Coast AQMD	FL	10/00
	San Diego APCD		
	HI		
	NV- Washoe County	FL	3/99
	NV- Clark County	FL	9/99
10	AK - ADEC AK - MOA AK - FNSB	F/L F F	9/01 9/01 9/01
	ID - IDEQ ID - IDHW	F F F/L L	5/99 9/00 5/02 5/02
	OR - ODEQ OR - LRAPA OR - ODEQ	F/L F F	9/99 9/99 5/01
	WA - DOE	F F	11/99 5/01

Data Quality Indicators

Once a DQO is established, the quality of the data must be measured and evaluated to ensure that it is maintained within the established acceptance criteria. Measurement quality objectives are designed to evaluate and control various phases (sampling, preparation, analysis) of the measurement process to ensure that total measurement uncertainty is within the range prescribed by the DQOs. The quality of data in a database can be summarized in terms of the following data quality indicators:

Completeness - a measure of the amount of valid data obtained from a measurement system compared to the amount that was expected to be obtained under correct, normal conditions. Data completeness requirements are included in the reference methods (*40 CFR 50*).

Precision - a measure of mutual agreement among individual measurements of the same property usually under prescribed similar conditions. This is the random component of error. Precison is estimated using collocated intruments at 25% of sites within a reporting organization *(40 CFR Part 58 Appendix A)*

Bias - the systematic or persistent distortion of a measurement process which causes error in one direction. Bias will be determined by estimating the positive and negative deviation from the true value as a percentage of the true value. Bias is estimated using collocated instruments that are set up by independent contractors at 25% of the sites within a reporting organizations. The program that provides this service is called the Performance Evaluation Program (PEP) *(40 CFR Part 58 Appendix A)*

Detectability- The determination of the low range critical value of a characteristic that a method specific procedure can reliably discern. Detectability will not be addressed in this document.

Comparability - a measure of confidence with which one data set can be compared to another. Comparability will not be addressed in this document.

Representativeness - a measure of the degree which data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, a process condition, or an environmental condition. Representativeness, which deals mainly the population variability indicators (spatial and temporal variability) will not be addressed in this document.

Accuracy has been a term frequently used to represent closeness to "truth" and includes a combination of precision and bias error components. This term has been used throughout the CFR. In this report, accuracy refers to errors in flow rate only.

The results of the assessments of the data quality indicators: completeness, precision, accuracy(flow rate) and bias will be discussed in Section 2.

Section 2 Assessment of Data Quality Indicators

This section will provide an assessment of the data quality indicators of completeness, precision, accuracy and bias for the calendar years 1999, 2000 and 2001. All assessments were performed on data extracted from AQS on 7/08/02 for SLAMS/Tribal sites reporting $PM_{2.5}$ data that are collected using federal reference methods (method designation codes 116-120).

Data Completeness

This section will evaluate the completeness statistics for routine SLAMS $PM_{2.5}$ concentration data and the quality assurance data for collocated precision, quarterly flow rate audits, and the bias data from the Performance Evaluation Program.

Completeness - Routine SLAMS Data

Figure 2.1 provides an estimate of 3-year routine data completeness for all operating SLAMS sites. Figures 2.2 and 2.3 provide a geographic illustration of the information in Figure 2.1. In addition, the following attachments provide additional completeness detail:

- Attachment 1 provides an explanation of the process to generate this information
- Attachment 2-1 provides a listing of completeness at the site level
- Attachment 2-2 provides a listing of the sampling frequencies for each site which are used to determine completeness for a site.

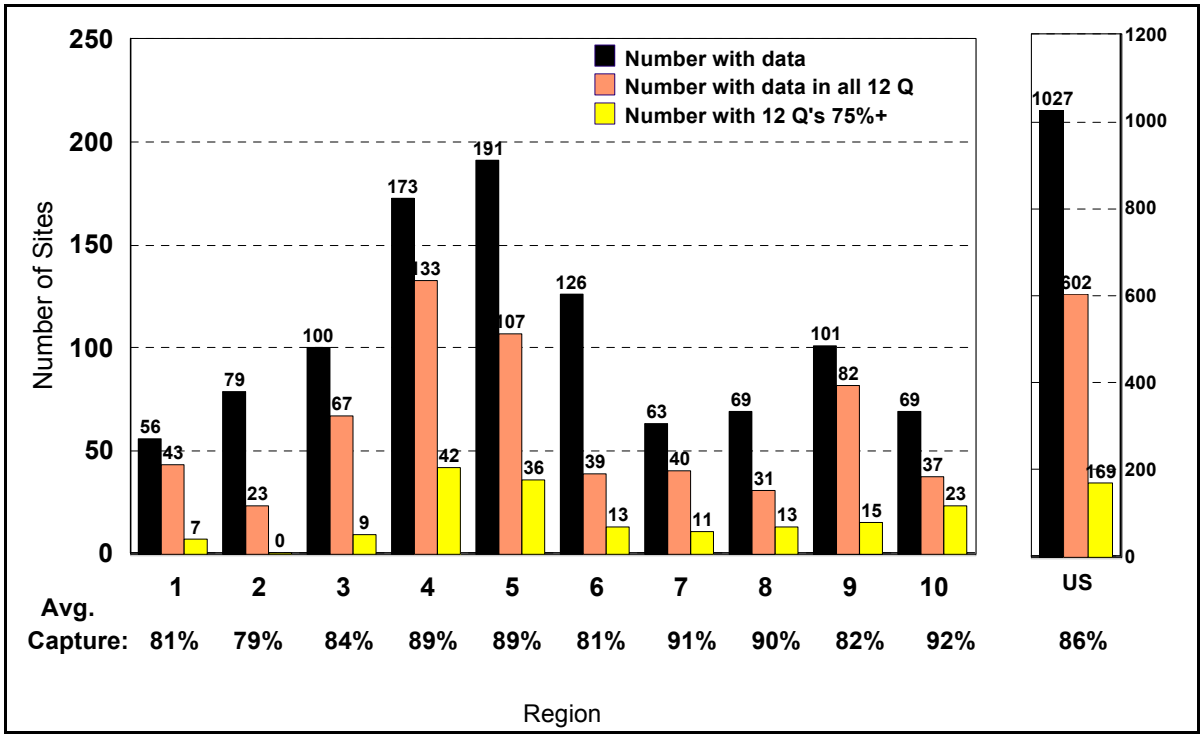

Figure 2.1 3-Year PM2.5 Routine SLAMS data completeness

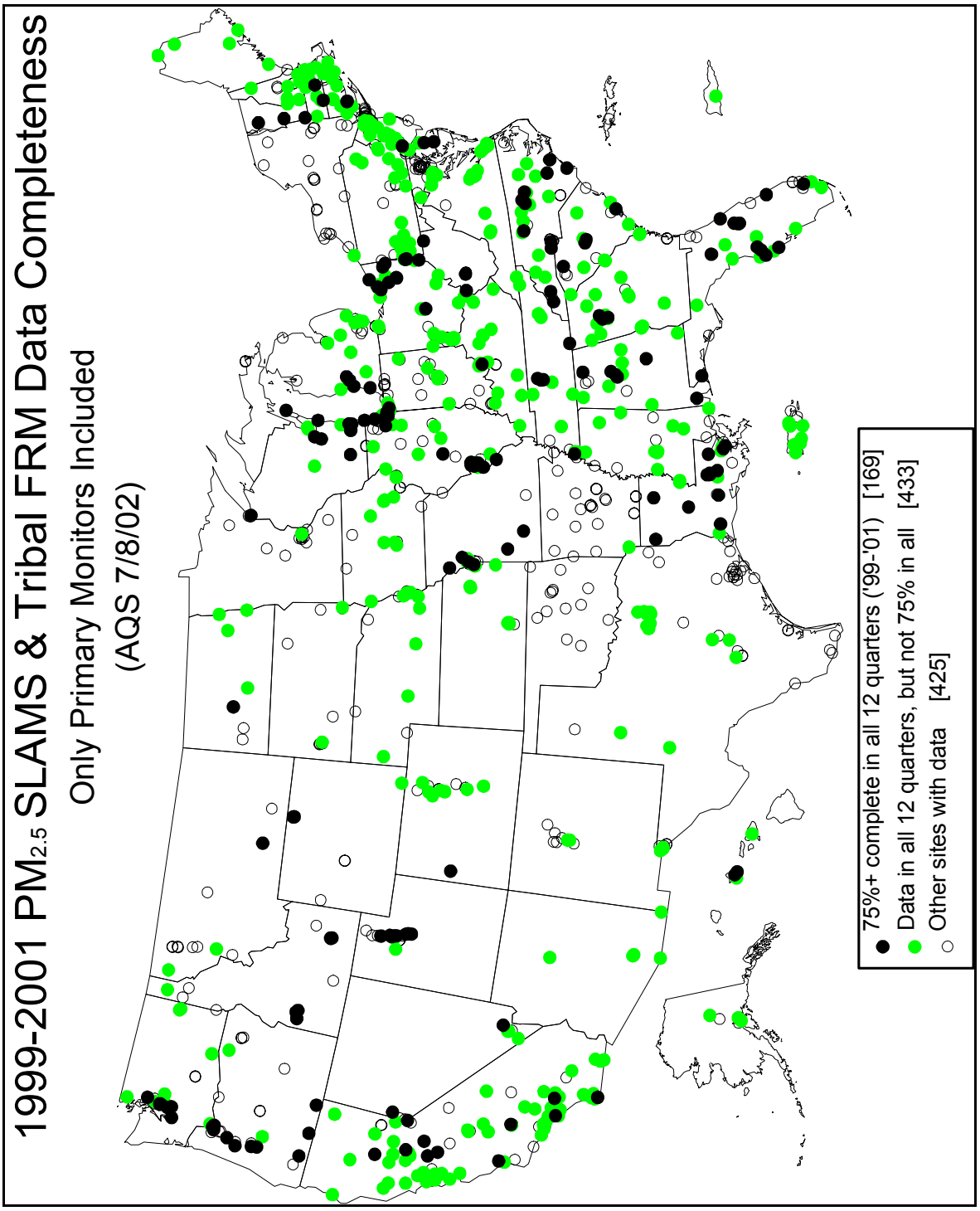

Figure 2.2 3-Year routine data completeness based on strict 75% data completeness criteria

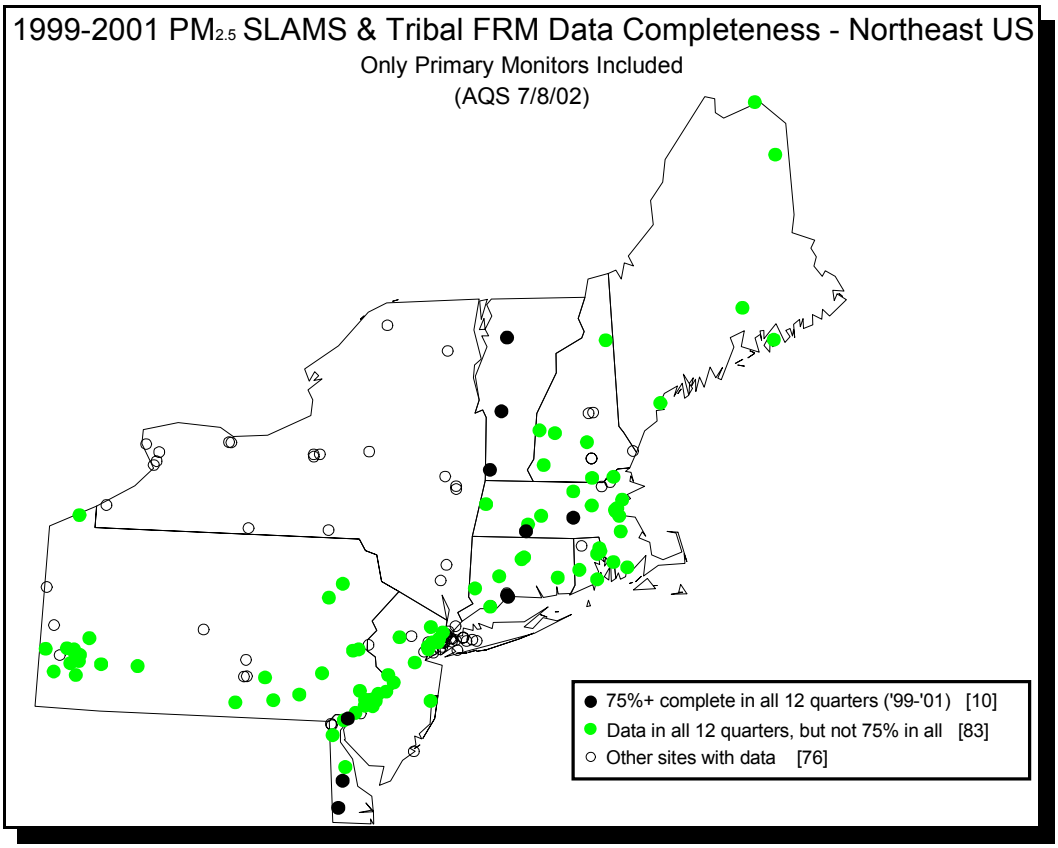

Figure 2.3 3-Year data completeness for the Northeast based on strict 75% completeness criteria

Completeness will be assessed by two methods: 1) as it relates to the strictest requirement in the code of federal regulations, and 2) by performance. The three columns in Figure 2.1 for each EPA Region (1-10) are related to the strictest completeness requirements for comparing data to the NAAQS which requires that each of the 12 quarters (NAAQS comparison based on three years, or 12 quarters of data) for a site must be 75% complete (based on the site's sampling frequency). Attachment 2-1 provides completeness estimates for each quarter for the 3-year period. Figure 2.1 has aggregated this information to EPA Region and for the U.S. The first column for each Region represents the number of SLAMS sites where data was reported in any of the three

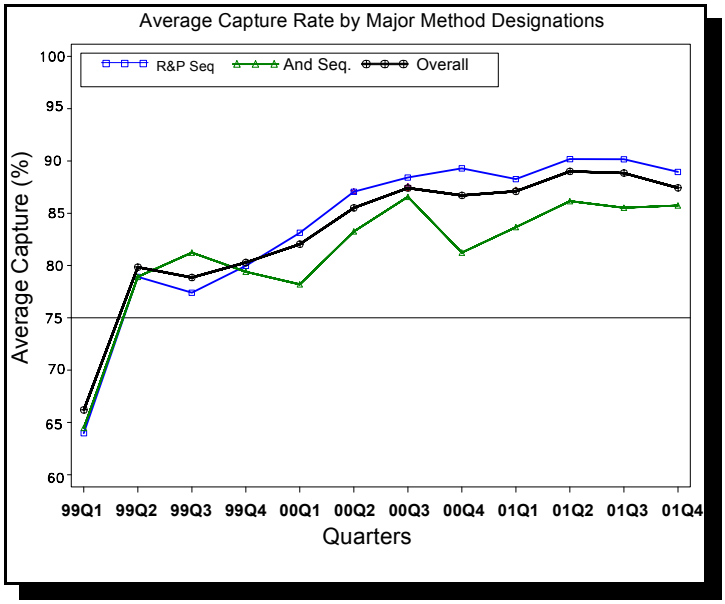

Figure 2.4 3-Year trend in $PM_{2.5}$ average capture rate

calendar years. The second column represents the number of sites that had some data collected in all 12 quarters. The last column for each region represents the number of sites in which all 12 quarters met the 75% data completeness requirement. Based on this requirement, 169 sites or about 16% of the sites reporting data at any time during the 3-year data collection period met the 75% completeness requirement. For those sites that operated in all 12 quarters (602) 28% met the completeness criteria. It must be mentioned that non attainment decisions can be made with less information than the 75% completeness requirement. Based on these various data substitution methods, 444 sites or 43% of the sites reporting any SLAMS data can be used for designation purposes. Information on completeness using these exceptions are not generated for this report but will be described in design value reports.

A second method of estimating completeness is called average capture. Average capture for a site is calculated starting from the first data point submitted to AIRS and ending at either the end of CY2001 or the sampling end date for that site. As an example, if a site started reporting data midway through a quarter, the completeness estimate would not be based on the number of values expected in the full quarter but only the number of values expected from the sampler start date to the end of the quarter (based on the site's identified sampling frequency). This completeness estimate is not related to the data requirements for comparison to the NAAQS but can provide a more technical evaluation of data collection performance and can be used to show improvement over time. The average capture rate for the sites in the monitoring organizations in each EPA Region are shown below the graphs in Figure 2.1. The national 3-year average capture rate is 86%, which presents a different picture than the NAAQS required completeness. Once a site was operating it generally maintained an acceptable level of completeness. Figure 2.4 illustrates the 3-year trend in the average capture rate. Since this statistic treats all sites equally, based on the individual starting date, it is apparent that the first quarter of 1999 had significant start up problems. Figure 2.4 also illustrates the average capture rate for the major method designations used in the network, the R & P Sequential and the Andersen Sequential. Both instruments capture rate in the 1st quarter of 1999 were similar. By the second quarter of 1999 both instruments were operating above the 75% completeness criteria and in general, the capture rate is slightly better for the R & P sequentials for calendar years 2000 and 2001. Disregarding the 1st quarter 1999, there is slightly lower completeness in the first quarters of 2000 and 2001 which could be attributed to cold weather problems, recalibration of equipment, or the start up of new instruments which usually occur in the first quarter.

Flagged data were included in the completeness count; null value data were not. Flagged data values can be quality assurance data qualifiers, sampler generated flags, or exceptional events. In the case of flagged data, the routine $PM_{2.5}$ concentrations are reported to AQS; a null data code replaces the routine concentration and explains why a value was not reported. Attachment 3-1 provides a listing of all flags and null data codes as well as a 3-year breakdown of flag and null data code use by state. Figure 2.5 provides a breakdown of the routine concentration data in AIRS relative to unflagged, flagged, and null value code data. Over the three year period the percentages shown in Figure 2.5 have remained virtually the same each year with about 8% of the data representing null codes and another 7% with a data flag. Six states that have greater than 30% of their routine data flagged make up 48% of the flagged data in the 3-year SLAMS data set. Null data code use is more evenly distributed across the States with no state having

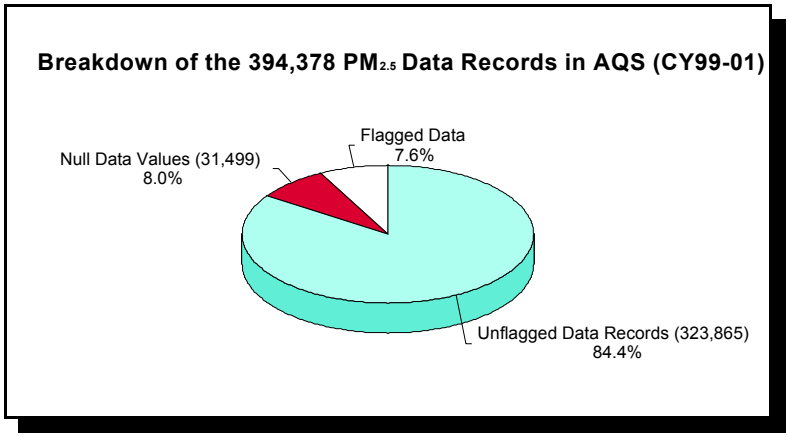

Figure 2.5 Breakdown of flagged, unflagged, and null data of the 3-year routine $PM_{2.5}$ concentration data

greater than 27% of their data flagged with a null data code. All flagged data is considered valid and is used in annual averages. The distributions of concentrations for flagged and unflagged data were compared in order to determine if there were differences in these distributions. The goal was to determine whether flagged data typically have large concentrations. However, the distributions of these two data sets for all three years do not show significant differences.

Completeness - Collocated Precision -

Twenty five percent of the monitoring sites for a reporting organization are required to provide collocated data at a frequency of every 6 days (~15 values per quarter). 11 precision values per quarter would meet the 75% completeness requirement. Table 2-1 provides 3-year site precision capture information by EPA Region and quarter for collocated data in AQS of 7/08/02. Attachment 4-1 provides completeness statistics for each collocated site.

Table 2-1 3-Year Precision Data Completeness by Region and Quarter- percentage of sites with at least 11 collocated pairs

Region	99-1	99-2	99-3	99-4	00-1	00-2	00-3	00-4	01-1	01-2	01-3	01-4
1	NA	80.00	86.67	87.50	62.50	81.25	75.00	68.75	75.00	80.00	88.24	94.12
2	NA	20.00	40.00	50.00	71.43	85.71	92.86	71.43	71.43	71.43	78.57	53.33
3	NA	55.56	44.44	57.89	68.18	68.18	72.73	72.73	68.18	86.36	72.73	72.73
4	57.14	46.55	60.00	61.67	71.67	65.00	70.00	65.57	69.35	70.97	75.41	49.18
5	42.86	42.86	44.00	49.02	69.23	71.15	73.08	65.38	47.06	77.36	78.85	75.00
6	50.00	21.43	37.50	50.00	54.17	53.57	72.41	73.33	76.67	80.65	80.00	74.19
7	0.00	76.47	78.95	90.00	95.00	80.00	85.00	90.00	80.00	85.00	85.00	70.00
8	33.33	61.54	60.00	66.67	61.11	55.56	94.44	77.78	83.33	94.44	83.33	94.44
9	100.00	68.00	64.00	56.00	61.54	61.54	65.38	65.38	76.92	73.08	61.54	53.85
10	81.82	52.94	41.18	65.00	73.91	66.67	76.00	68.00	72.00	80.00	80.00	87.50
All	61	53	56	61	69	68	75	70	69	78	77	69

The last row in Table 2-1 indicates a steady improvement in the percentage of sites that are complete from 1999 to 2001. The drop in completeness in the last quarter of 2001 is probably related to late data submissions to AQS (after 07/08/02 AQS extraction) by some monitoring agencies and not to incomplete data collection.

Completeness - Flow Rate Audits

The States and local monitoring organizations are required to perform and submit flow rate accuracy audits on all their routine samplers every quarter. Figure 2.6 presents the flow rate completeness information for the 3 years of data collection and shows a marked improvement in the implementation of the flow rate audits since 1999. The decline in completeness in the last quarter of 2001 is most likely related to incomplete submission of this data to AQS by the 7/08/02 deadline rather than the audits not being completed. Table 2-2 provides more detailed information on completeness at the EPA Regional level. Attachment 6-1 provides listings of flow rate audit completeness by EPA Region as well as State and site.

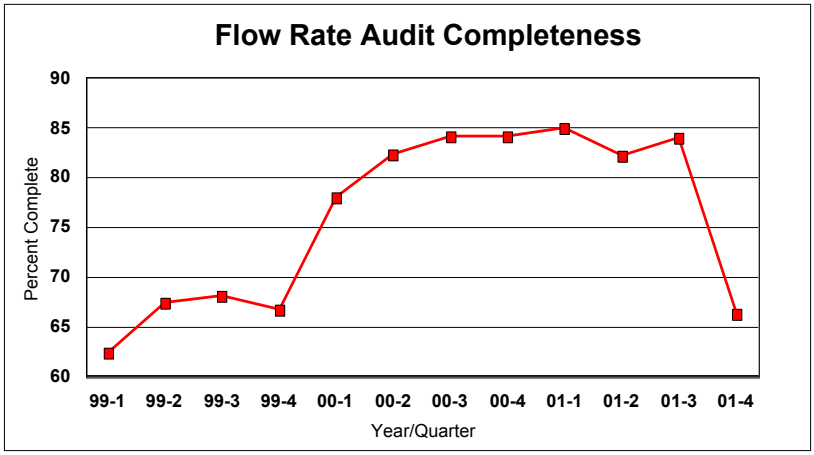

Figure 2.6 $PM_{2.5}$ flow rate audit completeness

Table 2-2 Flow Rate Completeness For Year and Quarter Aggregated by EPA Region

Region	99-1	99-2	99-3	99-4	00-1	00-2	00-3	00-4	01-1	01-2	01-3	01-4
1	100.00	73.81	72.73	77.78	82.61	85.11	82.98	70.21	51.06	82.98	53.06	22.45
2	NA	64.29	76.47	31.11	96.00	92.73	93.10	96.61	86.89	23.33	30.00	30.00
3	100.00	91.04	95.71	83.75	83.91	83.33	79.57	81.52	94.57	97.83	88.17	89.25
4	70.83	80.85	75.00	78.85	89.81	91.14	88.05	86.96	90.80	75.93	95.65	73.29
5	20.00	27.78	40.46	38.52	57.14	76.97	91.62	96.49	78.29	91.06	97.19	94.38
6	66.67	41.46	45.83	56.16	50.00	58.76	48.98	51.96	92.08	86.00	95.00	37.50
7	100.00	86.36	87.50	92.59	94.83	93.10	91.67	95.00	94.92	100.00	96.67	86.67
8	83.33	88.89	95.24	93.33	94.34	98.18	98.18	89.47	91.53	89.66	89.47	77.97
9	25.00	52.63	46.84	46.25	71.76	67.42	80.90	76.14	65.17	66.29	51.69	21.35
10	78.95	95.12	90.48	96.00	89.66	96.61	95.08	95.08	100.00	100.00	98.39	85.25
All	62.50	67.38	68.05	66.71	77.95	82.36	84.22	84.19	85.01	82.27	84.05	66.30

Completeness - Bias - Performance Evaluation Program (PEP) and Routine Data Pairs

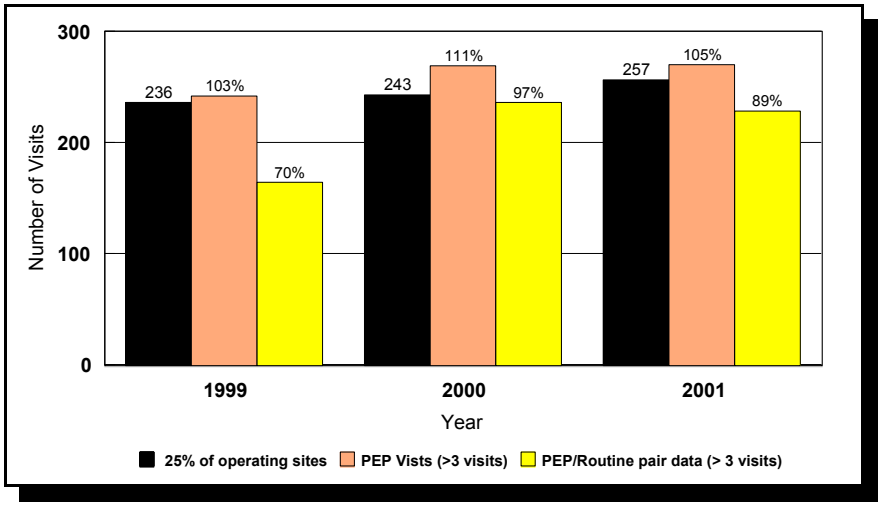

Figure 2.7 3-Year completeness for the $PM_{2.5}$ Performance Evaluation Program

The bias data completeness estimate is based on two different organizations collecting the data, the Environmental Services Assistance Team (ESAT) contractors who collect the PEP data, and the monitoring organizations, who collect the routine data. Therefore, completeness will be discussed based upon PEP data completeness and then the completeness of the PEP/routine data bias pairs. A complementary 3-year QA report for the PEP will provide more detailed information on PEP data completeness.

PEP Data Completeness –

The completeness goal of the PEP was to collect data from 25% of each method designation in a reporting organization at a frequency of 4 times per year (once per quarter). Using the number of SLAMS sites operating in each year (99-945, 2000-972, 2001-1027), ~236, 243 and 257 sites would require a performance evaluation in those respective years. The first column in Figure 2.7 represents this site visit goal. This value is slightly lower than the 25% selection procedure at the reporting organization level, but is considered acceptable for the national estimate. A second PEP completeness goal is that 75% of the samples (3 out of the 4 expected samples) be valid for each site in each year. The second column in Figure 2.7 represents the number of unique sites that had at least 3 valid PEP samples. Completeness percentages over 100% would suggest that the PEP visited more sites than what was required but these extra visits likely are due to the fact that the 25% visit goal is based on reporting organizations which tend to slightly increase the number of site visits over the national estimate. In general, the completeness goals for the PEP were met.

PEP/Routine Sample Completeness –

For every PEP sample there must be a corresponding valid routine value to be able to calculate bias. The third column for each year in Figure 2.7 represents the number of unique sites that had at least 3 valid PEP/routine sample pairs. Completeness for the three years was 70%, 97% and 89% respectively.

Table 2-3 Bias Data Loss

Year	Valid PEP Samples	Valid PEP/Routine Sample Pairs	Data Loss	Loss %	Sample < 6 µg/m3	< 6 µg/m3 loss %	Final Pairs
1999	967	724	243	25%	141	19%	583
2000	1086	915	171	16%	163	18%	752
2001	1138	900	238	21%	213	24%	687
Tot.	3191	2539	652	20%	517	20%	2022

The drop in the completeness percentage from the PEP completeness to the PEP/routine completeness means that there was no corresponding state routine sample concentration to be paired with the PEP sample concentration. Table 2-3 illustrates the loss of bias data values. This data loss can be attributed to the PEP program making visits on a day that the routine monitor was not operating, data entry problems in either monitoring program (usually problems with sample date or AIRS site ID), and data invalidation or subsequent loss of data from the routine monitoring program. Over the three year period the total data loss (652 values) compared to the total valid PEP values (3191) represents a 20% loss of valid PEP data. However, as is illustrated in Figure 2.7 even with these losses, the majority of the sites visited by the PEP for the years 2000 and 2001 were at least 75% complete.

In addition to the sample losses mentioned above, bias is estimated only when both the PEP and routine sample concentrations for the pair are above 6 $\mu g/m^3$. This criteria is the same for the collocated precision estimates and was instituted due to the sensitivity of the bias estimate to small absolute differences at concentrations nearing the detection limit. Columns 6 and 7 in Table 2-3 represent the loss of valid sample pairs that had one or both concentrations below 6 $\mu g/m^3$. Over the three year period, the total data loss (517 paired values) compared to the total valid PEP/routine sample pairs (2539) represents a 20% loss of valid PEP/routine data. Both types of data losses discussed above have an effect on the confidence limits around the mean bias estimates, especially when estimating bias at the reporting organization level of aggregation.

Precision - Collocated Sampling

National Precision Estimates-

The collocated precision estimates are based on a 7/08/2002 AQS extraction and are estimated using collocated paired data that have both concentration values greater than 6 $\mu g/m^3$. Figure 2.8 provides national estimates of precision for each quarter for calendar years 1999, 2000 and 2001. Values above each quarterly data point represent the number of precision pairs upon which the precision estimates were derived. With the exception of the first two quarters of 1999, the precision estimates at the national level of data aggregation are within the 10% DQO. Figure 2.9

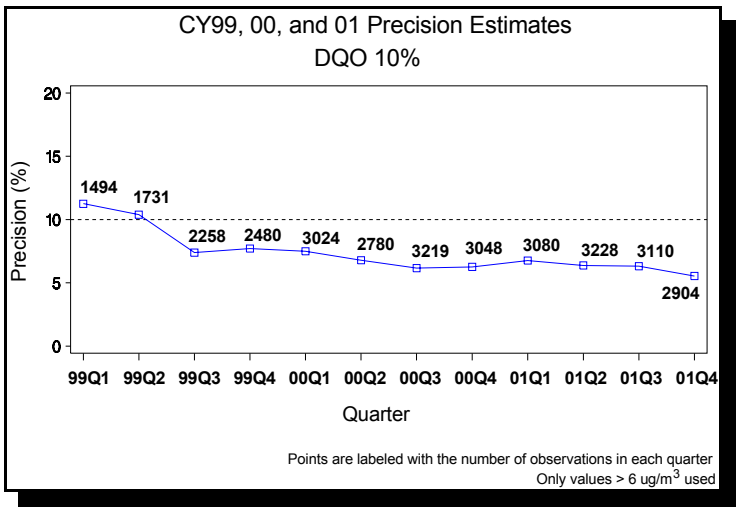

Figure 2.8 National 3-year $PM_{2.5}$ collocated precision estimate

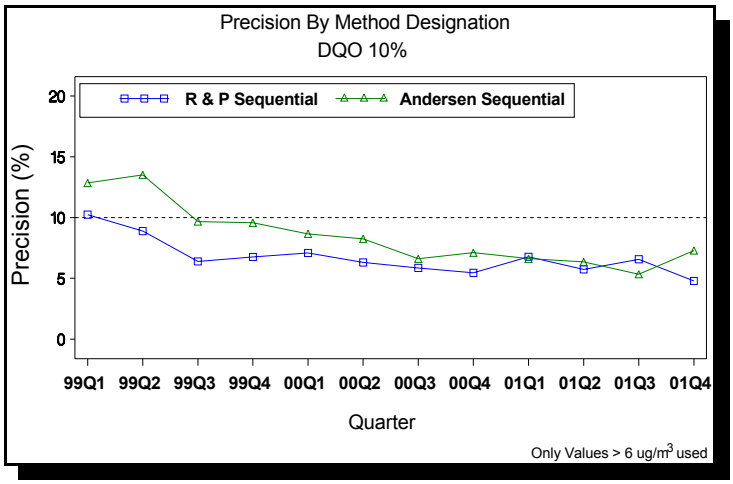

Figure 2.9 National 3-year $PM_{2.5}$ collocated precision estimates by major method designation

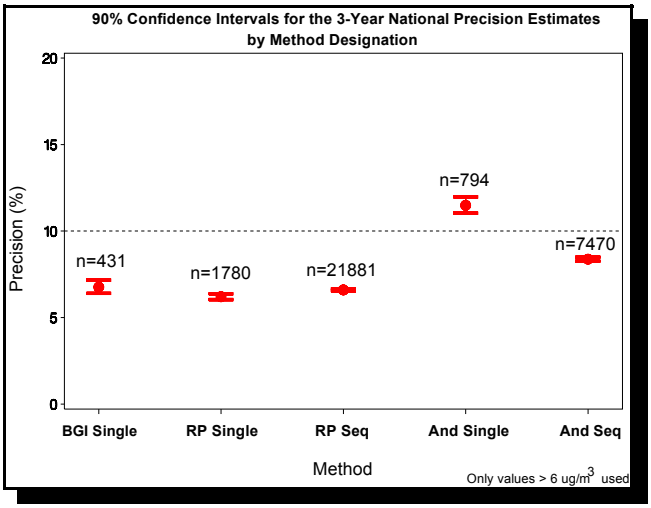

Figure 2.10 Mean and 90% confidence intervals of 3-year precision estimates by method designation

illustrates the precision results for the two major method designations, the R & P sequential and the Andersen sequential instruments. Although there may have been a difference in precision between these two instruments in the first year of operation, in general, both instruments are producing acceptable precision results and the precision estimates have converged to be virtually the same in 2001. Figure 2.10 provides 3-year precision estimates and 90% confidence intervals for all 5 federal reference methods that operated in the first three years of $PM_{2.5}$ implementation. With the exception of the Andersen single channel instrument, the precision estimates are fairly similar and below the DQO. Reporting organizations in five states currently use or have used the single channel Andersen instrument. One state, Minnesota, provides the majority of the data upon which the Andersen single channel instrument precision is used and therefore dominates the 3-year estimates. The States of Minnesota and New Hampshire had 3-year precision estimates greater than 10 % CV (see Figure 2.11) which raised the national precision estimate for the Andersen single instrument above 10% CV DQO.

State/ Reporting Organization Precision

The DQO for precision is established using three years of data at the reporting organization level. In many cases, a state and reporting organization are synonymous. States that contain more than one reporting organization had their precision estimates aggregated by weighting based upon the number of monitoring sites within each

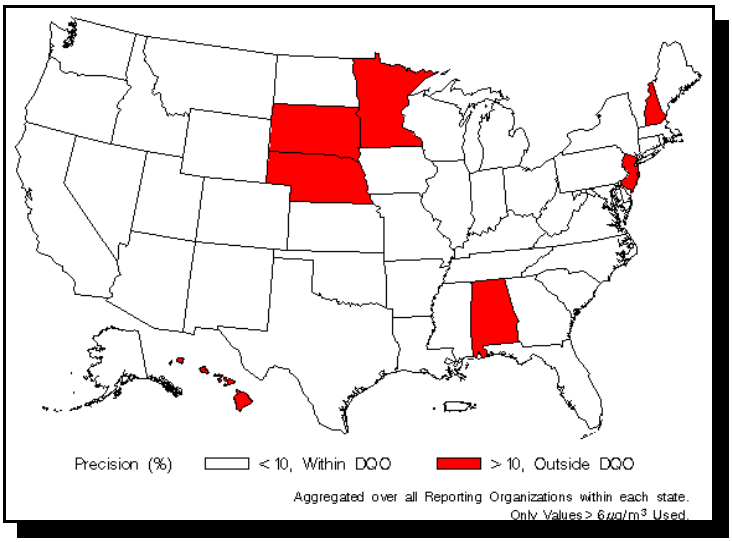

Figure 2.11 $PM_{2.5}$ 3-year state precision estimates relative to the precision DQO

reporting organization. Attachment 4-2 presents the precision estimates for each reporting organization on a quarterly, annual and 3-year basis. Figure 2.11 provides an illustration of whether or not a States 3-year precision estimate is within the 10% DQO.

As has been discussed in earlier $PM_{2.5}$ QA Reports, a few high imprecision values can have an effect on the average precision estimate, depending on the number of collocated precision pairs used in a reporting organization estimate. Prior to the AQS extraction in July of 2002, OAQPS provided a list of collocated pairs with CVs greater than 50% and asked that the reporting organization check these values prior to the data extraction for this report. In some cases entry errors where found that helped reduce the influence on these values in quarterly, annual or the 3-year precision estimates.

In order to provide State, Local and Tribal organizations more detailed information of precision, the AMTIC Website (http://www.epa.gov/ttn/amtic) will provide a number of visual representations of precision by reporting organizations. Figure 2.12 represents some examples of the graphics that will be found on AMTIC. The first graph in the example represents precision box and whisker plots showing the distribution of precision by reporting organization, aggregated by EPA Region; the second graph represents individual reporting organization precision estimates by year and quarter.

In summary, the precision results for the majority of the reporting organizations have met the 10% DQO. As mentioned in Section 1 measurement precision does not have a significant effect on the DQO gray zones.

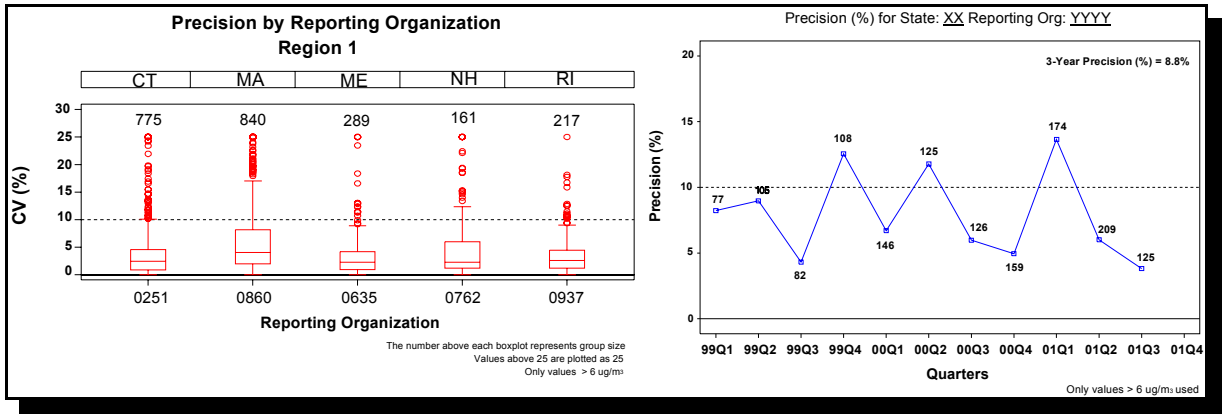

Figure 2.12 Examples of precision estimates developed at state & reporting organization levels of aggregation

Accuracy - Flow Rate Audits

There are two acceptance criteria for flow rate: 1) the flow rate measured by the FRM must be within 4% of the flow rate measured by an independent transfer standard, and 2) the flow rate measured by the FRM instrument must be within 5% of the 16.67 L/min design flow rate. The accuracy data from the flow rate audits indicates that the Federal Reference Method samplers are operating within the acceptance requirements. Table 2-4 provides a summary of the instruments providing flow rate data to AQS as of the 7/08/02 extraction date. At a national level, about 95% of the audits met the 4% and 97% met the 5% design flow rate criteria. Two method designations, the BGI single and the Andersen sequential, had a higher frequency of non-acceptance than the other method designations. Due to the low sample size for the BGI single method, this higher level of failure (5 and 4 audits by each acceptance criteria) may not be significant. The Andersen sequential audit failures have been steadily increasing since the 3rd quarter 2000 and OAQPS will be working with the monitoring organizations to understand the potential causes of this increased failure rate. Attachment 6-1 provides a listing of the sites/days where the 4% and 5% of the acceptance criteria failed. Note that failures seem to be concentrated among a few reporting organizations.

Table 2-4 3-Year Flow Rate Summary

FRM Instrument	Number of Audits	Number > ±4%	% > ±4%	Number > ±5% 16.67	% > ±5%	Average Accuracy
BGI Single	74	5	6.76%	4	5.41%	0.22
R&P Single	802	45	5.61%	27	3.37%	-0.00
R&P Sequential	7639	295	3.86%	150	1.98%	0.16
Andersen Single	249	13	5.22%	8	3,21%	0.38
Andersen Sequential	2830	246	8.69%	170	6.01%	0.26
National Estimate	11594	604	5.21%	359	3.10%	0.18

Bias- Performance Evaluation Program and Routine Data

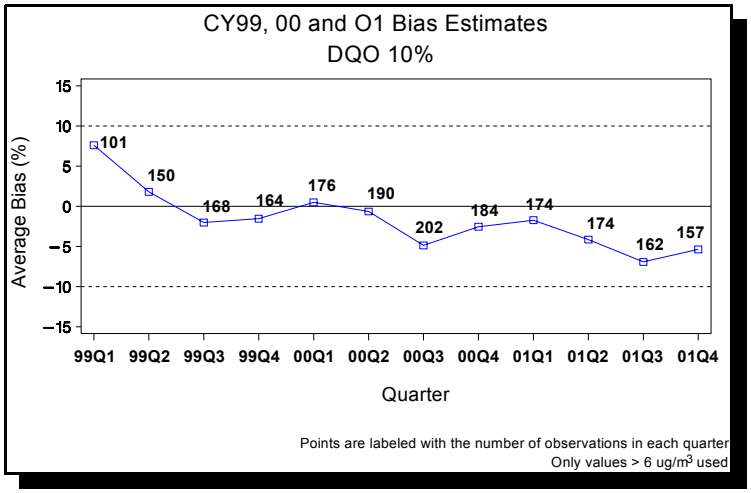

Figure 2.13 3-Year national $PM_{2.5}$ bias estimate

National Bias Estimates

Figure 2.13 provides 3-year national bias estimates for all method designations from data extracted from AQS on 7/08/02. The estimates in Figure 2.13 are based on all available pairs, excluding pairs that had one or both sample concentrations less than or equal to 6 µg/m^3. The values next to each

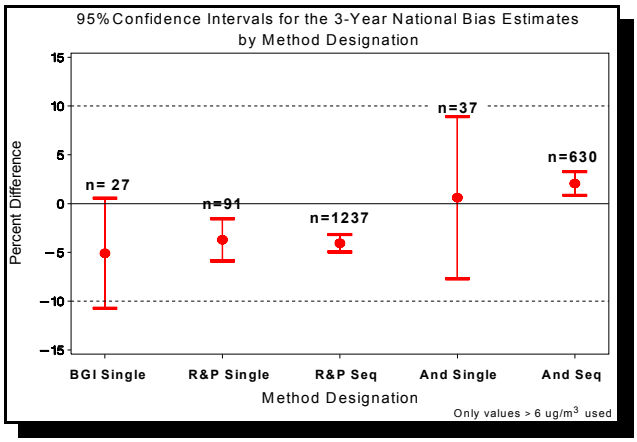

Figure 2.14 Mean and 95% confidence intervals of 3-year bias estimates by method designation

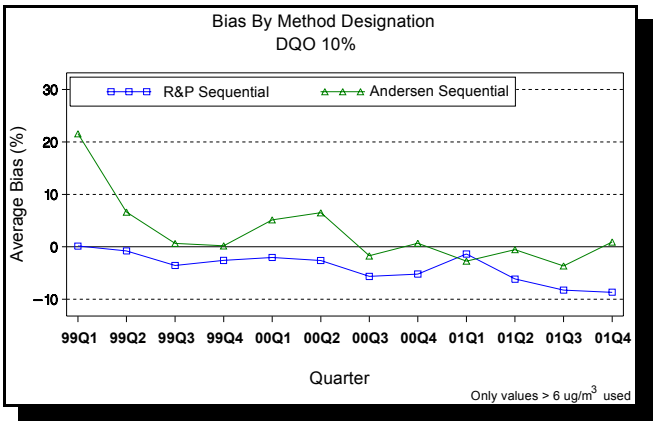

Figure 2.15 National 3-year $PM_{2.5}$ bias estimates by major method designation

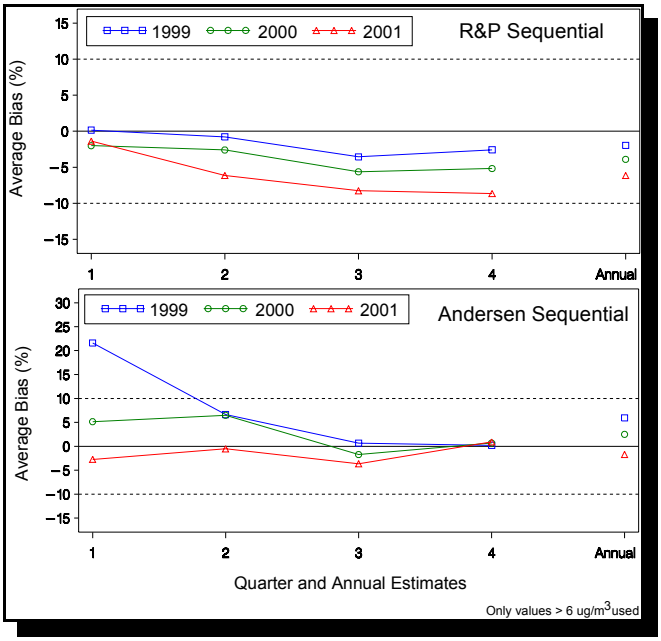

Figure 2.16 Bias estimate of major method designation by year and quarter

quarterly point represent the number of routine/PEP pairs from which the quarterly bias estimates were derived. For the data available in AQS, it appears that the DQO, at a national level, is being achieved with a 3-year national bias estimate of -2.05%. Figure 2.14 provides mean bias estimates and 90% confidence intervals for all federal reference methods used in the NAMS/SLAMS monitoring program during 99-01. All method designations are well within the ± 10% DQO with the Andersen instruments indicating a positive bias and the R& P and BGI instruments indicating a negative bias. Confidence intervals for the BGI and the Andersen Single instruments are large due to the infrequent use of the instruments in the network and therefore the small number of paired PEP/routine values available for the bias estimate. Figures 2.15 and 2.16 provide further bias detail for the two major method designations, the Andersen sequential and the R&P sequential, for the 3-year implementation period. With the exception of the first quarter in 1999, the two major method designations are within the bias DQOs at a national level of estimation. By the third quarter of 2000, the Andersen sequential FRM would appear to be providing unbiased estimates. The bias for the R&P FRM has had less variability from quarter to quarter but appears to be trending down throughout the 3-year period. Figure 2.16 illustrates that both the Andersen and R & P sequential FRMs show a downward trend in bias over the 3-year period. Section 3 will provide more detail on this trend and efforts to ensure that the bias remains at levels of acceptable quality.

State/Reporting Organization Bias

As with the precision DQO, the bias DQO is established using three years of data aggregated at the reporting organization

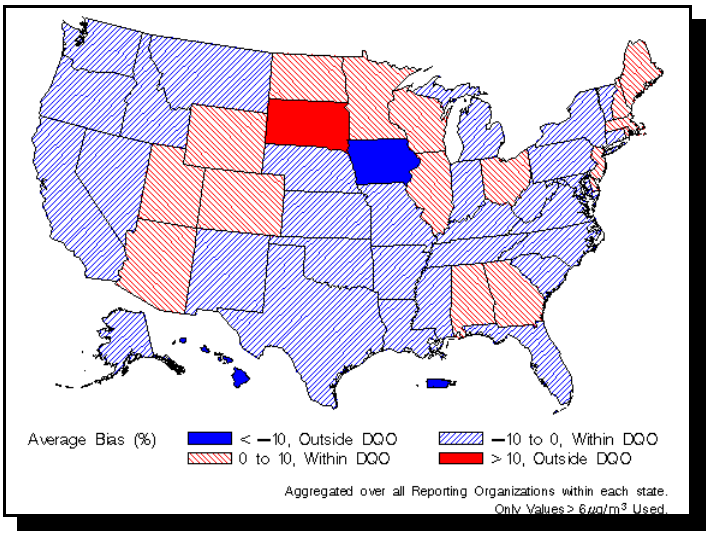

Figure 2.17 $PM_{2.5}$ 3-year state bias estimates relative to the bias DQO

level. Attachment 7 provides 3-year bias estimates for each reporting organization. Figure 2.17 illustrates the states that have 3-year bias estimates that are within (red/blue hatched), above (positive bias, red) or below (negative bias, blue) the $\pm$ 10% DQO. Small numbers of valid sample pairs above 6 µg/m^3 may have an effect on the bias estimates. Hawaii only had one valid pair above 6 µg/m^3 . Iowa, Puerto Rico and South Dakota had sample pairs of 27, 16 and 15 respectively. South Dakota was just over the bias DQO with an estimate of 10.8%. The AMTIC website will provide a number of visual representations of bias by reporting organization. Figure 2.18 represents some examples of these graphics. The first graph (top left) provides a scatter plot of individual routine/PEP data points for each reporting organization. A one-to-one line and a 20% bias interval are included in the graph to help identify more extreme bias pairs. The second graph (top right) provides 3-year quarterly bias estimates for each reporting organization. This will provide the reporting organization with some indication of trends within their monitoring program. The last graph provides box and whisker plots of each reporting organization within the Region.

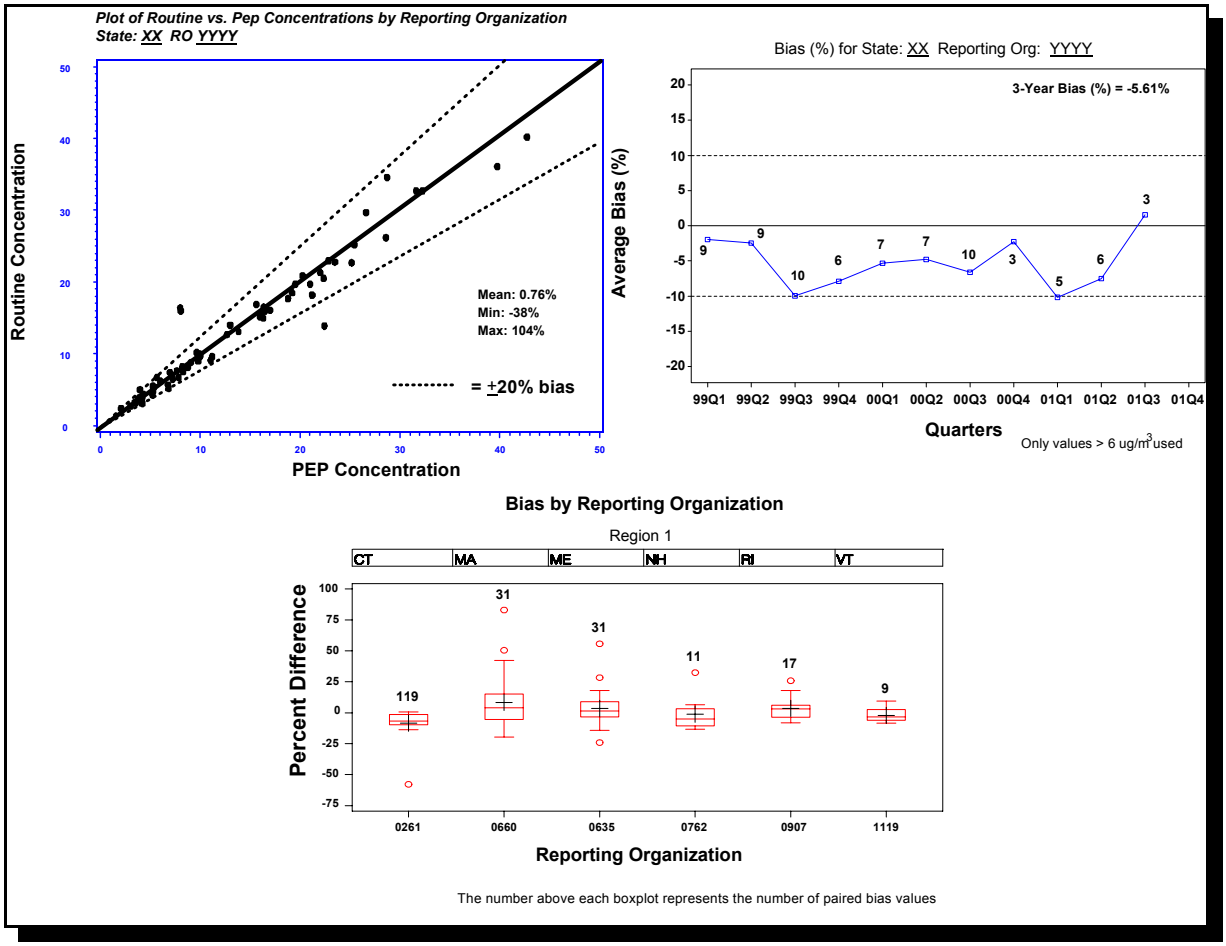

Figure 2.18 Examples of bias estimates developed at the state & reporting organization levels of aggregation

Section 3 Conclusions and Recommendations

This section will summarize the evaluation of the data quality indicators and make recommendations in an effort to improve the ambient air monitoring quality system and the resultant data quality.

Conclusions

Tables 3-1 and 3-2 provide a summary of data completeness and estimates of the primary data quality indicators. Summary comments about these tables follow.

Table 3-1. National Completeness Summary for CY00 (as of 7/08/02)

Data Type (base # sites) (75% considered acceptable)	Calendar Years			3-Year Average
	1999	2000	2001	
Routine Data (1027/602)	28%	57%	72%	16% / 28%*
Average Capture Rate	81%	87%	89%	86%
Collocation Precision	58%	70%	73%	67%
Flow Rate Accuracy)	66%	82%	79%	76%
Performance Evaluations	70%	97%	89%	85%

* 1027 are sites with $PM_{2.5}$ data collected in any quarter 602 sites collected data in the 12 quarters from 1999 -2001 the 3 year average provide completeness information based on these two overall values.

Table 3.2. National Estimates of Primary Data Quality Indicators for CY00 (as of 7/08/02)

Data Type	Acceptance Criteria	% of RO[1] Meeting Criteria	National Estimates Calendar Years			3-Year National Estimates
			1999	2000	2001	
Precision -Collocation	10%	86%	9.0%	6.7%	6.3%	7.2%
Accuracy-Flow Rate	4%	99%	0.06%	0.22%	0.21%	0.18%
Bias -Performance Evaluations	± 10%	91%	0.77%	-1.08%	-4.55%	-2.06%

[1] RO = reporting organizations

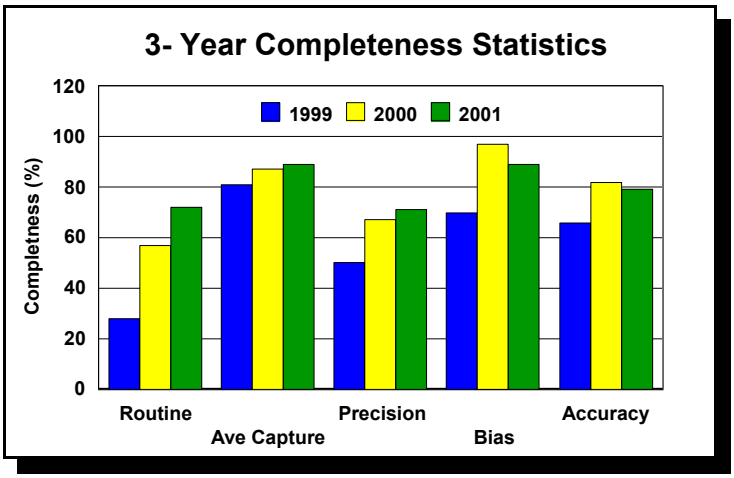

Figure 3.1 3-Year Completeness Statistics

Routine Data Completeness - For this report, routine data completeness has been assessed by two methods. The first method is based upon the strictest interpretation of the completeness requirement in *40 CFR 50, App N* that a site must collect 75% valid data in every quarter in order for comparison to the NAAQS. As Table 3.1 and Figure 3.1 indicate, the routine completeness percentages for each year based on this requirement are fairly low but showed improvement over the three year period. The second method of estimating completeness is called average capture and is related to completeness during actual operation of a sampler (sampler start date and end date). The national 3-year average capture rate is 86%, which presents a different picture than the NAAQS required completeness. Once a site was operating it generally maintained an acceptable level of completeness and has improved each year. Although completeness is low for NAAQS comparison purposes it is generally associated with initial start up issues in the first quarter of 1999.

Precision - Collocation

Completeness- Completeness has steadily improved each year and is close to the 75% goal. Based upon the assessments of precision in the 1999 and 2000 $PM_{2.5}$ QA Reports and the effect of precision on the $PM_{2.5}$ data quality objectives, OAQPS determined that the 25% site collocation requirement could be reduced to 15%. A Direct Final Rule was promulgated to this effect and was posted in the Federal Register Tuesday, December 31, 2002.

Precision Results - The precision data quality objective (DQO) is based on three years of precision data (75% complete). Therefore, any one year or any quarter may exceed the criteria and still meet the precision data quality objectives. The national precision estimate is 7.2% CV and is based on 32,356 collocated paired values where both values are > 6 $\mu g/m^3$. 13 of the 96 reporting organizations had precision CV's greater than the 10% DQO goal. The average CV of these 13 reporting organizations is 12.8% with no CV greater than 20%.

OAQPS investigated whether there was any significant difference in precision for the various method designations. Table 3-3 provides the quarterly, yearly and 3-year precision estimates for the federal reference methods in use in the calendar years 1999, 2000 and 2001. As illustrated, with the exception of the Andersen single channel instrument, the precision estimates are fairly similar and below the DQO. Only five states use the single channel Andersen instrument and the States of Minnesota and New Hampshire had 3-year precision estimates greater than 10 % CV which raised the national precision estimate for the Andersen single instruments above 10% CV DQO.

Table 3-3 Quarterly and Yearly $PM_{2.5}$ Precision Estimates (and Sample Size) by Method Designation

Year-Quarter	BGI Single	R&P Single	R&P Sequential	Andersen Single	Andersen Sequential	Overall
1999Q1	9.2 (31)	9.5 (81)	10.2 (928)	17.9 (43)	12.9 (411)	11.2 (1494)
1999Q2	15.0 (10)	6.6 (55)	8.9 (1165)	11.9 (36)	13.5 (465)	10.4 (1731)
1999Q3	7.0 (20)	7.3 (86)	6.4 (1584)	9.1 (40)	9.7 (528)	7.4 (2258)
1999Q4	6.7 (45)	12.4 (100)	6.8 (1807)	8.5 (51)	9.6 (477)	7.7 (2480)
2000Q1	7.4 (44)	6.2 (175)	7.1 (2115)	10.9 (54)	8.7 (636)	7.5 (3024)
2000Q2	7.8 (27)	5.2 (119)	6.3 (1906)	5.8 (76)	8.3 (652)	6.8 (2780)
2000Q3	5.5(47)	4.9 (174)	5.9 (2197)	10.5 (92)	6.6 (709)	6.2 (3219)
2000Q4	6.7 (38)	4.5 (210)	5.5 (2061)	17.2 (60)	7.1 (679)	6.3 (3048)
2001Q1	6.5 (51)	5.7 (188)	6.8 (2063)	10.3 (56)	6.6 (722)	6.8 (3080)
2001Q2	6.7 (37)	6.2 (147)	5.7 (2196)	15.2 (89)	6.4 (759)	6.4 (3228)
2001Q3	4.5 (36)	4.7 (208)	6.6 (2034)	10.2 (97)	5.3 (735)	6.3 (3110)
2001Q4	2.0 (45)	4.4 (237)	4.8 (1825)	7.2 (100)	7.3 (697)	5.5 (2904)
1999	8.7 (106)	9.6 (322)	7.8 (5484)	12.3 (170)	11.4 (1881)	9.0 (7963)
2000	6.8 (156)	5.2 (678)	6.2 (8279)	11.5 (282)	7.7 (2676)	6.7 (12071)
2001	5.3 (169)	5.2 (780)	6.1 (8118)	11.1 (342)	6.4 (2913)	6.3 (12322)
3-Year	**6.8 (431)**	**6.2 (1780)**	**6.6 (21881)**	**11.5 (794)**	**8.4 (7470)**	**7.2 (32356)**

Accuracy -Flow Rate

Completeness- Flow rate accuracy overall completeness has improved over the 3-year period from 66 %, to 82% to 79% for 99, 00 and 01 respectively. The lower completeness in 01 is related to agencies not entering their 4th quarter flow rate data within the 7/01/02 certification date since the completeness average of the first three quarters in 01 was ~84%.

Accuracy Results -The results of the accuracy audits are very good. The national average accuracy estimate is 0.18% which is well within the acceptance criteria of ±4% of the standard and ±5% of the design value. Table 3-4 provide estimates of the average accuracy for each method designation by quarter and year. The percentage of audits meeting the criterion (all method designations) of ±4% of the standard was 95% and the percentage meeting the criterion of ± 5% of the 16.67 L/min design flow rate was 97%. There was some difference between the audit failure rates of the two major method designations. The Andersen sequential sampler failed the 4% criteria ~9% of the time and the 5% design standard ~6% of the time; whereas the R&P sequential failed the 4% standard ~4% of the time and the 5% design standard ~2% of the time.

Table 3-4 Quarterly and Yearly $PM_{2.5}$ Flow Rate Accuracy Estimates (and Sample Size) by Method Designation

Year-Quarter	BGI Single %	R&P Single %	R&P Sequential %	Andersen Single %	Andersen Sequential %	Overall %
1999Q1	-0.50 (8)	-0.07 (48)	-0.16 (236)	-	-0.47 (75)	-0.22 (367)
1999Q2	0.18 (2)	-0.30 (37)	-0.06 (399)	0.78 (2)	0.28 (138)	0.01 (578)
1999Q3	0.18 (5)	0.14 (39)	-0.16 (488)	-0.99 (2)	2.38 (136)	0.37 (670)
1999Q4	0.18 (5)	-0.80 (32)	0.03 (520)	0.52 (4)	-0.18 (147)	-0.04 (708)
2000Q1	0.18 (7)	-0.09 (56)	0.28 (622)	2.68 (13)	-0.04 (176)	0.23 (874)
2000Q2	0.18 (7)	0.40 (57)	0.10 (646)	0.47 (12)	0.39 (205)	0.19 (927)
2000Q3	0.61 (7)	-0.42 (52)	0.25 (619)	-0.55 (19)	0.11 (227)	0.17 (924)
2000Q4	-2.32 (6)	0.13 (58)	0.39 (636)	0.55 (23)	0.16 (216)	0.31 (939)
2001Q1	1.45 (8)	0.51 (55)	0.47 (703)	0.81 (25)	0.60 (247)	0.52 (1038)
2001Q2	1.38 (6)	0.15 (55)	0.06 (647)	-0.45 (29)	-0.15 (268)	0.01 (1005)
2001Q3	0.58 (6)	-0.33 (73)	0.15 (667)	-0.98 (27)	-0.46 (255)	-0.06 (1028)
2001Q4	0.18 (7)	0.42 (42)	0.19 (541)	1.49 (30)	0.76 (222)	0.40 (842)
1999	-0.09 (20)	-0.22 (156)	-0.08 (1643)	0.21 (8)	0.60 (496)	0.06 (2323)
2000	-0.26 (27)	0.02 (223)	0.26 (2523)	0.64 (67)	0.16 (824)	0.22 (3664)
2001	0.91 (27)	0.13 (225)	0.23 (2558)	0.23 (111)	0.16 (992)	0.21 (3913)
3-Year	0.21 (74)	-0.00 (604)	0.16 (6724)	0.38 (186)	0.26 (2312)	0.18 (9900)

Bias - Performance Evaluation Program and Routine Data

Completeness - Completeness of the performance evaluation data involves two data points that are collected by different organizations. The bias estimate must rely on Performance Evaluation Program (PEP) data collected by technical support contractors provided through the EPA Environmental Services Assistance Team (ESAT) contract. The routine $PM_{2.5}$ data is collected by the State, Local and Tribal organizations. The PEP achieved its completeness requirement of collecting at least 75% valid data at over 100% of the required number of sites each year for the years 99, 00 and 01. However, when the PEP data were matched with their respective routine data in AQS, the percentage of sites at least 75% complete for each year was 70%, 97% and 89%.

Bias results

As with precision, the bias data quality objective is based on three years of bias data (75% complete). At a national level, the average bias is estimated at -2.1% and it appears that the bias data quality objective is being met. Table 3-5 provides estimates of bias by each method designation for the quarter and the year as well as overall estimates. In general, there has been a downward trend toward a negative bias for all method designations over the 3-year period. This trend is more pronounced with the R & P Sequential sampler. OAQPS will attempt to determine the reasons for this trend over the next year. At the state level, there are only 4 states that are exceeding the $\pm$ 10% DQO, and with the exception of Hawaii which only had one valid pair of values (most concentrations < 6 $\mu g/m^3$), the remaining states have bias estimates between 10 and 15%.

Table 3-5 Quarterly and Yearly $PM_{2.5}$ Bias Estimates (and Sample Size) by Method Designation

Year-Quarter	BGI Single	R&P Single	R&P S Sequential	Andersen Single	Andersen Sequential	Overall
1999Q1	-2.96 (1)	3.46 (8)	0.16 (58)	-	21.58 (34)	7.60 (101)
1999Q2	-1.40 (2)	-1.44 (4)	-0.78 (91)	-	6.63 (53)	1.81 (150)
1999Q3	-1.11 (3)	-1.18 (5)	-3.56 (103)	-	0.66 (57)	-2.01 (168)
1999Q4	-2.61 (2)	1.45 (5)	-2.58 (107)	3.23 (4)	0.18 (46)	-1.54 (164)
2000Q1	18.62 (2)	-4.74 (8)	-2.01 (107)	5.10 (3)	5.15 (56)	0.50 (176)
2000Q2	1.11 (2)	-14.65 (7)	-2.60 (130)	-8.85 (1)	6.50 (50)	-0.65 (190)
2000Q3	-30.21 (1)	-11.92 (10)	-5.63 (128)	-3.25 (3)	-1.72 (60)	-4.86 (202)
2000Q4	-6.92 (2)	3.64 (7)	-5.18 (118)	19.01 (5)	0.69 (52)	-2.54 (184)
2001Q1	4.94 (4)	-0.38 (10)	-1.37 (95)	-5.62 (3)	-2.73 (62)	-1.72 (174)
2001Q2	-8.07 (1)	-7.16 (7)	-6.14 (104)	1.37 (4)	-0.53 (58)	-4.15 (174)
2001Q3	-20.08 (3)	-7.62 (7)	-8.25 (104)	-8.16 (9)	-3.65 (59)	-6.92 (182)
2001Q4	-17.46 (4)	-1.43 (13)	-8.65 (92)	0.58 (5)	0.92 (43)	-5.36 (157)
1999	-1.79 (8)	1.06 (22)	-1.96 (359)	3.23 (4)	5.95 (190)	0.77 (583)
2000	-0.65 (7)	-7.32 (32)	-3.90 (483)	7.64 (12)	2.50 (218)	-1.98 (752)
2001	-9.87 (12)	-3.40 (37)	-6.13 (395)	-3.90 (21)	-1.69 (222)	-4.55 (687)
3-Year	-5.08 (27)	-3.70 (91)	-4.05 (1237)	0.62 (37)	2.07 (630)	-2.06 (2022)

Statistical Issues Associated with Estimating Bias and Precision of the $PM_{2.5}$ Monitoring Network

In the previous sections of this report, several issues relating to estimating bias and precision were stated. For examples, there were discussions about how a few large observations can impact the aggregate statistics and how omission of pairs where one or both of the concentrations is below 6 $\mu g/m^3$ results in the loss of a significant amount of the data. This section will cover some of the issues with the current way of estimating precision and bias. OAQPS is currently assessing the impact of these issues and developing possible changes to the statistics to address the issues without creating too many issues of their own. If and when alternatives are developed, OAQPS will solicit feedback. Depending on the feedback to the revised approaches and statistics, OAQPS may formalize changes in CFR. Changes to the statistics will also need to be reflected in the DQO tool.

Issues with Current Way of Estimating Bias

Bias is currently estimated as $(X\text{-}Y)/Y$ where Y is the $PM_{2.5}$ concentration as measured by the PEP program and X is the $PM_{2.5}$ concentration as measured by the state, local, or tribe. Additionally, X and Y must both be > 6 $\mu g/m^3$ for bias to be calculated. These individual biases are then aggregated over various spatial areas (such as a reporting organization) and/or over various time frames (such as a year) by taking an average of these individual biases.

Three issues associated with the current way of estimating *bias* are:

(1) omission of all pairs where at least one of the values is≤ 6 $\mu g/m^3$,
(2) bias can be no smaller than -100% but can be as large as any positive value, and
(3) the bias observed to date seems to have both an additive component as well as a relative component.

Omission of all pairs where at least one of the values is ≤ 6 $\mu g/m^3$ results in the loss of over 20% of all pairs collected to estimate bias. From a national perspective, the percentage of pairs involving a value less than 6 $\mu g/m^3$ increased slightly in 2001 from less than 20% in 1999 and 2000 to more than 23% in 2001, which is consistent with the downward trend in $PM_{2.5}$ concentrations observed during the same time period. Curiously, the quarter with the lowest

percentage of pairs involving a value less than 6 µg/m^3 is the first quarter which covers January-March. The percentages also vary geographically, that is, from EPA Region to Region and from state to state. For example, for CY99-01, GA, MS, and WV have no bias pairs involving a value less than 6 µg/m^3 whereas AK, HI, ND, NH, and NM, and WY have more than half, and in some cases nearly all, of the bias pairs involving a value less than 6 µg/m^3.

Omitting pairs where at least one of the values is ≤ 6 µg/m^3 not only eliminates total counts of pairs, but it also eliminates valuable information. Of the 517 pairs omitted, over 88% of them involve measurements that are within 2 µg/m^3 of each other and 67% are within 1 µg/m^3. Such close pairs should indicate the $PM_{2.5}$ measurement systems are operating well and this information should not be ignored.

The second issue with the bias statistic is that it is bounded below by -100%, which occurs when the state-operated sampler reports a concentration of 0 µg/m^3, and is unbounded above, meaning bias can be +150%, +200%, or even greater. The largest bias observed in the CY99-01 time period is 210% and the smallest is -78%. Thus there is a lack of symmetry about 0%. For example, suppose one of the collocated instruments measures 10 µg/m^3 and the other measures 12 µg/m^3. The estimate of bias is -17 % if the PEP measurement is the larger of the two and is +20% if the PEP measurement is the smaller of the two. If the difference between the measured concentrations is greater, the non-symmetry is even more apparent. For example, if one instrument measures 10 µg/m^3 and the other measures 14 µg/m^3, then bias is -29% if the PEP gave the larger concentration and is 40% if the PEP gave the smaller concentration. This lack of symmetry means that the aggregate biases are more influenced by pairs where the PEP measurement is smaller than the measurement from the monitoring organization's sampler.

The third issue has to do with the behavior of the difference between the PEP and state-operated measurements as the concentrations increase. The current bias statistic is based on the assumption that the percent differences are consistent at any concentration range. Figure 3.2 shows the median absolute difference by concentration categories. Categories greater than 44 µg/m^3 are based on very few observations and therefore may not be very representative of the true median. The line in the graphic is the regression line based on the values in the 6 to 44 µg/m^3 range, only. This graph shows that, in general, the differences increase with increasing concentration, at least in the 6 to 44 µg/m^3 range, but there is a problem. The differences are not just a constant multiple; there is also an additive component. That is, the differences are about 5% of the concentration (the slope of the red line) plus approximately 0.4 µg/m^3 (the intercept of the red line). The differences for concentrations less than 6 µg/m^3 emphasize this additive component. The differences are not going to zero as the concentrations decrease; they plateau around 0.5 µg/m^3. Note also that the differences for the larger concentrations (> 44 µg/m^3) appear to be larger than 5%, although, as mentioned pairs at such high concentrations.

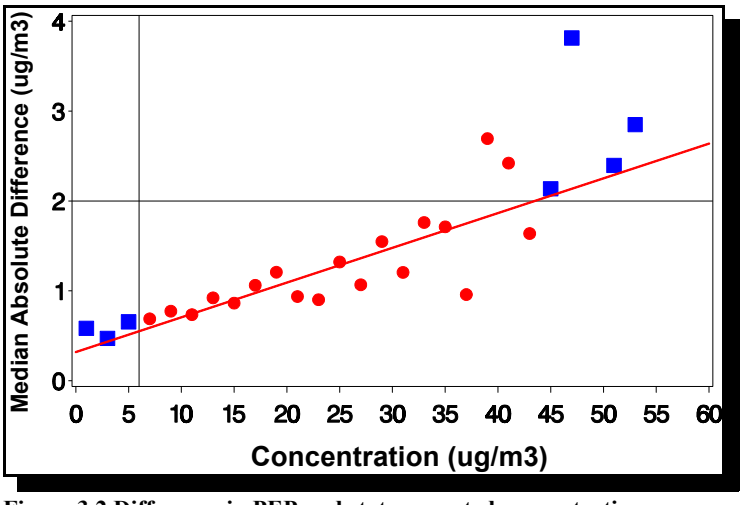

Figure 3.2 Difference in PEP and state-operated concentrations versus mean concentration

Another important pattern in Figure 3.2 is that the median absolute differences are small, generally less than 2 $\mu g/m^3$. Table 3-6 shows the distribution of differences for both bias and precision pairs. From this it is very apparent that the differences are small and that the differences for pairs involving concentrations $\leq$ 6 $\mu g/m^3$ are not that different from the differences for pairs > 6 $\mu g/m^3$.

Table 3-6. Distribution of Difference in Collocated PM2.5 Measurements (Includes all pairs, even those with at least one measurement <= 6 ug/m3)

Range of Difference	Percent CY 99-01 Bias Pairs Differing by Specified Range		Percent CY 99-01 Precision Pairs Differing by Specified Range	
	At least one obs <= 6 ug/m3	Both obs > 6 ug/m3	At least one obs <= 6 ug/m3	Both obs > 6 ug/m3
0 - 1 ug/m3	67%	55%	85%	78%
1 - 2 ug/m3	21%	27%	8%	14%
2 - 3 ug/m3	5%	10%	2%	4%
3 - 4 ug/m3	2%	4%	1%	2%
> 4 ug/m3	5%	4%	2%	1%

Due to how small the differences are, OAQPS is considering revising the statistic from a relative statistic (% of concentration) to an absolute statistic based on differences. Doing so will address all three of the issues raised. However, the primary concern with such an approach is that the differences do get large for very large concentrations.

Issues with Current Way of Estimating Precision

Precision is currently estimated as a function of $\sqrt{2}$ * $(X-Y)/(X+Y)$ where X and Y are two samplers collocated for the purpose of estimating precision. As with bias, X and Y must both be > 6 $\mu g/m^3$ for precision to be calculated. Individual precision estimates are aggregated over various spatial areas (such as a reporting organization) and/or over various time frames (such as a year) by averaging the square of the individual precision estimates and taking the square root of this average, thus aggregate precision is the root mean-square (RMS) of the individual estimates.

Three issues associated with the current way of estimating *precision* are:

(1) omission of all pairs where at least one of the values is $\leq$ 6 $\mu g/m^3$,
(2) aggregate precision estimates may be highly influenced by a couple of large individual precision estimates, and
(3) the precision observed to date seems to have a small additive component as well as a relative component.

As with bias, omission of all pairs where at least one of the values is $\leq$ 6 $\mu g/m^3$ results in a significant loss of precision data, nearly 20%. From a national perspective, the percentage of pairs involving a value less than 6 $\mu g/m^3$ does not seem to vary from year to year; however there is some variation from quarter to quarter. The first quarter has about 15% of the precision pairs $\leq$ 6 $\mu g/m^3$ and the second quarter has more than 23%. As expected, the percentages vary geographically from less than 10% for EPA Regions 3 and 4 to approximately 40% for Regions 8 and 10.

Omitting pairs where at least one of the values is ≤ 6 µg/m^3 not only eliminates total counts of pairs, but it also eliminates valuable information. Of the 7,562 pairs omitted, over 93% of them involve measurements that are within 2 µg/m^3 of each other and 84% are within 1 µg/m^3, as shown in Table 3-6. Such close pairs should indicate the $PM_{2.5}$ measurement system is repeatable and do not warrant being ignored.

The second issue with the precision statistic is that the aggregate statistic may be highly influenced by a couple of large individual precision estimates. Individual precision estimates using the current statistic and keeping the sign are bounded below by -141% and bounded above by +141%. Ninety-eight percent of the estimates are between -10% and +10%. That is, most of the pairs show good repeatability of the $PM_{2.5}$ measurement system. To demonstrate the influence that just 2 large pairs can have, take 60 pairs each with a precision estimate of 10% and combine this with 2 pairs each with a precision estimate of 50%. The resulting annual aggregate precision estimate is 13%. Two estimates out of 62 changed the annual aggregate from 10% to 13%.

The third issue has to do with the behavior of the difference between samplers collocated to estimate precision. The current precision statistic is based on the assumption that the percent differences are consistent at any concentration range. Figure 3.3 shows the median absolute difference by concentration categories. Categories greater than 55 µg/m^3 are based on very few observations and therefore may not be very representative of the true median. The line in the graphic is the regression line based on the values in the 6 to 55 µg/m^3 range, only. This graph shows that, in general, the differences increase with increasing concentration, at least in the 6 to 55 µg/m^3 range. However, as with bias, the differences are not just a constant multiple; there is also an additive component. That is, the differences are about 2% of the concentration (the slope of the red line) plus approximately 0.2 µg/m^3 (the intercept of the red line). Unlike bias, though, the differences for concentrations less than 6 µg/m^3 are decreasing to zero as the concentrations decrease.

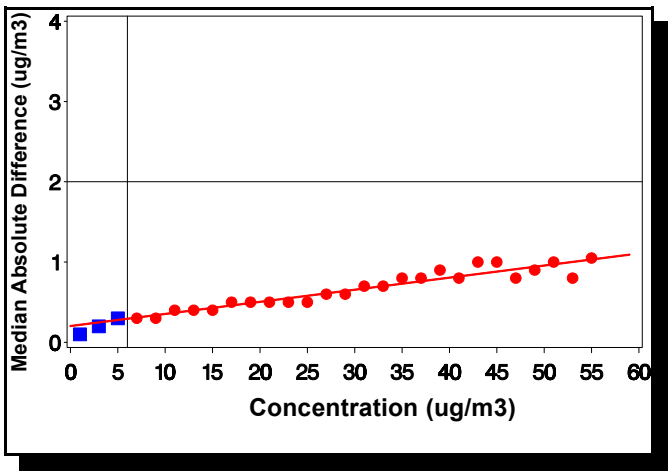

Figure 3.3 Difference in concentration in samplers collocated to estimate precision versus mean concentration

Another important pattern in Figure 3.3 is that the median absolute differences are small, generally less than 1 µg/m^3, as shown in Table 3-6. Also, the distribution of the differences for pairs involving concentrations ≤ 6 µg/m^3 is nearly the same as pairs > 6 µg/m^3.

Achievement of Data Quality Objectives

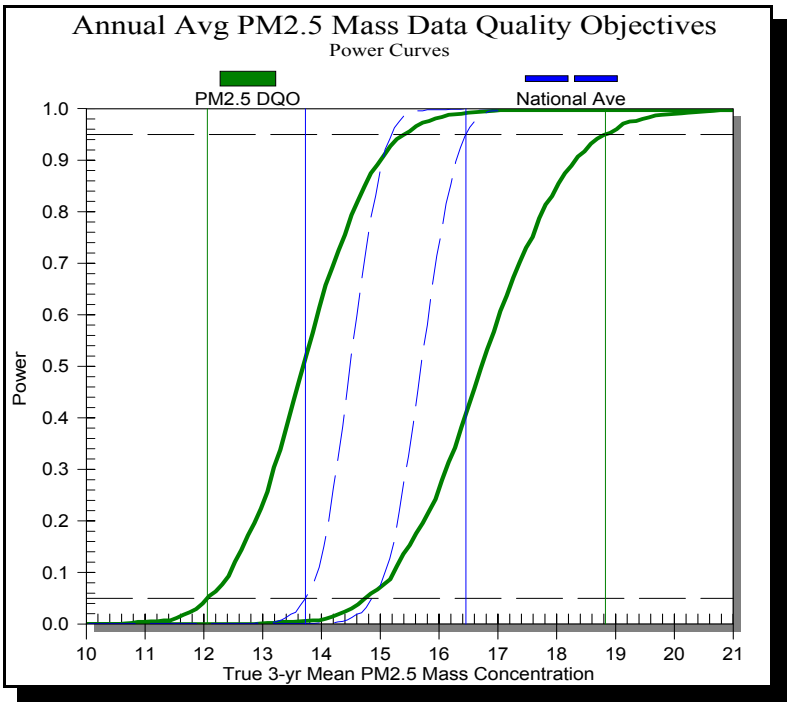

Figure 3.4 Power curve for $PM_{2.5}$ DQO and for a site based on the average DQO input assumption values.

The ultimate goal of the $PM_{2.5}$ Ambient Air Quality Monitoring Program quality system is to provide data of adequate quality to the decision makers. One way to judge this is to determine whether reporting organizations and their respective sites are meeting the $PM_{2.5}$ DQOs. A discussion of the development and use of the data quality objectives are described in Section 1. In order to determine whether a site was meeting the DQOs, the DQO assumption variables that are described in Table 1-1 had to be determined for each site, input into the DQO software and gray zones developed. These gray zones were then compared to the $PM_{2.5}$ DQO gray zones to determine whether the sites gray zone fell within $PM_{2.5}$ DQO gray zones.

Attachment 7 provides this information for all monitoring sites. Since bias and measurement CV (collocated precision) are not estimated for individual sites, this data is aggregated by reporting organization and then used on a site by site basis. Figure 3.4 provides a comparison of the $PM_{2.5}$ DQO (green solid) to the national average (blue/dotted) based on the DQO assumption variables as listed in Table 3-7. As is illustrated, the average gray zone falls well within the $PM_{2.5}$ DQO. Attachment 7 identifies only 9 sites out of the 1024 sites listed that have gray zones that fall outside the $PM_{2.5}$ DQOs. All the gray zone values for the 9 sites are very close to the $PM_{2.5}$ DQO gray zone. Since the DQO software is a model that goes through ten of thousands of iterations to generate the gray zones, when one uses the tool to generate a gray zone it will change slightly from one calculation to the next. Therefore, sites that have gray zones that are close to the $PM_{2.5}$ DQO can flip

Table 3-7 DQO Assumption Variables

DQO Assumption Variables	PM2.5 DQO	National Average
Seasonal Ratio	5.3	2.2
Population CV	0.8	0.58
Auto Correlation	0	0.1
Sampling Frequency	1 in 6 day	1 in 3 day
Completeness	.75	.83
Bias	.1	.04 (median value)
Measurement CV	.1	.07
Gray Zone	12.2 - 18.8 µg/m^3	13.7 - 16.4 µg/m^3

from being inside to outside of the $PM_{2.5}$ DQO gray zone. All 9 sites are within 0.2 µg/m^3 of the $PM_{2.5}$ DQO gray zone and are therefore within the "noise" of the software. In addition, three year mean site concentrations that are outside the $PM_{2.5}$ DQO gray zone have a higher probability of correctly determining that their true value is above or below 15 µg/m3. Of these nine sites that had gray zones similar to the $PM_{2.5}$ DQO gray zone, only one site has a mean concentration within the $PM_{2.5}$ gray zone (see Table 3-8). Table 3-8 provides information on what DQO assumption values may have caused the nine sites gray zones to be slightly greater than the $PM_{2.5}$ DQO gray zones. Each "X" on Table 3-8 indicates that the site had a value that exceeded the $PM_{2.5}$ DQO assumption values that can be found in Table 3-7. With the exception of population CV and seasonal ratio, improvements in any of the remaining assumptions that are greater than the DQO assumption would bring these sites gray zone within the $PM_{2.5}$ DQO gray zone. As mentioned in section 1, sampling frequency, completeness and bias have more influence on the gray zone than precision.

Table 3-8 Information Pertaining to Monitoring Sites with Gray Zones close to PM2.5 DQO Gray Zone

DQO Assumptions	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Site 7	Site 8	Site 9
Seasonal Ratio									
Population CV	X						X	X	X
Auto Correlation									
Sampling Frequency	3	6	3	3	3	6	6	6	6
Completeness	X					X			
Bias		X	X	X	X				
Measurement CV		X	X				X	X	X
Mean Concentration within Gary Zone						X			

Summary/ Recommendations

Based on the OAQPS 3-year data quality assessment, the $PM_{2.5}$ ambient air monitoring network has, in general, operated in a manner that decisions can be made within acceptable levels of uncertainty. Precision, accuracy and bias quality control requirements are being met at a national level. However, uncertainty estimates at the reporting organization level indicate that some attention is required to improve data quality. Of the 96 reporting organizations submitting $PM_{2.5}$ data to the AQS, 13% of the reporting organizations had precision estimates greater than the precision goal and 10% had bias estimates greater than the bias goal. Using site level population and measurement uncertainty inputs into the DQO software, only 1% of the sites are outside of the gray zone goals.

Some improvements can be made on data completeness. Completeness statistics for routine data and the data quality indicators have improved over the three years but collocated precision has seen slower improvement than the other categories. As of January 28th a direct final regulation reduced the frequency of collocated sampling from 25% to 15%.; it will now be more important to ensure the completeness requirements are met since there will be less data in general to provide an estimate of precision.

There appears to be a negative trend in bias that will be pursued over the next year. The loss of data either due to low concentrations (values < 6ug/m^3), or loss of either a PEP or routine sample has made it more difficult to assess the bias. Some monitoring organizations appear have a

significant negative trend in bias. OAQPS will be working with the EPA Regions and monitoring organizations to discover the reasons for this trend and to improve the quality system in this area. The discovery process may involve additional testing between the monitoring organization, the Performance Evaluation Program and the laboratories analyzing the samples.

Attachments

The following attachments are included:

Attachment	Title
1	Manipulation of Data for Estimation of Completeness, Precision, Bias and Accuracy
2	PM2.5 Routine Data Completeness 2-1 Site Level Routine Data Completeness 2-2 Site Sampling Frequencies
3	PM2.5 Data Flags Definitions, Data Qualifiers and Null Data Flags by State
4	PM2.5 Collocated Precision Completeness by State, Reporting Agency, and Site
5	PM2.5 Bias Completeness by State and Reporting Agency
6	PM2.5 Flow Rate Data Summaries
7	PM2.5 Data Quality Objective Variable Table

Attachment 1

Manipulation of Data for Estimation of Completeness, Precision, Bias and Accuracy

Calculations for Summary Statistics

Table 4 in the QA Reports executive summary summarizes the completeness and data quality indicators by EPA Region for 1999-2001 data. Statistics are presented at the state and reporting organization level. Data from both complete and incomplete sites are used to estimate the data quality indicators. If no data have been reported to AQS, the average percent completeness and data quality estimates will have ND (no data) indicated and the number of complete or operating sites will be 0.

For data completeness, highlighted boxes indicate that the state or reporting organization has an average data completeness that is less than 75%. For the data quality estimates, highlighted boxes indicate that the state or reporting organization has a precision estimate that is > 10% or a bias estimate that is > 10% or < -10%.

Following are detailed descriptions of how each of the fields of Table 4 is computed.

Column 1: EPA Region.

Column 2: State.

Column 3: Rep Org. This is the 4-digit identifier for each reporting organization in each state. If the reporting organization is listed as "ALL," then the summary statistics for the row are for all of the sites within the state. For states that are entirely one reporting organization, there is only one row of summary information and the reporting organization label is "ALL."

Column 4: Average % Completeness for Routine. Only 'primary' monitors (the lowest POC) were evaluated for routine completeness in this report; 'collocated' monitor data were ignored. The term 'site' in the text below refers to the primary monitor. Quarterly data capture rates were computed for every quarter that a site operated; sites were not held accountable for quarters that they did not operate. In other words, a capture rate of '0' was not assigned to quarters in which the site did not operate at least one scheduled sample day. Furthermore, even though capture rates were calculated for each operating quarter, only quarters in which the site operated every scheduled sample day were included in the annual and 3-year completeness figures; partial quarters were excluded from the annual and 3-year average calculations. The operating period for a site was determined by using the first occurring FRM data point in AQS as the 'start' date and the AQS field 'sampling end date' (if present) for the 'close' date. Annual average capture rates were estimated by averaging the (non-partial) quarterly completeness rates. 3-year rates were derived by averaging the annual rates. The quarterly and annual data completeness percentages are shown later in this report. The 3-year aggregate data capture rate is called 'Average % Completeness for Routine' in this table. State-level percent completeness was calculated as the average of the site-level capture rates. In order to calculate data capture rates, each site's sampling frequency had to be known. Only one sampling frequency was used for each site-quarter. If a sampling frequency changed during a quarter, the less stringent frequency was utilized for the quarter. Sampling frequencies were based on AQS information ('required collection frequency code') and EPA overrides. (The AQS frequency field was not correct for some

sites when this analyses was initiated). Make-up days were included in the estimates of completeness, as described in the following completeness estimation section.

Column 5: Number complete sites/Number operating sites for Routine. The number of complete sites is the number of sites that operated in all 12 quarters and have at least 75% completeness in each quarter. The number of operating sites is the number of sites that operated (per above definition) in all 12 quarters of the 3-year period. The manner in which the number of operating sites was determined was somewhat subjective. For example, in the case where Site A operated for a portion of the 3-year period, was shut down, was moved to Site B, and was then operated for the remainder of the 3-year period, the number of operating sites was determined to be 1, not 2.

The average percent completeness for precision and bias is similar to what is presented for the routine data. That is, it indicates the percentage of expected samples that were reported to AQS for 1999-2001. The completeness count information, however, is fundamentally different than what is provided for the routine data. For the routine data, the completeness counts show how many sites operated and how many sites were complete for the entire 3-year period from 1999 to 2001. For precision and bias, the counts indicate how well the quality system is operating during or at the end of 2001. The details for these counts are listed below.

Column 6: Average % Completeness for Precision. Completeness is first calculated for each site/quarter. This is computed as the number of pairs divided by 15, the approximate number of required pairs per quarter. A pair is counted whether it occurred on the national sampling schedule or not. The site/quarter precision completeness statistics are capped at 100%. Thus, if a site had 20 pairs in a quarter, its completeness is capped to 100%. The average % completeness for each reporting organization and state is estimated by averaging all the site/quarter completeness statistics from 1999-2001. Quarters for which the start date of the primary monitor is more than 3 weeks into the quarter are not included in the average % completeness. Similary, quarters for which the end date of the primary monitor is less than 3 weeks before the end of the quarter are not included.

Column 7: Number Operating Sites/Number Required Sites for Precision. These values are derived from Attachment 4-1. The first value in this column is the number of sites in the reporting organization or state that had a collocated precision completeness estimate data in 4th quarter of 2001. This would provide an indication that the site was being used for collocated precision. The manner in which this was totaled was somewhat subjective since not all reporting organizations had submitted data in the 4th quarter of 2001. Therefore, if there was evidence that collocated data were available in the 2nd or 3rd quarter of 2001 it was also counted. The second value is the number of sites required to have collocated samplers and is estimated by taking 25% of the number of SLAMS sites that were operating as estimated by the second number of column 5.

Column 8: Average % Completeness for Bias. For each of the years 1999, 2000, and 2001, site specific completeness statistics are first computed. If a site has 4 or more PEP/routine pairs in the year, the site is 100% complete. If a site has 3 PEP/routine pairs in the year, it is 75% complete. If a site has 2 pairs, it is 50% complete, and if it has 1 pair, it is 25% complete. These site-specific, annual

completeness statistics are then averaged to estimate the 3-year average percent completeness for the reporting organization or state.

Column 9: Number of Operating Sites/Number of Required Sites for Bias. The first number in this column is the number of sites in the reporting organization or state for which there is at least one routine/PEP pair in 2001. Thus it represents the number of sites operating to estimate bias. The second number is the same as the second number for precision, which is 25% of the number of SLAMS sites operating.

Column 10: Prec (% CV). This is the precision estimate for the state or reporting organization and is calculated according to 40 CFR Part 58 Appendix A. Basically, to aggregate the data, a coefficient of variation is calculated for each site/day and these are squared, then averaged, and then a square root is taken. Pairs where one or both of the concentrations is #6 : g/m^3 are not included in the precision estimate. These estimates are identical to those presented in the tables summarizing the site-specific DQO parameters.

Column 11: Bias (%). This is the bias estimate for the reporting organization or state and is calculated according to 40 CFR Part 58 Appendix A. Basically, bias is calculated for each site/day for which there are pairs of state and PEP values. These bias estimates are then averaged to get one summary number for each reporting organization. Pairs where one or both of the concentrations is #6 : g/m^3 are not included in the bias estimate. These estimates are identical to those presented in the tables summarizing the site-specific DQO parameters.

Completeness Estimation - Routine and Quality Assurance Data

For this report, data completeness was computed for the routine Federal Reference Method (FRM) data, for precision and accuracy information, and for bias data for 1999-2001 based on an extraction from AQS on 7/08/02.

Routine Data Completeness Estimation Procedure

The following statement is made in *40 CFR Part 50 Appendix N Section 21*:

> *" For the annual $PM_{2.5}$ standard, a year meets data completeness requirements when 75 percent of the scheduled sampling days for each quarter have valid data."*

Completeness was computed as prescribed for the NAAQS per the following references: 1) CFR, 2) Guideline on Data Handling for the PM NAAQS, and 3) Use of Make-up PM Samples to Replace Scheduled PM Samples. The specific computations, caveats, and rationale employed for this report are described below. All utilized data were extracted from AIRS on 7/8/02. This date allowed State updates beyond the official July 1 'certification' deadline. The listing that is referred to in the following information can be found as Attachment 2-1.

- Completeness was computed on an individual site basis. Only data for Primary POC's (the lowest number POC ~ generally '1') were used.
- A sample frequency was used for each site-quarter.
- Null data codes were not counted as valid samples. Flagged data were considered valid for the purpose of data completeness.
- The official EPA 2000 3-day and 6-day monitoring schedules were used to ascertain scheduled sampling days
- 'Make-up' logic was incorporated as stipulated in reference 3: Missed samples on an 'every 3rd day' schedule were counted as taken if an extra ('make-up') sample was reported 1, 2, or 7 days later. Missed samples on an 'every 6th day' schedule were counted as taken if an extra sample was reported 1, 2, 3, 4, 5, or 7 days later. The number of replacement samples permitted in any quarter was limited to no more than 5. Some concessions to these 'guidelines' were granted on request.
- Data substitution logic, whereby collocated PM data or extreme values (maximum or minimum at the site) were substituted for missing samples to boost completeness, was not employed for this report.
- Extra 'unscheduled' samples (ones not on scheduled days and not qualifying as make-up's) were not credited towards completeness.
- The final formula used for computing completeness was:

$$Completeness_{site-quarter} = \frac{(\#\ \text{of scheduled samples taken}) + (\#\ \text{of make-up samples})}{(\#\ \text{of scheduled samples})}$$

Collocated Precision Completeness Estimation Procedure

Information used to compute $PM_{2.5}$ precision and associated completeness were culled from 2 sources, from the AIRS precision area (polled via an AMP250 - P/A Monitor Raw Data retrieval) and from the AIRS raw data area (polled via an AMP350 - Raw Data Listing retrieval). Precision data are supposed to be submitted to AIRS with transaction type 8 and, hence, be deposited in the former area. The remainder of the data must be extracted from the routine data set. Specifically, for some sites with co-located samplers, the data records for each sampler are separate with a unique Pollutant Occurrence Code (POC) to indicate which sampler generated the data. Hence, the precision database was formed by finding data pairs with the same site ID and sampling date, but different POCs, and appending to that the data that were extracted as paired data. These data were then checked for duplicates. Note, however, that data with a POC of 5 were removed from consideration. Once paired, the data from the sampler with the smallest POC were treated as the primary data and the data from the sampler with the larger POC were treated as the co-located data Both AIRS data extractions were performed on 7/08/02.. The listing that is referred to in the following information can be found as Attachment 2-3. Below are some additional details of the precision completeness analysis

- Completeness percentages were based on whole quarters of calender year 2001. On the listing, sites were only held accountable for quarters starting with the first one in which routine information

were reported. If a site's first reported 2001 routine FRM data point occurred in the 2nd quarter, the site was not expected to produce precision information until that quarter. Blanks on the site listing are different from zeroes. Blanks indicate no precision data present but no FRM data reported either in that quarter. Zeroes indicate no precision data reported but routine FRM data are present that quarter. Completeness percentages for the 'initial' quarters were not prorated according to when in the quarter that 1st FRM point occurred; the denominator for the ratio was the whole quarter (number of every 6th days).

- CFR requires a 6-day sampling schedule for precision collocation. Some organizations / sites collocated more frequently and some used schedules different from the official EPA 6-day monitoring schedule. Although adherence to that schedule (at a minimum) is preferred, this completeness evaluation only looked at the total number of valid pairs reported in the quarter, no matter what the schedule. Although some quarterly 6-day schedules yielded 16 possible precision pairs, a denominator of 15 was always used. (In cases where 16 or more pairs were actually reported, the completeness statistic was capped at 100%.)
- The final formula used for computing completeness was:

$$Completeness_{site-quarter} = \frac{\#\text{ of } \textit{paired samples} \text{ taken}}{15 \text{ required collocated samples}} * 100$$

- 3-Year completeness was estimated by averaging all quarterly site estimates.

Flow Rate Accuracy Completeness Estimation Procedure

Information used to compute PM2.5 accuracy and associated completeness was pulled from the AIRS accuracy area with an AMP250 - P/A Monitor Raw Data retrieval on 7/08/02. Comments on the completeness analysis are shown below. The listing that is referred to in the following information can be found as Attachment 2-4.

- Per CFR (*40, Ch. 1, Pt. 58, App. A, Sec. 3.5.1.2*), each calender quarter every FRM SLAMS sampler's flow rate is to be audited *at least once* with a certified standard. State summary lines in the accuracy completeness report show the total number of FRM SLAMS sites that operated in 2000 [the number of sites where the primary FRM sampler has a Monitor Type='2'], the number of FRM SLAMS sites that operated in all 4 quarters of 2000, the number of SLAMS sites where flow rate checks were required [the number of FRM SLAMS sites that operated in all 4 quarters], the number of sites reporting accuracy transactions, and the number of sites with 4 quarters of accuracy data. Again, MQAG realizes that States and Reporting Organizations are not totally synonymous
- Since only 1 audit was required per quarter and it was either present or not, no actual completeness *percentages* were computed. An indicator is shown for each site that reported accuracy information in all 4 quarters.
- Like precision, sites were only held accountable for quarters starting with the first one containing a routine FRM data point. Blanks on the site listing are different from zeroes. Blanks indicate no

accuracy data present but no FRM data reported either in that quarter. Zeroes indicate no accuracy reported but routine FRM data are present that quarter.

- Note that some sites reported more than 1 accuracy check per site-quarter. States are cautioned that the flow rate standard used for auditing must not be the same flow rate standard to calibrate the analyzer. Calibration results should not be submitted to AIRS as accuracy transactions.

Performance Evaluation Program Completeness Estimation Procedure

Information used to compute PM2.5 bias and associated completeness is predicated on the completeness of the routine network in addition to the completeness of the Performance Evaluation Program (PEP). The completeness of the routine network is described above. The completeness of the PEP is described in this section.

As per *40 CFR Pt. 58, App. A, Sec. 3.5.3*, approximately 25% of each method designation of the routine sites within each reporting organization are supposed to be visited 4 times in a year by the PEP, preferably once per quarter. Thus, the PEP is complete if approximately 25% of the PM2.5 monitoring network is evaluated at least 3 times (75% of 4) in a year. To evaluate completeness of the PEP, information was pulled from the data bases maintained by the two regional laboratories supporting the PEP (Region 4 and 10) and from the data base maintained by the RTP laboratory, which supported the PEP during the early phase. These three data bases were merged together and completeness statistics were calculated according to the following procedure.

- Any PEP data points with an invalid code (PEVALID=0) were deleted prior to completeness calculations. That is, only valid PEP data were used to calculate completeness.
- Any PEP data points associated with "parking lot studies" were deleted prior to completeness calculations, even if the study had a collocated FRM.
- For some site/day combinations, there are multiple observations in the PEP data base. This likely is due to multiple PEP samplers being run. In such cases, only the first valid observation in the data base was used.
- Since a site is supposed to be visited by the PEP 4 times within a year, if 3 (75% of 4) or more visits were made and resulted in valid data, then the site was considered complete, regardless of how the visits were spread among the quarters.
- The final formula used for computing PEP completeness was:

$$Completeness_{site-quarter} = \frac{\#\ \text{of}\ PEP\ samples\ \text{taken}}{25\ \%\ \text{of SLAMS Sites operating in year}} * 100$$

Bias Completeness Estimation Procedure

The preceding section describes the completeness of the PEP data base. To estimate completeness of bias, AIRS routine data is merged with the PEP data base since both a PEP and a routine concentration are needed to calculate bias. As per *40 CFR Pt. 58, App. A, Sec. 3.5.3*, approximately

25% of each method designation of the routine sites within each reporting organization are supposed to be visited 4 times in a year by the PEP, preferably once per quarter. Thus bias is complete if approximately 25% of the PM2.5 monitoring network has 3 (75% of 4) pairs of valid PEP and routine data.

The data used to estimate bias completeness originated from an AMP350 Raw Data Listing extraction from AIRS on 7/08/02 and from the PEP data base described above. Completeness statistics are calculated according to the following procedure.

- Only non-null routine data and valid PEP data were used in the calculation of completeness.
- Any PEP data points associated with "parking lot studies" were deleted prior to completeness calculations, even if the study had a collocated FRM.
- For some site/day combinations, there are multiple observations in the PEP data base or in the AIRS data base. For the PEP, only the first valid observation was used. For AIRS, the lowest POC with a valid observation was used.
- If a site has at least 3 (75% of 4) valid pairs of PEP and routine data, then it is considered complete, regardless of how the visits were spread among the quarters. The percent complete is calculated as then number of valid pairs divided by 4. The percent is capped at 100%.
- The final formula used for computing PEP completeness was:

$$Completeness_{site-quarter} = \frac{\#\ \text{of valid PEP / routine samples pairs}}{25\ \%\ \text{of SLAMS Sites operating in year}} * 100$$

Precision, Accuracy and Bias Estimation

Three quality control (QC) procedures, at the national level, will be used to evaluate uncertainty for the $PM_{2.5}$ network. All of the statistics can be found in *40 CFR Pt. 58, App. A, Section 5.5.1.* The equation numbers from CFR are included in the discussion for reference.

1. **Flow rate checks** - Since flow rate is checked against standards of known value, this check provides estimates of accuracy and/or bias at the instrument level. Following is a description of the statistics used to estimate accuracy based on the annual flow rate checks.

   Accuracy is estimated by using pairs of true and measured values for flow rate. The pairs are for the same site and same day. Specifically, for a given site and day, if X_i is the audit standard flow rate and Y_i is the measured flow rate, then accuracy (CFR Equation 13) is calculated as

$$d_i = \frac{Y_i - X_i}{X_i} \times 100 \quad (Equation\ 1)$$

   In this report, estimates of accuracy are presented for various levels of aggregation, sometimes aggregating over time (such as quarterly or annually), sometimes aggregating over samplers (such as all samplers of a specific method designation), and sometimes aggregating over both time and samplers (such as annually for a specific method designation). These various levels of aggregation are achieved using the same basic statistic. This statistic averages the individual accuracy values from Equation 1 to the desired level of aggregation. Specifically, if n_j is the number of flow rate checks and $d_1, d_2, ..., d_{nj}$ are the resulting accuracy values, then the average accuracy estimate

(CFR Equations 14, 15, 16, 17, and 18) is

$$D = \frac{1}{n_j} \times \sum_{i=1}^{n_j} d_i \quad \textit{(Equation 2)}$$

For this report, average accuracy values (Equation 2) are calculated for each method designation by quarter and for the entire year. Additionally, the number of flow rate checks that are within 4% of the audit standard and the number within 5% of the design flow rate of 16.67 L/min are also calculated.

2. **Collocated measurements** - Since the true concentrations sampled from collocated samples are unknown, these checks provide an estimate of precision of the measurement system. However, the statistic developed to summarize the collocated measurements has one component attributable to precision and another component attributable to bias. For now, this document describes only the results for the combined effect for precision and bias. The individual components will be described at a later date.

   Following is a description of the statistics used to estimate precision based on the collocated instruments. Precision is estimated by using pairs of collocated PM2.5 measurements. The pairs of measurements are for the same site and same day. Specifically, for a given site and day, if X_i is the concentration produced from the primary sampler (the routine monitor) and Y_i is the concentration produced from the duplicate sampler (the monitor used for quality control), then the percent difference (CFR Equation 19) is calculated as

$$d_i = \frac{Y_i - X_i}{(Y_i + X_i)/2} \times 100 \quad \textit{(Equation 3)}$$

   The percent difference from Equation 3 is used to calculate the coefficient of variation for a single site and day (CFR Equation 20) as follows

$$CV_i = \frac{|d_i|}{\sqrt{2}} \quad \textit{(Equation 4)}$$

In this report, estimates of precision are presented for various levels of aggregation, sometimes aggregating over time, sometimes aggregating over samplers, and sometimes aggregating over both time and samplers. These various levels of aggregation are all achieved using the same basic statistic. This statistic pools the individual coefficients of variation described above in Equation 4 to the desired level of aggregation. Specifically, if n_j is the number of pairs and CV_1, CV_2, ..., CV_{nj} are the coefficients of variation for each of the pairs to be pooled, then the precision estimate (approximately CFR Equation 21) is

$$CV = \sqrt{\frac{\sum_{i=1}^{n_j} CV_i^2}{n_j}} \quad \textit{(Equation 5)}$$

Confidence intervals can be constructed for these pooled estimates of precision in Equation 5 by using the following equations, one for the lower limit (CFR Equation 22) and one for the upper limit

(CFR Equation 23).

$$Lower\ 90\%\ Confidence\ Limit = CV\sqrt{\frac{n_j}{c^{2}_{0.95,n_j}}}$$

$$Upper\ 90\%\ Confidence\ Limit = CV\sqrt{\frac{n_j}{c^{2}_{0.05,n_j}}}$$

In these equations, $c^{2}_{0.05,df}$ and $c^{2}_{0.95,df}$ are the 0.05 and 0.95 quantiles of the chi-square distribution with degrees of freedom (df) equal to n_j.

There are a couple of issues with calculating individual and pooled estimates of precision. (A) In the equation for the pooled estimate of precision, individual coefficients of variation are squared before being averaged. If there is a large individual coefficient of variation, it can have a very strong influence on the resulting pooled estimate. Hence, pooled estimates of precision were calculated both including all individual coefficients of variation and excluding large coefficients of variation. The impact of these large values is discussed in Section 2. (B) Comparing one pooled estimate of precision to another (such as comparing quarterly estimates or comparing one site to another) requires some care because one estimate may be based on just a few values and hence be less robust than an estimate based on more values. For comparisons of precision for different times or different places, it is important to look at the upper and lower confidence limits to get an understanding of how robust the estimates are.

3. **Bias Evaluation** - This evaluation is performed by comparing a monitoring instrument against an instrument that is considered "truth" and can provide an estimate of measurement system bias. Following is a description of the statistics used to estimate bias.

Bias is estimated by using pairs of PM2.5 measurements, where one of the measurements is from a routine, State-operated monitor and the second measurement is from a monitor operated as part of the Performance Evaluation Program. The pairs of measurements are for the same site and same day. Specifically, for a given site and day, if X_i is the concentration produced from the PEP sampler and Y_i is the concentration produced from the State-operated sampler, then accuracy (CFR Equation 26) is calculated as

$$d_i = \frac{Y_i - X_i}{X_i} \times 100 \quad (Equation\ 6)$$

In this report, estimates of bias are presented for various levels of aggregation, sometimes aggregating over time, sometimes aggregating over samplers, and sometimes aggregating over both time and samplers. These various levels of aggregation are achieved using the same basic statistic. This statistic averages the individual biases described in Equation 6 to the desired level of aggregation. Specifically, if n_j is the number of pairs and d_1, d_2, ..., d_{nj} are the biases for each of the pairs to be averaged, then the aggregate bias estimate (CFR Equations 27, 31 and 35) is

$$D = \frac{1}{n_j} \times \sum_{i=1}^{n_j} d_i \quad (Equation\ 7)$$

Confidence intervals can be constructed for these average bias estimates in Equation 7. Such intervals require an estimate of the variability of average bias. Since bias likely varies by site and quarter, the estimate of the variability of the average bias should be based on a pooled estimate of site/quarter variability. However, the PEP usually evaluates each site just once per quarter, which is not sufficient for estimating the site/quarter variability. Since site/quarter variability is not estimable with the current PEP design, the site variability (using all 4 bias estimates for the year) or the quarter variability (using all sites for a quarter) can be used, with the understanding that these estimates of variability are confounded with other sources of variability. Specifically, an estimate of the variability of the average bias is

$$s = \sqrt{\frac{\sum_{i=1}^{n_j} (d_i - D)^2}{n_j - 1}} \quad (Equation\ 8)$$

The 95% confidence interval for the average bias is then calculated as

$$Lower\ 95\%\ Confidence\ Limit = D - t_{0.975,df} \times s/\sqrt{n_j}$$

$$Upper\ 95\%\ Confidence\ Limit = D + t_{0.975,df} \times s/\sqrt{n_j}$$

where $t_{0.975,df}$ is the 0.975 quantile of Student's t distribution with degrees of freedom df = n_j -1 and s as defined in Equation 8.

Attachment 2

PM2.5 Routine Data Completeness

This section covers the following attachments related to routine data completeness:

2-1 Site Level Routine Data Completeness
2-2 Site Sampling Frequencies

Attachment 2-1

Site Level Routine Data Completeness

Field Definitions

STATE:	All PM2.5 sites located in the State are listed after the State name
SITE:	Site Identification Code = State FIPS code (2 char.) + County FIPS code (3 char.) + AIRS Site ID (4 char.)
POC:	Parameter Occurrence Code
M onitor Type:	Monitor Type = SLAMS), Tribal
Date of 1st FRM Data Pt.:	The date of the first FRM data point in AIRS ~ should coincide with Date Sampling Began
Date Sampling Ended:	AIRS Sampling Ended Date

1999, 2000, and 2001 Information ….

Q1-Q4%	The data capture percentage for each calender quarter
All 4 Q 75% Complete:	'1' = All 4 quarters have data capture of at least 75% [Exception: Quarters with 'every 6th day' schedule and 11 samples (73% capture) are considered complete]
Avg Capture**:**	Completeness based on start and end date See Section 2 for description

PM2.5 SLAMS / Tribal FRM Data Completeness (as of 7/8/02)

					1999 Information						2000 Information						2001 Information						3 Year Info		
State / Site	POC	Monitor Type	Date of 1st FRM Data Pt.	Date Sampling Ended	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	All Q 75%+	Avg. Capture	NAAQS Avg. Capture*
ALABAMA																									
010270001	1	SLAMS	01/03/99		53%	90%	84%	80%		77%	97%	80%	97%	67%		85%	87%	87%	90%	100%	1	91%		84%	84%
010331002	1	SLAMS	01/03/99		50%	90%	65%	67%		68%	77%	97%	74%	100%		87%	90%	94%	60%	84%		82%		79%	79%
010690002	1	SLAMS	01/03/99		60%	53%	68%	53%		59%	77%	67%	65%	97%		77%	80%	97%	83%	94%	1	89%		75%	75%
010730023	1	SLAMS	01/01/99		96%	95%	98%	98%	1	97%	99%	96%	93%	97%	1	96%	99%	93%	95%	99%	1	97%	1	97%	97%
010732003	1	SLAMS	01/01/99		94%	96%	98%	96%	1	96%	99%	96%	98%	96%	1	97%	93%	100%	80%	100%	1	93%	1	96%	96%
010735002	1	SLAMS	01/03/99		100%	93%	97%	97%	1	97%	100%	100%	97%	93%	1	98%	97%	94%	93%	100%	1	96%	1	97%	97%
010890014	1	SLAMS	01/03/99		80%	100%	90%	100%	1	93%	100%	100%	97%	97%	1	99%	97%	100%	100%	100%	1	99%	1	97%	97%
010970002	1	SLAMS	01/03/99		80%	90%	94%	87%	1	88%	94%	93%	90%	93%	1	93%	93%	100%	100%	94%	1	97%	1	92%	95%
011010007	1	SLAMS	01/03/99		90%	97%	81%	93%	1	90%	81%	90%	100%	93%	1	91%	80%	97%	100%	90%	1	92%	1	91%	94%
011030010	1	SLAMS	01/03/99	08/06/01	77%	77%	87%	63%		76%	19%	97%	94%	63%		68%	73%	81%	23%			77%		73%	68%
011030011	1	SLAMS	08/08/01																50%	81%		81%		81%	66%
011130001	1	SLAMS	01/03/99		90%	90%	81%	63%		81%	97%	67%	94%	100%		90%	100%	100%	93%	71%		91%		87%	87%
011170006	1	SLAMS	01/03/99		0%	90%	94%	87%		68%	94%	100%	81%	93%	1	92%	100%	100%	100%	90%	1	98%		86%	86%
011190002	1	SLAMS	01/03/99		47%	87%	87%	97%		80%	90%	90%	97%	70%		87%	97%	97%	90%	100%	1	96%		87%	87%
011210002	1	SLAMS	01/03/99		87%	73%	87%	87%		84%	94%	90%	90%	73%		87%	97%	84%	90%	84%	1	89%		86%	86%
011250003	1	SLAMS	01/03/99	02/24/01	83%	83%	97%	87%	1	88%	94%	60%	94%	97%		86%	53%							87%	62%
011270002	1	SLAMS	01/03/99		80%	17%	100%	93%		73%	90%	90%	32%	0%		53%	0%	0%	0%	0%		0%		42%	42%
ALASKA																									
020200018	1	SLAMS	01/01/99		80%	63%	90%	90%		81%	71%	100%	97%	93%		90%	97%	97%	100%	97%	1	98%		90%	90%
020200044	1	SLAMS	04/06/99			57%	94%	97%		96%	97%	100%	97%	100%	1	99%	100%	100%	97%	100%	1	99%		98%	87%
020900010	2	SLAMS	02/18/99		53%	80%	71%	27%		59%	87%	93%	100%	100%	1	95%	100%	100%	100%	90%	1	98%		86%	83%
021100004	2	SLAMS	04/10/99			53%	65%	80%		73%	97%	100%	100%	100%	1	99%	100%	94%	97%	97%	1	97%		93%	82%
021700004	1	SLAMS	03/04/00								32%	93%	87%	90%		90%	97%	97%	97%	84%	1	94%		92%	85%
021700008	1	SLAMS	01/03/99		53%	73%	87%	80%		73%	94%	100%	94%	97%	1	96%	93%	90%	93%	97%	1	93%		88%	88%
022900003	1	SLAMS	04/12/00									40%	42%	97%		70%	90%	84%	87%	90%	1	88%		82%	74%
ARIZONA																									
040031005	1	SLAMS	01/12/99		67%	73%	7%	93%		58%	100%	93%	93%	87%	1	93%	60%	19%	0%	60%		35%		62%	63%
040051008	1	SLAMS	01/06/99		73%	100%	100%	87%		90%	94%	100%	93%	80%	1	92%	67%	100%	87%	93%		87%		90%	90%
040190011	1	SLAMS	01/06/99		73%	91%	83%	42%		72%	97%	77%	65%	47%		72%	60%	55%	67%	46%		57%		66%	67%
040191028	1	SLAMS	01/06/99		77%	87%	97%	80%	1	88%	97%	100%	65%	37%		75%	73%	65%	77%	71%		72%		77%	77%
040230004	1	SLAMS	01/06/99		100%	87%	93%	93%	1	93%	75%	100%	67%	100%		86%	87%	100%	93%	93%	1	93%		91%	95%
ARKANSAS																									
050010001	1	SLAMS	07/05/99	09/14/00			100%	80%		90%	87%	90%	74%			89%								89%	65%
050010010	1	SLAMS	09/15/00	08/10/01									16%	60%		60%	97%	71%	23%			84%		76%	51%
050010011	1	SLAMS	08/11/01																53%	94%		94%		94%	74%
050030003	1	SLAMS	07/05/99	08/14/00			93%	93%		93%	94%	83%	26%			89%								91%	57%
050030004	1	SLAMS	08/16/00										29%	60%		60%	87%	97%	93%	0%		69%		67%	57%
050030005	1	SLAMS	10/01/01																	97%		97%		97%	32%
050310001	1	SLAMS	07/05/99				93%	87%		90%	69%	87%	93%	100%		87%	93%	94%	67%	97%		88%		88%	75%
050350004	1	SLAMS	07/02/99				74%	80%		77%	74%	83%	87%	53%		74%	90%	94%	90%	84%	1	90%		81%	72%
050450002	1	SLAMS	04/30/00									73%	100%	93%		97%	100%	100%	93%	97%	1	98%		97%	93%
050510002	1	SLAMS	07/05/99				67%	73%		70%	68%	93%	94%	93%		87%	97%	100%	97%	97%	1	98%		88%	73%
050690005	1	SLAMS	07/05/99	09/26/01			87%	80%		84%	81%	100%	100%	93%	1	94%	93%	88%	93%			91%		90%	76%
050690006	1	SLAMS	09/28/01																3%	97%		97%		97%	50%
050890001	1	SLAMS	07/02/99				73%	53%		63%	81%	80%	80%	67%		77%	87%	94%	77%	97%	1	89%		79%	69%
050910004	1	SLAMS	07/05/99				40%	33%		37%	81%	53%	53%	80%		67%	87%	81%	97%	100%	1	91%		71%	61%
050930007	1	SLAMS	08/28/00										40%	93%		93%	93%	100%	93%	97%	1	96%		95%	81%
051070001	1	SLAMS	07/11/99				47%	100%		100%	94%	93%	84%	97%	1	92%	100%	90%	90%	90%	1	93%		93%	78%
051130002	1	SLAMS	07/05/99				80%	80%		80%	87%	97%	97%	90%	1	93%	80%	94%	90%	97%	1	90%		89%	74%
051150003	1	SLAMS	07/05/99				73%	87%		80%	94%	87%	94%	100%	1	94%	90%	97%	93%	68%		87%		88%	74%
051190003	1	SLAMS	07/05/99	09/08/00			100%	87%		94%	97%	97%	71%			97%								95%	68%
051190007	1	SLAMS	06/30/99			1%	82%	90%		86%	84%	98%	90%	97%	1	92%	97%	99%	97%	96%	1	97%		93%	78%
051191004	1	SLAMS	09/09/00										26%	93%		93%	87%	84%	77%	90%	1	85%		86%	72%
051191008	1	SLAMS	07/02/99				84%	83%		84%	74%	100%	87%	98%		90%	92%	98%	93%	89%	1	93%		90%	81%
051310008	1	SLAMS	07/05/99				84%	93%		93%	84%	100%	100%	93%	1	94%	73%	87%	87%	94%		85%		90%	80%
051390004	1	SLAMS	07/05/99	06/14/01			87%	80%		84%	65%	80%	87%	87%		80%	43%	74%				43%		76%	60%
051390005	1	SLAMS	06/15/01															10%	83%	90%		87%		87%	61%
051430003	1	SLAMS	07/02/99				77%	67%		72%	68%	80%	94%	70%		78%	57%	87%	83%	97%		81%		78%	65%

PM2.5 SLAMS / Tribal FRM Data Completeness (as of 7/8/02)

					1999 Information						2000 Information						2001 Information						3 Year Info		
State / Site	POC	Monitor Type	Date of 1st FRM Data Pt.	Date Sampling Ended	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	All Q 75%+	Avg. Capture	NAAQS Avg. Capture*
051450001	1	SLAMS	05/06/00									33%	93%	100%		97%	93%	88%	90%	77%	1	87%		90%	81%
CALIFORNIA																									
060010007	1	SLAMS	12/02/99					30%			87%	100%	100%	97%	1	96%	97%	100%	100%	94%	1	98%		97%	75%
060011001	1	SLAMS	01/03/99		60%	87%	100%	100%		87%	94%	100%	100%	100%	1	99%	97%	100%	100%	94%	1	98%		94%	94%
060070002	1	SLAMS	12/19/98		100%	100%	93%	100%	1	98%	100%	100%	100%	100%	1	100%	100%	88%	87%	100%	1	94%	1	97%	97%
060090001	1	SLAMS	01/06/99		100%	100%	100%	93%	1	98%	94%	100%	93%	100%	1	97%	93%	100%	100%	100%	1	98%	1	98%	98%
060111002	1	SLAMS	12/16/98		100%	73%	74%	77%		81%	81%	93%	94%	73%		85%	100%	84%	97%	97%	1	95%		87%	87%
060130002	1	SLAMS	01/08/99		6%	73%	100%	86%		86%	84%	100%	100%	92%	1	94%	84%	100%	100%	95%	1	95%		92%	85%
060170011	1	SLAMS	01/12/99		93%	100%	100%	100%	1	100%	100%	87%	100%	100%	1	97%	100%	100%	93%	100%	1	98%	1	98%	99%
060170012	1	SLAMS	01/01/00								87%	100%	100%	100%	1	97%	100%	90%	90%	71%		88%		92%	92%
060190008	1	SLAMS	01/03/99		31%	82%	96%	91%		90%	34%	1%	93%	83%		53%	79%	84%	85%	86%	1	84%		74%	73%
060195001	1	SLAMS	01/03/99		80%	100%	100%	93%	1	93%	77%	80%	100%	63%		80%	87%	88%	87%	94%	1	89%		87%	87%
060195025	1	SLAMS	01/13/00								84%	87%	87%	83%	1	86%	83%	94%	100%	97%	1	94%		90%	89%
060231002	1	SLAMS	01/08/99		93%	100%	100%	93%	1	98%	81%	87%	73%	93%		84%	87%	94%	100%	93%	1	94%		91%	91%
060250003	1	SLAMS	01/03/99		97%	63%	48%	7%		54%	61%	47%	52%	90%		63%	33%	87%	87%	84%		73%		63%	63%
060250005	1	SLAMS	01/03/99		83%	90%	100%	77%	1	88%	97%	100%	94%	80%	1	93%	97%	84%	63%	87%		83%		88%	88%
060251003	1	SLAMS	01/03/99		100%	70%	97%	73%		85%	90%	67%	94%	30%		70%	67%	84%	63%	94%		77%		77%	77%
060271003	1	SLAMS	01/03/99		83%	70%	65%	10%		57%	0%	53%	97%	87%		59%	93%	97%	100%	0%		73%		63%	65%
060290010	1	SLAMS	01/03/99		93%	80%	93%	100%	1	92%	100%	100%	100%	100%	1	100%	83%	100%	100%	84%	1	92%	1	94%	94%
060290011	1	SLAMS	01/03/99		87%	93%	87%	60%		82%	32%	67%	68%	77%		61%	80%	90%	90%	97%	1	89%		77%	77%
060290012	1	SLAMS	06/26/99			7%	61%	90%		76%	68%	87%	81%	63%		75%	93%	71%	73%	58%		74%		75%	63%
060290014	1	SLAMS	01/03/99		48%	97%	96%	82%		92%	82%	91%	96%	90%	1	90%	88%	93%	99%	97%	1	94%		92%	90%
060290016	1	SLAMS	02/18/00								42%	97%	100%	97%		98%	90%	94%	97%	94%	1	94%		96%	89%
060310004	1	SLAMS	01/03/99		80%	80%	53%	0%		53%	39%	87%	100%	90%		79%	80%	88%	93%	90%	1	88%		73%	73%
060333001	1	SLAMS	01/06/99		87%	87%	40%	93%		77%	100%	0%	0%	80%		45%	93%	100%	100%	100%	1	98%		73%	73%
060370002	1	SLAMS	01/03/99		70%	10%	28%	26%		21%	95%	97%	92%	80%	1	91%	89%	80%	76%	92%	1	84%		70%	70%
060371002	1	SLAMS	01/03/99		73%	80%	100%	97%		88%	10%	47%	84%	90%		58%	97%	87%	100%	100%	1	96%		80%	80%
060371103	1	SLAMS	01/03/99		53%	31%	34%	32%		32%	88%	92%	90%	95%	1	91%	91%	97%	77%	88%	1	88%		74%	73%
060371201	1	SLAMS	01/03/99		53%	47%	35%	100%		59%	94%	90%	81%	90%	1	89%	87%	84%	87%	100%	1	90%		79%	79%
060371301	1	SLAMS	01/03/99		77%	97%	94%	97%	1	91%	97%	100%	100%	100%	1	99%	93%	97%	93%	97%	1	95%	1	95%	95%
060371601	1	SLAMS	01/03/99		73%	97%	97%	100%		92%	97%	93%	94%	97%	1	95%	33%	97%	77%	97%		76%		88%	88%
060372005	1	SLAMS	01/03/99		30%	97%	97%	90%		79%	97%	93%	87%	83%	1	90%	93%	97%	83%	87%	1	90%		86%	86%
060374002	1	SLAMS	01/03/99		71%	31%	33%	28%		31%	87%	91%	85%	70%		83%	88%	79%	86%	95%	1	87%		70%	70%
060379002	1	SLAMS	01/03/99		93%	100%	94%	87%	1	94%	90%	90%	97%	93%	1	93%	93%	84%	0%	0%		44%		77%	77%
060450006	1	SLAMS	01/07/99		100%	93%	93%	93%	1	93%	100%	100%	100%	73%		93%	100%	94%	80%	100%	1	94%		93%	94%
060472510	1	SLAMS	04/12/99			60%	100%	97%		99%	97%	100%	100%	93%	1	98%	87%	81%	100%	97%	1	91%		95%	91%
060490001	1	SLAMS	01/12/99		80%	100%	93%	100%	1	98%	100%	93%	93%	93%	1	95%	93%	75%	87%	53%		77%		89%	88%
060510001	1	SLAMS	11/20/00											43%			90%	48%	7%	0%		36%		36%	40%
060531002	1	SLAMS	01/15/99		47%	97%	94%	93%		95%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%		26%	28%
060531003	1	SLAMS	01/04/00								100%	80%	100%	100%	1	93%	93%	100%	87%	80%	1	90%		91%	93%
060570005	1	SLAMS	12/30/98		93%	100%	80%	73%		87%	75%	60%	93%	60%		72%	93%	88%	80%	47%		77%		79%	79%
060571001	1	SLAMS	03/31/99		3%	23%	52%	70%		48%	97%	80%	94%	87%	1	90%	83%	90%	87%	81%	1	85%		77%	72%
060590001	1	SLAMS	01/03/99		67%	5%	3%	26%		11%	85%	76%	53%	85%		75%	88%	70%	22%	96%		69%		55%	58%
060610006	1	SLAMS	12/31/98		100%	100%	100%	93%	1	98%	94%	93%	100%	100%	1	97%	100%	100%	100%	93%	1	98%	1	98%	98%
060631006	1	SLAMS	03/26/99		7%	77%	71%	80%		76%	90%	87%	81%	63%		80%	77%	84%	90%	87%	1	85%		81%	75%
060631008	1	SLAMS	03/25/99	02/09/00	13%	83%	61%	0%		48%	0%													48%	20%
060631009	1	SLAMS	03/21/00								0%	47%	87%	60%		65%	77%	94%	100%	77%	1	87%		77%	68%
060651003	1	SLAMS	01/03/99		87%	97%	100%	80%	1	91%	90%	93%	84%	97%	1	91%	97%	84%	73%	94%		87%		90%	90%
060652002	1	SLAMS	01/03/99		43%	80%	58%	93%		69%	97%	97%	87%	97%	1	95%	93%	94%	93%	90%	1	93%		85%	85%
060655001	1	SLAMS	01/01/00								100%	93%	100%	100%	1	98%	97%	87%	90%	77%	1	88%		93%	62%
060658001	1	SLAMS	01/03/99		70%	32%	22%	27%		27%	77%	85%	95%	76%	1	83%	87%	91%	86%	92%	1	89%		70%	71%
060670006	1	SLAMS	01/03/99		97%	97%	0%	17%		53%	0%	0%	0%	0%		0%	50%	65%	63%	0%		45%		32%	53%
060670010	1	SLAMS	12/13/98		32%	85%	91%	80%		72%	87%	96%	89%	90%	1	91%	72%	81%	78%	89%		80%		81%	81%
060674001	1	SLAMS	02/02/99		22%	93%	97%	85%		92%	88%	100%	39%	0%		57%	29%	55%	13%	0%		24%		54%	52%
060710014	1	SLAMS	01/03/99		83%	100%	97%	97%	1	94%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%		31%	31%
060710025	1	SLAMS	01/03/99		90%	77%	68%	83%		80%	87%	97%	81%	100%	1	91%	97%	100%	97%	77%	1	93%		88%	88%
060710306	1	SLAMS	01/01/00								87%	97%	94%	100%	1	95%	100%	90%	0%	0%		48%		71%	72%
060712002	1	SLAMS	01/03/99		87%	97%	97%	97%	1	95%	84%	90%	97%	97%	1	92%	100%	87%	100%	87%	1	94%	1	93%	94%
060719004	1	SLAMS	01/03/99		73%	77%	97%	97%		86%	81%	87%	81%	53%		76%	93%	100%	83%	87%	1	91%		84%	84%

PM2.5 SLAMS / Tribal FRM Data Completeness (as of 7/8/02)

					1999 Information						2000 Information						2001 Information						3 Year Info		
State / Site	POC	Monitor Type	Date of 1st FRM Data Pt.	Date Sampling Ended	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	All Q 75%+	Avg. Capture	NAAQS Avg. Capture*
060730001	1	SLAMS	01/03/99		90%	77%	97%	77%	1	85%	84%	77%	90%	80%	1	83%	90%	87%	87%	94%	1	90%	1	86%	86%
060730003	1	SLAMS	01/01/99		83%	86%	92%	90%	1	88%	66%	88%	92%	73%		80%	81%	89%	98%	88%	1	89%		86%	86%
060730006	1	SLAMS	01/03/99		40%	67%	94%	80%		70%	74%	77%	87%	93%		83%	93%	94%	93%	90%	1	93%		82%	82%
060731002	1	SLAMS	01/01/99		60%	71%	83%	65%		70%	66%	89%	91%	87%		83%	89%	80%	95%	93%	1	89%		81%	81%
060731007	1	SLAMS	01/01/99		67%	85%	89%	76%		79%	70%	64%	79%	85%		75%	86%	87%	76%	99%	1	87%		80%	80%
060750005	1	SLAMS	01/03/99		14%	60%	100%	91%		84%	93%	67%	100%	90%		88%	94%	100%	100%	86%	1	95%		89%	83%
060771002	1	SLAMS	01/03/99		100%	90%	94%	93%	1	94%	90%	100%	97%	83%	1	93%	90%	81%	97%	97%	1	91%	1	93%	93%
060792002	1	SLAMS	01/06/99		93%	80%	87%	100%	1	90%	94%	73%	93%	100%		90%	67%	88%	100%	100%		89%		90%	90%
060798001	1	SLAMS	01/06/99		100%	100%	93%	100%	1	98%	100%	100%	80%	100%	1	95%	93%	94%	93%	100%	1	95%	1	96%	97%
060811001	1	SLAMS	01/03/99		33%	87%	100%	97%		79%	100%	100%	73%	80%		88%	100%	94%	100%	87%	1	95%		88%	88%
060830010	1	SLAMS	01/06/99	10/31/00	7%	7%	13%	73%		25%	94%	80%	87%	27%		87%								52%	49%
060831007	1	SLAMS	08/04/99				53%	93%		93%	100%	93%	80%	100%	1	93%	100%	100%	100%	100%	1	100%		96%	89%
060850004	2	SLAMS	01/06/99		1%	93%	100%	95%		96%	84%	93%	100%	80%	1	89%	89%	100%	100%	89%	1	95%		93%	85%
060852003	1	SLAMS	01/03/99		11%	80%	80%	90%		83%	86%	93%	73%	91%		86%	80%	94%	100%	86%	1	90%		87%	80%
060870007	1	SLAMS	01/06/99		47%	100%	77%	60%		79%	90%	93%	100%	100%	1	96%	93%	94%	100%	80%	1	92%		90%	86%
060890004	1	SLAMS	12/19/98		93%	93%	87%	93%	1	92%	94%	67%	100%	100%		90%	100%	100%	100%	87%	1	97%		93%	93%
060950004	1	SLAMS	02/20/99		27%	87%	93%	93%		91%	97%	100%	100%	100%	1	99%	100%	94%	100%	90%	1	96%		96%	90%
060970003	1	SLAMS	01/24/99		60%	80%	80%	90%		83%	100%	100%	100%	97%	1	99%	93%	100%	100%	81%	1	94%		93%	90%
060990005	1	SLAMS	01/03/99		100%	83%	94%	97%	1	94%	100%	97%	100%	87%	1	96%	93%	90%	100%	100%	1	96%	1	95%	95%
061010003	1	SLAMS	12/19/98		100%	60%	93%	73%		82%	94%	93%	87%	93%	1	92%	100%	100%	100%	100%	1	100%		91%	95%
061072002	1	SLAMS	01/03/99		87%	80%	97%	100%	1	91%	90%	93%	94%	93%	1	93%	80%	84%	87%	42%		73%		86%	86%
061110007	1	SLAMS	01/03/99		90%	90%	94%	90%	1	91%	71%	93%	77%	97%		85%	83%	68%	70%	90%		78%		84%	92%
061110009	1	SLAMS	11/23/00											43%			43%	94%	100%	97%		84%		84%	63%
061112002	1	SLAMS	01/03/99		90%	87%	87%	97%	1	90%	97%	83%	87%	67%		84%	93%	94%	90%	100%	1	94%		89%	89%
061113001	1	SLAMS	01/03/99		63%	97%	61%	83%		76%	97%	83%	97%	70%		87%	93%	87%	93%	97%	1	93%		85%	85%
061131003	1	SLAMS	01/09/99		93%	97%	94%	33%		75%	97%	93%	97%	93%	1	95%	97%	97%	100%	68%		91%		88%	88%
COLORADO																									
080010001	1	SLAMS	01/26/99	04/13/01	37%	87%	97%	97%		94%	94%	90%	100%	100%	1	96%	93%	13%				93%		95%	78%
080010006	1	SLAMS	01/16/01														83%	100%	90%	97%	1	96%		96%	93%
080050005	1	SLAMS	03/10/99		17%	87%	97%	87%		90%	74%	93%	100%	100%		92%	93%	94%	100%	97%	1	96%		93%	87%
080130003	1	SLAMS	01/22/99		73%	87%	87%	100%		91%	100%	97%	97%	100%	1	99%	93%	94%	97%	100%	1	96%		96%	94%
080130012	1	SLAMS	01/30/99		37%	57%	97%	97%		84%	100%	100%	100%	100%	1	100%	97%	84%	100%	100%	1	95%		94%	89%
080310002	1	SLAMS	01/01/99		58%	78%	0%	0%		34%	79%	90%	90%	91%	1	88%	97%	98%	97%	92%	1	96%		73%	73%
080390001	1	SLAMS	05/28/99			30%	90%	93%		92%	87%	93%	71%	80%		83%	77%	87%	90%	90%	1	86%		86%	80%
080410008	1	SLAMS	07/02/99				48%	80%		64%	90%	100%	90%	93%	1	93%	100%	100%	97%	100%	1	99%		90%	86%
080410011	1	SLAMS	01/19/99		0%	0%	48%	80%		43%	87%	97%	100%	100%	1	96%	97%	87%	97%	90%	1	93%		80%	75%
080690009	1	SLAMS	07/10/99				52%	87%		87%	100%	90%	100%	87%	1	94%	100%	97%	90%	100%	1	97%		95%	87%
080770003	1	SLAMS	01/06/99		87%	100%	77%	100%	1	92%	100%	100%	97%	100%	1	99%	87%	81%	97%	87%	1	88%	1	93%	94%
081010012	1	SLAMS	02/20/99		33%	0%	61%	90%		50%	97%	93%	97%	93%	1	95%	100%	97%	93%	100%	1	98%		84%	80%
081230006	1	SLAMS	02/13/99		47%	83%	61%	87%		77%	94%	90%	97%	90%	1	93%	90%	94%	100%	87%	1	93%		88%	85%
081230008	1	SLAMS	08/04/99				65%	93%		93%	100%	87%	87%	97%	1	93%	93%	100%	97%	90%	1	95%		94%	89%
CONNECTICUT																									
090010010	1	SLAMS	01/03/99		90%	67%	94%	93%		86%	87%	97%	90%	100%	1	94%	100%	100%	97%	100%	1	99%		93%	94%
090010113	1	SLAMS	09/15/00										13%	90%		90%	60%	87%	90%	97%		84%		85%	68%
090011123	1	SLAMS	01/03/99		43%	30%	48%	83%		51%	90%	93%	97%	90%	1	93%	97%	94%	100%	87%	1	95%		79%	79%
090031003	1	SLAMS	01/01/99		53%	29%	72%	91%		61%	73%	81%	90%	82%		82%	94%	91%	82%	87%	1	89%		77%	77%
090031018	1	SLAMS	01/03/99		43%	23%	61%	80%		52%	87%	90%	94%	87%	1	90%	93%	87%	97%	90%	1	92%		78%	78%
090090018	1	SLAMS	01/03/99		93%	93%	100%	100%	1	97%	90%	81%	98%	89%	1	90%	88%	95%	91%	90%	1	91%	1	92%	90%
090091123	1	SLAMS	01/03/99		93%	87%	100%	97%	1	94%	90%	100%	97%	87%	1	94%	100%	97%	100%	97%	1	99%	1	95%	96%
090092123	1	SLAMS	01/03/99		70%	63%	97%	100%		83%	100%	93%	94%	93%	1	95%	97%	90%	100%	97%	1	96%		91%	92%
090099005	1	SLAMS	07/02/99				71%	93%		82%	84%	83%	100%	93%	1	90%	90%	90%	97%	90%	1	92%		89%	74%
090113002	1	SLAMS	01/03/99		63%	20%	55%	97%		59%	87%	87%	94%	83%	1	88%	97%	65%	97%	77%		84%		77%	77%
DELAWARE																									
100010002	1	SLAMS	01/03/99		83%	97%	77%	87%	1	86%	97%	97%	100%	100%	1	99%	100%	100%	97%	97%	1	99%	1	94%	94%
100010003	1	SLAMS	02/11/99		43%	90%	71%	87%		83%	100%	93%	97%	100%	1	98%	100%	97%	97%	100%	1	99%		94%	90%
100031003	1	SLAMS	01/03/99		87%	90%	87%	93%	1	89%	100%	93%	97%	97%	1	97%	100%	97%	93%	100%	1	98%	1	95%	95%
100031007	1	SLAMS	01/03/99		80%	73%	71%	83%		77%	97%	97%	100%	90%	1	96%	87%	97%	100%	90%	1	94%		89%	89%
100031011	1	SLAMS	03/10/99	12/16/99	20%	71%	82%	40%		77%														77%	56%
100031012	1	SLAMS	12/16/99					17%			85%	85%	93%	63%		82%	83%	87%	84%	91%	1	86%		84%	66%

PM2.5 SLAMS / Tribal FRM Data Completeness (as of 7/8/02)

					1999 Information						2000 Information						2001 Information						3 Year Info		
State / Site	POC	Monitor Type	Date of 1st FRM Data Pt.	Date Sampling Ended	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	All Q 75%+	Avg. Capture	NAAQS Avg. Capture*
100032004	1	SLAMS	02/14/99		28%	76%	86%	89%		84%	73%	93%	82%	84%		83%	94%	97%	96%	67%		89%		85%	86%
100051002	1	SLAMS	01/03/99		93%	80%	77%	93%	1	86%	97%	100%	100%	93%	1	98%	100%	100%	100%	94%	1	99%	1	94%	94%
DISTRICT OF COLUMBIA																									
110010041	1	SLAMS	02/21/99		40%	86%	86%	72%		81%	74%	80%	76%	68%		75%	87%	85%	88%	88%	1	87%		81%	80%
110010042	1	SLAMS	03/20/99		13%	47%	39%	47%		44%	45%	43%	55%	83%		57%	83%	94%	70%	94%		85%		64%	59%
110010043	1	SLAMS	01/15/99		48%	97%	54%	87%		79%	82%	90%	86%	89%	1	87%	91%	88%	91%	89%	1	90%		86%	85%
FLORIDA																									
120010023	1	SLAMS	01/09/99		83%	93%	97%	97%	1	96%	97%	97%	97%	97%	1	97%	97%	97%	100%	87%	1	95%	1	96%	95%
120010024	1	SLAMS	09/12/99				23%	97%		97%	100%	97%	100%	100%	1	99%	100%	100%	100%	100%	1	100%		99%	86%
120051004	1	SLAMS	05/04/01															61%	100%	94%		97%		97%	85%
120090007	1	SLAMS	03/29/00								6%	97%	94%	93%		95%	100%	97%	100%	94%	1	98%		96%	85%
120111002	1	SLAMS	01/01/99		86%	93%	87%	100%	1	92%	98%	92%	100%	99%	1	97%	96%	99%	88%	98%	1	95%	1	95%	95%
120112004	1	SLAMS	04/02/99			92%	89%	92%		91%	90%	92%	91%	100%	1	93%	93%	82%	93%	100%	1	92%		92%	92%
120113002	1	SLAMS	04/03/99			87%	97%	97%		94%	100%	97%	100%	100%	1	99%	100%	97%	97%	90%	1	96%		97%	96%
120170005	1	SLAMS	02/05/99		57%	90%	84%	90%		88%	90%	87%	97%	100%	1	94%	93%	94%	93%	84%	1	91%		91%	88%
120251016	1	SLAMS	02/04/99		46%	85%	83%	88%		85%	92%	92%	79%	98%	1	90%	89%	97%	87%	99%	1	93%		90%	86%
120256001	1	SLAMS	01/27/99		63%	90%	84%	97%		90%	100%	93%	68%	90%		88%	97%	100%	93%	100%	1	98%		92%	90%
120310098	1	SLAMS	06/30/99			3%	59%	86%		73%	93%	87%	65%	97%		86%	90%	96%	91%	97%	1	94%		86%	76%
120310099	1	SLAMS	06/30/99			1%	60%	90%		75%	93%	49%	74%	85%		75%	78%	65%	91%	77%		78%		76%	68%
120330004	1	SLAMS	01/06/99		90%	97%	90%	93%	1	93%	100%	100%	94%	90%	1	96%	97%	90%	100%	94%	1	95%	1	95%	95%
120570030	1	SLAMS	01/01/99		84%	90%	89%	75%	1	85%	93%	92%	91%	97%	1	93%	98%	99%	92%	79%	1	92%	1	90%	90%
120571075	1	SLAMS	01/20/99		77%	85%	90%	80%	1	85%	92%	96%	96%	100%	1	96%	98%	100%	88%	96%	1	96%	1	93%	92%
120710005	1	SLAMS	01/06/99		57%	97%	97%	100%		98%	84%	83%	84%	100%	1	88%	97%	94%	93%	97%	1	95%		93%	90%
120730012	1	SLAMS	01/03/99		77%	93%	94%	87%	1	88%	74%	93%	84%	90%		85%	100%	84%	100%	94%	1	95%		89%	89%
120814012	1	SLAMS	01/30/99		47%	93%	84%	80%		86%	65%	83%	97%	87%		83%	93%	90%	80%	68%		83%		84%	81%
120830003	1	SLAMS	01/21/99		47%	90%	94%	87%		90%	97%	90%	90%	100%	1	94%	93%	100%	100%	97%	1	98%		94%	90%
120951004	1	SLAMS	01/01/99		92%	92%	93%	100%	1	94%	96%	97%	95%	99%	1	97%	99%	96%	97%	96%	1	97%	1	96%	96%
120952002	1	SLAMS	01/03/99		92%	100%	95%	99%	1	98%	99%	90%	93%	95%	1	94%	86%	98%	92%	92%	1	92%	1	94%	94%
120990009	1	SLAMS	12/04/99					23%			99%	85%	96%	98%	1	95%	93%	92%	92%	91%	1	92%		93%	70%
120992003	1	SLAMS	01/05/99	07/12/01	87%	95%	76%	92%	1	88%	91%	82%	99%	93%	1	91%	98%	70%	0%			84%		88%	78%
120992005	1	SLAMS	07/01/01																95%	89%		92%		92%	61%
121030018	1	SLAMS	01/01/99		94%	93%	96%	98%	1	95%	86%	92%	91%	96%	1	91%	89%	97%	90%	99%	1	94%	1	93%	93%
121031008	1	SLAMS	01/27/99		73%	93%	97%	93%		94%	84%	87%	94%	97%	1	91%	93%	100%	83%	94%	1	93%		92%	91%
121056006	1	SLAMS	01/06/99		37%	63%	74%	80%		72%	77%	87%	87%	87%	1	85%	97%	87%	87%	74%		86%		82%	78%
121111002	1	SLAMS	01/06/99		90%	100%	94%	97%	1	97%	97%	90%	87%	97%	1	93%	93%	100%	87%	97%	1	94%	1	94%	94%
121150013	1	SLAMS	01/03/99		77%	93%	94%	100%	1	91%	100%	83%	100%	100%	1	96%	97%	94%	97%	94%	1	96%	1	94%	94%
121171002	1	SLAMS	01/09/99		80%	93%	84%	87%	1	88%	90%	100%	100%	100%	1	98%	97%	100%	93%	100%	1	98%	1	95%	94%
121275002	1	SLAMS	01/06/99		93%	80%	90%	97%	1	89%	100%	97%	94%	100%	1	98%	100%	84%	100%	90%	1	94%	1	94%	94%
GEORGIA																									
130210007	1	SLAMS	02/02/99		40%	97%	94%	90%		94%	94%	90%	90%	80%	1	89%	87%	74%	43%	45%		62%		80%	77%
130210012	1	SLAMS	02/11/99		37%	87%	84%	100%		90%	97%	87%	74%	80%		85%	90%	77%	80%	90%	1	84%		86%	82%
130510017	1	SLAMS	01/21/99		67%	80%	94%	80%		85%	97%	90%	77%	70%		84%	77%	77%	97%	81%	1	83%		84%	82%
130510091	1	SLAMS	01/21/99		70%	70%	19%	83%		57%	90%	97%	90%	80%	1	89%	87%	71%	97%	94%		87%		80%	79%
130590001	1	SLAMS	01/30/99		63%	97%	81%	87%		88%	94%	53%	77%	77%		75%	80%	81%	83%	84%	1	82%		81%	80%
130630091	1	SLAMS	01/09/99		77%	80%	90%	97%	1	89%	87%	80%	77%	77%	1	80%	83%	87%	97%	97%	1	91%	1	87%	86%
130670003	1	SLAMS	02/07/99		33%	97%	74%	90%		87%	90%	97%	84%	83%	1	89%	90%	87%	93%	77%	1	87%		87%	83%
130890002	1	SLAMS	01/22/99		49%	86%	82%	86%		85%	77%	80%	84%	78%	1	80%	89%	84%	77%	92%	1	86%		83%	80%
130892001	1	SLAMS	01/01/99		82%	86%	89%	87%	1	86%	85%	76%	79%	82%	1	81%	84%	77%	86%	92%	1	85%	1	84%	84%
130950007	1	SLAMS	02/02/99		33%	93%	94%	77%		88%	100%	87%	65%	93%		86%	93%	77%	90%	90%	1	88%		87%	83%
131150005	1	SLAMS	01/18/99		63%	90%	100%	77%		89%	84%	87%	71%	80%		81%	80%	71%	83%	81%		79%		82%	81%
131210032	1	SLAMS	01/01/99		63%	84%	80%	88%		79%	87%	75%	83%	78%	1	81%	91%	78%	90%	86%	1	86%		82%	82%
131210039	1	SLAMS	01/21/99		77%	77%	90%	93%	1	87%	90%	80%	77%	83%	1	83%	97%	87%	97%	94%	1	94%	1	88%	87%
131211001	1	SLAMS	01/01/99	12/10/01	67%	80%	97%	93%		84%	94%	63%	87%	87%		83%	97%	90%	80%	61%		89%		85%	83%
131270004	1	SLAMS	01/21/99	08/30/99	47%	70%	0%			70%														70%	39%
131270006	1	SLAMS	08/31/99				32%	80%		80%	87%	87%	90%	83%	1	87%	93%	77%	80%	39%		72%		80%	72%
131390003	1	SLAMS	02/14/99		43%	97%	97%	93%		96%	81%	87%	87%	80%	1	84%	93%	94%	87%	97%	1	93%		90%	86%
132150001	1	SLAMS	03/04/99		27%	90%	87%	87%		88%	94%	87%	100%	83%	1	91%	93%	94%	93%	87%	1	92%		90%	85%
132150011	1	SLAMS	01/21/99		67%	87%	97%	93%		92%	97%	90%	94%	87%	1	92%	100%	94%	100%	90%	1	96%		94%	91%
132230003	1	SLAMS	01/24/99		57%	90%	77%	93%		87%	97%	97%	94%	90%	1	95%	90%	94%	97%	87%	1	92%		91%	89%

PM2.5 SLAMS / Tribal FRM Data Completeness (as of 7/8/02)

					1999 Information						2000 Information						2001 Information						3 Year Info		
State / Site	POC	Monitor Type	Date of 1st FRM Data Pt.	Date Sampling Ended	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	All Q 75%+	Avg. Capture	NAAQS Avg. Capture*
132450005	1	SLAMS	01/21/99		70%	100%	81%	77%		86%	74%	83%	68%	90%		79%	90%	71%	90%	84%		84%		83%	82%
132450091	1	SLAMS	02/08/99		47%	87%	87%	60%		78%	68%	93%	84%	93%		85%	60%	81%	90%	84%		79%		81%	78%
133030001	1	SLAMS	01/30/99		67%	100%	93%	100%		98%	94%	87%	93%	80%	1	89%	73%	81%	80%	67%		75%		86%	85%
133190001	1	SLAMS	04/12/99			77%	81%	97%		89%	90%	87%	94%	80%	1	88%	87%	81%	83%	81%	1	83%		86%	78%
HAWAII																									
150030010	1	SLAMS	01/03/99		83%	97%	87%	53%		80%	35%	80%	94%	97%		77%	93%	94%	93%	84%	1	91%		83%	83%
150031001	1	SLAMS	01/01/99		88%	97%	90%	87%	1	91%	97%	91%	95%	85%	1	92%	91%	99%	99%	99%	1	97%	1	93%	94%
150031004	1	SLAMS	10/03/99					100%		100%	81%	93%	100%	100%	1	94%	87%	88%	67%	73%		79%		88%	91%
150032004	1	SLAMS	01/01/99		91%	90%	93%	92%	1	92%	85%	89%	80%	76%	1	83%	89%	93%	99%	100%	1	95%	1	90%	90%
150090006	1	SLAMS	01/30/99		50%	97%	71%	87%		85%	81%	93%	90%	80%	1	86%	73%	94%	100%	74%		85%		85%	83%
IDAHO																									
160010011	1	SLAMS	11/10/98		100%	100%	97%	100%	1	99%	100%	100%	100%	90%	1	98%	100%	100%	97%	100%	1	99%	1	99%	99%
160010017	1	SLAMS	01/06/99		100%	100%	81%	100%	1	95%	97%	93%	100%	97%	1	97%	90%	97%	90%	100%	1	94%	1	95%	95%
160050006	1	SLAMS	11/13/98		100%	93%	80%	97%	1	93%	97%	93%	90%	87%	1	92%	97%	100%	100%	81%	1	95%	1	93%	93%
160050015	1	SLAMS	11/10/98		100%	93%	81%	97%	1	93%	94%	97%	97%	100%	1	97%	93%	95%	96%	96%	1	95%	1	95%	95%
160170001	1	SLAMS	11/10/98	10/16/01	97%	100%	94%	100%	1	98%	94%	90%	97%	97%	1	95%	100%	90%	90%	19%		93%		95%	89%
160170004	3	SLAMS	10/19/01																	74%					74%
160190010	1	SLAMS	08/31/99				13%	80%		80%	88%	93%	93%	100%	1	94%	83%	90%	73%	90%		84%		88%	75%
160270004	1	SLAMS	11/01/98		100%	97%	100%	97%	1	99%	100%	97%	97%	97%	1	98%	100%	100%	93%	100%	1	98%	1	98%	98%
160270005	1	SLAMS	12/07/98		100%	100%	81%	100%	1	95%	100%	100%	100%	100%	1	100%	100%	100%	100%	97%	1	99%	1	98%	98%
160550006	2	SLAMS	07/23/99				74%	97%		97%	97%	97%	94%	100%	1	97%	97%	97%	90%	94%	1	95%		96%	93%
160690009	1	SLAMS	10/04/99					87%			100%	87%	100%	100%	1	97%	100%	100%	93%	94%	1	97%		97%	94%
160770011	1	TRIBAL M	03/31/00								6%	100%	100%	100%		100%	80%	100%	100%	80%	1	90%		94%	85%
160790017	1	SLAMS	09/03/99				27%	93%		93%	94%	100%	87%	80%	1	90%	83%	100%	100%	87%	1	93%		92%	81%
160830010	1	SLAMS	12/08/99					27%			94%	100%	93%	93%	1	95%	97%	100%	100%	100%	1	99%		97%	74%
ILLINOIS																									
170010006	1	SLAMS	01/01/00								81%	87%	100%	100%	1	92%	87%	100%	93%	100%	1	95%		94%	94%
170190004	1	SLAMS	01/01/00								94%	100%	93%	87%	1	94%	100%	94%	93%	73%		90%		92%	92%
170191001	1	SLAMS	01/28/99		53%	93%	93%	93%		93%	100%	100%	87%	100%	1	97%	100%	69%	93%	100%		91%		93%	90%
170310014	1	SLAMS	01/06/99		80%	80%	100%	100%	1	90%	65%	100%	84%	93%		86%	67%	100%	93%	97%		89%		88%	88%
170310022	1	SLAMS	01/06/99		87%	100%	100%	100%	1	97%	97%	87%	94%	93%	1	93%	90%	97%	97%	87%	1	93%	1	94%	94%
170310050	1	SLAMS	01/06/99		87%	100%	100%	100%	1	97%	90%	95%	98%	17%		75%	12%	99%	99%	98%		77%		83%	83%
170310052	1	SLAMS	01/06/99		93%	100%	27%	100%		80%	91%	93%	98%	96%	1	95%	84%	93%	87%	91%	1	89%		88%	88%
170310057	1	SLAMS	01/13/00								87%	77%	100%	90%	1	89%	83%	100%	100%	97%	1	95%		92%	92%
170310076	1	SLAMS	01/01/00								87%	97%	97%	83%	1	91%	60%	97%	100%	100%		89%		90%	90%
170311016	1	SLAMS	01/06/99		93%	93%	100%	100%	1	97%	94%	87%	84%	90%	1	89%	93%	94%	97%	94%	1	95%	1	93%	93%
170311701	1	SLAMS	01/06/99	12/31/99	93%	100%	100%	87%	1	95%														95%	95%
170312001	1	SLAMS	01/06/99		93%	100%	93%	100%	1	97%	87%	97%	100%	87%	1	93%	80%	97%	83%	84%	1	86%	1	92%	92%
170313301	1	SLAMS	01/06/99		87%	100%	100%	100%	1	97%	94%	97%	100%	87%	1	95%	90%	97%	77%	100%	1	91%	1	94%	94%
170314006	1	SLAMS	01/18/99	12/31/00	73%	67%	93%	67%		76%	74%	80%	87%	87%		82%								79%	79%
170314007	1	SLAMS	01/01/01														83%	94%	97%	100%	1	94%		94%	94%
170314201	1	SLAMS	01/08/99		93%	100%	93%	100%	1	98%	88%	87%	93%	89%	1	89%	82%	76%	92%	87%	1	84%	1	90%	90%
170316005	1	SLAMS	01/01/00								74%	97%	94%	93%		90%	83%	87%	83%	97%	1	88%		89%	89%
170434002	1	SLAMS	01/24/99		80%	100%	87%	93%	1	93%	90%	100%	97%	87%	1	94%	90%	100%	77%	81%	1	87%	1	91%	90%
170890003	1	SLAMS	01/01/00								87%	83%	74%	70%		79%	80%	97%	97%	100%	1	94%		86%	86%
170971007	1	SLAMS	01/01/00								97%	97%	97%	83%	1	94%	67%	68%	100%	97%		83%		88%	88%
170990007	1	SLAMS	01/01/00								87%	93%	84%	77%	1	85%	87%	87%	83%	74%		83%		84%	84%
171110001	1	SLAMS	01/01/00								94%	63%	100%	83%		85%	83%	81%	100%	90%	1	89%		87%	87%
171132002	1	SLAMS	01/07/00								81%	87%	100%	93%	1	93%	80%	100%	93%	87%	1	90%		91%	90%
171150013	1	SLAMS	01/08/99		53%	80%	93%	100%		91%	100%	97%	97%	100%	1	99%	93%	100%	100%	94%	1	97%		96%	92%
171170002	1	SLAMS	01/06/99	12/31/99	93%	100%	93%	100%	1	97%														97%	97%
171190023	1	SLAMS	01/06/99		93%	87%	100%	100%	1	95%	94%	97%	90%	97%	1	95%	97%	87%	93%	87%	1	91%	1	94%	94%
171191007	1	SLAMS	01/06/99		67%	100%	100%	100%		92%	100%	97%	97%	90%	1	96%	87%	90%	100%	87%	1	91%		93%	93%
171192009	1	SLAMS	01/01/00								97%	93%	97%	97%	1	96%	93%	81%	93%	90%	1	89%		93%	93%
171193007	1	SLAMS	01/06/99		80%	80%	100%	100%	1	90%	90%	100%	97%	93%	1	95%	97%	100%	97%	87%	1	95%	1	93%	93%
171430037	1	SLAMS	01/18/99		67%	93%	100%	93%		95%	94%	93%	94%	97%	1	95%	97%	100%	97%	97%	1	98%		96%	94%
171570001	1	SLAMS	01/21/99		87%	93%	100%	100%	1	98%	100%	100%	73%	93%		92%	100%	100%	100%	100%	1	100%		96%	96%
171610003	1	SLAMS	01/06/99	12/31/00	80%	100%	100%	100%	1	95%	94%	100%	100%	93%	1	97%								96%	96%
171613002	1	SLAMS	01/01/01														100%	100%	100%	87%	1	97%		97%	97%

PM2.5 SLAMS / Tribal FRM Data Completeness (as of 7/8/02)

State / Site	POC	Monitor Type	Date of 1st FRM Data Pt.	Date Sampling Ended	1999 Information						2000 Information						2001 Information						3 Year Info		
					Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	All Q 75%+	Avg. Capture	NAAQS Avg. Capture*
171630010	1	SLAMS	01/09/99		87%	93%	100%	100%	1	98%	87%	97%	90%	97%	1	93%	83%	84%	80%	90%	1	84%	1	91%	91%
171634001	1	SLAMS	01/01/00								77%	90%	77%	93%	1	84%	90%	81%	83%	81%	1	84%		84%	84%
171670012	1	SLAMS	01/07/99		87%	100%	93%	100%	1	98%	90%	90%	94%	87%	1	90%	93%	87%	90%	100%	1	93%	1	93%	93%
171971002	1	SLAMS	01/06/99		93%	100%	100%	100%	1	98%	84%	93%	90%	80%	1	87%	60%	87%	97%	84%		82%		89%	89%
171971011	1	SLAMS	01/06/99		87%	87%	73%	100%		87%	100%	100%	100%	87%	1	97%	100%	100%	100%	100%	1	100%		95%	95%
172010010	1	SLAMS	02/13/99		53%	80%	87%	100%		89%	94%	97%	97%	77%	1	91%	97%	100%	90%	23%		78%		86%	83%
INDIANA																									
180030004	1	SLAMS	01/21/99		73%	87%	71%	90%		83%	81%	83%	100%	77%	1	85%	77%	84%	100%	100%	1	90%		86%	89%
180030014	1	SLAMS	02/12/00								48%	87%	87%	90%		88%	87%	97%	100%	100%	1	96%		93%	87%
180190005	1	SLAMS	01/18/99		70%	97%	97%	90%		95%	94%	100%	94%	60%		87%	97%	94%	97%	100%	1	97%		93%	91%
180350006	1	SLAMS	10/15/99					80%			97%	90%	97%	83%	1	92%	67%	84%	93%	94%		85%		88%	85%
180372001	1	SLAMS	01/07/00								84%	97%	100%	93%	1	97%	33%	81%	77%	84%		69%		81%	81%
180390003	1	SLAMS	05/15/99			53%	94%	97%		96%	77%	67%	100%	97%		85%	97%	87%	97%	100%	1	95%		91%	87%
180431004	1	SLAMS	01/18/99		63%	83%	100%	83%		89%	65%	77%	61%	90%		73%	57%	100%	100%	94%		88%		83%	88%
180650003	1	SLAMS	11/17/00											43%			90%	87%	90%	90%	1	89%		89%	55%
180670003	1	SLAMS	06/11/99			23%	74%	90%		82%	94%	87%	87%	100%	1	92%	90%	84%	90%	90%	1	89%		89%	81%
180830004	1	SLAMS	01/16/00								52%	70%	90%	83%		81%	77%	77%	93%	77%	1	81%		81%	77%
180890006	1	SLAMS	01/30/99		41%	87%	77%	86%		83%	87%	85%	84%	80%	1	84%	82%	96%	95%	93%	1	92%		87%	83%
180890022	1	SLAMS	03/05/99		21%	90%	87%	92%		90%	97%	87%	91%	74%		87%	100%	96%	89%	90%	1	94%		90%	85%
180890026	1	SLAMS	05/06/00									57%	94%	50%		72%	93%	87%	87%	97%	1	91%		85%	71%
180890027	1	SLAMS	02/18/00								48%	63%	81%	90%		78%	73%	90%	100%	100%		91%		85%	81%
180891003	1	SLAMS	02/02/99		47%	90%	81%	90%		87%	84%	77%	84%	97%	1	86%	73%	90%	90%	100%		88%		87%	84%
180891016	1	SLAMS	01/01/99		91%	91%	85%	83%	1	88%	96%	93%	86%	78%	1	88%	83%	89%	90%	91%	1	88%	1	88%	89%
180892004	1	SLAMS	02/11/99		30%	83%	84%	93%		87%	87%	70%	77%	90%		81%	87%	94%	90%	100%	1	93%		87%	82%
180892010	1	SLAMS	01/27/99		27%	70%	94%	7%		57%	16%	80%	16%	57%		42%	77%	94%	100%	97%	1	92%		64%	61%
180910011	1	SLAMS	12/17/99					7%			90%	100%	90%	80%	1	90%	93%	87%	93%	68%		85%		88%	61%
180910012	1	SLAMS	03/01/00								35%	83%	90%	97%		90%	100%	97%	80%	94%	1	93%		92%	85%
180950009	1	SLAMS	03/19/99		17%	97%	68%	97%		87%	90%	83%	81%	80%	1	84%	83%	81%	93%	65%		81%		83%	83%
180970042	1	SLAMS	09/18/99				16%	90%		90%	97%	100%	100%	93%	1	98%	97%	90%	100%	90%	1	94%		95%	82%
180970043	1	SLAMS	01/24/99		67%	100%	94%	93%		96%	90%	90%	100%	100%	1	95%	93%	97%	93%	97%	1	95%		95%	93%
180970066	1	SLAMS	01/24/99		43%	100%	68%	80%		83%	32%	87%	94%	77%		73%	90%	87%	100%	87%	1	91%		82%	79%
180970078	1	SLAMS	03/07/99		27%	93%	94%	97%		95%	97%	100%	100%	87%	1	96%	87%	100%	100%	97%	1	96%		96%	90%
180970079	1	SLAMS	09/18/99				16%	83%		83%	87%	90%	97%	90%	1	91%	77%	87%	83%	84%	1	83%		86%	74%
180970081	1	SLAMS	01/22/99		68%	99%	99%	100%		99%	89%	95%	92%	90%	1	92%	99%	99%	97%	100%	1	99%		96%	94%
180970083	1	SLAMS	01/22/99		73%	96%	98%	100%		98%	92%	97%	95%	89%	1	93%	100%	99%	96%	99%	1	99%		96%	95%
181270020	1	SLAMS	03/04/99		23%	97%	100%	93%		97%	94%	83%	87%	93%	1	89%	93%	100%	87%	100%	1	95%		93%	88%
181270024	1	SLAMS	01/27/99		63%	100%	97%	87%		95%	87%	63%	90%	80%		80%	77%	90%	97%	94%	1	90%		87%	85%
181410014	1	SLAMS	11/20/99					47%			90%	97%	90%	83%	1	90%	90%	94%	90%	87%	1	90%		90%	76%
181411008	1	SLAMS	04/15/99			80%	97%	73%		85%	42%	93%	94%	83%		78%	70%	100%	100%	94%		91%		85%	89%
181412004	1	SLAMS	04/15/99			87%	87%	100%		94%	94%	83%	90%	97%	1	91%	90%	97%	83%	100%	1	93%		92%	92%
181570007	1	SLAMS	05/15/99			47%	100%	93%		97%	87%	90%	94%	87%	1	90%	93%	90%	83%	97%	1	91%		91%	90%
181630006	1	SLAMS	04/15/99			77%	100%	90%		95%	97%	97%	81%	90%	1	91%	97%	100%	87%	94%	1	95%		93%	93%
181630012	1	SLAMS	04/15/99			73%	77%	93%		85%	90%	100%	87%	60%		84%	93%	97%	93%	97%	1	95%		89%	87%
181630016	1	SLAMS	06/11/99			23%	94%	93%		94%	77%	100%	81%	83%	1	85%	90%	100%	83%	94%	1	92%		90%	82%
181670018	1	SLAMS	03/19/99		10%	90%	100%	97%		96%	97%	87%	94%	100%	1	95%	90%	94%	90%	90%	1	91%		94%	87%
181670023	1	SLAMS	12/08/99					23%			87%	77%	100%	90%	1	89%	90%	94%	97%	84%	1	91%		90%	71%
IOWA																									
190130008	1	SLAMS	02/06/99		63%	97%	100%	100%		99%	100%	100%	100%	100%	1	100%	97%	97%	100%	100%	1	99%		99%	96%
190330019	1	SLAMS	07/02/99				94%	100%		97%	97%	100%	100%	100%	1	99%	100%	100%	97%	81%	1	95%		97%	97%
190450021	1	SLAMS	01/27/99		70%	93%	100%	100%		98%	97%	100%	100%	100%	1	99%	100%	100%	100%	100%	1	100%		99%	97%
190630003	1	SLAMS	01/01/00								94%	80%	90%	97%	1	90%	97%	100%	90%	97%	1	96%		93%	93%
191032001	1	SLAMS	01/27/99		70%	100%	100%	100%		100%	100%	100%	100%	100%	1	100%	100%	100%	100%	94%	1	99%		99%	97%
191130036	1	SLAMS	01/30/99		70%	93%	94%	93%		93%	97%	97%	100%	93%	1	97%	100%	84%	100%	100%	1	96%		96%	93%
191130037	1	SLAMS	01/30/99		57%	100%	100%	97%		99%	91%	92%	92%	82%	1	89%	88%	87%	93%	92%	1	90%		92%	89%
191390015	1	SLAMS	04/03/00									100%	97%	100%		99%	100%	97%	100%	100%	1	99%		99%	99%
191390016	1	SLAMS	01/27/99	03/31/00	73%	97%	100%	100%		99%	100%					100%								99%	96%
191530059	2	SLAMS	11/08/99					40%			84%	87%	90%	80%	1	85%	90%	90%	100%	100%	1	95%		90%	73%
191532510	1	SLAMS	02/05/99		37%	97%	94%	83%		91%	100%	80%	100%	97%	1	94%	87%	90%	100%	90%	1	92%		93%	88%
191532520	1	SLAMS	02/05/99		50%	100%	100%	93%		98%	100%	100%	100%	100%	1	100%	100%	100%	100%	100%	1	100%		99%	95%

PM2.5 SLAMS / Tribal FRM Data Completeness (as of 7/8/02)

					1999 Information						2000 Information						2001 Information						3 Year Info		
State / Site	POC	Monitor Type	Date of 1st FRM Data Pt.	Date Sampling Ended	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	All Q 75%+	Avg. Capture	NAAQS Avg. Capture*
191550009	1	SLAMS	07/02/99				74%	93%		84%	87%	100%	100%	93%	1	95%	97%	97%	100%	94%	1	97%		94%	92%
191630015	2	SLAMS	01/27/99		63%	100%	100%	100%		100%	100%	100%	100%	100%	1	100%	93%	100%	100%	100%	1	98%		99%	96%
191630018	1	SLAMS	07/02/99				100%	100%		100%	100%	100%	100%	100%	1	100%	100%	97%	97%	94%	1	97%		99%	99%
191692530	1	SLAMS	02/05/99		30%	97%	100%	100%		99%	84%	87%	84%	93%	1	87%	97%	97%	100%	94%	1	97%		94%	89%
191770005	1	SLAMS	01/01/00								87%	90%	100%	83%	1	90%	100%	97%	97%	87%	1	95%		93%	93%
191930017	1	SLAMS	01/30/99		67%	100%	97%	100%		99%	94%	97%	97%	97%	1	96%	100%	100%	97%	100%	1	99%		98%	96%
KANSAS																									
200910007	1	SLAMS	01/21/99		33%	77%	90%	100%		89%	100%	90%	100%	97%	1	97%	77%	97%	73%	100%		87%		91%	90%
200910008	1	SLAMS	01/12/99		77%	77%	81%	93%	1	84%	97%	100%	97%	90%	1	96%	80%	100%	93%	97%	1	93%	1	91%	90%
200910009	1	SLAMS	01/12/99		80%	77%	94%	100%	1	90%	100%	100%	97%	93%	1	98%	63%	100%	100%	97%		90%		93%	92%
201070002	1	SLAMS	01/21/99		60%	77%	94%	93%		88%	90%	83%	74%	100%		87%	100%	94%	100%	87%	1	95%		90%	91%
201730008	1	SLAMS	01/27/99		73%	97%	90%	90%		92%	84%	97%	94%	97%	1	93%	87%	97%	93%	81%	1	90%		92%	90%
201730009	1	SLAMS	01/27/99		70%	87%	94%	87%		89%	97%	100%	97%	97%	1	98%	93%	97%	100%	97%	1	97%		95%	93%
201730010	1	SLAMS	01/12/99		73%	93%	81%	87%		87%	97%	87%	97%	93%	1	94%	93%	90%	93%	90%	1	92%		91%	92%
201770010	1	SLAMS	01/27/99		67%	90%	100%	90%		93%	94%	100%	100%	90%	1	96%	97%	97%	100%	100%	1	99%		96%	94%
201770011	1	SLAMS	01/27/99		67%	87%	97%	97%		94%	94%	100%	90%	90%	1	94%	100%	94%	90%	100%	1	96%		94%	92%
201910002	1	SLAMS	11/17/99					40%			90%	93%	97%	93%	1	93%	100%	94%	97%	97%	1	97%		95%	77%
202090021	1	SLAMS	04/27/99			67%	100%	97%		99%	100%	93%	100%	100%	1	98%	90%	100%	100%	100%	1	98%		98%	96%
202090022	1	SLAMS	04/30/99			53%	77%	87%		82%	100%	97%	97%	100%	1	99%	100%	87%	93%	94%	1	94%		93%	88%
KENTUCKY																									
210190017	1	SLAMS	02/02/99		57%	80%	87%	97%		88%	97%	87%	94%	93%	1	93%	100%	100%	83%	90%	1	93%		92%	89%
210290006	1	SLAMS	01/21/99		73%	83%	84%	87%		85%	87%	77%	90%	100%	1	89%	93%	90%	93%	94%	1	93%		89%	88%
210370003	1	SLAMS	01/27/99		63%	100%	100%	83%		94%	97%	100%	97%	100%	1	99%	93%	94%	97%	84%	1	92%		95%	92%
210430500	1	SLAMS	02/02/99		63%	83%	74%	83%		80%	90%	97%	74%	93%		89%	93%	97%	100%	90%	1	95%		89%	86%
210470006	1	SLAMS	01/30/99		70%	100%	100%	97%		99%	100%	93%	68%	83%		86%	83%	94%	97%	84%	1	90%		91%	89%
210590014	1	SLAMS	02/01/99		63%	80%	90%	100%		90%	0%	63%	97%	100%		65%	93%	90%	93%	90%	1	92%		81%	80%
210670012	1	SLAMS	01/21/99		70%	100%	100%	93%		98%	100%	87%	90%	93%	1	93%	93%	100%	97%	94%	1	96%		95%	93%
210670014	1	SLAMS	01/30/99		63%	100%	97%	100%		99%	100%	93%	71%	90%		89%	97%	90%	97%	84%	1	92%		93%	90%
210730006	1	SLAMS	01/30/99		67%	90%	94%	100%		95%	84%	100%	94%	100%	1	95%	90%	81%	83%	87%	1	85%		91%	89%
210930005	1	SLAMS	01/27/99	10/18/99	63%	90%	100%	3%		95%														95%	64%
210930006	1	SLAMS	02/24/00								42%	93%	71%	77%		80%	87%	100%	93%	94%	1	94%		88%	82%
211010006	1	SLAMS	02/02/99		53%	70%	87%	70%		76%	84%	87%	94%	80%	1	86%	93%	87%	80%	87%	1	87%		84%	81%
211110043	1	SLAMS	01/02/99		79%	98%	98%	86%	1	94%	95%	96%	90%	93%	1	94%	92%	0%	0%	0%		23%		68%	69%
211110044	1	SLAMS	01/01/99		77%	95%	98%	93%	1	91%	89%	98%	88%	89%	1	91%	96%	99%	96%	90%	1	95%	1	92%	92%
211110048	1	SLAMS	01/06/99		77%	83%	87%	73%		81%	61%	97%	90%	100%		87%	73%	97%	90%	97%		89%		86%	85%
211111041	1	SLAMS	01/01/01														83%	99%	92%	87%	1	90%		90%	90%
211170007	1	SLAMS	01/27/99		50%	87%	90%	80%		86%	100%	90%	100%	97%	1	97%	90%	84%	97%	94%	1	91%		92%	88%
211451004	1	SLAMS	01/30/99		67%	83%	87%	93%		88%	100%	53%	68%	83%		76%	97%	87%	83%	81%	1	87%		83%	82%
211510003	1	SLAMS	01/30/99		37%	93%	94%	97%		95%	97%	100%	94%	93%	1	96%	93%	90%	83%	81%	1	87%		92%	88%
211950002	1	SLAMS	02/02/99		57%	97%	100%	100%		99%	84%	93%	94%	80%	1	88%	77%	97%	90%	87%	1	88%		91%	89%
212270007	1	SLAMS	01/30/99		63%	90%	100%	100%		97%	100%	93%	90%	100%	1	96%	100%	100%	93%	90%	1	96%		96%	94%
LOUISIANA																									
220171002	1	SLAMS	01/03/99		100%	100%	100%	100%	1	100%	100%	97%	97%	100%	1	99%	100%	100%	100%	100%	1	100%	1	100%	100%
220190009	1	SLAMS	01/12/99		60%	80%	87%	87%		85%	81%	83%	100%	93%	1	89%	97%	100%	100%	90%	1	97%		91%	88%
220190010	1	SLAMS	01/06/99		83%	97%	100%	100%	1	99%	94%	93%	100%	93%	1	95%	93%	87%	100%	100%	1	95%	1	96%	95%
220290002	1	SLAMS	01/03/99		80%	100%	80%	93%	1	88%	100%	100%	87%	93%	1	95%	100%	100%	0%	47%		62%		82%	82%
220290003	1	SLAMS	09/16/01																20%	47%		47%		47%	34%
220330002	1	SLAMS	01/15/99		83%	93%	84%	93%	1	90%	87%	93%	84%	100%	1	91%	100%	100%	93%	77%	1	93%	1	91%	91%
220330009	1	SLAMS	01/01/99		97%	98%	99%	96%	1	98%	97%	97%	99%	99%	1	98%	94%	100%	93%	100%	1	97%	1	97%	97%
220331001	1	SLAMS	01/06/99		93%	87%	100%	87%	1	92%	100%	100%	100%	100%	1	100%	100%	100%	87%	100%	1	97%	1	96%	96%
220470005	1	SLAMS	01/12/99		93%	93%	100%	93%	1	95%	100%	93%	93%	100%	1	97%	100%	84%	100%	97%	1	95%	1	96%	96%
220470009	1	SLAMS	01/06/99		93%	87%	73%	87%		85%	94%	93%	93%	100%	1	95%	93%	74%	97%	94%		90%		90%	90%
220511001	1	SLAMS	01/06/99		91%	99%	99%	96%	1	98%	99%	98%	96%	91%	1	96%	72%	76%	89%	91%		82%		91%	91%
220512001	1	SLAMS	01/06/99		80%	100%	100%	100%	1	95%	88%	100%	100%	100%	1	97%	93%	100%	100%	100%	1	98%	1	97%	97%
220550005	1	SLAMS	01/03/99		97%	93%	97%	100%	1	97%	94%	100%	90%	97%	1	95%	93%	100%	93%	94%	1	95%	1	96%	96%
220550006	1	SLAMS	01/01/00								48%	47%	81%	73%		62%	97%	87%	93%	100%	1	94%		78%	78%
220710010	1	SLAMS	01/06/99		97%	93%	100%	100%	1	98%	94%	100%	94%	97%	1	96%	100%	97%	97%	97%	1	98%	1	97%	97%
220710012	1	SLAMS	01/06/99		80%	87%	84%	80%	1	84%	82%	93%	95%	89%	1	90%	82%	66%	99%	87%		84%		86%	85%
220730004	1	SLAMS	01/06/99		83%	93%	87%	87%	1	89%	100%	97%	100%	93%	1	98%	100%	100%	100%	100%	1	100%	1	96%	95%

PM2.5 SLAMS / Tribal FRM Data Completeness (as of 7/8/02)

					1999 Information						2000 Information						2001 Information						3 Year Info		
State / Site	POC	Monitor Type	Date of 1st FRM Data Pt.	Date Sampling Ended	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	All Q 75%+	Avg. Capture	NAAQS Avg. Capture*
220790001	1	SLAMS	01/06/99		93%	93%	80%	100%	1	92%	90%	93%	97%	93%	1	93%	97%	97%	97%	100%	1	98%	1	94%	94%
220870004	1	SLAMS	01/13/00								84%	100%	100%	90%	1	97%	93%	100%	100%	97%	1	98%		97%	96%
221050001	1	SLAMS	01/06/99		93%	93%	93%	100%	1	95%	94%	100%	94%	100%	1	97%	90%	87%	93%	84%	1	89%	1	93%	93%
221090001	1	SLAMS	01/13/00								81%	100%	100%	100%	1	100%	93%	90%	87%	100%	1	93%		96%	94%
221210001	1	SLAMS	01/01/99		89%	91%	96%	86%	1	91%	89%	93%	98%	99%	1	95%	97%	99%	98%	95%	1	97%	1	94%	94%
MAINE																									
230030013	1	SLAMS	01/21/99		70%	97%	97%	97%		97%	97%	97%	97%	100%	1	98%	100%	97%	100%	100%	1	99%		98%	96%
230031011	1	SLAMS	01/21/99		63%	100%	100%	100%		100%	87%	100%	100%	90%	1	94%	97%	100%	93%	97%	1	97%		97%	94%
230050027	1	SLAMS	01/03/99		57%	77%	94%	80%		77%	81%	83%	90%	100%	1	89%	87%	90%	93%	100%	1	93%		86%	86%
230090103	1	SLAMS	01/24/99		67%	77%	90%	93%		87%	88%	87%	90%	80%	1	86%	100%	90%	83%	93%	1	92%		88%	87%
230190002	1	SLAMS	01/27/99		57%	77%	87%	93%		86%	94%	87%	97%	93%	1	93%	90%	100%	97%	97%	1	96%		92%	89%
MARYLAND																									
240030014	1	SLAMS	08/07/99				58%	80%		80%	0%	77%	90%	97%		66%	93%	77%	93%	90%	1	88%		77%	63%
240030019	1	SLAMS	08/13/99				45%	57%		57%	26%	33%	97%	90%		62%	83%	94%	80%	81%	1	85%		71%	57%
240031003	1	SLAMS	01/13/00								81%	70%	97%	97%		88%	90%	100%	93%	94%	1	94%		92%	60%
240032002	1	SLAMS	09/03/99				26%	47%		47%	6%	73%	94%	93%		67%	90%	65%	90%	94%		85%		72%	61%
240051007	1	SLAMS	01/13/00								68%	73%	94%	97%		88%	90%	90%	100%	94%	1	94%		91%	59%
240053001	1	SLAMS	08/04/99				42%	70%		70%	39%	87%	100%	100%		82%	100%	100%	100%	97%	1	99%		88%	70%
240150003	1	SLAMS	12/11/99					20%			87%	80%	100%	100%	1	92%	100%	97%	83%	100%	1	95%		93%	64%
240251001	1	SLAMS	08/04/99				35%	97%		97%	42%	67%	97%	100%		77%	90%	94%	87%	97%	1	92%		86%	67%
240313001	1	SLAMS	07/26/99				65%	100%		100%	90%	77%	100%	80%	1	87%	90%	94%	97%	87%	1	92%		91%	73%
240330001	1	SLAMS	08/01/99				58%	53%		53%	42%	90%	100%	83%		79%	80%	100%	93%	74%		87%		79%	68%
240338001	1	SLAMS	08/07/99				52%	97%		97%	45%	87%	97%	73%		76%	90%	100%	77%	94%	1	90%		84%	68%
240430009	1	SLAMS	12/17/99					17%			94%	87%	94%	97%	1	93%	97%	100%	100%	100%	1	99%		96%	66%
245100006	1	SLAMS	07/26/99				65%	60%		60%	48%	77%	84%	43%		63%	80%	84%	93%	97%	1	89%		74%	61%
245100007	1	SLAMS	07/29/99				35%	40%		40%	48%	83%	94%	97%		81%	87%	94%	87%	94%	1	91%		80%	63%
245100008	1	SLAMS	06/21/01															13%	100%	100%		100%		100%	71%
245100035	1	SLAMS	10/21/99					67%			32%	47%	100%	100%		70%	100%	97%	100%	100%	1	99%		85%	69%
245100040	1	SLAMS	06/17/99			3%	58%	87%		73%	90%	83%	100%	100%	1	93%	100%	90%	100%	94%	1	96%		90%	75%
245100049	1	SLAMS	08/01/99				68%	43%		43%	10%	43%	77%	83%		53%	97%	100%	83%	97%	1	94%		70%	58%
245100052	1	SLAMS	05/12/99			10%	65%	100%		83%	48%	27%	94%	83%		63%	97%	71%	0%	0%		42%		59%	50%
MASSACHUSETTS																									
250035001	1	SLAMS	01/03/99		73%	87%	94%	83%		84%	87%	97%	97%	67%		87%	67%	81%	63%	71%		71%		81%	81%
250052004	1	SLAMS	01/03/99		77%	100%	100%	93%	1	93%	48%	97%	100%	33%		70%	47%	84%	63%	87%		70%		77%	77%
250053001	1	SLAMS	01/03/99		77%	100%	100%	93%	1	93%	81%	90%	94%	97%	1	91%	90%	87%	70%	48%		74%		86%	86%
250092006	1	SLAMS	01/03/99		43%	97%	90%	97%		82%	77%	93%	87%	47%		76%	60%	48%	77%	71%		64%		74%	74%
250095005	1	SLAMS	01/03/99		87%	93%	94%	70%		86%	81%	100%	71%	83%		84%	37%	0%	57%	74%		42%		71%	71%
250096001	1	SLAMS	04/03/99			90%	68%	77%		78%	16%	53%	87%	80%		59%	63%	68%	53%	26%		53%		62%	63%
250130008	1	SLAMS	01/01/99		57%	9%	37%	96%		50%	85%	38%	60%	52%		59%	69%	66%	74%	71%		70%		60%	60%
250130016	1	SLAMS	01/03/99		97%	100%	100%	93%	1	98%	90%	100%	97%	97%	1	96%	97%	100%	100%	97%	1	99%	1	97%	98%
250132007	1	SLAMS	01/03/99	12/08/00	77%	93%	100%	93%	1	91%	97%	97%	100%	73%		98%								94%	91%
250154002	1	SLAMS	01/03/99		97%	97%	90%	90%	1	94%	97%	93%	97%	80%	1	92%	93%	87%	73%	97%		88%		91%	91%
250170008	1	SLAMS	05/15/00									13%	45%	53%		49%	73%	0%	53%	97%		56%		54%	46%
250171102	1	SLAMS	01/03/99		77%	87%	87%	63%		79%	84%	73%	42%	40%		60%	77%	61%	83%	71%		73%		70%	70%
250210007	1	SLAMS	01/03/99		83%	100%	97%	100%	1	95%	100%	93%	13%	0%		52%	0%	10%	63%	61%		34%		60%	62%
250230004	1	SLAMS	01/03/99		83%	80%	100%	73%		84%	19%	100%	94%	100%		78%	97%	84%	83%	81%	1	86%		83%	83%
250250002	1	SLAMS	01/03/99		73%	93%	97%	97%		90%	100%	90%	90%	23%		76%	30%	81%	77%	90%		70%		78%	78%
250250027	1	SLAMS	01/03/99		100%	83%	97%	87%	1	92%	58%	63%	84%	43%		62%	23%	90%	93%	74%		70%		75%	75%
250250042	1	SLAMS	03/20/99		13%	76%	62%	18%		52%	65%	71%	91%	76%		76%	37%	71%	35%	63%		52%		60%	57%
250250043	1	SLAMS	04/09/99			77%	74%	80%		77%	100%	90%	55%	43%		72%	40%	29%	70%	52%		48%		63%	66%
250270016	1	SLAMS	01/22/00								68%	97%	87%	90%		91%	73%	77%	77%	74%		75%		82%	80%
250270020	1	SLAMS	01/03/99		90%	97%	100%	93%	1	95%	87%	100%	100%	97%	1	96%	97%	100%	100%	97%	1	99%	1	97%	97%
250272004	1	SLAMS	01/03/99		80%	73%	84%	90%		82%	87%	70%	55%	77%		72%	0%	42%	53%	87%		46%		67%	67%
MICHIGAN																									
260050003	1	SLAMS	01/03/99		77%	84%	99%	98%	1	94%	100%	95%	95%	91%	1	95%	100%	100%	98%	99%	1	99%	1	96%	95%
260070005	1	SLAMS	03/25/00								10%	77%	84%	87%		83%	87%	100%	100%	100%	1	97%		91%	81%
260170014	1	SLAMS	08/25/00										42%	87%		87%	93%	97%	100%	100%	1	98%		95%	81%
260210014	1	SLAMS	01/03/99		90%	100%	97%	97%	1	96%	100%	100%	100%	100%	1	100%	97%	97%	97%	87%	1	95%	1	97%	97%
260330901	1	TRIBAL M	01/31/01														60%	100%	83%	94%		92%		92%	89%

PM2.5 SLAMS / Tribal FRM Data Completeness (as of 7/8/02)

					1999 Information						2000 Information						2001 Information						3 Year Info		
State / Site	POC	Monitor Type	Date of 1st FRM Data Pt.	Date Sampling Ended	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	All Q 75%+	Avg. Capture	NAAQS Avg. Capture*
260330902	1	TRIBAL N	01/31/01														60%	100%	97%	94%		97%		97%	88%
260490021	1	SLAMS	01/03/99		70%	77%	100%	83%		83%	94%	77%	94%	100%	1	91%	87%	97%	90%	90%	1	91%		88%	88%
260550003	1	SLAMS	12/14/99					20%			77%	83%	77%	30%		67%	83%	94%	100%	100%	1	94%		81%	60%
260650012	1	SLAMS	02/06/99		47%	63%	90%	100%		84%	94%	83%	84%	83%	1	86%	93%	94%	97%	100%	1	96%		89%	95%
260770008	1	SLAMS	01/03/99		77%	70%	65%	97%		77%	81%	93%	97%	93%	1	91%	90%	97%	90%	94%	1	93%		87%	94%
260810020	1	SLAMS	01/02/99		92%	96%	93%	95%	1	95%	97%	97%	97%	96%	1	97%	99%	92%	99%	98%	1	97%	1	96%	97%
260990009	1	SLAMS	01/03/99		83%	73%	100%	90%		87%	94%	97%	97%	83%	1	93%	93%	90%	97%	97%	1	94%		91%	91%
261150005	1	SLAMS	12/17/99					17%			97%	97%	90%	97%	1	95%	90%	77%	93%	97%	1	89%		92%	67%
261210040	1	SLAMS	01/08/99		100%	93%	65%	80%		79%	97%	93%	94%	100%	1	96%	100%	97%	100%	100%	1	99%		93%	96%
261250001	1	SLAMS	01/03/99		80%	60%	81%	87%		77%	77%	93%	58%	67%		74%	93%	84%	83%	52%		78%		76%	76%
261390005	1	SLAMS	01/03/99		93%	100%	94%	97%	1	96%	97%	93%	100%	100%	1	98%	100%	90%	97%	94%	1	95%	1	96%	96%
261450018	1	SLAMS	03/04/99		30%	67%	87%	60%		71%	71%	73%	94%	73%		78%	97%	97%	93%	100%	1	97%		83%	86%
261470005	2	SLAMS	01/13/01														80%	94%	93%	87%	1	91%		91%	
261610005	1	SLAMS	06/26/99			7%	94%	90%		92%	84%	50%	84%	97%		79%	100%	94%	77%	100%	1	93%		87%	73%
261610008	1	SLAMS	08/07/99				58%	93%		93%	42%	93%	100%	100%		84%	93%	97%	97%	97%	1	96%		90%	86%
261630001	1	SLAMS	05/12/99			53%	85%	90%		88%	89%	95%	95%	92%	1	93%	86%	88%	93%	60%		82%		87%	85%
261630015	1	SLAMS	02/26/99		30%	90%	81%	83%		85%	97%	93%	100%	100%	1	98%	97%	90%	100%	87%	1	94%		93%	87%
261630016	1	SLAMS	05/12/99			31%	86%	89%		88%	91%	81%	85%	98%	1	89%	91%	92%	90%	86%	1	90%		89%	82%
261630019	1	SLAMS	04/30/00									57%	74%	97%		86%	87%	90%	97%	97%	1	93%		90%	84%
261630025	1	SLAMS	08/22/99				45%	60%		60%	94%	90%	97%	83%	1	91%	90%	97%	97%	90%	1	94%		89%	79%
261630033	1	SLAMS	02/05/99		30%	87%	90%	97%		91%	94%	77%	87%	97%	1	89%	97%	94%	93%	94%	1	95%		92%	86%
261630036	1	SLAMS	02/20/99		27%	57%	84%	67%		69%	52%	93%	94%	100%		85%	97%	97%	97%	77%	1	92%		83%	79%
MINNESOTA																									
270376018	1	SLAMS	04/24/99			80%	80%	93%		87%	71%	80%	77%	80%		77%	93%	94%	97%	94%	1	95%		86%	85%
270530960	1	SLAMS	04/21/99	01/02/01		87%	60%	100%		80%	48%	57%	57%	50%		53%	0%							62%	45%
270530961	1	SLAMS	04/12/99			87%	80%	100%		90%	77%	60%	87%	90%		79%	73%	97%	97%	97%		91%		86%	86%
270530963	1	SLAMS	01/10/01														59%	78%	91%	92%		87%		87%	80%
270531007	1	SLAMS	04/24/99			80%	100%	93%		97%	29%	50%	74%	77%		58%	90%	100%	100%	97%	1	97%		81%	82%
270532006	1	SLAMS	04/24/99			73%	93%	60%		77%	84%	43%	74%	93%		74%	73%	94%	97%	97%		90%		81%	80%
270953051	1	SLAMS	12/08/99					27%			84%	47%	97%	80%		77%	80%	87%	77%	81%	1	81%		79%	62%
271095008	1	SLAMS	01/07/00								77%	67%	97%	53%		72%	80%	97%	93%	68%		85%		79%	79%
271230866	1	SLAMS	04/03/99			100%	87%	73%		87%	97%	67%	45%	70%		70%	87%	94%	100%	97%	1	95%		83%	95%
271230868	1	SLAMS	03/31/99		7%	93%	93%	87%		91%	90%	57%	58%	30%		59%	80%	97%	97%	100%	1	94%		80%	82%
271230871	1	SLAMS	04/24/99			80%	87%	93%		90%	46%	38%	60%	63%		52%	78%	79%	91%	96%	1	86%		73%	75%
271230872	1	SLAMS	04/12/99			93%	87%	100%		94%	90%	50%	74%	83%		74%	77%	90%	100%	87%	1	89%		84%	85%
271377001	1	SLAMS	05/30/99			40%	87%	60%		74%	61%	57%	58%	60%		59%	73%	87%	80%	87%		82%		71%	68%
271377550	1	SLAMS	05/06/99			60%	67%	73%		70%	81%	40%	94%	80%		74%	93%	90%	90%	84%	1	89%		79%	86%
271377551	1	SLAMS	01/19/00								61%	57%	87%	80%		75%	93%	81%	83%	81%	1	85%		80%	78%
271390505	1	SLAMS	01/07/00								81%	63%	71%	63%		66%	63%	68%	93%	97%		80%		74%	75%
271453052	1	SLAMS	12/20/99					13%			97%	33%	65%	80%		69%	87%	77%	63%	90%		79%		74%	54%
MISSISSIPPI																									
280010004	1	SLAMS	03/10/99		23%	70%	100%	100%		90%	100%	97%	94%	97%	1	97%	83%	97%	100%	94%	1	94%		94%	88%
280110001	1	SLAMS	05/21/99			43%	100%	93%		97%	100%	100%	100%	97%	1	99%	93%	97%	100%	94%	1	96%		97%	91%
280330002	1	SLAMS	02/14/99		53%	97%	100%	93%		97%	94%	100%	100%	100%	1	99%	97%	100%	100%	81%	1	95%		97%	93%
280350004	1	SLAMS	03/07/99		30%	93%	100%	100%		98%	100%	100%	97%	93%	1	98%	100%	100%	100%	100%	1	100%		98%	93%
280470008	1	SLAMS	04/03/99			93%	100%	93%		95%	100%	100%	97%	83%	1	95%	100%	97%	97%	100%	1	99%		96%	96%
280490010	1	SLAMS	02/14/99		50%	87%	90%	97%		91%	100%	97%	97%	93%	1	97%	97%	90%	100%	94%	1	95%		95%	91%
280490018	1	SLAMS	02/14/99		53%	97%	90%	87%		91%	100%	100%	97%	87%	1	96%	97%	97%	87%	94%	1	94%		94%	91%
280590006	1	SLAMS	02/14/99		53%	100%	100%	100%		100%	97%	100%	100%	90%	1	97%	100%	97%	97%	97%	1	98%		98%	94%
280670002	1	SLAMS	03/07/99		30%	100%	97%	93%		97%	100%	100%	97%	90%	1	97%	100%	97%	100%	97%	1	99%		97%	92%
280750003	1	SLAMS	04/03/99			87%	94%	93%		91%	94%	100%	87%	100%	1	95%	83%	94%	97%	97%	1	93%		93%	93%
280810005	1	SLAMS	02/14/99		50%	97%	97%	93%		96%	100%	97%	100%	100%	1	99%	93%	100%	93%	97%	1	96%		97%	93%
280870001	1	SLAMS	03/07/99		27%	100%	94%	100%		98%	100%	90%	100%	93%	1	96%	97%	97%	97%	90%	1	95%		96%	90%
281090001	1	SLAMS	04/06/00									80%	97%	80%		89%	97%	100%	100%	100%	1	99%		96%	92%
281210001	1	SLAMS	03/07/99		30%	100%	100%	97%		99%	94%	73%	74%	97%		85%	93%	94%	100%	97%	1	96%		93%	87%
281230001	1	SLAMS	08/22/99				45%	93%		93%	100%	97%	97%	97%	1	98%	87%	97%	93%	100%	1	94%		96%	87%
281490004	1	SLAMS	03/07/99		27%	93%	97%	93%		94%	87%	83%	94%	80%	1	86%	90%	90%	97%	90%	1	92%		90%	85%
MISSOURI																									
290210010	1	SLAMS	01/03/99		83%	97%	100%	100%	1	95%	100%	100%	100%	100%	1	100%	100%	94%	97%	100%	1	98%	1	98%	98%

PM2.5 SLAMS / Tribal FRM Data Completeness (as of 7/8/02)

					1999 Information						2000 Information						2001 Information						3 Year Info		
State / Site	POC	Monitor Type	Date of 1st FRM Data Pt.	Date Sampling Ended	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	All Q 75%+	Avg. Capture	NAAQS Avg. Capture*
290370003	1	SLAMS	01/01/00								81%	93%	97%	97%	1	92%	93%	100%	97%	100%	1	98%		95%	95%
290390001	1	SLAMS	01/03/99		97%	87%	90%	90%	1	91%	97%	93%	97%	100%	1	97%	83%	100%	97%	90%	1	93%	1	93%	93%
290470005	1	SLAMS	01/03/99		77%	97%	84%	97%	1	89%	97%	90%	100%	93%	1	95%	93%	100%	93%	97%	1	96%	1	93%	93%
290470026	1	SLAMS	01/01/99		68%	92%	93%	92%		86%	99%	98%	100%	98%	1	99%	94%	98%	100%	98%	1	98%		94%	94%
290470041	1	SLAMS	01/02/99		82%	73%	97%	92%		87%	96%	93%	90%	93%	1	93%	92%	87%	95%	91%	1	91%		91%	90%
290770032	1	SLAMS	01/03/99		100%	100%	100%	100%	1	100%	100%	100%	100%	100%	1	100%	100%	100%	100%	100%	1	100%	1	100%	100%
290910003	1	SLAMS	01/03/99	02/16/01	90%	87%	87%	90%	1	89%	97%	100%	100%	100%	1	99%	50%							94%	79%
290950036	1	SLAMS	01/03/99	03/12/00	80%	90%	94%	100%	1	91%	0%													91%	46%
290950037	1	SLAMS	04/03/00									100%	97%	100%		99%	100%	100%	97%	100%	1	99%		99%	99%
290952002	1	SLAMS	01/03/99		80%	100%	100%	100%	1	95%	100%	100%	97%	97%	1	99%	100%	97%	97%	97%	1	98%	1	97%	97%
290990012	1	SLAMS	01/03/99		80%	93%	97%	97%	1	92%	100%	97%	97%	100%	1	99%	97%	97%	100%	97%	1	98%	1	96%	96%
291831002	1	SLAMS	01/06/99		80%	90%	100%	97%	1	96%	97%	100%	100%	97%	1	99%	93%	100%	93%	100%	1	97%	1	97%	96%
291860006	1	SLAMS	01/08/99		87%	93%	94%	100%	1	96%	100%	97%	100%	97%	1	99%	97%	94%	100%	94%	1	96%	1	97%	96%
291890004	1	SLAMS	05/19/01															45%	100%	97%		99%		99%	81%
291892003	1	SLAMS	01/03/99		63%	97%	100%	100%		90%	97%	100%	100%	93%	1	98%	90%	97%	97%	100%	1	96%		95%	95%
291895001	1	SLAMS	01/03/99		87%	90%	97%	100%	1	94%	94%	100%	97%	100%	1	98%	97%	100%	100%	97%	1	99%	1	97%	97%
295100007	1	SLAMS	03/24/00								7%	91%	100%	96%		96%	96%	90%	92%	95%	1	93%		94%	56%
295100085	1	SLAMS	04/01/99			93%	97%	99%		96%	98%	99%	100%	97%	1	99%	98%	100%	96%	100%	1	99%		98%	90%
295100086	1	SLAMS	01/01/99		84%	97%	98%	93%	1	93%	89%	93%	89%	97%	1	92%	92%	95%	92%	98%	1	94%	1	93%	93%
MONTANA																									
300131026	1	SLAMS	01/01/00								94%	97%	94%	80%	1	91%	93%	84%	100%	94%	1	93%		92%	92%
300290009	1	SLAMS	10/01/01																	100%		100%		100%	100%
300290039	1	SLAMS	01/03/99	04/01/01	40%	97%	71%	93%		75%	100%	97%	97%	70%		91%	33%	0%				33%		78%	61%
300290043	1	SLAMS	01/03/99	06/24/99	73%	93%				73%														73%	83%
300290047	1	SLAMS	06/26/99			7%	74%	97%		86%	97%	90%	65%	100%		88%	97%	97%	93%	90%	1	94%		90%	81%
300470013	1	TRIBAL M	01/01/00								100%	97%	94%	93%	1	96%	97%	94%	93%	94%	1	95%		95%	95%
300470028	1	TRIBAL M	01/01/00								90%	97%	97%	97%	1	95%	87%	94%	97%	90%	1	92%		94%	95%
300530018	1	SLAMS	01/03/99		50%	70%	71%	93%		71%	97%	80%	84%	73%		84%	97%	100%	87%	74%		90%		81%	81%
300630024	1	SLAMS	01/03/99		63%	100%	84%	93%		85%	97%	93%	97%	80%	1	92%	97%	97%	97%	100%	1	98%		92%	92%
300810001	1	SLAMS	01/01/00								65%	97%	90%	83%		84%	90%	100%	77%	94%	1	90%		87%	87%
300870307	1	TRIBAL M	01/01/00								81%	83%	97%	60%		80%	77%	90%	87%	87%	1	85%		83%	83%
301111065	1	SLAMS	01/03/99		77%	87%	94%	100%	1	90%	97%	100%	94%	93%	1	96%	93%	100%	97%	94%	1	96%	1	94%	94%
NEBRASKA																									
310250002	1	SLAMS	03/04/99		33%	90%	81%	87%		86%	68%	80%	84%	80%		78%	87%	71%	90%	97%		86%		83%	79%
310270001	1	SLAMS	09/21/99				13%	0%		0%	68%	90%	94%	90%		86%	80%	77%	80%	87%	1	81%		74%	58%
310310001	1	SLAMS	08/04/99				58%	87%		87%	65%	77%	90%	93%		81%	77%	71%	80%	84%		78%		80%	77%
310490001	1	SLAMS	08/04/99				65%	77%		77%	55%	73%	74%	73%		69%	83%	81%	83%	94%	1	85%		77%	75%
310550019	1	SLAMS	02/06/99		6%	19%	41%	47%		36%	87%	82%	87%	78%	1	84%	78%	69%	92%	90%		82%		70%	66%
310550051	1	SLAMS	02/02/99		17%	20%	42%	70%		44%	74%	87%	77%	93%		83%	93%	97%	93%	97%	1	95%		77%	72%
310550052	1	SLAMS	06/10/99			0%	36%	13%		25%	77%	78%	62%	63%		70%	72%	73%	88%	82%		79%		64%	56%
310790003	1	SLAMS	03/07/99		20%	77%	61%	83%		74%	74%	97%	90%	93%		89%	83%	74%	87%	97%		85%		83%	78%
311090022	1	SLAMS	01/03/99		93%	90%	87%	90%	1	90%	94%	90%	74%	83%		85%	83%	71%	73%	94%		80%		85%	89%
311111002	1	SLAMS	03/01/99		10%	70%	94%	100%		88%	61%	97%	87%	100%		86%	87%	74%	73%	97%		83%		85%	79%
311530007	1	SLAMS	03/04/99		20%	57%	84%	87%		76%	32%	73%	68%	73%		62%	70%	61%	70%	71%		68%		68%	71%
311570003	1	SLAMS	03/13/99		10%	67%	74%	90%		77%	71%	83%	84%	77%		79%	53%	77%	70%	77%		69%		75%	69%
311770002	1	SLAMS	04/06/99			50%	65%	87%		76%	61%	80%	81%	73%		74%	80%	39%	83%	94%		74%		74%	72%
NEVADA																									
320030022	1	SLAMS	01/03/99		100%	100%	97%	100%	1	99%	90%	93%	100%	100%	1	96%	87%	94%	100%	100%	1	95%	1	97%	97%
320030298	1	SLAMS	10/03/00											100%		100%	97%	100%	100%	90%	1	97%		97%	61%
320030560	1	SLAMS	01/14/99		72%	90%	96%	97%		94%	92%	96%	96%	98%	1	96%	99%	92%	95%	95%	1	95%		95%	94%
320031019	1	SLAMS	01/03/99		83%	30%	94%	90%		74%	97%	97%	90%	93%	1	94%	73%	94%	100%	90%		89%		86%	86%
320032002	1	SLAMS	01/03/99		80%	10%	90%	93%		68%	100%	100%	100%	97%	1	99%	100%	94%	93%	94%	1	95%		88%	88%
320050008	1	SLAMS	12/23/99					10%			97%	93%	97%	93%	1	95%	100%	100%	90%	97%	1	97%		96%	67%
320310016	1	SLAMS	01/03/99		97%	100%	90%	100%	1	97%	100%	100%	97%	100%	1	99%	100%	100%	100%	97%	1	99%	1	98%	100%
320312002	1	SLAMS	06/05/99			23%	87%	100%		94%	94%	97%	100%	100%	1	98%	97%	97%	97%	90%	1	95%		96%	88%
NEW HAMPSHIRE																									
330012003	1	SLAMS	01/06/99	04/30/00	93%	93%	100%	40%		82%	94%	0%				94%								84%	64%
330012004	1	SLAMS	06/18/01															19%	93%	100%		97%		97%	71%
330050007	1	SLAMS	01/06/99		67%	73%	93%	87%		80%	100%	67%	33%	40%		60%	93%	81%	100%	100%	1	94%		78%	78%

PM2.5 SLAMS / Tribal FRM Data Completeness (as of 7/8/02)

					1999 Information						2000 Information						2001 Information						3 Year Info		
State / Site	POC	Monitor Type	Date of 1st FRM Data Pt.	Date Sampling Ended	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	All Q 75%+	Avg. Capture	NAAQS Avg. Capture*
330070014	1	SLAMS	01/06/99		90%	73%	84%	80%		79%	19%	53%	77%	43%		48%	83%	71%	97%	84%		84%		69%	80%
330110019	1	SLAMS	08/04/99	03/31/01			61%	57%		57%	81%	53%	81%	93%		77%	60%					60%		71%	71%
330110020	1	SLAMS	04/19/01															77%	93%	81%		87%		87%	87%
330111007	1	SLAMS	01/03/99	03/10/02	50%	97%	74%	93%		79%	84%	53%	55%	50%		61%	83%	84%	77%	97%	1	85%		75%	75%
330130003	1	SLAMS	01/03/99		83%	90%	81%	80%	1	84%	87%	43%	42%	83%		64%	80%	97%	100%	100%	1	94%		81%	81%
330135001	1	SLAMS	01/06/99		87%	87%	93%	93%	1	90%	75%	33%	73%	60%		60%	80%	81%	93%	93%	1	87%		79%	79%
330150009	1	SLAMS	01/03/99	05/01/01	37%	0%	71%	63%		43%	71%	40%	61%	47%		55%	73%	10%				73%		51%	46%
330190003	1	SLAMS	01/06/99		47%	80%	100%	93%		80%	81%	33%	53%	80%		62%	93%	81%	100%	93%	1	92%		78%	78%
NEW JERSEY																									
340011006	1	SLAMS	07/27/01																50%	97%		97%		97%	74%
340030003	1	SLAMS	01/03/99		80%	97%	100%	93%	1	93%	94%	100%	100%	83%	1	94%	43%	81%	90%	100%		79%		88%	88%
340070003	1	SLAMS	01/03/99		60%	100%	94%	83%		84%	94%	93%	94%	70%		88%	23%	84%	87%	81%		69%		80%	87%
340071007	1	SLAMS	01/03/99		80%	90%	97%	87%	1	89%	94%	87%	84%	73%		85%	57%	97%	90%	65%		77%		83%	83%
340130011	1	SLAMS	01/03/99		67%	77%	77%	33%		64%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%		21%	21%
340130015	1	SLAMS	04/21/99			60%	61%	70%		66%	100%	87%	74%	93%		89%	20%	84%	93%	100%		74%		78%	75%
340130016	1	SLAMS	08/17/01																43%	68%		68%		68%	67%
340155001	1	SLAMS	09/03/99				32%	97%		97%	81%	93%	97%	83%	1	89%	63%	77%	87%	100%		82%		86%	78%
340171003	1	SLAMS	01/03/99		80%	83%	74%	97%		84%	74%	87%	90%	83%		84%	67%	81%	87%	100%		84%		84%	86%
340172002	1	SLAMS	01/03/99		37%	0%	58%	60%		39%	90%	83%	87%	70%		83%	50%	77%	83%	84%		74%		65%	65%
340210008	1	SLAMS	01/03/99		93%	100%	97%	100%	1	98%	97%	97%	94%	80%	1	92%	63%	68%	90%	100%		80%		90%	90%
340218001	1	SLAMS	01/03/99		90%	93%	87%	90%	1	90%	97%	93%	94%	80%	1	91%	33%	65%	80%	94%		68%		83%	83%
340230006	1	SLAMS	01/03/99		73%	93%	97%	77%		85%	97%	97%	84%	73%		88%	50%	68%	90%	97%		76%		83%	83%
340270004	1	SLAMS	05/30/99			37%	94%	93%		94%	94%	83%	97%	87%	1	90%	47%	52%	83%	90%		68%		82%	78%
340273001	1	SLAMS	01/03/99		90%	87%	87%	93%	1	89%	100%	90%	100%	73%		91%	40%	71%	83%	81%		69%		83%	83%
340292002	1	SLAMS	02/14/99		37%	63%	77%	67%		69%	71%	70%	90%	90%		80%	30%	65%	90%	100%		71%		74%	71%
340310005	1	SLAMS	01/03/99		53%	87%	84%	83%		77%	55%	87%	97%	83%		81%	33%	61%	87%	90%		68%		75%	75%
340390004	1	SLAMS	01/03/99		70%	93%	97%	97%		89%	77%	100%	100%	77%	1	89%	63%	100%	100%	100%		91%		90%	93%
340390006	1	SLAMS	01/03/99		97%	100%	94%	67%		90%	90%	93%	68%	97%		87%	33%	77%	93%	97%		75%		84%	84%
340392003	1	SLAMS	12/17/99					17%			97%	100%	100%	80%	1	94%	57%	74%	80%	100%		78%		86%	63%
340410006	1	SLAMS	08/19/99				45%	33%		33%	87%	87%	87%	80%	1	85%	70%	77%	90%	100%		84%		79%	70%
NEW MEXICO																									
350010023	1	SLAMS	03/03/99		27%	88%	90%	98%		92%	88%	81%	87%	84%	1	85%	91%	96%	93%	97%	1	94%		90%	89%
350010024	1	SLAMS	02/03/99		49%	93%	92%	91%		92%	87%	96%	80%	89%	1	88%	89%	95%	98%	93%	1	94%		91%	88%
350019004	1	TRIBAL N	01/01/00								100%	100%	93%	100%	1	98%	100%	94%	93%	0%		72%		85%	85%
350439001	1	TRIBAL N	01/01/00								100%	100%	100%	80%	1	95%	100%	94%	100%	0%		74%		84%	84%
350439003	1	TRIBAL N	01/01/00								75%	100%	100%	100%	1	94%	87%	81%	93%	0%		65%		80%	85%
350439004	1	TRIBAL N	01/01/00								100%	90%	84%	77%	1	88%	50%	48%	50%	48%		49%		68%	72%
350439005	1	TRIBAL N	04/01/01															94%	80%	0%		58%		58%	23%
350499002	1	TRIBAL N	01/01/00								94%	93%	87%	100%	1	94%	100%	100%	100%	0%		75%		84%	84%
NEW YORK																									
360010005	1	SLAMS	07/02/99				45%	80%		63%	84%	97%	97%	87%	1	91%	80%	90%	97%	19%		72%		78%	69%
360010012	1	SLAMS	07/02/99				19%	73%		46%	61%	90%	84%	93%		82%	93%	77%	67%	87%		81%		74%	62%
360050073	1	SLAMS	07/01/99	07/15/99			13%																		4%
360050080	1	SLAMS	07/02/99				52%	60%		56%	81%	90%	97%	100%	1	92%	100%	100%	100%	100%	1	100%		88%	73%
360050083	1	SLAMS	07/02/99				48%	73%		61%	68%	97%	94%	97%		89%	100%	100%	100%	100%	1	100%		88%	73%
360050110	1	SLAMS	09/15/99				1%	72%		72%	73%	89%	98%	95%		89%	97%	95%	25%	97%		79%		82%	71%
360070009	1	SLAMS	02/09/00								55%	97%	94%	87%		93%	83%	87%	100%	87%	1	89%		91%	86%
360130011	1	SLAMS	07/02/99				55%	77%		66%	77%	73%	87%	70%		77%	90%	97%	93%	94%	1	94%		81%	68%
360271004	1	SLAMS	07/02/99				74%	73%		74%	90%	93%	94%	80%	1	89%	93%	77%	93%	100%	1	91%		87%	85%
360290002	1	SLAMS	07/02/99				77%	83%		80%	81%	83%	97%	93%	1	89%	100%	90%	100%	74%		91%		88%	73%
360290005	1	SLAMS	07/02/99				74%	83%		79%	74%	83%	94%	67%		80%	87%	94%	100%	97%	1	95%		85%	71%
360291007	1	SLAMS	12/17/99					17%			94%	87%	90%	77%	1	87%	100%	100%	97%	81%	1	95%		91%	66%
360310003	1	SLAMS	07/02/99				48%	65%		65%	88%	73%	97%	93%		88%	97%	92%	90%	57%		84%		84%	76%
360470011	1	SLAMS	07/02/99				58%	73%		66%	55%	83%	94%	90%		81%	0%	0%	0%	0%		0%		45%	38%
360470052	1	SLAMS	04/15/00									80%	97%	97%		97%	100%	100%	97%	94%	1	98%		98%	55%
360470076	1	SLAMS	07/02/99				42%	57%		50%	84%	90%	94%	100%	1	92%	97%	100%	93%	100%	1	98%		86%	71%
360470122	1	SLAMS	01/01/01														100%	94%	97%	100%	1	98%		98%	98%
360552002	1	SLAMS	01/01/00								65%	83%	77%	90%		79%	67%	84%	87%	87%		81%		80%	53%
360556001	1	SLAMS	08/31/99				29%	73%		73%	81%	87%	77%	80%	1	81%	80%	97%	90%	90%	1	89%		84%	69%

PM2.5 SLAMS / Tribal FRM Data Completeness (as of 7/8/02)

					1999 Information						2000 Information						2001 Information						3 Year Info		
State / Site	POC	Monitor Type	Date of 1st FRM Data Pt.	Date Sampling Ended	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	All Q 75%+	Avg. Capture	NAAQS Avg. Capture*
360590005	1	SLAMS	07/02/99				68%	83%		76%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%		15%	13%
360590008	1	SLAMS	07/02/99				48%	77%		63%	77%	93%	94%	100%	1	91%	100%	100%	93%	100%	1	98%		88%	74%
360590011	1	SLAMS	07/02/99				65%	67%		66%	65%	0%	0%	0%		16%	0%	0%	0%	0%		0%		20%	16%
360590012	1	SLAMS	07/20/00										71%	93%		93%	97%	100%	90%	94%	1	95%		95%	89%
360590013	1	SLAMS	02/21/00								32%	87%	94%	93%		91%	87%	100%	100%	97%	1	96%		94%	58%
360610010	1	SLAMS	07/01/99	06/24/01			49%	60%		55%	74%	95%	93%	99%		90%	93%	66%				93%		80%	66%
360610056	1	SLAMS	07/02/99				61%	60%		61%	90%	100%	97%	97%	1	96%	90%	100%	90%	100%	1	95%		89%	79%
360610062	1	SLAMS	07/02/99				42%	80%		61%	81%	93%	97%	100%	1	93%	97%	100%	100%	100%	1	99%		89%	76%
360610079	1	SLAMS	01/13/00								71%	97%	100%	97%		98%	100%	97%	100%	100%	1	99%		99%	95%
360610128	1	SLAMS	10/13/01																	87%					87%
360632008	1	SLAMS	07/02/99				61%	77%		69%	45%	90%	100%	87%		81%	93%	90%	100%	77%	1	90%		82%	77%
360652001	1	SLAMS	07/02/99				68%	93%		81%	87%	90%	97%	90%	1	91%	100%	100%	90%	100%	1	98%		92%	76%
360670019	1	SLAMS	08/01/99				32%	87%		87%	61%	87%	81%	90%		80%	93%	77%	87%	87%	1	86%		83%	75%
360670020	1	SLAMS	05/18/00									43%	94%	83%		89%	87%	94%	87%	74%		86%		87%	79%
360671015	1	SLAMS	07/02/99				65%	83%		74%	61%	87%	84%	87%		80%	93%	74%	90%	77%		84%		80%	73%
360710002	1	SLAMS	02/09/00								52%	93%	84%	80%		86%	83%	81%	93%	97%	1	89%		87%	55%
360810094	1	SLAMS	07/02/99				26%	77%		52%	84%	87%	90%	100%	1	90%	100%	94%	93%	100%	1	97%		85%	86%
360810096	1	SLAMS	04/18/00									73%	97%	93%		95%	97%	97%	87%	94%	1	94%		94%	91%
360810097	1	SLAMS	07/02/99				90%	77%		84%	81%	97%	94%	87%	1	90%	0%	0%	0%	0%		0%		53%	44%
360810124	1	SLAMS	01/01/01														31%	54%	78%	93%		64%		64%	64%
360850055	1	SLAMS	12/11/99					17%			87%	97%	97%	100%	1	95%	100%	100%	100%	100%	1	100%		98%	68%
360850067	1	SLAMS	07/02/99				58%	60%		59%	87%	93%	97%	100%	1	94%	97%	100%	83%	100%	1	95%		88%	73%
360893001	1	SLAMS	10/12/99					77%			77%	90%	97%	87%	1	88%	87%	97%	90%	81%	1	89%		88%	85%
360930003	1	SLAMS	07/02/99				52%	87%		70%	90%	97%	100%	80%	1	92%	97%	100%	90%	100%	1	97%		89%	74%
361010003	1	SLAMS	08/02/99				45%	73%		73%	70%	78%	93%	91%		83%	92%	86%	91%	82%	1	88%		84%	77%
361030001	1	SLAMS	07/02/99				39%	60%		50%	68%	90%	100%	100%		90%	97%	94%	100%	94%	1	96%		84%	70%
361191002	1	SLAMS	02/15/00								48%	93%	100%	100%		98%	100%	97%	100%	100%	1	99%		99%	92%
NORTH CAROLINA																									
370010002	1	SLAMS	01/03/99		70%	90%	90%	77%		82%	84%	87%	81%	90%	1	86%	100%	100%	100%	100%	1	100%		89%	89%
370210034	1	SLAMS	01/03/99		87%	93%	97%	83%	1	90%	55%	23%	84%	97%		65%	70%	61%	73%	71%		69%		75%	86%
370350004	1	SLAMS	01/03/99		87%	97%	87%	93%	1	91%	87%	90%	97%	100%	1	94%	77%	65%	97%	100%		85%		90%	90%
370370004	1	SLAMS	01/03/99		73%	83%	94%	87%		84%	94%	93%	97%	93%	1	94%	97%	100%	93%	97%	1	97%		92%	92%
370510009	1	SLAMS	01/03/99		67%	83%	97%	93%		85%	77%	100%	97%	100%	1	94%	100%	100%	90%	100%	1	98%		92%	93%
370610002	1	SLAMS	01/03/99		80%	93%	94%	97%	1	91%	90%	97%	100%	97%	1	96%	100%	100%	100%	90%	1	98%	1	95%	95%
370630001	1	SLAMS	01/01/99		90%	90%	88%	91%	1	90%	93%	98%	95%	98%	1	96%	89%	92%	86%	100%	1	92%	1	93%	93%
370650003	1	SLAMS	03/01/99		20%	90%	65%	43%		66%	87%	97%	100%	93%	1	94%	0%	0%	27%	97%		31%		64%	60%
370670022	1	SLAMS	01/01/99		89%	86%	89%	89%	1	88%	96%	97%	96%	99%	1	97%	94%	92%	88%	95%	1	92%	1	93%	93%
370670024	1	SLAMS	01/03/99		100%	97%	68%	87%		88%	94%	80%	90%	80%	1	86%	100%	94%	87%	90%	1	93%		89%	89%
370710016	1	SLAMS	01/03/99		97%	90%	100%	90%	1	94%	94%	100%	100%	100%	1	99%	93%	100%	97%	97%	1	97%	1	97%	97%
370810009	1	SLAMS	01/01/99	03/31/02	80%	81%	80%	61%		76%	84%	93%	76%	98%	1	88%	97%	92%	92%	92%	1	93%		86%	86%
370811005	1	SLAMS	01/03/99	05/31/01	47%	33%	87%	70%		59%	84%	93%	71%	97%		86%	97%	68%				97%		75%	76%
370870010	1	SLAMS	01/03/99		77%	97%	94%	90%	1	90%	94%	93%	100%	97%	1	96%	97%	100%	90%	100%	1	97%	1	94%	94%
370990006	1	TRIBAL M	04/03/00									97%	90%	80%		89%	27%	74%	87%	77%		66%		76%	84%
371190010	1	SLAMS	01/01/99		94%	98%	100%	97%	1	97%	95%	98%	93%	98%	1	96%	98%	100%	99%	98%	1	99%	1	97%	97%
371190034	1	SLAMS	01/01/99	07/29/99	96%	99%	32%			98%														98%	76%
371190040	1	SLAMS	01/03/99	09/10/00	90%	93%	94%	100%	1	94%	97%	93%	74%			95%								95%	91%
371190041	1	SLAMS	07/30/99				68%	98%		98%	99%	95%	96%	95%	1	96%	84%	76%	91%	99%	1	88%		93%	89%
371190042	1	SLAMS	09/21/00										13%	97%		97%	97%	94%	97%	94%	1	96%		96%	75%
371210001	1	SLAMS	01/03/99		83%	90%	90%	100%	1	91%	71%	97%	100%	100%		92%	100%	97%	100%	97%	1	99%		94%	95%
371290009	1	SLAMS	01/03/99		83%	90%	94%	100%	1	92%	94%	97%	90%	87%	1	92%	97%	87%	97%	77%	1	90%	1	91%	93%
371330005	1	SLAMS	01/03/99		87%	93%	94%	93%	1	92%	87%	100%	97%	100%	1	96%	93%	100%	80%	100%	1	93%	1	94%	94%
371350007	1	SLAMS	01/03/99		77%	90%	84%	97%	1	87%	97%	97%	97%	93%	1	96%	97%	100%	97%	97%	1	98%	1	94%	94%
371390002	1	SLAMS	04/30/99			57%	65%	83%		74%	74%	80%	94%	93%		85%	97%	100%	87%	100%	1	96%		87%	83%
371470005	1	SLAMS	03/01/99		10%	83%	74%	60%		72%	94%	97%	90%	97%	1	95%	83%	81%	97%	90%	1	88%		86%	84%
371550004	1	SLAMS	03/10/99	04/20/00	17%	100%	94%	90%		95%	84%	10%				84%								92%	61%
371550005	1	SLAMS	11/23/00											40%			97%	94%	97%	90%	1	95%		95%	67%
371730002	1	SLAMS	01/03/99		90%	97%	97%	90%	1	94%	77%	87%	94%	93%	1	88%	90%	100%	97%	87%	1	94%	1	92%	92%
371830014	1	SLAMS	01/01/99		81%	88%	82%	97%	1	87%	93%	99%	95%	93%	1	95%	98%	99%	99%	100%	1	99%	1	94%	94%
371830015	1	SLAMS	01/03/99		77%	90%	74%	90%		83%	77%	93%	77%	100%	1	87%	97%	100%	100%	94%	1	98%		89%	89%

PM2.5 SLAMS / Tribal FRM Data Completeness (as of 7/8/02)

					1999 Information						2000 Information						2001 Information						3 Year Info		
State / Site	POC	Monitor Type	Date of 1st FRM Data Pt.	Date Sampling Ended	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	All Q 75%+	Avg. Capture	NAAQS Avg. Capture*
371910005	1	SLAMS	01/03/99		70%	87%	81%	73%		78%	94%	87%	97%	97%	1	94%	100%	100%	100%	100%	1	100%		91%	91%
NORTH DAKOTA																									
380070002	1	SLAMS	07/12/00										80%	100%		100%	53%	94%	100%	93%		85%		88%	88%
380150003	1	SLAMS	01/03/99		47%	80%	81%	100%		77%	100%	97%	100%	100%	1	99%	97%	100%	93%	100%	1	98%		91%	91%
380171004	1	SLAMS	01/03/99		70%	93%	90%	100%		88%	97%	97%	100%	90%	1	96%	77%	97%	100%	100%	1	94%		93%	94%
380350004	1	SLAMS	01/03/99		43%	83%	87%	90%		76%	90%	97%	97%	87%	1	93%	100%	100%	97%	94%	1	98%		89%	89%
380570004	1	SLAMS	01/05/99		93%	87%	93%	93%	1	92%	88%	100%	100%	100%	1	97%	100%	100%	100%	100%	1	100%	1	96%	97%
380890002	1	SLAMS	01/01/00								100%	93%	93%	100%	1	97%	100%	100%	0%	0%		50%		73%	73%
380910001	1	SLAMS	01/06/99		93%	100%	93%	87%	1	93%	88%	93%	100%	93%	1	94%	73%	94%	93%	87%		87%		91%	91%
OHIO																									
390090003	1	SLAMS	01/03/99		60%	87%	100%	87%		84%	55%	30%	90%	97%		68%	93%	97%	93%	87%	1	93%		81%	81%
390170003	1	SLAMS	01/01/99		88%	99%	95%	35%		79%	79%	95%	85%	83%	1	86%	92%	95%	92%	99%	1	95%		86%	86%
390170016	1	SLAMS	10/03/00											100%		100%	93%	100%	83%	97%	1	93%		95%	97%
390170017	1	SLAMS	10/03/00											100%		100%	100%	100%	100%	100%	1	100%		100%	100%
390171004	1	SLAMS	11/21/01																	33%					33%
390230005	1	SLAMS	07/26/00										74%	100%		100%	87%	100%	93%	94%	1	94%		95%	90%
390350013	1	SLAMS	01/29/99		70%	100%	97%	97%		98%	94%	97%	97%	93%	1	95%	100%	97%	90%	97%	1	96%		96%	94%
390350027	1	SLAMS	01/08/99		70%	87%	90%	86%		88%	77%	97%	14%	80%		67%	94%	95%	90%	97%	1	94%		82%	81%
390350034	1	SLAMS	07/11/00										90%	90%		90%	100%	94%	97%	100%	1	98%		96%	94%
390350038	1	SLAMS	01/08/99		84%	90%	84%	65%		80%	65%	86%	91%	91%		83%	81%	89%	93%	99%	1	91%		85%	85%
390350045	1	SLAMS	12/14/99					20%			100%	100%	90%	100%	1	98%	97%	97%	93%	97%	1	96%		97%	71%
390350060	1	SLAMS	01/08/99		83%	97%	97%	100%	1	98%	100%	80%	94%	97%	1	93%	97%	87%	97%	100%	1	95%	1	95%	94%
390350065	1	SLAMS	01/29/99		70%	100%	100%	90%		97%	87%	100%	100%	83%	1	93%	97%	87%	97%	100%	1	95%		95%	93%
390350066	1	SLAMS	01/08/99		90%	87%	94%	97%	1	93%	81%	97%	100%	80%	1	90%	73%	97%	100%	90%		90%		91%	91%
390351002	1	SLAMS	01/08/99		87%	97%	100%	97%	1	98%	94%	97%	100%	87%	1	95%	93%	97%	100%	100%	1	98%	1	97%	96%
390490024	1	SLAMS	01/01/99		94%	70%	65%	53%		71%	55%	84%	96%	82%		79%	87%	99%	96%	86%	1	92%		81%	81%
390490025	1	SLAMS	01/01/99		76%	91%	82%	93%	1	86%	88%	81%	92%	78%	1	85%	89%	99%	100%	86%	1	94%	1	88%	89%
390490081	1	SLAMS	01/03/99		93%	73%	90%	97%		88%	84%	90%	94%	70%		85%	97%	100%	93%	94%	1	96%		90%	90%
390610014	1	SLAMS	01/01/99		68%	90%	95%	65%		80%	81%	96%	90%	86%	1	88%	68%	96%	96%	99%		90%		86%	88%
390610040	1	SLAMS	04/03/99			70%	45%	43%		53%	94%	90%	94%	100%	1	95%	93%	94%	100%	97%	1	96%		84%	81%
390610041	1	SLAMS	03/25/99		10%	97%	100%	100%		99%	32%	80%	77%	17%		52%	100%	90%	93%	100%	1	96%		81%	79%
390610042	1	SLAMS	10/03/00											83%		83%	90%	97%	93%	100%	1	95%		93%	89%
390610043	1	SLAMS	10/03/00											100%		100%	90%	94%	87%	100%	1	93%		94%	96%
390617001	1	SLAMS	01/30/99		64%	63%	86%	57%		69%	22%	95%	83%	92%		73%	96%	96%	84%	95%	1	93%		79%	78%
390618001	1	SLAMS	03/25/99		7%	7%	45%	83%		45%	84%	83%	74%	97%		85%	93%	97%	73%	87%		88%		75%	69%
390810016	1	SLAMS	01/21/99		70%	90%	90%	93%		91%	84%	97%	94%	87%	1	91%	90%	94%	77%	97%	1	90%		90%	89%
390811001	1	SLAMS	02/11/99		34%	78%	90%	67%		78%	57%	81%	85%	78%		75%	92%	85%	93%	95%	1	91%		82%	78%
390851001	1	SLAMS	01/03/99		90%	97%	97%	90%	1	94%	94%	87%	97%	93%	1	93%	97%	94%	97%	94%	1	96%	1	94%	94%
390870010	1	SLAMS	01/24/99		27%	0%	19%	90%		36%	81%	83%	68%	87%		80%	83%	90%	83%	100%	1	89%		71%	68%
390930016	1	SLAMS	09/03/00										32%	47%		47%	77%	94%	93%	68%		83%		76%	61%
390932003	1	SLAMS	01/03/99	11/30/01	97%	93%	84%	80%	1	89%	94%	100%	48%	63%		76%	73%	97%	87%	61%		86%		83%	81%
390950024	1	SLAMS	02/11/99		33%	55%	89%	88%		77%	1%	54%	91%	92%		60%	88%	81%	95%	95%	1	90%		75%	72%
390950025	1	SLAMS	03/01/99		17%	80%	100%	83%		88%	97%	97%	84%	93%	1	93%	93%	90%	97%	97%	1	94%		92%	86%
390950026	1	SLAMS	05/29/99			32%	85%	84%		85%	8%	62%	82%	79%		58%	70%	87%	97%	91%		86%		75%	70%
390990005	1	SLAMS	01/01/99		86%	97%	91%	93%	1	92%	88%	96%	92%	87%	1	91%	91%	96%	98%	100%	1	96%	1	93%	93%
391130014	1	SLAMS	01/15/99	07/24/01	76%	92%	66%	55%		71%	90%	88%	95%	79%	1	88%	82%	99%	25%			91%		83%	76%
391130031	1	SLAMS	01/14/99		54%	86%	72%	80%		79%	75%	92%	87%	95%	1	87%	82%	82%	77%	87%	1	82%		83%	81%
391130032	1	SLAMS	08/01/01																64%	65%		65%		65%	65%
391330002	1	SLAMS	01/30/99		70%	93%	90%	83%		89%	90%	100%	100%	100%	1	98%	100%	97%	90%	94%	1	95%		94%	92%
391351001	1	SLAMS	01/21/99		67%	80%	94%	13%		62%	6%	97%	97%	100%		75%	83%	97%	100%	94%	1	94%		78%	77%
391450013	1	SLAMS	01/15/99		70%	77%	100%	93%		90%	74%	80%	65%	80%		75%	90%	94%	100%	100%	1	96%		87%	85%
391510017	1	SLAMS	01/03/99		83%	83%	87%	100%	1	88%	94%	93%	97%	90%	1	94%	100%	94%	100%	87%	1	95%	1	92%	93%
391510020	1	SLAMS	01/03/99		90%	83%	90%	100%	1	91%	90%	100%	94%	97%	1	95%	90%	94%	100%	97%	1	95%	1	94%	94%
391530017	1	SLAMS	01/01/99		83%	95%	92%	96%	1	92%	66%	79%	93%	80%		80%	84%	93%	93%	98%	1	92%		88%	90%
391530023	1	SLAMS	01/01/99		90%	96%	92%	97%	1	94%	80%	96%	92%	84%	1	88%	97%	97%	90%	98%	1	96%	1	92%	92%
391550007	1	SLAMS	01/01/99		92%	86%	93%	88%	1	90%	91%	75%	93%	91%	1	88%	92%	92%	98%	100%	1	96%	1	91%	91%
OKLAHOMA																									
400159008	1	TRIBAL M	04/24/00									73%	100%	93%		97%	93%	100%	80%	100%	1	93%		94%	91%
400179001	1	TRIBAL M	08/16/99				33%	60%		60%	88%	80%	100%	100%	1	92%	93%	100%	93%	87%	1	93%		89%	77%

PM2.5 SLAMS / Tribal FRM Data Completeness (as of 7/8/02)

					1999 Information						2000 Information						2001 Information						3 Year Info		
State / Site	POC	Monitor Type	Date of 1st FRM Data Pt.	Date Sampling Ended	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	All Q 75%+	Avg. Capture	NAAQS Avg. Capture*
400190295	1	SLAMS	12/20/99					7%			84%	100%	84%	97%	1	91%	93%	94%	100%	94%	1	95%		93%	65%
400219002	1	TRIBAL M	08/22/99				33%	60%		60%	63%	53%	40%	87%		61%	100%	88%	93%	87%	1	92%		75%	82%
400719003	1	TRIBAL M	02/18/00								38%	100%	100%	87%		96%	80%	88%	87%	87%	1	86%		90%	89%
400819005	1	TRIBAL M	02/18/00								44%	93%	100%	93%		95%	80%	75%	80%	100%	1	84%		89%	85%
401159004	1	TRIBAL M	08/16/99				40%	80%		80%	100%	73%	87%	100%		90%	100%	100%	100%	100%	1	100%		93%	83%
401179007	1	TRIBAL M	04/06/00									80%	87%	100%		89%	87%	88%	93%	0%		67%		76%	78%
401210415	1	SLAMS	04/06/99			57%	90%	80%		85%	74%	90%	77%	80%		80%	83%	87%	87%	94%	1	88%		84%	81%
401339006	1	TRIBAL M	02/18/00								44%	87%	100%	93%		93%	93%	100%	93%	100%	1	97%		95%	89%
401430110	1	SLAMS	04/02/99			64%	89%	89%		89%	90%	69%	92%	88%		85%	99%	95%	95%	95%	1	96%		90%	82%
401430131	1	SLAMS	04/03/99			57%	77%	90%		75%	75%	86%	80%	93%	1	84%	91%	97%	95%	92%	1	94%		85%	78%
401431127	1	SLAMS	01/13/01														80%	97%	100%	100%	1	99%		99%	94%
OREGON																									
410030013	1	SLAMS	01/03/99		90%	87%	90%	93%	1	90%	94%	100%	100%	100%	1	99%	87%	94%	97%	100%	1	95%	1	94%	94%
410170113	1	SLAMS	01/06/99	02/28/01	93%	93%	93%	96%	1	94%	100%	97%	90%	98%	1	96%	51%							95%	80%
410170120	1	SLAMS	03/02/01														29%	89%	88%	95%		91%		91%	75%
410250002	1	SLAMS	01/01/00								94%	87%	53%	67%		75%	87%	100%	93%	100%	1	95%		85%	57%
410290133	1	SLAMS	01/01/99		96%	75%	87%	100%	1	90%	95%	100%	96%	93%	1	96%	88%	99%	100%	93%	1	95%	1	94%	94%
410330107	1	SLAMS	08/31/99				29%	97%		97%	100%	97%	100%	93%	1	98%	100%	94%	90%	97%	1	95%		96%	75%
410350004	1	SLAMS	01/06/99		100%	80%	93%	91%	1	91%	100%	95%	92%	91%	1	95%	94%	96%	84%	80%	1	89%	1	91%	91%
410370001	1	SLAMS	01/06/99		100%	100%	100%	95%	1	99%	88%	86%	85%	96%	1	89%	90%	99%	99%	97%	1	96%	1	95%	95%
410390060	1	SLAMS	01/01/99		92%	97%	98%	98%	1	96%	93%	97%	92%	93%	1	94%	99%	98%	99%	100%	1	99%	1	96%	96%
410391007	1	SLAMS	01/03/99		97%	93%	87%	100%	1	94%	100%	97%	81%	97%	1	94%	100%	94%	97%	100%	1	98%	1	95%	95%
410391061	1	SLAMS	01/01/00								100%	99%	91%	93%	1	96%	89%	100%	100%	93%	1	96%		96%	64%
410392013	1	SLAMS	01/01/99		92%	73%	91%	91%		87%	97%	99%	99%	99%	1	99%	98%	100%	98%	93%	1	97%		94%	94%
410430009	1	SLAMS	10/27/99					73%			100%	100%	97%	80%	1	94%	100%	100%	93%	97%	1	98%		96%	88%
410470040	1	SLAMS	01/09/99		93%	93%	87%	97%	1	92%	97%	100%	100%	100%	1	99%	100%	100%	97%	100%	1	99%	1	97%	97%
410470109	1	SLAMS	01/01/99	06/22/99	96%	71%				96%														96%	84%
410470110	1	SLAMS	07/29/99				58%	100%		100%	97%	100%	94%	100%	1	98%	97%	100%	100%	97%	1	99%		98%	83%
410510080	1	SLAMS	01/01/99		91%	90%	97%	90%	1	92%	97%	98%	96%	97%	1	97%	96%	97%	100%	93%	1	97%	1	95%	95%
410510244	1	SLAMS	01/01/99		89%	90%	95%	97%	1	93%	88%	91%	93%	98%	1	93%	98%	99%	100%	98%	1	99%	1	95%	95%
410510246	1	SLAMS	08/27/99				37%	93%		93%	96%	100%	93%	98%	1	97%	99%	96%	91%	99%	1	96%		96%	86%
410590121	1	SLAMS	01/06/99		80%	100%	100%	71%		88%	91%	87%	90%	90%	1	90%	74%	87%	84%	86%		83%		87%	87%
410610006	1	SLAMS	01/06/99	10/01/99	93%	87%	80%	0%		87%														87%	65%
410610117	1	SLAMS	09/15/99				14%	90%		90%	95%	99%	77%	93%	1	91%	98%	90%	93%	89%	1	93%		92%	79%
410619103	1	SLAMS	09/15/99				20%	93%		93%	94%	53%	80%	93%		80%	100%	50%	87%	100%		84%		83%	74%
410650007	1	SLAMS	12/14/99					20%			94%	93%	100%	100%	1	97%	100%	100%	100%	100%	1	100%		98%	69%
410670111	1	SLAMS	01/01/99		100%	97%	94%	97%	1	97%	100%	100%	87%	100%	1	97%	97%	100%	100%	94%	1	98%	1	97%	97%
410671003	1	SLAMS	09/15/99				13%	97%		97%	97%	97%	100%	83%	1	94%	93%	97%	97%	100%	1	97%		96%	82%
PENNSYLVANIA																									
420010001	1	SLAMS	01/01/99		67%	86%	63%	78%		74%	86%	87%	73%	95%		85%	99%	96%	93%	95%	1	96%		85%	85%
420030008	1	SLAMS	02/23/99		47%	13%	73%	45%		44%	79%	24%	91%	84%		70%	96%	100%	97%	82%	1	94%		71%	69%
420030021	1	SLAMS	02/14/99		33%	83%	68%	77%		76%	77%	73%	87%	63%		75%	90%	87%	73%	68%		80%		77%	73%
420030064	1	SLAMS	01/23/99		44%	58%	54%	51%		54%	97%	78%	93%	90%	1	90%	94%	99%	98%	78%	1	92%		81%	78%
420030067	1	SLAMS	04/12/99			70%	84%	77%		81%	55%	70%	84%	43%		63%	77%	74%	90%	55%		74%		71%	71%
420030116	1	SLAMS	01/31/99		57%	57%	77%	83%		72%	81%	73%	55%	77%		72%	87%	87%	80%	68%		81%		75%	74%
420030131	1	SLAMS	02/05/99		27%	73%	40%	20%		44%	94%	67%	93%	60%		79%	93%	94%	67%	73%		82%		70%	67%
420031008	1	SLAMS	02/13/99		47%	87%	52%	77%		72%	77%	67%	90%	73%		77%	87%	74%	73%	61%		74%		74%	72%
420031301	1	SLAMS	01/30/99		17%	80%	74%	83%		79%	77%	47%	84%	67%		69%	73%	90%	83%	71%		79%		75%	71%
420070014	1	SLAMS	01/01/00								81%	97%	52%	97%		82%	93%	90%	70%	81%		84%		83%	59%
420110009	1	SLAMS	01/30/99		43%	80%	90%	87%		86%	90%	90%	97%	93%	1	93%	100%	100%	93%	100%	1	98%		93%	89%
420170012	1	SLAMS	02/11/99		43%	57%	55%	67%		60%	68%	97%	74%	83%		81%	97%	100%	87%	100%	1	96%		80%	77%
420210011	1	SLAMS	02/14/99		50%	73%	68%	73%		71%	55%	90%	100%	87%		83%	90%	100%	80%	97%	1	92%		83%	80%
420270100	1	SLAMS	02/18/00								48%	83%	29%	63%		58%	100%	97%	90%	100%	1	97%		80%	76%
420410100	1	SLAMS	02/15/00								46%	96%	97%	77%		90%	96%	0%	0%	0%		24%		52%	52%
420410101	1	SLAMS	03/29/01														3%	97%	90%	93%		93%		93%	71%
420430401	1	SLAMS	01/01/99		66%	85%	85%	33%		67%	71%	59%	79%	99%		77%	98%	97%	95%	95%	1	96%		80%	80%
420450002	1	SLAMS	01/06/99		50%	83%	87%	90%		87%	87%	93%	97%	90%	1	92%	100%	97%	93%	97%	1	97%		92%	90%
420490003	1	SLAMS	01/30/99		30%	33%	10%	53%		32%	52%	33%	39%	63%		47%	97%	100%	63%	94%		89%		58%	56%
420692006	1	SLAMS	01/30/99		39%	78%	88%	78%		81%	95%	89%	93%	98%	1	94%	98%	97%	89%	86%	1	93%		90%	86%

PM2.5 SLAMS / Tribal FRM Data Completeness (as of 7/8/02)

					1999 Information						2000 Information						2001 Information						3 Year Info		
State / Site	POC	Monitor Type	Date of 1st FRM Data Pt.	Date Sampling Ended	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	All Q 75%+	Avg. Capture	NAAQS Avg. Capture*
420710007	1	SLAMS	01/09/99		50%	93%	71%	80%		81%	87%	70%	90%	73%		80%	97%	97%	90%	90%	1	94%		85%	87%
420770004	1	SLAMS	01/30/99		20%	87%	24%	72%		61%	86%	81%	92%	92%	1	88%	99%	96%	84%	70%		87%		80%	75%
420791101	1	SLAMS	01/05/99		50%	70%	84%	72%		75%	96%	93%	91%	97%	1	94%	96%	97%	91%	97%	1	95%		89%	86%
420850100	1	SLAMS	04/18/00									40%	52%	77%		65%	100%	100%	100%	84%	1	96%		86%	69%
420910013	1	SLAMS	02/14/99		50%	60%	65%	83%		69%	71%	87%	90%	100%		87%	100%	100%	87%	90%	1	94%		85%	82%
420950025	1	SLAMS	01/05/99		20%	89%	34%	54%		59%	69%	79%	92%	85%		81%	79%	98%	82%	89%	1	87%		77%	73%
420990301	1	SLAMS	01/01/00								81%	97%	90%	93%	1	90%	97%	94%	97%	90%	1	95%		92%	62%
421010004	1	SLAMS	02/04/99		39%	57%	83%	76%		72%	70%	53%	95%	93%		78%	76%	91%	98%	91%	1	89%		80%	77%
421010020	1	SLAMS	02/11/99		13%	60%	90%	93%		81%	87%	33%	94%	83%		74%	70%	94%	93%	84%		85%		80%	75%
421010024	1	SLAMS	02/17/99		17%	20%	81%	93%		65%	87%	40%	100%	83%		78%	100%	90%	97%	100%	1	97%		81%	76%
421010027	1	SLAMS	04/03/00	10/12/00								50%	100%	3%		75%								75%	51%
421010047	1	SLAMS	02/20/99		33%	43%	87%	87%		72%	87%	23%	97%	90%		74%	83%	87%	87%	97%	1	89%		79%	75%
421010136	1	SLAMS	02/04/99		33%	42%	29%	9%		27%	66%	56%	93%	92%		77%	86%	89%	99%	92%	1	92%		68%	66%
421250005	1	SLAMS	01/15/99		67%	70%	61%	43%		58%	74%	100%	94%	97%		91%	93%	100%	87%	97%	1	94%		83%	84%
421250200	1	SLAMS	01/18/99		63%	57%	84%	50%		64%	77%	97%	100%	90%	1	91%	97%	100%	87%	97%	1	95%		85%	83%
421255001	1	SLAMS	01/08/99		44%	79%	83%	79%		80%	97%	93%	92%	89%	1	93%	99%	93%	83%	72%		87%		87%	84%
421290008	1	SLAMS	02/11/99		40%	67%	84%	37%		63%	81%	93%	74%	77%		81%	100%	94%	97%	90%	1	95%		81%	78%
421330008	1	SLAMS	01/09/99		70%	93%	71%	83%		82%	94%	93%	100%	97%	1	96%	100%	81%	83%	94%	1	90%		90%	91%
PUERTO RICO																									
720210009	1	SLAMS	02/02/99		50%	73%	77%	73%		74%	84%	87%	94%	80%	1	86%	90%	100%	90%	0%		70%		77%	75%
720530003	1	SLAMS	04/21/99			58%	83%	15%		49%	69%	77%	83%	89%		80%	87%	92%	86%	0%		66%		68%	66%
720570008	1	SLAMS	01/24/99		60%	83%	81%	73%		79%	77%	70%	74%	50%		68%	80%	94%	97%	0%		68%		71%	70%
720590016	1	SLAMS	01/24/99		63%	47%	77%	70%		65%	90%	80%	61%	83%		79%	83%	90%	97%	0%		68%		71%	70%
720610005	1	SLAMS	01/23/99		66%	73%	65%	74%		71%	86%	81%	70%	72%		77%	94%	85%	96%	0%		69%		72%	72%
720690001	1	SLAMS	02/12/00								45%	70%	87%	70%		76%	80%	87%	97%	0%		66%		70%	67%
720810001	1	SLAMS	01/21/99		53%	57%	32%	40%		43%	42%	93%	77%	87%		75%	87%	94%	87%	0%		67%		63%	62%
720970003	1	SLAMS	01/24/99		63%	87%	68%	57%		71%	94%	73%	74%	83%		81%	93%	77%	87%	0%		64%		72%	71%
721130004	1	SLAMS	01/24/99		63%	93%	65%	73%		77%	74%	93%	84%	97%		87%	87%	100%	100%	0%		72%		79%	77%
721270003	1	SLAMS	03/21/99		10%	86%	86%	62%		78%	78%	80%	73%	88%		80%	80%	93%	93%	0%		67%		74%	69%
RHODE ISLAND																									
440030002	1	SLAMS	01/06/99		0%	100%	100%	100%		100%	87%	97%	100%	90%	1	94%	90%	100%	100%	94%	1	96%		96%	88%
440070022	1	SLAMS	01/06/99		0%	87%	97%	96%		93%	79%	88%	91%	85%	1	86%	78%	91%	93%	93%	1	89%		89%	83%
440070023	1	SLAMS	12/11/99					20%			94%	100%	100%	90%	1	96%	97%	97%	100%	100%	1	99%		97%	72%
440071005	1	SLAMS	01/06/99		0%	93%	100%	93%		95%	90%	97%	94%	80%	1	90%	30%	0%	0%	0%		8%		62%	56%
440071010	1	SLAMS	01/06/99		0%	92%	98%	99%		96%	80%	90%	95%	80%	1	86%	91%	98%	99%	92%	1	95%		92%	86%
440090007	1	SLAMS	01/06/99		0%	77%	100%	97%		91%	90%	93%	97%	93%	1	93%	63%	55%	93%	100%		78%		87%	80%
SOUTH CAROLINA																									
450130007	1	SLAMS	03/25/99		0%	73%	94%	80%		82%	90%	100%	87%	93%	1	93%	93%	94%	93%	87%	1	92%		89%	82%
450190046	1	SLAMS	01/15/99	10/01/01	87%	87%	87%	87%	1	87%	74%	73%	87%	93%		82%	83%	90%	100%	3%		91%		86%	79%
450190048	1	SLAMS	04/15/99			76%	86%	99%		93%	97%	99%	100%	96%	1	98%	98%	97%	92%	100%	1	97%		96%	94%
450190049	1	SLAMS	01/01/99		98%	98%	78%	80%	1	89%	99%	99%	99%	100%	1	99%	97%	97%	96%	85%	1	94%	1	94%	94%
450370001	1	SLAMS	04/30/99			63%	94%	93%		94%	87%	97%	97%	83%	1	91%	90%	97%	93%	87%	1	92%		92%	89%
450410002	1	SLAMS	02/23/99		37%	83%	100%	87%		90%	97%	100%	87%	90%	1	94%	87%	90%	87%	90%	1	89%		91%	86%
450450008	1	SLAMS	08/11/01																53%	100%		100%		100%	77%
450450009	1	SLAMS	05/30/99			32%	86%	100%		93%	92%	97%	88%	88%	1	91%	96%	96%	99%	95%	1	97%		94%	88%
450470003	1	SLAMS	01/03/99		80%	100%	94%	63%		84%	90%	100%	100%	93%	1	96%	93%	94%	97%	90%	1	94%		91%	91%
450510002	1	SLAMS	12/20/00											13%			93%	97%	83%	97%	1	93%		93%	55%
450630008	1	SLAMS	01/03/99		90%	87%	94%	97%	1	92%	94%	97%	100%	97%	1	97%	93%	100%	100%	77%	1	93%	1	94%	94%
450730001	1	SLAMS	01/03/99		77%	67%	77%	87%		77%	97%	87%	71%	90%		86%	93%	90%	100%	90%	1	93%		86%	86%
450790007	1	SLAMS	01/03/99		67%	90%	81%	87%		81%	94%	93%	100%	100%	1	97%	97%	97%	100%	100%	1	99%		92%	92%
450790019	1	SLAMS	11/26/98		90%	97%	97%	90%	1	94%	97%	90%	94%	97%	1	95%	83%	94%	93%	90%	1	90%	1	93%	97%
450830010	1	SLAMS	01/01/99		82%	100%	76%	97%	1	89%	100%	93%	90%	83%	1	92%	97%	99%	88%	95%	1	95%	1	92%	92%
SOUTH DAKOTA																									
460110002	1	SLAMS	04/03/99			77%	55%	87%		73%	58%	97%	94%	100%		87%	93%	100%	93%	90%	1	94%		86%	79%
460130003	1	SLAMS	01/01/00								32%	90%	97%	97%		79%	100%	100%	100%	97%	1	99%		89%	59%
460710001	1	SLAMS	01/01/00								50%	93%	100%	100%		86%	100%	100%	100%	93%	1	98%		92%	61%
460930001	1	SLAMS	01/01/01														93%	97%	97%	100%	1	97%		97%	48%
460990006	1	SLAMS	04/03/99			97%	90%	90%		92%	55%	100%	100%	100%		89%	93%	100%	100%	97%	1	98%		93%	85%
460990007	1	SLAMS	01/03/99		63%	77%	71%	80%		73%	55%	93%	68%	90%		77%	93%	100%	90%	90%	1	93%		81%	81%

PM2.5 SLAMS / Tribal FRM Data Completeness (as of 7/8/02)

					1999 Information						2000 Information						2001 Information						3 Year Info		
State / Site	POC	Monitor Type	Date of 1st FRM Data Pt.	Date Sampling Ended	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	All Q 75%+	Avg. Capture	NAAQS Avg. Capture*
461030014	1	SLAMS	01/03/99	12/31/99	80%	87%	77%	80%	1	81%														81%	81%
461030015	1	SLAMS	01/03/99	10/01/00	80%	100%	87%	97%	1	91%	29%	73%	87%	0%		63%								79%	69%
461030016	1	SLAMS	01/03/99		63%	87%	97%	90%		84%	45%	70%	90%	93%		75%	90%	90%	97%	100%	1	94%		84%	84%
461030017	1	SLAMS	04/03/99			87%	94%	80%		87%	39%	80%	58%	100%		69%	87%	71%	87%	100%		86%		80%	74%
461030019	1	SLAMS	01/01/00								39%	93%	87%	57%		69%	97%	77%	97%	100%	1	93%		81%	81%
461031001	1	SLAMS	04/03/99			93%	97%	97%		96%	52%	57%	100%	97%		77%	97%	97%	93%	100%	1	97%		89%	82%
TENNESSEE																									
470370023	1	SLAMS	01/01/99		100%	80%	100%	100%	1	95%	89%	86%	87%	93%	1	89%	96%	93%	98%	95%	1	96%	1	93%	94%
470370025	1	SLAMS	01/03/99		87%	93%	93%	93%	1	92%	97%	93%	97%	87%	1	94%	93%	97%	90%	90%	1	93%	1	93%	93%
470370036	1	SLAMS	01/01/99		100%	73%	93%	100%		92%	74%	84%	86%	96%		85%	90%	80%	92%	93%	1	89%		88%	88%
470450004	1	SLAMS	08/25/99				29%	63%		63%	90%	77%	84%	97%	1	87%	93%	100%	90%	97%	1	95%		88%	76%
470654002	1	SLAMS	01/01/99		90%	93%	94%	90%	1	92%	90%	90%	97%	97%	1	94%	93%	100%	100%	97%	1	98%	1	94%	97%
470930028	1	SLAMS	01/03/99		80%	70%	52%	47%		62%	81%	100%	90%	80%	1	88%	97%	97%	93%	90%	1	94%		81%	81%
470931017	1	SLAMS	01/01/99		72%	49%	16%	14%		38%	74%	73%	88%	68%		76%	93%	92%	90%	95%	1	93%		69%	70%
470931020	1	SLAMS	01/01/99		0%	0%	0%	13%		3%	88%	87%	78%	76%	1	82%	86%	90%	93%	87%	1	89%		58%	58%
470990002	1	SLAMS	01/03/99		90%	100%	71%	73%		84%	97%	93%	94%	97%	1	95%	83%	100%	90%	94%	1	92%		90%	90%
471130004	1	SLAMS	01/03/99		67%	53%	61%	97%		70%	74%	90%	87%	87%		85%	77%	87%	90%	94%	1	87%		80%	86%
471251009	1	SLAMS	01/03/99		97%	93%	94%	87%	1	93%	100%	97%	81%	67%		86%	93%	94%	90%	81%	1	90%		90%	90%
471570014	1	SLAMS	01/18/99		40%	77%	81%	87%		82%	84%	83%	77%	67%		78%	87%	97%	90%	100%	1	94%		85%	81%
471570038	1	SLAMS	01/16/99		70%	73%	77%	91%		80%	75%	97%	15%	80%		67%	69%	98%	91%	98%		89%		79%	78%
471570047	1	SLAMS	01/16/99		76%	79%	88%	93%	1	87%	99%	87%	86%	89%	1	90%	91%	97%	83%	95%	1	92%	1	90%	89%
471571004	1	SLAMS	08/31/00										13%	40%		40%	53%	84%	67%	81%		71%		65%	28%
471631007	1	SLAMS	01/03/99		30%	77%	71%	100%		70%	71%	83%	90%	93%		84%	93%	87%	93%	100%	1	93%		82%	86%
471650007	1	SLAMS	01/03/99		90%	100%	94%	80%	1	91%	100%	97%	87%	93%	1	94%	93%	94%	100%	97%	1	96%	1	94%	98%
TEXAS																									
480290034	1	SLAMS	04/01/99	10/07/99		24%	4%	5%		14%														14%	9%
480290052	1	SLAMS	03/31/99		1%	18%	0%	23%		14%	47%	65%	62%	63%		59%	78%	81%	27%	70%		64%		49%	45%
480290053	1	SLAMS	10/06/99					20%			52%	80%	81%	63%		69%	50%	58%	47%	58%		53%		61%	47%
480290060	1	SLAMS	06/05/00									26%	82%	66%		74%	76%	98%	60%	72%		77%		76%	68%
480370004	1	SLAMS	02/17/99		53%	33%	47%	53%		44%	97%	100%	94%	97%	1	97%	87%	87%	87%	97%	1	90%		80%	78%
480391003	1	SLAMS	11/26/99					7%			58%	60%	45%	73%		59%	93%	81%	80%	84%	1	85%		72%	48%
480550062	1	SLAMS	03/31/99		3%	23%	3%	33%		20%	55%	87%	81%	63%		72%	90%	84%	40%	61%		69%		56%	52%
480612002	1	SLAMS	01/07/00								77%	73%	87%	100%		87%	77%	94%	100%	94%	1	91%		89%	59%
480850005	1	SLAMS	03/13/99		13%	13%	33%	40%		29%	87%	83%	94%	93%	1	89%	100%	100%	100%	94%	1	99%		76%	71%
481130020	1	SLAMS	03/11/99	07/05/02	9%	40%	35%	84%		53%	88%	85%	91%	96%	1	90%	97%	99%	92%	93%	1	95%		82%	76%
481130035	1	SLAMS	01/06/99		17%	30%	45%	53%		43%	84%	63%	100%	97%		86%	90%	97%	97%	97%	1	95%		78%	73%
481130050	1	SLAMS	01/01/99		13%	15%	70%	30%		32%	29%	86%	98%	97%		78%	99%	100%	99%	98%	1	99%		70%	70%
481130057	1	SLAMS	01/06/99		27%	7%	20%	60%		29%	71%	73%	74%	97%		79%	97%	94%	100%	97%	1	97%		68%	68%
481130069	1	SLAMS	03/11/99		9%	35%	26%	95%		52%	92%	96%	98%	96%	1	96%	97%	97%	83%	95%	1	93%		83%	78%
481130087	1	SLAMS	01/03/99		17%	27%	29%	70%		36%	65%	70%	71%	97%		76%	100%	100%	100%	94%	1	99%		70%	70%
481350003	1	SLAMS	03/28/99		7%	23%	10%	80%		38%	16%	57%	42%	60%		44%	27%	81%	77%	100%		71%		52%	48%
481410002	1	SLAMS	04/02/99			25%	0%	34%		17%	38%	32%	76%	93%		60%	89%	92%	98%	96%	1	94%		65%	56%
481410010	1	SLAMS	12/02/99					33%			52%	63%	65%	43%		56%	77%	100%	97%	100%	1	94%		75%	57%
481410037	1	SLAMS	01/30/99		40%	37%	25%	63%		42%	53%	62%	83%	97%		74%	89%	89%	98%	98%	1	94%		72%	70%
481410038	1	SLAMS	12/14/99					7%			26%	77%	81%	67%		63%	90%	90%	93%	100%	1	93%		78%	53%
481410043	1	SLAMS	01/30/99	12/14/99	43%	30%	45%	60%		38%														38%	45%
481410044	1	SLAMS	01/30/99		38%	53%	20%	71%		48%	98%	96%	99%	95%	1	97%	99%	96%	98%	96%	1	97%		84%	80%
481410045	1	SLAMS	02/05/99		13%	40%	7%	47%		31%	90%	100%	100%	100%	1	98%	83%	81%	97%	94%	1	89%		76%	71%
481410057	1	SLAMS	01/16/00								84%	97%	97%	100%	1	98%	87%	84%	97%	100%	1	92%		95%	93%
481670053	1	SLAMS	06/05/99			7%	7%	33%		20%	71%	67%	84%	93%		79%	97%	90%	83%	71%		85%		70%	59%
481671005	1	SLAMS	10/15/99					43%			68%	67%	90%	97%		81%	100%	84%	47%	61%		73%		77%	56%
481830001	1	SLAMS	01/13/00								84%	97%	94%	97%	1	96%	90%	90%	97%	81%	1	90%		92%	91%
482010024	1	SLAMS	05/15/00	08/12/00								31%	29%												25%
482010026	1	SLAMS	10/26/99	08/16/00				15%			74%	70%	39%			72%								72%	34%
482010051	1	SLAMS	08/16/99				27%	40%		40%	84%	73%	81%	80%		80%	93%	81%	73%	84%		83%		77%	60%
482010058	1	SLAMS	08/16/99				13%	13%		13%	55%	63%	71%	77%		67%	93%	87%	97%	77%	1	89%		70%	54%
482010062	1	SLAMS	04/06/99			13%	40%	53%		35%	84%	70%	84%	80%		80%	87%	77%	90%	84%	1	85%		69%	64%
482010075	1	SLAMS	04/07/01															84%	90%	87%		89%		89%	87%
482011035	1	SLAMS	04/01/99			15%	30%	77%		41%	75%	63%	92%	91%		80%	79%	91%	86%	85%	1	85%		71%	67%

PM2.5 SLAMS / Tribal FRM Data Completeness (as of 7/8/02)

					1999 Information						2000 Information						2001 Information						3 Year Info		
State / Site	POC	Monitor Type	Date of 1st FRM Data Pt.	Date Sampling Ended	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	All Q 75%+	Avg. Capture	NAAQS Avg. Capture*
482011037	1	SLAMS	08/28/99	03/26/01			35%	70%		70%	81%	77%	90%	73%		80%	73%							78%	60%
482011039	1	SLAMS	07/05/99	08/12/00			6%	7%		7%	68%	93%	42%			81%								56%	45%
482150042	1	SLAMS	01/07/00								77%	83%	90%	80%	1	84%	63%	48%	90%	74%		69%		75%	50%
482150043	1	SLAMS	01/13/00								42%	70%	94%	100%		88%	97%	97%	100%	90%	1	96%		93%	58%
482450021	1	SLAMS	03/11/00								22%	15%	72%	86%		58%	92%	100%	95%	96%	1	96%		79%	73%
482450022	1	SLAMS	03/13/00	08/11/00							16%	33%	16%			33%								33%	74%
483030001	1	SLAMS	01/09/99		10%	0%	10%	57%		22%	90%	80%	100%	97%	1	92%	87%	90%	93%	94%	1	91%		73%	67%
483091002	1	SLAMS	01/13/00								26%	37%	68%	70%		58%	77%	87%	63%	71%		75%		68%	62%
483150050	1	SLAMS	02/14/99	06/19/01	33%	23%	35%	100%		53%	97%	100%	97%	97%	1	98%	90%	77%				90%		80%	76%
483390089	1	SLAMS	11/26/99	08/11/00				7%			45%	60%	42%			53%								53%	47%
483550020	1	SLAMS	01/07/00								39%	63%	97%	87%		82%	97%	100%	100%	94%	1	98%		91%	56%
483550032	1	SLAMS	01/07/00								26%	53%	68%	90%		70%	90%	97%	83%	84%	1	89%		81%	54%
483611001	1	SLAMS	03/13/00								23%	30%	26%	77%		44%	100%	100%	100%	100%	1	100%		76%	70%
483750005	1	SLAMS	05/12/00									20%	84%	83%		84%	20%	68%	47%	65%		50%		61%	32%
484390063	1	SLAMS	01/30/99	12/31/01	27%	23%	16%	83%		41%	68%	97%	97%	97%		90%	100%	97%	97%	87%	1	95%		78%	74%
484391002	1	SLAMS	03/11/99		8%	7%	17%	96%		40%	91%	98%	95%	85%	1	92%	100%	96%	91%	93%	1	95%		79%	73%
484391003	1	SLAMS	08/14/99	04/01/01			30%	76%		76%	92%	73%	82%	93%		85%	91%	0%				91%		85%	52%
484391006	1	SLAMS	04/01/01															97%	99%	91%		96%		96%	96%
484393006	1	SLAMS	02/03/99		18%	26%	30%	99%		52%	95%	84%	92%	100%	1	93%	99%	95%	100%	96%	1	98%		83%	79%
484530020	1	SLAMS	03/12/99		8%	16%	45%	85%		49%	96%	87%	96%	91%	1	93%	93%	70%	90%	95%		87%		79%	74%
484530021	1	SLAMS	10/30/99					53%			87%	93%	96%	99%	1	94%	99%	74%	89%	80%		86%		90%	69%
484790016	1	SLAMS	08/10/99				13%	60%		60%	81%	83%	90%	93%	1	87%	97%	97%	90%	100%	1	96%		88%	67%
UTAH																									
490030003	1	SLAMS	08/19/00										48%	93%		93%	97%	94%	100%	100%	1	98%		97%	84%
490050004	1	SLAMS	02/18/00								45%	97%	87%	83%		89%	100%	90%	100%	87%	1	94%		92%	86%
490110001	1	SLAMS	01/04/99		100%	93%	94%	100%	1	96%	97%	100%	97%	100%	1	99%	97%	100%	93%	97%	1	97%	1	97%	97%
490350003	1	SLAMS	01/03/99		97%	100%	97%	100%	1	99%	87%	97%	90%	93%	1	92%	100%	90%	97%	100%	1	97%	1	96%	96%
490350012	1	SLAMS	01/03/99		93%	93%	97%	97%	1	95%	94%	90%	90%	97%	1	93%	100%	100%	97%	90%	1	97%	1	95%	95%
490353003	1	SLAMS	09/09/00	08/14/01									23%	73%		73%	87%	97%	47%			92%		86%	63%
490353006	1	SLAMS	01/01/99		89%	92%	79%	85%	1	86%	97%	89%	78%	96%	1	90%	100%	89%	92%	90%	1	93%	1	90%	90%
490353007	1	SLAMS	01/24/99		63%	100%	97%	80%		92%	94%	87%	100%	100%	1	95%	97%	87%	83%	100%	1	92%		93%	91%
490353008	1	SLAMS	10/25/01																	71%					71%
490450002	1	SLAMS	01/03/99		63%	83%	87%	97%		83%	97%	87%	84%	100%	1	92%	97%	90%	83%	100%	1	93%		89%	89%
490490002	1	SLAMS	01/03/99		100%	100%	100%	100%	1	100%	87%	100%	90%	93%	1	93%	90%	81%	97%	100%	1	92%	1	95%	95%
490494001	1	SLAMS	01/01/99		84%	90%	99%	92%	1	91%	91%	100%	90%	99%	1	95%	98%	99%	99%	88%	1	96%	1	94%	94%
490495008	1	SLAMS	03/22/00								13%	97%	100%	90%		96%	93%	90%	90%	100%	1	93%		94%	84%
490495010	1	SLAMS	01/03/99		97%	83%	87%	97%	1	91%	94%	100%	84%	97%	1	94%	97%	94%	100%	97%	1	97%	1	94%	94%
490570001	1	SLAMS	01/03/99	02/16/00	97%	100%	97%	87%	1	95%	48%													95%	72%
490570002	1	SLAMS	07/05/01																63%	100%		100%		100%	82%
490570007	1	SLAMS	01/03/99		80%	93%	94%	80%	1	87%	81%	93%	97%	93%	1	91%	90%	94%	83%	97%	1	91%	1	90%	90%
490571003	1	SLAMS	11/05/00											57%			100%	100%	100%	97%	1	99%		99%	78%
VERMONT																									
500030005	1	SLAMS	01/03/99		77%	100%	90%	100%	1	92%	100%	100%	94%	90%	1	96%	97%	97%	100%	100%	1	99%	1	95%	95%
500070007	1	SLAMS	01/03/99		83%	87%	81%	93%	1	86%	81%	87%	94%	93%	1	89%	100%	94%	97%	100%	1	98%	1	91%	91%
500210002	1	SLAMS	01/03/99		87%	80%	77%	97%	1	85%	94%	100%	84%	97%	1	94%	97%	90%	93%	94%	1	94%	1	91%	91%
VIRGIN ISLANDS																									
780010012	1	SLAMS	01/12/99		60%	40%	33%	33%		35%	88%	67%	67%	67%		72%	40%	38%	40%	67%		46%		53%	53%
780050009	1	SLAMS	04/06/00									53%	73%	7%		44%	80%	81%	87%	33%		70%		59%	57%
VIRGINIA																									
510130020	1	SLAMS	01/29/99		57%	90%	97%	57%		81%	100%	97%	100%	97%	1	99%	97%	100%	100%	90%	1	97%		93%	90%
510360002	1	SLAMS	01/30/99		63%	77%	77%	50%		68%	81%	77%	94%	97%	1	87%	83%	87%	87%	84%	1	85%		81%	80%
510410003	1	SLAMS	02/02/99		20%	53%	81%	47%		60%	90%	97%	81%	97%	1	91%	87%	84%	93%	84%	1	87%		81%	76%
510590030	1	SLAMS	01/29/99		62%	84%	71%	47%		67%	82%	85%	93%	87%	1	87%	84%	80%	63%	90%		79%		79%	77%
510591004	1	SLAMS	01/30/99	04/30/01	50%	100%	90%	43%		78%	58%	87%	87%	77%		77%	80%	19%				80%		78%	66%
510595001	1	SLAMS	01/30/99		57%	77%	97%	33%		69%	90%	93%	71%	87%		85%	80%	94%	87%	87%	1	87%		81%	79%
510870014	1	SLAMS	01/28/99		60%	70%	81%	50%		67%	87%	97%	97%	100%	1	95%	97%	100%	97%	87%	1	95%		88%	85%
510870015	1	SLAMS	01/28/99		67%	67%	77%	40%		61%	71%	100%	90%	87%		87%	90%	94%	100%	94%	1	95%		83%	81%
511071005	1	SLAMS	02/05/99		63%	100%	97%	60%		86%	97%	93%	100%	87%	1	94%	90%	97%	93%	87%	1	92%		91%	89%
511390004	1	SLAMS	11/23/99					23%			77%	83%	90%	87%	1	84%	87%	90%	93%	94%	1	91%		88%	66%

PM2.5 SLAMS / Tribal FRM Data Completeness (as of 7/8/02)

					1999 Information						2000 Information						2001 Information						3 Year Info		
State / Site	POC	Monitor Type	Date of 1st FRM Data Pt.	Date Sampling Ended	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	All Q 75%+	Avg. Capture	NAAQS Avg. Capture*
515200006	1	SLAMS	01/30/99		57%	80%	77%	87%		81%	90%	97%	84%	97%	1	92%	77%	97%	90%	97%	1	90%		88%	86%
515500012	1	SLAMS	01/31/99		59%	98%	88%	51%		79%	74%	64%	89%	85%		78%	77%	79%	96%	91%	1	86%		81%	79%
516500004	1	SLAMS	01/30/99		70%	93%	97%	47%		79%	94%	100%	77%	70%		85%	93%	71%	97%	77%		85%		83%	82%
516800014	1	SLAMS	01/28/99		47%	73%	55%	10%		46%	13%	47%	100%	93%		63%	93%	94%	93%	97%	1	94%		70%	68%
517000013	1	SLAMS	02/08/99		63%	93%	97%	53%		81%	94%	97%	97%	83%	1	93%	97%	87%	97%	77%	1	90%		88%	86%
517100024	1	SLAMS	01/30/99		57%	87%	97%	47%		77%	90%	100%	97%	97%	1	96%	97%	90%	80%	94%	1	90%		89%	86%
517600020	1	SLAMS	01/27/99		61%	92%	93%	54%		80%	66%	98%	97%	97%		90%	99%	99%	98%	93%	1	97%		90%	87%
517700014	1	SLAMS	02/02/99		63%	90%	65%	67%		74%	94%	87%	100%	100%	1	95%	97%	100%	100%	97%	1	99%		91%	88%
517750010	1	SLAMS	01/30/99		63%	97%	74%	53%		75%	90%	100%	100%	93%	1	96%	93%	100%	97%	87%	1	94%		89%	87%
518100008	1	SLAMS	02/02/99		53%	93%	90%	53%		79%	94%	100%	94%	93%	1	95%	100%	94%	97%	90%	1	95%		91%	88%
WASHINGTON																									
530050002	1	SLAMS	02/28/99		40%	73%	0%	80%		51%	74%	87%	74%	97%		83%	87%	77%	87%	84%	1	84%		75%	72%
530110013	1	SLAMS	01/09/99		87%	93%	39%	93%		75%	97%	90%	97%	90%	1	94%	97%	97%	97%	100%	1	98%		90%	90%
530330004	1	SLAMS	01/03/99	10/03/99	93%	93%	87%	0%		91%														91%	68%
530330017	1	SLAMS	01/03/99		57%	60%	94%	93%		76%	87%	90%	97%	80%	1	89%	100%	94%	97%	90%	1	95%		87%	87%
530330021	1	SLAMS	01/01/99		99%	99%	100%	93%	1	98%	90%	100%	96%	98%	1	96%	96%	99%	98%	90%	1	96%	1	97%	97%
530330024	1	SLAMS	03/10/99		27%	100%	100%	90%		97%	94%	100%	100%	83%	1	94%	90%	94%	93%	100%	1	94%		95%	89%
530330027	1	SLAMS	08/04/99				52%	97%		97%	90%	93%	90%	97%	1	93%	87%	90%	73%	90%		85%		90%	84%
530330037	1	SLAMS	11/02/00											53%			100%	100%	93%	97%	1	98%		98%	75%
530330057	1	SLAMS	01/01/99		99%	100%	92%	90%	1	95%	100%	100%	88%	100%	1	97%	97%	93%	96%	99%	1	96%	1	96%	96%
530330080	1	SLAMS	01/03/99		93%	93%	84%	87%	1	89%	98%	91%	88%	95%	1	93%	99%	91%	97%	93%	1	95%	1	92%	92%
530332004	1	SLAMS	01/03/99		90%	100%	100%	97%	1	97%	29%	0%	0%	0%		7%	50%	100%	93%	100%		86%		63%	63%
530530029	1	SLAMS	10/03/99					92%			96%	99%	93%	93%	1	95%	96%	95%	99%	96%	1	97%		96%	95%
530530031	1	SLAMS	01/01/99		96%	100%	96%	96%	1	97%	100%	100%	98%	98%	1	99%	94%	100%	98%	100%	1	98%	1	98%	98%
530531018	1	SLAMS	01/01/99		100%	100%	100%	100%	1	100%	97%	87%	94%	83%	1	90%	97%	100%	97%	97%	1	98%	1	96%	96%
530610005	1	SLAMS	10/03/99					100%		100%	100%	100%	100%	90%	1	98%	97%	97%	97%	100%	1	98%		98%	98%
530611007	1	SLAMS	01/03/99		93%	100%	100%	93%	1	97%	97%	100%	90%	100%	1	97%	97%	94%	93%	100%	1	96%	1	96%	96%
530630016	1	SLAMS	01/01/99		67%	76%	61%	57%		65%	98%	88%	97%	90%	1	93%	96%	98%	92%	100%	1	97%		85%	85%
530630047	1	SLAMS	01/03/99		60%	90%	35%	60%		61%	97%	100%	100%	97%	1	99%	100%	81%	97%	84%	1	91%		83%	83%
530670013	1	SLAMS	01/03/99		93%	97%	81%	90%	1	90%	100%	100%	97%	100%	1	99%	93%	97%	97%	97%	1	96%	1	95%	95%
530730015	1	SLAMS	02/05/99		50%	97%	81%	93%		90%	90%	87%	87%	93%	1	89%	100%	94%	80%	97%	1	93%		91%	87%
530770009	1	SLAMS	05/06/00									63%	100%	100%		100%	100%	100%	100%	100%	1	100%		100%	94%
530770012	1	SLAMS	01/09/99	08/31/99	80%	70%	58%			70%														70%	69%
WEST VIRGINIA																									
540030003	1	SLAMS	02/14/99		50%	70%	87%	97%		85%	97%	100%	90%	80%	1	92%	93%	97%	97%	84%	1	93%		90%	87%
540090005	1	SLAMS	01/03/99		97%	90%	100%	87%	1	94%	97%	93%	90%	87%	1	92%	97%	100%	80%	94%	1	93%	1	93%	93%
540110006	1	SLAMS	01/03/99		93%	100%	100%	100%	1	98%	94%	100%	87%	97%	1	95%	87%	100%	93%	100%	1	95%	1	96%	96%
540290011	1	SLAMS	01/03/99		93%	97%	100%	97%	1	97%	100%	87%	97%	90%	1	94%	87%	97%	90%	100%	1	94%	1	95%	99%
540291004	1	SLAMS	01/03/99		73%	83%	74%	97%		82%	94%	97%	90%	100%	1	95%	97%	97%	90%	90%	1	94%		90%	90%
540390009	1	SLAMS	01/03/99	05/09/00	87%	100%	100%	100%	1	97%	90%	43%				90%								95%	82%
540390010	1	SLAMS	05/12/00									37%	97%	87%		92%	97%	94%	100%	94%	1	96%		95%	85%
540391005	1	SLAMS	01/03/99		100%	87%	97%	97%	1	95%	90%	97%	90%	100%	1	94%	80%	94%	100%	94%	1	92%	1	94%	99%
540511002	1	SLAMS	01/03/99		100%	100%	100%	100%	1	100%	90%	87%	97%	93%	1	92%	97%	100%	93%	100%	1	98%	1	96%	96%
540610003	1	SLAMS	01/03/99		83%	100%	94%	97%	1	94%	97%	97%	94%	90%	1	95%	97%	100%	100%	100%	1	99%	1	96%	96%
540690008	1	SLAMS	01/03/99		97%	100%	87%	73%		89%	94%	93%	97%	93%	1	94%	97%	100%	90%	87%	1	94%		92%	92%
541071002	1	SLAMS	01/03/99		73%	77%	87%	87%		81%	90%	90%	90%	100%	1	93%	93%	97%	97%	100%	1	97%		90%	90%
WISCONSIN																									
550090005	1	SLAMS	01/21/99		73%	83%	97%	87%		89%	77%	97%	97%	93%	1	91%	100%	100%	97%	100%	1	99%		93%	92%
550090026	1	SLAMS	01/03/99		70%	83%	90%	97%		85%	90%	97%	97%	100%	1	96%	100%	84%	97%	100%	1	95%		92%	92%
550090028	1	SLAMS	03/02/01														23%	90%	97%	97%		95%		95%	77%
550250025	1	SLAMS	01/03/99		97%	87%	77%	97%	1	90%	94%	97%	90%	97%	1	95%	93%	100%	100%	97%	1	98%	1	94%	94%
550290004	1	SLAMS	01/03/99		83%	90%	94%	80%	1	87%	100%	93%	97%	100%	1	98%	97%	100%	100%	100%	1	99%	1	95%	95%
550310025	1	SLAMS	01/03/99		90%	100%	94%	87%	1	93%	87%	97%	100%	100%	1	96%	100%	100%	100%	100%	1	100%	1	96%	96%
550590019	3	SLAMS	01/03/99		97%	100%	97%	97%	1	98%	100%	87%	94%	100%	1	95%	97%	90%	97%	94%	1	95%	1	96%	96%
550710007	1	SLAMS	01/03/99		90%	100%	81%	90%	1	90%	97%	97%	100%	93%	1	97%	100%	87%	100%	94%	1	95%	1	94%	94%
550790010	2	SLAMS	01/05/99		92%	98%	95%	97%	1	97%	96%	95%	100%	92%	1	96%	98%	97%	100%	97%	1	98%	1	97%	96%
550790026	1	SLAMS	01/01/99		97%	99%	95%	90%	1	95%	90%	98%	97%	85%	1	93%	82%	82%	93%	100%	1	89%	1	92%	92%
550790043	1	SLAMS	01/21/99		70%	100%	97%	87%		95%	90%	90%	74%	90%		86%	87%	74%	93%	94%		87%		89%	87%
550790050	1	SLAMS	03/13/99		20%	90%	97%	100%		96%	94%	97%	97%	83%	1	93%	97%	97%	100%	100%	1	99%		96%	89%

PM2.5 SLAMS / Tribal FRM Data Completeness (as of 7/8/02)

					1999 Information						2000 Information						2001 Information						3 Year Info		
State / Site	POC	Monitor Type	Date of 1st FRM Data Pt.	Date Sampling Ended	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	Q1%	Q2%	Q3%	Q4%	All Q 75%+	Avg Capture	All Q 75%+	Avg. Capture	NAAQS Avg. Capture*
550790051	1	SLAMS	02/05/99		63%	100%	97%	93%		97%	87%	90%	84%	93%	1	89%	93%	87%	100%	100%	1	95%		93%	91%
550790059	2	SLAMS	01/03/99		80%	97%	100%	97%	1	94%	90%	90%	90%	80%	1	88%	90%	94%	100%	100%	1	96%	1	92%	92%
550790099	1	SLAMS	02/05/99		63%	100%	100%	100%		100%	100%	100%	97%	100%	1	99%	97%	100%	100%	100%	1	99%		99%	96%
550870009	1	SLAMS	01/03/99		93%	97%	90%	97%	1	94%	94%	97%	90%	100%	1	95%	97%	87%	93%	100%	1	94%	1	95%	95%
550890008	1	SLAMS	03/25/99		7%	90%	97%	97%		95%	81%	87%	97%	90%	1	89%	97%	81%	93%	100%	1	93%		92%	85%
551050002	1	SLAMS	01/03/99	09/30/01	100%	100%	97%	100%	1	99%	97%	90%	90%	93%	1	93%	100%	90%	90%			93%		95%	95%
551050024	1	SLAMS	09/25/01																7%	90%		90%		90%	49%
551330027	2	SLAMS	01/03/99		93%	100%	94%	97%	1	96%	96%	98%	98%	95%	1	97%	77%	100%	100%	95%	1	93%	1	95%	95%
551330034	1	SLAMS	01/21/99		77%	97%	100%	100%	1	99%	100%	100%	100%	97%	1	99%	100%	100%	100%	77%	1	94%	1	97%	96%
551390011	1	SLAMS	01/03/99		93%	100%	97%	87%	1	94%	94%	93%	97%	100%	1	96%	97%	87%	100%	100%	1	96%	1	95%	95%
551410016	1	SLAMS	01/03/99		93%	100%	94%	87%	1	94%	97%	97%	94%	77%	1	91%	73%	97%	80%	100%		88%		91%	91%
WYOMING																									
560131003	1	SLAMS	11/15/01	12/31/01																52%					52%
560131004	1	SLAMS	01/01/00								94%	90%	100%	100%	1	96%	97%	100%	100%	48%		86%		91%	91%
560210001	1	SLAMS	10/29/98		90%	97%	77%	83%	1	87%	90%	90%	94%	93%	1	92%	90%	74%	90%	97%		88%		89%	89%
560330001	1	SLAMS	10/14/98		100%	100%	87%	100%	1	97%	100%	100%	97%	100%	1	99%	100%	97%	97%	97%	1	98%	1	98%	98%
560330002	1	SLAMS	10/14/98		100%	93%	100%	100%	1	98%	100%	100%	100%	97%	1	99%	93%	100%	97%	100%	1	98%	1	98%	98%
560390006	1	SLAMS	07/03/01																100%	90%		95%		95%	63%
		Totals********			**66%**	**80%**	**79%**	**80%**	**236**	**81%**	**82%**	**86%**	**87%**	**87%**	**556**	**87%**	**87%**	**89%**	**89%**	**87%**	**709**	**89%**	**169**	**86%**	**81%**

Attachment 2-2

Site Sampling Frequency

PM2.5 SLAMS / Tribal FRM Sampling Frequencies - By Quarter

State / Site	POC	1999				2000				2001			
		1	2	3	4	1	2	3	4	1	2	3	4
ALABAMA													
010270001	1	3	3	3	3	3	3	3	3	3	3	3	3
010331002	1	3	3	3	3	3	3	3	3	3	3	3	3
010690002	1	3	3	3	3	3	3	3	3	3	3	3	3
010730023	1	1	1	1	1	1	1	1	1	1	1	1	1
010732003	1	1	1	1	1	1	1	1	1	1	1	1	1
010735002	1	3	3	3	3	3	3	3	3	3	3	3	3
010890014	1	3	3	3	3	3	3	3	3	3	3	3	3
010970002	1	3	3	3	3	3	3	3	3	3	3	3	3
011010007	1	3	3	3	3	3	3	3	3	3	3	3	3
011030010	1	3	3	3	3	3	3	3	3	3	3	3	
011030011	1											3	3
011130001	1	3	3	3	3	3	3	3	3	3	3	3	3
011170006	1	3	3	3	3	3	3	3	3	3	3	3	3
011190002	1	3	3	3	3	3	3	3	3	3	3	3	3
011210002	1	3	3	3	3	3	3	3	3	3	3	3	3
011250003	1	3	3	3	3	3	3	3	3	3			
011270002	1	3	3	3	3	3	3	3	3	3	3	3	3
ALASKA													
020200018	1	3	3	3	3	3	3	3	3	3	3	3	3
020200044	1		3	3	3	3	3	3	3	3	3	3	3
020900010	2	6	3	3	3	3	3	3	3	3	3	3	3
021100004	2		3	3	3	3	3	3	3	3	3	3	3
021700004	1					3	3	3	3	3	3	3	3
021700008	1	3	3	3	3	3	3	3	3	3	3	3	3
022900003	1						3	3	3	3	3	3	3
ARIZONA													
040031005	1	6	6	6	6	6	6	6	6	6	6	6	6
040051008	1	6	6	6	6	6	6	6	6	6	6	6	6
040190011	1	1	1	1	1	3	3	3	3	3	3	3	1
040191028	1	3	3	3	3	3	3	3	3	3	3	3	3
040230004	1	6	6	6	6	6	6	6	6	6	6	6	6
ARKANSAS													
050010001	1			6	6	3	3	3					
050010010	1							3	3	3	3	3	
050010011	1											3	3
050030003	1			6	6	3	3	3					
050030004	1							3	3	3	3	3	3
050030005	1												3
050310001	1			6	6	6	6	6	6	6	6	3	3
050350004	1			3	3	3	3	3	3	3	3	3	3
050450002	1						6	6	6	6	6	3	3
050510002	1			6	6	3	3	3	3	3	3	3	3
050690005	1			6	6	6	6	6	6	6	6	3	
050690006	1											3	3
050890001	1			6	6	6	6	6	6	6	6	3	3
050910004	1			6	6	6	6	6	6	6	6	3	3
050930007	1							6	6	6	6	3	3
051070001	1			6	6	3	3	3	3	3	3	3	3
051130002	1			6	6	3	3	3	3	3	3	3	3
051150003	1			6	6	3	3	3	3	3	3	3	3
051190003	1			6	6	3	3	3					
051190007	1		1	1	1	1	1	1	1	1	1	1	1
051191004	1							3	3	3	3	3	3
051191008	1			3	3	1	1	1	1	1	1	1	1
051310008	1			3	3	3	3	3	3	3	3	3	3
051390004	1			6	6	3	3	3	3	3	3		
051390005	1										3	3	3
051430003	1			3	3	3	3	3	3	3	3	3	3
051450001	1						6	6	6	6	6	3	3
CALIFORNIA													
060010007	1				3	3	6	6	3	3	6	6	3
060011001	1	3	6	6	3	3	6	6	3	3	6	6	3
060070002	1	6	6	6	6	6	6	6	6	6	6	6	6
060090001	1	6	6	6	6	6	6	6	6	6	6	6	6
060111002	1	6	3	3	3	3	3	3	3	3	3	3	3
060130002	1	1	6	6	1	1	6	6	1	1	6	6	1
060170011	1	6	6	6	6	6	6	6	6	6	6	6	6
060170012	1					3	3	3	3	3	3	3	3
060190008	1	1	1	1	1	1	1	1	1	1	1	1	1
060195001	1	3	6	6	3	3	6	6	3	3	6	6	3
060195025	1					3	6	6	3	3	6	6	3
060231002	1	6	6	6	6	6	6	6	6	6	6	6	6
060250003	1	3	3	3	3	3	3	3	3	3	3	3	3
060250005	1	3	3	3	3	3	3	3	3	3	3	3	3
060251003	1	3	3	3	3	3	3	3	3	3	3	3	3
060271003	1	3	3	3	3	3	3	3	3	3	3	3	3
060290010	1	3	6	6	3	3	6	6	3	3	6	6	3
060290011	1	3	3	3	3	3	3	3	3	3	3	3	3
060290012	1		3	3	3	3	3	3	3	3	3	3	3
060290014	1	1	1	1	1	1	1	1	1	1	1	1	1
060290016	1					3	3	3	3	3	3	3	3
060310004	1	3	6	6	3	3	6	6	3	3	6	6	3
060333001	1	6	6	6	6	6	6	6	6	6	6	6	6
060370002	1	1	1	1	1	1	1	1	1	1	1	1	1
060371002	1	3	3	3	3	3	3	3	3	3	3	3	3
060371103	1	1	1	1	1	1	1	1	1	1	1	1	1
060371201	1	3	3	3	3	3	3	3	3	3	3	3	3
060371301	1	3	3	3	3	3	3	3	3	3	3	3	3
060371601	1	3	3	3	3	3	3	3	3	3	3	3	3
060372005	1	3	3	3	3	3	3	3	3	3	3	3	3
060374002	1	1	1	1	1	1	1	1	1	1	1	1	1
060379002	1	3	3	3	3	3	3	3	3	3	3	3	3
060450006	1	6	6	6	6	6	6	6	6	6	6	6	6
060472510	1		6	6	3	3	6	6	3	3	6	6	3
060490001	1	6	6	6	6	6	6	6	6	6	6	6	6
060510001	1								3	3	3	3	3
060531002	1	3	3	3	3	3	3	3	3	3	3	3	3
060531003	1					6	6	6	6	6	6	6	6
060570005	1	6	6	6	6	6	6	6	6	6	6	6	6
060571001	1	3	3	3	3	3	3	3	3	3	3	3	3
060590001	1	1	1	1	1	1	1	1	1	1	1	1	1
060610006	1	6	6	6	6	6	6	6	6	6	6	6	6
060631006	1	3	3	3	3	3	3	3	3	3	3	3	3
060631008	1	6	3	3	3	3							
060631009	1					3	3	3	3	3	3	3	3
060651003	1	3	3	3	3	3	3	3	3	3	3	3	3
060652002	1	3	3	3	3	3	3	3	3	3	3	3	3
060655001	1					3	3	3	3	3	3	3	3
060658001	1	1	1	1	1	1	1	1	1	1	1	1	1
060670006	1	3	3	3	3	3	3	3	3	3	3	3	3
060670010	1	1	1	1	1	1	1	1	1	1	1	1	1
060674001	1	1	3	3	1	1	3	3	1	1	3	3	1
060710014	1	3	3	3	3	3	3	3	3	3	3	3	3
060710025	1	3	3	3	3	3	3	3	3	3	3	3	3
060710306	1					3	3	3	3	3	3	3	3
060712002	1	3	3	3	3	3	3	3	3	3	3	3	3
060719004	1	3	3	3	3	3	3	3	3	3	3	3	3
060730001	1	3	3	3	3	3	3	3	3	3	3	3	3
060730003	1	1	1	1	1	1	1	1	1	1	1	1	1
060730006	1	3	3	3	3	3	3	3	3	3	3	3	3
060731002	1	1	1	1	1	1	1	1	1	1	1	1	1
060731007	1	1	1	1	1	1	1	1	1	1	1	1	1
060750005	1	1	6	6	1	1	6	6	1	1	6	6	1
060771002	1	3	3	3	3	3	3	3	3	3	3	3	3
060792002	1	6	6	6	6	6	6	6	6	6	6	6	6
060798001	1	6	6	6	6	6	6	6	6	6	6	6	6
060811001	1	3	6	6	3	3	6	6	3	3	6	6	3
060830010	1	6	6	6	6	6	6	6	6				
060831007	1			6	6	6	6	6	6	6	6	6	6
060850004	2	1	6	6	1	1	6	6	1	1	6	6	1
060852003	1	1	6	6	1	1	6	6	1	1	6	6	1
060870007	1	3	3	3	3	3	6	6	6	6	6	6	6
060890004	1	6	6	6	6	6	6	6	6	6	6	6	6

PM2.5 SLAMS / Tribal FRM Sampling Frequencies - By Quarter

State / Site	POC	1999				2000				2001			
		1	2	3	4	1	2	3	4	1	2	3	4
060950004	1	3	6	6	3	3	6	6	3	3	6	6	3
060970003	1	3	6	6	3	3	6	6	3	3	6	6	3
060990005	1	3	3	3	3	3	3	3	3	3	3	3	3
061010003	1	6	6	6	6	6	6	6	6	6	6	6	6
061072002	1	3	3	3	3	3	3	3	3	3	3	3	3
061110007	1	3	3	3	3	3	3	3	3	3	3	3	3
061110009	1								3	3	3	3	3
061112002	1	3	3	3	3	3	3	3	3	3	3	3	3
061113001	1	3	3	3	3	3	3	3	3	3	3	3	3
061131003	1	3	3	3	3	3	3	3	3	3	3	3	3
COLORADO													
080010001	1	3	3	3	3	3	3	3	3	3	3		
080010006	1									3	3	3	3
080050005	1	3	3	3	3	3	3	3	3	3	3	3	3
080130003	1	3	3	3	3	3	3	3	3	3	3	3	3
080130012	1	3	3	3	3	3	3	3	3	3	3	3	3
080310002	1	1	1	1	1	1	1	1	1	1	1	1	1
080390001	1		3	3	3	3	3	3	3	3	3	3	3
080410008	1			3	3	3	3	3	3	3	3	3	3
080410011	1	3	3	3	3	3	3	3	3	3	3	3	3
080690009	1			3	3	3	3	3	3	3	3	3	3
080770003	1	3	3	3	3	3	3	3	3	3	3	3	3
081010012	1	3	3	3	3	3	3	3	3	3	3	3	3
081230006	1	3	3	3	3	3	3	3	3	3	3	3	3
081230008	1			3	3	3	3	3	3	3	3	3	3
CONNECTICUT													
090010010	1	3	3	3	3	3	3	3	3	3	3	3	3
090010113	1							3	3	3	3	3	3
090011123	1	3	3	3	3	3	3	3	3	3	3	3	3
090031003	1	1	1	1	1	1	1	1	1	1	1	1	1
090031018	1	3	3	3	3	3	3	3	3	3	3	3	3
090090018	1	3	3	3	3	3	1	1	1	1	1	1	1
090091123	1	3	3	3	3	3	3	3	3	3	3	3	3
090092123	1	3	3	3	3	3	3	3	3	3	3	3	3
090099005	1			3	3	3	3	3	3	3	3	3	3
090113002	1	3	3	3	3	3	3	3	3	3	3	3	3
DELAWARE													
100010002	1	3	3	3	3	3	3	3	3	3	3	3	3
100010003	1	3	3	3	3	3	3	3	3	3	3	3	3
100031003	1	3	3	3	3	3	3	3	3	3	3	3	3
100031007	1	3	3	3	3	3	3	3	3	3	3	3	3
100031011	1	1	1	1	1								
100031012	1				1	1	1	1	1	1	1	1	1
100032004	1	1	1	1	1	1	1	1	1	1	1	1	1
100051002	1	3	3	3	3	3	3	3	3	3	3	3	3
DISTRICT OF COLUMBIA													
110010041	1	1	1	1	1	1	1	1	1	1	1	1	1
110010042	1	3	3	3	3	3	3	3	3	3	3	3	3
110010043	1	1	1	1	1	1	1	1	1	1	1	1	1
FLORIDA													
120010023	1	3	3	3	3	3	3	3	3	3	3	3	3
120010024	1			3	3	3	3	3	3	3	3	3	3
120051004	1										3	3	3
120090007	1					3	3	3	3	3	3	3	3
120111002	1	1	1	1	1	1	1	1	1	1	1	1	1
120112004	1		1	1	1	1	1	1	1	1	1	1	1
120113002	1		3	3	3	3	3	3	3	3	3	3	3
120170005	1	3	3	3	3	3	3	3	3	3	3	3	3
120251016	1	1	1	1	1	1	1	1	1	1	1	1	1
120256001	1	3	3	3	3	3	3	3	3	3	3	3	3
120310098	1		3	1	1	1	1	1	1	1	1	1	1
120310099	1		1	1	1	1	1	1	1	1	1	1	1
120330004	1	3	3	3	3	3	3	3	3	3	3	3	3
120570030	1	1	1	1	1	1	1	1	1	1	1	1	1
120571075	1	1	1	1	1	1	1	1	1	1	1	1	1
120710005	1	3	3	3	3	3	3	3	3	3	3	3	3
120730012	1	3	3	3	3	3	3	3	3	3	3	3	3

State / Site	POC	1999				2000				2001			
		1	2	3	4	1	2	3	4	1	2	3	4
120814012	1	3	3	3	3	3	3	3	3	3	3	3	3
120830003	1	3	3	3	3	3	3	3	3	3	3	3	3
120951004	1	1	1	1	1	1	1	1	1	1	1	1	1
120952002	1	1	1	1	1	1	1	1	1	1	1	1	1
120990009	1				1	1	1	1	1	1	1	1	1
120992003	1	1	1	1	1	1	1	1	1	1	1	1	
120992005	1											1	1
121030018	1	1	1	1	1	1	1	1	1	1	1	1	1
121031008	1	3	3	3	3	3	3	3	3	3	3	3	3
121056006	1	3	3	3	3	3	3	3	3	3	3	3	3
121111002	1	3	3	3	3	3	3	3	3	3	3	3	3
121150013	1	3	3	3	3	3	3	3	3	3	3	3	3
121171002	1	3	3	3	3	3	3	3	3	3	3	3	3
121275002	1	3	3	3	3	3	3	3	3	3	3	3	3
GEORGIA													
130210007	1	3	3	3	3	3	3	3	3	3	3	3	3
130210012	1	3	3	3	3	3	3	3	3	3	3	3	3
130510017	1	3	3	3	3	3	3	3	3	3	3	3	3
130510091	1	3	3	3	3	3	3	3	3	3	3	3	3
130590001	1	3	3	3	3	3	3	3	3	3	3	3	3
130630091	1	3	3	3	3	3	3	3	3	3	3	3	3
130670003	1	3	3	3	3	3	3	3	3	3	3	3	3
130890002	1	1	1	1	1	1	1	1	1	1	1	1	1
130892001	1	1	1	1	1	1	1	1	1	1	1	1	1
130950007	1	3	3	3	3	3	3	3	3	3	3	3	3
131150005	1	3	3	3	3	3	3	3	3	3	3	3	3
131210032	1	1	1	1	1	1	1	1	1	1	1	1	1
131210039	1	3	3	3	3	3	3	3	3	3	3	3	3
131211001	1	3	3	3	3	3	3	3	3	3	3	3	3
131270004	1	3	3	3									
131270006	1			3	3	3	3	3	3	3	3	3	3
131390003	1	3	3	3	3	3	3	3	3	3	3	3	3
132150001	1	3	3	3	3	3	3	3	3	3	3	3	3
132150011	1	3	3	3	3	3	3	3	3	3	3	3	3
132230003	1	3	3	3	3	3	3	3	3	3	3	3	3
132450005	1	3	3	3	3	3	3	3	3	3	3	3	3
132450091	1	3	3	3	3	3	3	3	3	3	3	3	3
133030001	1	6	6	6	6	6	6	6	6	6	6	6	6
133190001	1		3	3	3	3	3	3	3	3	3	3	3
HAWAII													
150030010	1	3	3	3	3	3	3	3	3	3	3	3	3
150031001	1	1	1	1	1	1	1	1	1	1	1	1	1
150031004	1				6	6	6	6	6	6	6	6	6
150032004	1	1	1	1	1	1	1	1	1	1	1	1	1
150090006	1	3	3	3	3	3	3	3	3	3	3	3	3
IDAHO													
160010011	1	3	3	3	3	3	3	3	3	3	3	3	3
160010017	1	6	6	3	3	3	3	3	3	3	3	3	3
160050006	1	6	6	6	3	3	3	3	3	3	3	3	3
160050015	1	3	3	3	3	3	3	3	3	1	1	1	1
160170001	1	3	3	3	3	3	3	3	3	3	3	3	3
160170004	3												3
160190010	1			6	6	6	6	6	6	3	3	3	3
160270004	1	3	3	3	3	3	3	3	3	3	3	3	3
160270005	1	6	6	3	3	3	3	3	3	3	3	3	3
160550006	2			3	3	3	3	3	3	3	3	3	3
160690009	1				6	6	6	6	6	3	3	3	3
160770011	1					6	6	6	6	6	6	6	6
160790017	1			6	6	6	6	6	6	3	3	3	3
160830010	1				6	6	6	6	6	3	3	3	3
ILLINOIS													
170010006	1					6	6	6	6	6	6	6	6
170190004	1					6	6	6	6	6	6	6	6
170191001	1	6	6	6	6	6	6	6	6	6	6	6	6
170310014	1	6	6	6	6	3	3	3	3	3	3	3	3
170310022	1	6	6	6	6	3	3	3	3	3	3	3	3
170310050	1	6	6	6	6	1	1	1	1	1	1	1	1

PM2.5 SLAMS / Tribal FRM Sampling Frequencies - By Quarter

State / Site	POC	1999				2000				2001			
		1	2	3	4	1	2	3	4	1	2	3	4
170310052	1	6	6	6	6	1	1	1	1	1	1	1	1
170310057	1					3	3	3	3	3	3	3	3
170310076	1					3	3	3	3	3	3	3	3
170311016	1	6	6	6	6	3	3	3	3	3	3	3	3
170311701	1	6	6	6	6								
170312001	1	6	6	6	6	3	3	3	3	3	3	3	3
170313301	1	6	6	6	6	3	3	3	3	3	3	3	3
170314006	1	6	6	6	6	3	3	3	3				
170314007	1									3	3	3	3
170314201	1	6	6	6	6	1	1	1	1	1	1	1	1
170316005	1					3	3	3	3	3	3	3	3
170434002	1	6	6	6	6	3	3	3	3	3	3	3	3
170890003	1					3	3	3	3	3	3	3	3
170971007	1					3	3	3	3	3	3	3	3
170990007	1					3	3	3	3	3	3	3	3
171110001	1					3	3	3	3	3	3	3	3
171132002	1					6	6	6	6	6	6	6	6
171150013	1	6	6	6	6	3	3	3	3	3	3	3	3
171170002	1	6	6	6	6								
171190023	1	6	6	6	6	3	3	3	3	3	3	3	3
171191007	1	6	6	6	6	3	3	3	3	3	3	3	3
171192009	1					3	3	3	3	3	3	3	3
171193007	1	6	6	6	6	3	3	3	3	3	3	3	3
171430037	1	6	6	6	6	3	3	3	3	3	3	3	3
171570001	1	6	6	6	6	6	6	6	6	6	6	6	6
171610003	1	6	6	6	6	6	6	6	6				
171613002	1									6	6	6	6
171630010	1	6	6	6	6	3	3	3	3	3	3	3	3
171634001	1					3	3	3	3	3	3	3	3
171670012	1	6	6	6	6	3	3	3	3	3	3	3	3
171971002	1	6	6	6	6	3	3	3	3	3	3	3	3
171971011	1	6	6	6	6	6	6	6	6	6	6	6	6
172010010	1	6	6	6	6	3	3	3	3	3	3	3	3
INDIANA													
180030004	1	3	3	3	3	3	3	3	3	3	3	3	3
180030014	1					3	3	3	3	3	3	3	3
180190005	1	3	3	3	3	3	3	3	3	3	3	3	3
180350006	1				3	3	3	3	3	3	3	3	3
180372001	1					3	3	3	3	3	3	3	3
180390003	1		3	3	3	3	3	3	3	3	3	3	3
180431004	1	3	3	3	3	3	3	3	3	3	3	3	3
180650003	1								3	3	3	3	3
180670003	1		3	3	3	3	3	3	3	3	3	3	3
180830004	1					3	3	3	3	3	3	3	3
180890006	1	1	1	1	1	1	1	1	1	1	1	1	1
180890022	1	1	1	1	1	1	1	1	1	1	1	1	1
180890026	1						3	3	3	3	3	3	3
180890027	1					3	3	3	3	3	3	3	3
180891003	1	3	3	3	3	3	3	3	3	3	3	3	3
180891016	1	1	1	1	1	1	1	1	1	1	1	1	1
180892004	1	3	3	3	3	3	3	3	3	3	3	3	3
180892010	1	3	3	3	3	3	3	3	3	3	3	3	3
180910011	1				3	3	3	3	3	3	3	3	3
180910012	1					3	3	3	3	3	3	3	3
180950009	1	3	3	3	3	3	3	3	3	3	3	3	3
180970042	1			3	3	3	3	3	3	3	3	3	3
180970043	1	3	3	3	3	3	3	3	3	3	3	3	3
180970066	1	3	3	3	3	3	3	3	3	3	3	3	3
180970078	1	3	3	3	3	3	3	3	3	3	3	3	3
180970079	1			3	3	3	3	3	3	3	3	3	3
180970081	1	1	1	1	1	1	1	1	1	1	1	1	1
180970083	1	1	1	1	1	1	1	1	1	1	1	1	1
181270020	1	3	3	3	3	3	3	3	3	3	3	3	3
181270024	1	3	3	3	3	3	3	3	3	3	3	3	3
181410014	1				3	3	3	3	3	3	3	3	3
181411008	1		3	3	3	3	3	3	3	3	3	3	3
181412004	1		3	3	3	3	3	3	3	3	3	3	3

State / Site	POC	1999				2000				2001			
		1	2	3	4	1	2	3	4	1	2	3	4
220330009	1	1	1	1	1	1	1	1	1	1	1	1	1
220331001	1	6	6	6	6	6	6	6	6	6	6	6	6
220470005	1	6	6	6	6	6	6	6	6	6	3	3	3
220470009	1	6	6	6	6	6	6	6	6	6	3	3	3
220511001	1	1	1	1	1	1	1	1	1	1	1	1	1
220512001	1	6	6	6	6	6	6	6	6	6	6	6	6
220550005	1	3	3	3	3	3	3	3	3	3	3	3	3
220550006	1					3	3	3	3	3	3	3	3
220710010	1	3	3	3	3	3	3	3	3	3	3	3	3
220710012	1	3	3	3	3	1	1	1	1	1	1	1	1
220730004	1	3	3	3	3	3	3	3	3	3	3	3	3
220790001	1	6	6	6	6	3	3	3	3	3	3	3	3
220870004	1					3	3	3	3	3	3	3	3
221050001	1	6	6	6	6	3	3	3	3	3	3	3	3
221090001	1					3	3	3	3	3	3	3	3
221210001	1	1	1	1	1	1	1	1	1	1	1	1	1
MAINE													
230030013	1	3	3	3	3	3	3	3	3	3	3	3	3
230031011	1	3	3	3	3	3	3	3	3	3	3	3	3
230050027	1	3	3	3	3	3	3	3	3	3	3	3	3
230090103	1	6	3	3	6	6	3	3	6	6	3	3	6
230190002	1	3	3	3	3	3	3	3	3	3	3	3	3
MARYLAND													
240030014	1			3	3	3	3	3	3	3	3	3	3
240030019	1			3	3	3	3	3	3	3	3	3	3
240031003	1					3	3	3	3	3	3	3	3
240032002	1			3	3	3	3	3	3	3	3	3	3
240051007	1					3	3	3	3	3	3	3	3
240053001	1			3	3	3	3	3	3	3	3	3	3
240150003	1				3	3	3	3	3	3	3	3	3
240251001	1			3	3	3	3	3	3	3	3	3	3
240313001	1			3	3	3	3	3	3	3	3	3	3
240330001	1			3	3	3	3	3	3	3	3	3	3
240338001	1			3	3	3	3	3	3	3	3	3	3
240430009	1				3	3	3	3	3	3	3	3	3
245100006	1			3	3	3	3	3	3	3	3	3	3
245100007	1			3	3	3	3	3	3	3	3	3	3
245100008	1											3	3
245100035	1				3	3	3	3	3	3	3	3	3
245100040	1		3	3	3	3	3	3	3	3	3	3	3
245100049	1			3	3	3	3	3	3	3	3	3	3
245100052	1		3	3	3	3	3	3	3	3	3	3	3
MASSACHUSETTS													
250035001	1	3	3	3	3	3	3	3	3	3	3	3	3
250052004	1	3	3	3	3	3	3	3	3	3	3	3	3
250053001	1	3	3	3	3	3	3	3	3	3	3	3	3
250092006	1	3	3	3	3	3	3	3	3	3	3	3	3
250095005	1	3	3	3	3	3	3	3	3	3	3	3	3
250096001	1		3	3	3	3	3	3	3	3	3	3	3
250130008	1	1	1	1	1	1	1	1	1	1	1	1	1
250130016	1	3	3	3	3	3	3	3	3	3	3	3	3
250132007	1	3	3	3	3	3	3	3	3				
250154002	1	3	3	3	3	3	3	3	3	3	3	3	3
250170008	1						3	3	3	3	3	3	3
250171102	1	3	3	3	3	3	3	3	3	3	3	3	3
250210007	1	3	3	3	3	3	3	3	3	3	3	3	3
250230004	1	3	3	3	3	3	3	3	3	3	3	3	3
250250002	1	3	3	3	3	3	3	3	3	3	3	3	3
250250027	1	3	3	3	3	3	3	3	3	3	3	3	3
250250042	1	1	1	1	1	1	1	1	1	1	1	1	1
250250043	1		3	3	3	3	3	3	3	3	3	3	3
250270016	1					3	3	3	3	3	3	3	3
250270020	1	3	3	3	3	3	3	3	3	3	3	3	3
250272004	1	3	3	3	3	3	3	3	3	3	3	3	3
MICHIGAN													
260050003	1	1	1	1	1	1	1	1	1	1	1	1	1
260070005	1					3	3	3	3	3	3	3	3

PM2.5 SLAMS / Tribal FRM Sampling Frequencies - By Quarter

State / Site	POC	1999				2000				2001			
		1	2	3	4	1	2	3	4	1	2	3	4
181570007	1		3	3	3	3	3	3	3	3	3	3	3
181630006	1		3	3	3	3	3	3	3	3	3	3	3
181630012	1		3	3	3	3	3	3	3	3	3	3	3
181630016	1		3	3	3	3	3	3	3	3	3	3	3
181670018	1	3	3	3	3	3	3	3	3	3	3	3	3
181670023	1				3	3	3	3	3	3	3	3	3
IOWA													
190130008	1	3	3	3	3	3	3	3	3	3	3	3	3
190330019	1			3	3	3	3	3	3	3	3	3	3
190450021	1	3	3	3	3	3	3	3	3	3	3	3	3
190630003	1					3	3	3	3	3	3	3	3
191032001	1	3	3	3	3	3	3	3	3	3	3	3	3
191130036	1	3	3	3	3	3	3	3	3	3	3	3	3
191130037	1	3	3	3	3	1	1	1	1	1	1	1	1
191390015	1						3	3	3	3	3	3	3
191390016	1	3	3	3	3	3							
191530059	2				3	3	3	3	3	3	3	3	3
191532510	1	3	3	3	3	3	3	3	3	3	3	3	3
191532520	1	3	3	3	3	3	3	3	3	3	3	3	3
191550009	1			3	3	3	3	3	3	3	3	3	3
191630015	2	3	3	3	3	3	3	3	3	3	3	3	3
191630018	1			3	3	3	3	3	3	3	3	3	3
191692530	1	3	3	3	3	3	3	3	3	3	3	3	3
191770005	1					3	3	3	3	3	3	3	3
191930017	1	3	3	3	3	3	3	3	3	3	3	3	3
KANSAS													
200910007	1	3	3	3	3	3	3	3	3	3	3	3	3
200910008	1	3	3	3	3	3	3	3	3	3	3	3	3
200910009	1	3	3	3	3	3	3	3	3	3	3	3	3
201070002	1	3	3	3	3	3	3	3	3	3	3	3	3
201730008	1	3	3	3	3	3	3	3	3	3	3	3	3
201730009	1	3	3	3	3	3	3	3	3	3	3	3	3
201730010	1	3	3	3	3	3	3	3	3	3	3	3	3
201770010	1	3	3	3	3	3	3	3	3	3	3	3	3
201770011	1	3	3	3	3	3	3	3	3	3	3	3	3
201910002	1				3	3	3	3	3	3	3	3	3
202090021	1		3	3	3	3	3	3	3	3	3	3	3
202090022	1		3	3	3	3	3	3	3	3	3	3	3
KENTUCKY													
210190017	1	3	3	3	3	3	3	3	3	3	3	3	3
210290006	1	3	3	3	3	3	3	3	3	3	3	3	3
210370003	1	3	3	3	3	3	3	3	3	3	3	3	3
210430500	1	3	3	3	3	3	3	3	3	3	3	3	3
210470006	1	3	3	3	3	3	3	3	3	3	3	3	3
210590014	1	3	3	3	3	3	3	3	3	3	3	3	3
210670012	1	3	3	3	3	3	3	3	3	3	3	3	3
210670014	1	3	3	3	3	3	3	3	3	3	3	3	3
210730006	1	3	3	3	3	3	3	3	3	3	3	3	3
210930005	1	3	3	3	3								
210930006	1					3	3	3	3	3	3	3	3
211010006	1	3	3	3	3	3	3	3	3	3	3	3	3
211110043	1	1	1	1	1	1	1	1	1	1	1	1	1
211110044	1	1	1	1	1	1	1	1	1	1	1	1	1
211110048	1	3	3	3	3	3	3	3	3	3	3	3	3
211111041	1									1	1	1	1
211170007	1	3	3	3	3	3	3	3	3	3	3	3	3
211451004	1	3	3	3	3	3	3	3	3	3	3	3	3
211510003	1	3	3	3	3	3	3	3	3	3	3	3	3
211950002	1	3	3	3	3	3	3	3	3	3	3	3	3
212270007	1	3	3	3	3	3	3	3	3	3	3	3	3
LOUISIANA													
220171002	1	3	3	3	3	3	3	3	3	3	3	3	3
220190009	1	6	6	6	6	3	3	3	3	3	3	3	3
220190010	1	3	3	3	3	3	3	3	3	3	3	3	3
220290002	1	6	6	6	6	6	6	6	6	6	6	6	6
220290003	1											6	6
220330002	1	3	3	3	3	3	3	3	3	3	3	3	3
220330009	1	1	1	1	1	1	1	1	1	1	1	1	1
220331001	1	6	6	6	6	6	6	6	6	6	6	6	6
220470005	1	6	6	6	6	6	6	6	6	6	3	3	3
220470009	1	6	6	6	6	6	6	6	6	6	3	3	3
220511001	1	1	1	1	1	1	1	1	1	1	1	1	1
220512001	1	6	6	6	6	6	6	6	6	6	6	6	6
220550005	1	3	3	3	3	3	3	3	3	3	3	3	3
220550006	1					3	3	3	3	3	3	3	3
220710010	1	3	3	3	3	3	3	3	3	3	3	3	3
220710012	1	3	3	3	3	1	1	1	1	1	1	1	1
220730004	1	3	3	3	3	3	3	3	3	3	3	3	3
220790001	1	6	6	6	6	3	3	3	3	3	3	3	3
220870004	1					3	3	3	3	3	3	3	3
221050001	1	6	6	6	6	3	3	3	3	3	3	3	3
221090001	1					3	3	3	3	3	3	3	3
221210001	1	1	1	1	1	1	1	1	1	1	1	1	1
MAINE													
230030013	1	3	3	3	3	3	3	3	3	3	3	3	3
230031011	1	3	3	3	3	3	3	3	3	3	3	3	3
230050027	1	3	3	3	3	3	3	3	3	3	3	3	3
230090103	1	6	3	3	6	6	3	3	6	6	3	3	6
230190002	1	3	3	3	3	3	3	3	3	3	3	3	3
MARYLAND													
240030014	1			3	3	3	3	3	3	3	3	3	3
240030019	1			3	3	3	3	3	3	3	3	3	3
240031003	1					3	3	3	3	3	3	3	3
240032002	1			3	3	3	3	3	3	3	3	3	3
240051007	1					3	3	3	3	3	3	3	3
240053001	1			3	3	3	3	3	3	3	3	3	3
240150003	1				3	3	3	3	3	3	3	3	3
240251001	1			3	3	3	3	3	3	3	3	3	3
240313001	1			3	3	3	3	3	3	3	3	3	3
240330001	1			3	3	3	3	3	3	3	3	3	3
240338001	1			3	3	3	3	3	3	3	3	3	3
240430009	1				3	3	3	3	3	3	3	3	3
245100006	1			3	3	3	3	3	3	3	3	3	3
245100007	1			3	3	3	3	3	3	3	3	3	3
245100008	1											3	3
245100035	1				3	3	3	3	3	3	3	3	3
245100040	1		3	3	3	3	3	3	3	3	3	3	3
245100049	1			3	3	3	3	3	3	3	3	3	3
245100052	1		3	3	3	3	3	3	3	3	3	3	3
MASSACHUSETTS													
250035001	1	3	3	3	3	3	3	3	3	3	3	3	3
250052004	1	3	3	3	3	3	3	3	3	3	3	3	3
250053001	1	3	3	3	3	3	3	3	3	3	3	3	3
250092006	1	3	3	3	3	3	3	3	3	3	3	3	3
250095005	1	3	3	3	3	3	3	3	3	3	3	3	3
250096001	1		3	3	3	3	3	3	3	3	3	3	3
250130008	1	1	1	1	1	1	1	1	1	1	1	1	1
250130016	1	3	3	3	3	3	3	3	3	3	3	3	3
250132007	1	3	3	3	3	3	3	3	3				
250154002	1	3	3	3	3	3	3	3	3	3	3	3	3
250170008	1						3	3	3	3	3	3	3
250171102	1	3	3	3	3	3	3	3	3	3	3	3	3
250210007	1	3	3	3	3	3	3	3	3	3	3	3	3
250230004	1	3	3	3	3	3	3	3	3	3	3	3	3
250250002	1	3	3	3	3	3	3	3	3	3	3	3	3
250250027	1	3	3	3	3	3	3	3	3	3	3	3	3
250250042	1	1	1	1	1	1	1	1	1	1	1	1	1
250250043	1		3	3	3	3	3	3	3	3	3	3	3
250270016	1					3	3	3	3	3	3	3	3
250270020	1	3	3	3	3	3	3	3	3	3	3	3	3
250272004	1	3	3	3	3	3	3	3	3	3	3	3	3
MICHIGAN													
260050003	1	1	1	1	1	1	1	1	1	1	1	1	1
260070005	1					3	3	3	3	3	3	3	3

PM2.5 SLAMS / Tribal FRM Sampling Frequencies - By Quarter

State / Site	POC	1999				2000				2001			
		1	2	3	4	1	2	3	4	1	2	3	4
260170014	1							3	3	3	3	3	3
260210014	1	3	3	3	3	3	3	3	3	3	3	3	3
260330901	1									3	3	3	3
260330902	1									3	3	3	3
260490021	1	3	3	3	3	3	3	3	3	3	3	3	3
260550003	1				3	3	3	3	3	3	3	3	3
260650012	1	3	3	3	3	3	3	3	3	3	3	3	3
260770008	1	3	3	3	3	3	3	3	3	3	3	3	3
260810020	1	1	1	1	1	1	1	1	1	1	1	1	1
260990009	1	3	3	3	3	3	3	3	3	3	3	3	3
261150005	1				3	3	3	3	3	3	3	3	3
261210040	1	3	3	3	3	3	3	3	3	3	3	3	3
261250001	1	3	3	3	3	3	3	3	3	3	3	3	3
261390005	1	3	3	3	3	3	3	3	3	3	3	3	3
261450018	1	3	3	3	3	3	3	3	3	3	3	3	3
261470005	2									6	6	6	6
261610005	1		3	3	3	3	3	3	3	3	3	3	3
261610008	1			3	3	3	3	3	3	3	3	3	3
261630001	1		1	1	1	1	1	1	1	1	1	1	1
261630015	1	3	3	3	3	3	3	3	3	3	3	3	3
261630016	1		1	1	1	1	1	1	1	1	1	1	1
261630019	1						3	3	3	3	3	3	3
261630025	1			3	3	3	3	3	3	3	3	3	3
261630033	1	3	3	3	3	3	3	3	3	3	3	3	3
261630036	1	3	3	3	3	3	3	3	3	3	3	3	3
MINNESOTA													
270376018	1		6	6	6	3	3	3	3	3	3	3	3
270530960	1		6	6	6	1	1	1	1	1			
270530961	1		6	6	6	3	3	3	3	3	3	3	3
270530963	1									1	1	1	1
270531007	1		6	6	6	3	3	3	3	3	3	3	3
270532006	1		6	6	6	3	3	3	3	3	3	3	3
270953051	1				6	3	3	3	3	3	3	3	3
271095008	1					3	3	3	3	3	3	3	3
271230866	1		6	6	6	3	3	3	3	3	3	3	3
271230868	1	6	6	6	6	3	3	3	3	3	3	3	3
271230871	1		6	6	6	1	1	1	1	1	1	1	1
271230872	1		6	6	6	3	3	3	3	3	3	3	3
271377001	1		6	6	6	3	3	3	3	3	3	3	3
271377550	1		6	6	6	3	3	3	3	3	3	3	3
271377551	1					3	3	3	3	3	3	3	3
271390505	1					3	3	3	3	3	3	3	3
271453052	1				6	3	3	3	3	3	3	3	3
MISSISSIPPI													
280010004	1	3	3	3	3	3	3	3	3	3	3	3	3
280110001	1		3	3	3	3	3	3	3	3	3	3	3
280330002	1	3	3	3	3	3	3	3	3	3	3	3	3
280350004	1	3	3	3	3	3	3	3	3	3	3	3	3
280470008	1		3	3	3	3	3	3	3	3	3	3	3
280490010	1	3	3	3	3	3	3	3	3	3	3	3	3
280490018	1	3	3	3	3	3	3	3	3	3	3	3	3
280590006	1	3	3	3	3	3	3	3	3	3	3	3	3
280670002	1	3	3	3	3	3	3	3	3	3	3	3	3
280750003	1		3	3	3	3	3	3	3	3	3	3	3
280810005	1	3	3	3	3	3	3	3	3	3	3	3	3
280870001	1	3	3	3	3	3	3	3	3	3	3	3	3
281090001	1						3	3	3	3	3	3	3
281210001	1	3	3	3	3	3	3	3	3	3	3	3	3
281230001	1			3	3	3	3	3	3	3	3	3	3
281490004	1	3	3	3	3	3	3	3	3	3	3	3	3
MISSOURI													
290210010	1	3	3	3	3	3	3	3	3	3	3	3	3
290370003	1					3	3	3	3	3	3	3	3
290390001	1	3	3	3	3	3	3	3	3	3	3	3	3
290470005	1	3	3	3	3	3	3	3	3	3	3	3	3
290470026	1	1	1	1	1	1	1	1	1	1	1	1	1
290470041	1	1	1	1	1	1	1	1	1	1	1	1	1
290770032	1	3	3	3	3	3	3	3	3	3	3	3	3
290910003	1	3	3	3	3	3	3	3	3	3			
290950036	1	3	3	3	3	3							
290950037	1						3	3	3	3	3	3	3
290952002	1	3	3	3	3	3	3	3	3	3	3	3	3
290990012	1	3	3	3	3	3	3	3	3	3	3	3	3
291831002	1	3	3	3	3	3	3	3	3	3	3	3	3
291860006	1	3	3	3	3	3	3	3	3	3	3	3	3
291890004	1										3	3	3
291892003	1	3	3	3	3	3	3	3	3	3	3	3	3
291895001	1	3	3	3	3	3	3	3	3	3	3	3	3
295100007	1					1	1	1	1	1	1	1	1
295100085	1		1	1	1	1	1	1	1	1	1	1	1
295100086	1	1	1	1	1	1	1	1	1	1	1	1	1
MONTANA													
300131026	1					3	3	3	3	3	3	3	3
300290009	1												3
300290039	1	3	3	3	3	3	3	3	3	3	3		
300290043	1	3	3										
300290047	1		3	3	3	3	3	3	3	3	3	3	3
300470013	1					3	3	3	3	3	3	3	3
300470028	1					3	3	3	3	3	3	3	3
300530018	1	3	3	3	3	3	3	3	3	3	3	3	3
300630024	1	3	3	3	3	3	3	3	3	3	3	3	3
300810001	1					3	3	3	3	3	3	3	3
300870307	1					3	3	3	3	3	3	3	3
301111065	1	3	3	3	3	3	3	3	3	3	3	3	3
NEBRASKA													
310250002	1	3	3	3	3	3	3	3	3	3	3	3	3
310270001	1			3	3	3	3	3	3	3	3	3	3
310310001	1			3	3	3	3	3	3	3	3	3	3
310490001	1			3	3	3	3	3	3	3	3	3	3
310550019	1	1	1	1	1	1	1	1	1	1	1	1	1
310550051	1	3	3	3	3	3	3	3	3	3	3	3	3
310550052	1		1	1	1	1	1	1	1	1	1	1	1
310790003	1	3	3	3	3	3	3	3	3	3	3	3	3
311090022	1	3	3	3	3	3	3	3	3	3	3	3	3
311111002	1	3	3	3	3	3	3	3	3	3	3	3	3
311530007	1	3	3	3	3	3	3	3	3	3	3	3	3
311570003	1	3	3	3	3	3	3	3	3	3	3	3	3
311770002	1		3	3	3	3	3	3	3	3	3	3	3
NEVADA													
320030022	1	3	3	3	3	3	6	6	6	6	6	6	6
320030298	1								3	3	3	3	3
320030560	1	1	1	1	1	1	1	1	1	1	1	1	1
320031019	1	3	3	3	3	3	3	3	3	3	3	3	3
320032002	1	3	3	3	3	3	3	3	3	3	3	3	3
320050008	1				3	3	3	3	3	3	3	3	3
320310016	1	3	3	3	3	3	3	3	3	3	3	3	3
320312002	1		3	3	3	3	3	3	3	3	3	3	3
NEW HAMPSHIRE													
330012003	1	6	6	6	6	6	6						
330012004	1										6	6	6
330050007	1	6	6	6	6	6	6	6	6	6	6	6	6
330070014	1	3	3	3	3	3	3	3	3	3	3	3	3
330110019	1			3	3	3	3	3	3	3			
330110020	1										3	3	3
330111007	1	3	3	3	3	3	3	3	3	3	3	3	3
330130003	1	3	3	3	3	3	3	3	3	3	3	3	3
330135001	1	6	6	6	6	6	6	6	6	6	6	6	6
330150009	1	3	3	3	3	3	3	3	3	3	3		
330190003	1	6	6	6	6	6	6	6	6	6	6	6	6
NEW JERSEY													
340011006	1											3	3
340030003	1	3	3	3	3	3	3	3	3	3	3	3	3
340070003	1	3	3	3	3	3	3	3	3	3	3	3	3
340071007	1	3	3	3	3	3	3	3	3	3	3	3	3

PM2.5 SLAMS / Tribal FRM Sampling Frequencies - By Quarter

State / Site	POC	1999				2000				2001			
		1	2	3	4	1	2	3	4	1	2	3	4
340130011	1	3	3	3	3	3	3	3	3	3	3	3	3
340130015	1		3	3	3	3	3	3	3	3	3	3	3
340130016	1											3	3
340155001	1			3	3	3	3	3	3	3	3	3	3
340171003	1	3	3	3	3	3	3	3	3	3	3	3	3
340172002	1	3	3	3	3	3	3	3	3	3	3	3	3
340210008	1	3	3	3	3	3	3	3	3	3	3	3	3
340218001	1	3	3	3	3	3	3	3	3	3	3	3	3
340230006	1	3	3	3	3	3	3	3	3	3	3	3	3
340270004	1		3	3	3	3	3	3	3	3	3	3	3
340273001	1	3	3	3	3	3	3	3	3	3	3	3	3
340292002	1	3	3	3	3	3	3	3	3	3	3	3	3
340310005	1	3	3	3	3	3	3	3	3	3	3	3	3
340390004	1	3	3	3	3	3	3	3	3	3	3	3	3
340390006	1	3	3	3	3	3	3	3	3	3	3	3	3
340392003	1				3	3	3	3	3	3	3	3	3
340410006	1			3	3	3	3	3	3	3	3	3	3
NEW MEXICO													
350010023	1	1	1	1	1	1	1	1	1	1	1	1	1
350010024	1	1	1	1	1	1	1	1	1	1	1	1	1
350019004	1					6	6	6	6	6	6	6	6
350439001	1					6	6	6	6	6	6	6	6
350439003	1					6	6	6	6	6	6	6	6
350439004	1					3	3	3	3	3	3	3	3
350439005	1										6	6	6
350499002	1					6	6	6	6	6	6	6	6
NEW YORK													
360010005	1			3	3	3	3	3	3	3	3	3	3
360010012	1			3	3	3	3	3	3	3	3	3	3
360050073	1			3									
360050080	1			3	3	3	3	3	3	3	3	3	3
360050083	1			3	3	3	3	3	3	3	3	3	3
360050110	1			1	1	1	1	1	1	1	1	1	1
360070009	1					3	3	3	3	3	3	3	3
360130011	1			3	3	3	3	3	3	3	3	3	3
360271004	1			3	3	3	3	3	3	3	3	3	3
360290002	1			3	3	3	3	3	3	3	3	3	3
360290005	1			3	3	3	3	3	3	3	3	3	3
360291007	1				3	3	3	3	3	3	3	3	3
360310003	1			1	1	1	1	1	1	1	1	1	1
360470011	1			3	3	3	3	3	3	3	3	3	3
360470052	1						3	3	3	3	3	3	3
360470076	1			3	3	3	3	3	3	3	3	3	3
360470122	1									3	3	3	3
360552002	1					3	3	3	3	3	3	3	3
360556001	1			3	3	3	3	3	3	3	3	3	3
360590005	1			3	3	3	3	3	3	3	3	3	3
360590008	1			3	3	3	3	3	3	3	3	3	3
360590011	1			3	3	3	3	3	3	3	3	3	3
360590012	1							3	3	3	3	3	3
360590013	1					3	3	3	3	3	3	3	3
360610010	1			1	1	1	1	1	1	1	1		
360610056	1			3	3	3	3	3	3	3	3	3	3
360610062	1			3	3	3	3	3	3	3	3	3	3
360610079	1					3	3	3	3	3	3	3	3
360610128	1												3
360632008	1			3	3	3	3	3	3	3	3	3	3
360652001	1			3	3	3	3	3	3	3	3	3	3
360670019	1			3	3	3	3	3	3	3	3	3	3
360670020	1						3	3	3	3	3	3	3
360671015	1			3	3	3	3	3	3	3	3	3	3
360710002	1					3	3	3	3	3	3	3	3
360810094	1			3	3	3	3	3	3	3	3	3	3
360810096	1						3	3	3	3	3	3	3
360810097	1			3	3	3	3	3	3	3	3	3	3
360810124	1									1	1	1	1
360850055	1				3	3	3	3	3	3	3	3	3

State / Site	POC	1999				2000				2001			
		1	2	3	4	1	2	3	4	1	2	3	4
360850067	1			3	3	3	3	3	3	3	3	3	3
360893001	1				3	3	3	3	3	3	3	3	3
360930003	1			3	3	3	3	3	3	3	3	3	3
361010003	1			1	1	1	1	1	1	1	1	1	1
361030001	1			3	3	3	3	3	3	3	3	3	3
361191002	1					3	3	3	3	3	3	3	3
NORTH CAROLINA													
370010002	1	3	3	3	3	3	3	3	3	3	3	3	3
370210034	1	3	3	3	3	3	3	3	3	3	3	3	3
370350004	1	3	3	3	3	3	3	3	3	3	3	3	3
370370004	1	3	3	3	3	3	3	3	3	3	3	3	3
370510009	1	3	3	3	3	3	3	3	3	3	3	3	3
370610002	1	3	3	3	3	3	3	3	3	3	3	3	3
370630001	1	1	1	1	1	1	1	1	1	1	1	1	1
370650003	1	3	3	3	3	3	3	3	3	3	3	3	3
370670022	1	1	1	1	1	1	1	1	1	1	1	1	1
370670024	1	3	3	3	3	3	3	3	3	3	3	3	3
370710016	1	3	3	3	3	3	3	3	3	3	3	3	3
370810009	1	1	1	1	1	1	1	1	1	1	1	1	1
370811005	1	3	3	3	3	3	3	3	3	3	3		
370870010	1	3	3	3	3	3	3	3	3	3	3	3	3
370990006	1						3	3	3	3	3	3	3
371190010	1	1	1	1	1	1	1	1	1	1	1	1	1
371190034	1	1	1	1									
371190040	1	3	3	3	3	3	3	3					
371190041	1			1	1	1	1	1	1	1	1	1	1
371190042	1							3	3	3	3	3	3
371210001	1	3	3	3	3	3	3	3	3	3	3	3	3
371290009	1	3	3	3	3	3	3	3	3	3	3	3	3
371330005	1	3	3	3	3	3	3	3	3	3	3	3	3
371350007	1	3	3	3	3	3	3	3	3	3	3	3	3
371390002	1		3	3	3	3	3	3	3	3	3	3	3
371470005	1	3	3	3	3	3	3	3	3	3	3	3	3
371550004	1	3	3	3	3	3	3						
371550005	1								3	3	3	3	3
371730002	1	3	3	3	3	3	3	3	3	3	3	3	3
371830014	1	1	1	1	1	1	1	1	1	1	1	1	1
371830015	1	3	3	3	3	3	3	3	3	3	3	3	3
371910005	1	3	3	3	3	3	3	3	3	3	3	3	3
NORTH DAKOTA													
380070002	1							6	6	6	6	6	6
380150003	1	3	3	3	3	3	3	3	3	3	3	3	3
380171004	1	3	3	3	3	3	3	3	3	3	3	3	3
380350004	1	3	3	3	3	3	3	3	3	3	3	3	3
380570004	1	6	6	6	6	6	6	6	6	6	6	6	6
380890002	1					6	6	6	6	6	6	6	6
380910001	1	6	6	6	6	6	6	6	6	6	6	6	6
OHIO													
390090003	1	3	3	3	3	3	3	3	3	3	3	3	3
390170003	1	1	1	1	1	1	1	1	1	1	1	1	1
390170016	1								3	3	3	3	3
390170017	1								3	3	3	3	3
390171004	1												6
390230005	1							3	3	3	3	3	3
390350013	1	3	3	3	3	3	3	3	3	3	3	3	3
390350027	1	1	1	1	1	1	1	1	1	1	1	1	1
390350034	1							3	3	3	3	3	3
390350038	1	1	1	1	1	1	1	1	1	1	1	1	1
390350045	1				3	3	3	3	3	3	3	3	3
390350060	1	3	3	3	3	3	3	3	3	3	3	3	3
390350065	1	3	3	3	3	3	3	3	3	3	3	3	3
390350066	1	3	3	3	3	3	3	3	3	3	3	3	3
390351002	1	3	3	3	3	3	3	3	3	3	3	3	3
390490024	1	1	1	1	1	1	1	1	1	1	1	1	1
390490025	1	1	1	1	1	1	1	1	1	1	1	1	1
390490081	1	3	3	3	3	3	3	3	3	3	3	3	3
390610014	1	1	1	1	1	1	1	1	1	1	1	1	1

PM2.5 SLAMS / Tribal FRM Sampling Frequencies - By Quarter

State / Site	POC	1999				2000				2001			
		1	2	3	4	1	2	3	4	1	2	3	4
390610040	1		3	3	3	3	3	3	3	3	3	3	3
390610041	1	3	3	3	3	3	3	3	3	3	3	3	3
390610042	1								3	3	3	3	3
390610043	1								3	3	3	3	3
390617001	1	1	1	1	1	1	1	1	1	1	1	1	1
390618001	1	3	3	3	3	3	3	3	3	3	3	3	3
390810016	1	3	3	3	3	3	3	3	3	3	3	3	3
390811001	1	1	1	1	1	1	1	1	1	1	1	1	1
390851001	1	3	3	3	3	3	3	3	3	3	3	3	3
390870010	1	3	3	3	3	3	3	3	3	3	3	3	3
390930016	1							3	3	3	3	3	3
390932003	1	3	3	3	3	3	3	3	3	3	3	3	3
390950024	1	1	1	1	1	1	1	1	1	1	1	1	1
390950025	1	3	3	3	3	3	3	3	3	3	3	3	3
390950026	1		1	1	1	1	1	1	1	1	1	1	1
390990005	1	1	1	1	1	1	1	1	1	1	1	1	1
391130014	1	1	1	1	1	1	1	1	1	1	1	1	
391130031	1	1	1	1	1	1	1	1	1	1	1	1	1
391130032	1											1	1
391330002	1	3	3	3	3	3	3	3	3	3	3	3	3
391351001	1	3	3	3	3	3	3	3	3	3	3	3	3
391450013	1	3	3	3	3	3	3	3	3	3	3	3	3
391510017	1	3	3	3	3	3	3	3	3	3	3	3	3
391510020	1	3	3	3	3	3	3	3	3	3	3	3	3
391530017	1	1	1	1	1	1	1	1	1	1	1	1	1
391530023	1	1	1	1	1	1	1	1	1	1	1	1	1
391550007	1	1	1	1	1	1	1	1	1	1	1	1	1
OKLAHOMA													
400159008	1						6	6	6	6	6	6	6
400179001	1			6	6	6	6	6	6	6	6	6	6
400190295	1				6	3	3	3	3	3	3	3	3
400219002	1			6	6	6	6	6	6	6	6	6	6
400719003	1					6	6	6	6	6	6	6	6
400819005	1					6	6	6	6	6	6	6	6
401159004	1			6	6	6	6	6	6	6	6	6	6
401179007	1						6	6	6	6	6	6	6
401210415	1		3	3	3	3	3	3	3	3	3	3	3
401339006	1					6	6	6	6	6	6	6	6
401430110	1		1	1	1	1	1	1	1	1	1	1	1
401430131	1		3	3	3	1	1	1	1	1	1	1	1
401431127	1									3	3	3	3
OREGON													
410030013	1	3	3	3	3	3	3	3	3	3	3	3	3
410170113	1	6	6	6	1	1	1	1	1	1			
410170120	1									1	1	1	1
410250002	1					6	6	6	6	6	6	6	6
410290133	1	1	1	1	1	1	1	1	1	1	1	1	1
410330107	1			3	3	3	3	3	3	3	3	3	3
410350004	1	6	6	6	1	1	1	1	1	1	1	1	1
410370001	1	6	6	6	1	1	1	1	1	1	1	1	1
410390060	1	1	1	1	1	1	1	1	1	1	1	1	1
410391007	1	3	3	3	3	3	3	3	3	3	3	3	3
410391061	1					1	1	1	1	1	1	1	1
410392013	1	1	1	1	1	1	1	1	1	1	1	1	1
410430009	1				3	3	3	3	3	3	3	3	3
410470040	1	3	3	3	3	3	3	3	3	3	3	3	3
410470109	1	1	1										
410470110	1			3	3	3	3	3	3	3	3	3	3
410510080	1	1	1	1	1	1	1	1	1	1	1	1	1
410510244	1	1	1	1	1	1	1	1	1	1	1	1	1
410510246	1			1	1	1	1	1	1	1	1	1	1
410590121	1	6	6	6	1	1	1	1	1	1	1	1	1
410610006	1	6	6	6	6								
410610117	1			1	1	1	1	1	1	1	1	1	1
410619103	1			6	6	6	6	6	6	6	6	6	6
410650007	1				6	6	6	6	6	6	6	6	6
410670111	1	3	3	3	3	3	3	3	3	3	3	3	3

State / Site	POC	1999				2000				2001			
		1	2	3	4	1	2	3	4	1	2	3	4
410671003	1			3	3	3	3	3	3	3	3	3	3
PENNSYLVANIA													
420010001	1	1	1	1	1	1	1	1	1	1	1	1	1
420030008	1	6	6	6	1	1	1	1	1	1	1	1	1
420030021	1	3	3	3	3	3	3	3	3	3	3	3	3
420030064	1	1	1	1	1	1	1	1	1	1	1	1	1
420030067	1		3	3	3	3	3	3	3	3	3	3	3
420030116	1	3	3	3	3	3	3	3	3	3	3	3	3
420030131	1	6	6	6	6	6	6	6	6	6	6	6	6
420031008	1	3	3	3	3	3	3	3	3	3	3	3	3
420031301	1	3	3	3	3	3	3	3	3	3	3	3	3
420070014	1					3	3	3	3	3	3	3	3
420110009	1	3	3	3	3	3	3	3	3	3	3	3	3
420170012	1	3	3	3	3	3	3	3	3	3	3	3	3
420210011	1	3	3	3	3	3	3	3	3	3	3	3	3
420270100	1					3	3	3	3	3	3	3	3
420410100	1					1	1	1	1	1	1	1	1
420410101	1									1	1	1	1
420430401	1	1	1	1	1	1	1	1	1	1	1	1	1
420450002	1	3	3	3	3	3	3	3	3	3	3	3	3
420490003	1	3	3	3	3	3	3	3	3	3	3	3	3
420692006	1	1	1	1	1	1	1	1	1	1	1	1	1
420710007	1	3	3	3	3	3	3	3	3	3	3	3	3
420770004	1	1	1	1	1	1	1	1	1	1	1	1	1
420791101	1	1	1	1	1	1	1	1	1	1	1	1	1
420850100	1						3	3	3	3	3	3	3
420910013	1	3	3	3	3	3	3	3	3	3	3	3	3
420950025	1	1	1	1	1	1	1	1	1	1	1	1	1
420990301	1					3	3	3	3	3	3	3	3
421010004	1	1	1	1	1	1	1	1	1	1	1	1	1
421010020	1	3	3	3	3	3	3	3	3	3	3	3	3
421010024	1	3	3	3	3	3	3	3	3	3	3	3	3
421010027	1						3	3	3				
421010047	1	3	3	3	3	3	3	3	3	3	3	3	3
421010136	1	1	1	1	1	1	1	1	1	1	1	1	1
421250005	1	3	3	3	3	3	3	3	3	3	3	3	3
421250200	1	3	3	3	3	3	3	3	3	3	3	3	3
421255001	1	1	1	1	1	1	1	1	1	1	1	1	1
421290008	1	3	3	3	3	3	3	3	3	3	3	3	3
421330008	1	3	3	3	3	3	3	3	3	3	3	3	3
PUERTO RICO													
720210009	1	3	3	3	3	3	3	3	3	3	3	3	3
720530003	1		1	1	1	1	1	1	1	1	1	1	1
720570008	1	3	3	3	3	3	3	3	3	3	3	3	3
720590016	1	3	3	3	3	3	3	3	3	3	3	3	3
720610005	1	1	1	1	1	1	1	1	1	1	1	1	1
720690001	1					3	3	3	3	3	3	3	3
720810001	1	3	3	3	3	3	3	3	3	3	3	3	3
720970003	1	3	3	3	3	3	3	3	3	3	3	3	3
721130004	1	3	3	3	3	3	3	3	3	3	3	3	3
721270003	1	1	1	1	1	1	1	1	1	1	1	1	1
RHODE ISLAND													
440030002	1	3	3	3	3	3	3	3	3	3	3	3	3
440070022	1	1	1	1	1	1	1	1	1	1	1	1	1
440070023	1				3	3	3	3	3	3	3	3	3
440071005	1	3	3	3	3	3	3	3	3	3	3	3	3
440071010	1	1	1	1	1	1	1	1	1	1	1	1	1
440090007	1	3	3	3	3	3	3	3	3	3	3	3	3
SOUTH CAROLINA													
450130007	1	3	3	3	3	3	3	3	3	3	3	3	3
450190046	1	3	3	3	3	3	3	3	3	3	3	3	3
450190048	1		1	1	1	1	1	1	1	1	1	1	1
450190049	1	1	1	1	1	1	1	1	1	1	1	1	1
450370001	1		3	3	3	3	3	3	3	3	3	3	3
450410002	1	3	3	3	3	3	3	3	3	3	3	3	3
450450008	1											3	3
450450009	1		1	1	1	1	1	1	1	1	1	1	1

PM2.5 SLAMS / Tribal FRM Sampling Frequencies - By Quarter

State / Site	POC	1999				2000				2001			
		1	2	3	4	1	2	3	4	1	2	3	4
450470003	1	3	3	3	3	3	3	3	3	3	3	3	3
450510002	1								3	3	3	3	3
450630008	1	3	3	3	3	3	3	3	3	3	3	3	3
450730001	1	3	3	3	3	3	3	3	3	3	3	3	3
450790007	1	3	3	3	3	3	3	3	3	3	3	3	3
450790019	1	3	3	3	3	3	3	3	3	3	3	3	3
450830010	1	1	1	1	1	1	1	1	1	1	1	1	1
SOUTH DAKOTA													
460110002	1		3	3	3	3	3	3	3	3	3	3	3
460130003	1					3	3	3	3	3	3	3	3
460710001	1					6	6	6	6	6	6	6	6
460930001	1									3	3	3	3
460990006	1		3	3	3	3	3	3	3	3	3	3	3
460990007	1	3	3	3	3	3	3	3	3	3	3	3	3
461030014	1	3	3	3	3								
461030015	1	3	3	3	3	3	3	3	3				
461030016	1	3	3	3	3	3	3	3	3	3	3	3	3
461030017	1		3	3	3	3	3	3	3	3	3	3	3
461030019	1					3	3	3	3	3	3	3	3
461031001	1		3	3	3	3	3	3	3	3	3	3	3
TENNESSEE													
470370023	1	6	6	6	6	1	1	1	1	1	1	1	1
470370025	1	6	6	6	6	3	3	3	3	3	3	3	3
470370036	1	6	6	6	6	1	1	1	1	1	1	1	1
470450004	1			3	3	3	3	3	3	3	3	3	3
470654002	1	3	3	3	3	3	3	3	3	3	3	3	3
470930028	1	3	3	3	3	3	3	3	3	3	3	3	3
470931017	1	1	1	1	1	1	1	1	1	1	1	1	1
470931020	1	1	1	1	1	1	1	1	1	1	1	1	1
470990002	1	3	3	3	3	3	3	3	3	3	3	3	3
471130004	1	3	3	3	3	3	3	3	3	3	3	3	3
471251009	1	3	3	3	3	3	3	3	3	3	3	3	3
471570014	1	3	3	3	3	3	3	3	3	3	3	3	3
471570038	1	1	1	1	1	1	1	1	1	1	1	1	1
471570047	1	1	1	1	1	1	1	1	1	1	1	1	1
471571004	1							3	3	3	3	3	3
471631007	1	3	3	3	3	3	3	3	3	3	3	3	3
471650007	1	3	3	3	3	3	3	3	3	3	3	3	3
TEXAS													
480290034	1		1	1	1								
480290052	1	1	1	1	1	1	1	1	1	1	1	1	1
480290053	1				3	3	3	3	3	3	3	3	3
480290060	1						1	1	1	1	1	1	1
480370004	1	6	6	6	6	3	3	3	3	3	3	3	3
480391003	1				6	3	3	3	3	3	3	3	3
480550062	1	3	3	3	3	3	3	3	3	3	3	3	3
480612002	1					3	3	3	3	3	3	3	3
480850005	1	6	6	6	6	3	3	3	3	3	3	3	3
481130020	1	1	1	1	1	1	1	1	1	1	1	1	1
481130035	1	3	3	3	3	3	3	3	3	3	3	3	3
481130050	1	1	1	1	1	1	1	1	1	1	1	1	1
481130057	1	6	6	6	6	3	3	3	3	3	3	3	3
481130069	1	1	1	1	1	1	1	1	1	1	1	1	1
481130087	1	3	3	3	3	3	3	3	3	3	3	3	3
481350003	1	3	3	3	3	3	3	3	3	3	3	3	3
481410002	1		1	1	1	1	1	1	1	1	1	1	1
481410010	1				6	3	3	3	3	3	3	3	3
481410037	1	1	1	1	1	1	1	1	1	1	1	1	1
481410038	1				6	3	3	3	3	3	3	3	3
481410043	1	3	3	3	3								
481410044	1	1	1	1	1	1	1	1	1	1	1	1	1
481410045	1	6	6	6	6	3	3	3	3	3	3	3	3
481410057	1					3	3	3	3	3	3	3	3
481670053	1		6	6	6	3	3	3	3	3	3	3	3
481671005	1				3	3	3	3	3	3	3	3	3
481830001	1					3	3	3	3	3	3	3	3
482010024	1						1	1					
482010026	1				1	1	1	1					
482010051	1			6	6	3	3	3	3	3	3	3	3
482010058	1			6	6	3	3	3	3	3	3	3	3
482010062	1		6	6	6	3	3	3	3	3	3	3	3
482010075	1											3	3	3
482011035	1		1	1	1	1	1	1	1	1	1	1	1
482011037	1			3	3	3	3	3	3	3			
482011039	1			3	3	3	3	3					
482150042	1					3	3	3	3	3	3	3	3
482150043	1					3	3	3	3	3	3	3	3
482450021	1					1	1	1	1	1	1	1	1
482450022	1					3	3	3					
483030001	1	3	3	3	3	3	3	3	3	3	3	3	3
483091002	1					3	3	3	3	3	3	3	3
483150050	1	3	3	3	3	3	3	3	3	3	3		
483390089	1				3	3	3	3					
483550020	1					3	3	3	3	3	3	3	3
483550032	1					3	3	3	3	3	3	3	3
483611001	1					3	3	3	3	3	3	3	3
483750005	1						3	3	3	3	3	3	3
484390063	1	3	3	3	3	3	3	3	3	3	3	3	3
484391002	1	1	1	1	1	1	1	1	1	1	1	1	1
484391003	1			1	1	1	1	1	1	1	1		
484391006	1										1	1	1
484393006	1	1	1	1	1	1	1	1	1	1	1	1	1
484530020	1	1	1	1	1	1	1	1	1	1	1	1	1
484530021	1				1	1	1	1	1	1	1	1	1
484790016	1			6	6	3	3	3	3	3	3	3	3
UTAH													
490030003	1							3	3	3	3	3	3
490050004	1					3	3	3	3	3	3	3	3
490110001	1	3	3	3	3	3	3	3	3	3	3	3	3
490350003	1	3	3	3	3	3	3	3	3	3	3	3	3
490350012	1	3	3	3	3	3	3	3	3	3	3	3	3
490353003	1							3	3	3	3	3	
490353006	1	1	1	1	1	1	1	1	1	1	1	1	1
490353007	1	3	3	3	3	3	3	3	3	3	3	3	3
490353008	1												3
490450002	1	3	3	3	3	3	3	3	3	3	3	3	3
490490002	1	3	3	3	3	3	3	3	3	3	3	3	3
490494001	1	1	1	1	1	1	1	1	1	1	1	1	1
490495008	1					3	3	3	3	3	3	3	3
490495010	1	3	3	3	3	3	3	3	3	3	3	3	3
490570001	1	3	3	3	3	3							
490570002	1											3	3
490570007	1	3	3	3	3	3	3	3	3	3	3	3	3
490571003	1							3	3	3	3	3	3
VERMONT													
500030005	1	3	3	3	3	3	3	3	3	3	3	3	3
500070007	1	3	3	3	3	3	3	3	3	3	3	3	3
500210002	1	3	3	3	3	3	3	3	3	3	3	3	3
VIRGIN ISLANDS													
780010012	1	6	6	6	6	6	6	6	6	6	6	6	6
780050009	1						6	6	6	6	6	6	6
VIRGINIA													
510130020	1	3	3	3	3	3	3	3	3	3	3	3	3
510360002	1	3	3	3	3	3	3	3	3	3	3	3	3
510410003	1	3	3	3	3	3	3	3	3	3	3	3	3
510590030	1	1	1	1	1	1	1	1	1	1	1	1	1
510591004	1	3	3	3	3	3	3	3	3	3	3		
510595001	1	3	3	3	3	3	3	3	3	3	3	3	3
510870014	1	3	3	3	3	3	3	3	3	3	3	3	3
510870015	1	3	3	3	3	3	3	3	3	3	3	3	3
511071005	1	3	3	3	3	3	3	3	3	3	3	3	3
511390004	1				3	3	3	3	3	3	3	3	3
515200006	1	3	3	3	3	3	3	3	3	3	3	3	3
515500012	1	1	1	1	1	1	1	1	1	1	1	1	1

PM2.5 SLAMS / Tribal FRM Sampling Frequencies - By Quarter

State / Site	POC	1999				2000				2001			
		1	2	3	4	1	2	3	4	1	2	3	4
516500004	1	3	3	3	3	3	3	3	3	3	3	3	3
516800014	1	3	3	3	3	3	3	3	3	3	3	3	3
517000013	1	3	3	3	3	3	3	3	3	3	3	3	3
517100024	1	3	3	3	3	3	3	3	3	3	3	3	3
517600020	1	1	1	1	1	1	1	1	1	1	1	1	1
517700014	1	3	3	3	3	3	3	3	3	3	3	3	3
517750010	1	3	3	3	3	3	3	3	3	3	3	3	3
518100008	1	3	3	3	3	3	3	3	3	3	3	3	3
WASHINGTON													
530050002	1	3	3	3	3	3	3	3	3	3	3	3	3
530110013	1	3	3	3	3	3	3	3	3	3	3	3	3
530330004	1	3	3	3	3								
530330017	1	3	3	3	3	3	3	3	3	3	3	3	3
530330021	1	1	1	1	1	1	1	1	1	1	1	1	1
530330024	1	3	3	3	3	3	3	3	3	3	3	3	3
530330027	1			3	3	3	3	3	3	3	3	3	3
530330037	1								3	3	3	3	3
530330057	1	1	1	1	1	1	1	1	1	1	1	1	1
530330080	1	3	3	3	3	1	1	1	1	1	1	1	1
530332004	1	3	3	3	3	3	3	3	3	3	3	3	3
530530029	1				1	1	1	1	1	1	1	1	1
530530031	1	1	1	1	1	1	1	1	1	1	1	1	1
530531018	1	3	3	3	3	3	3	3	3	3	3	3	3
530610005	1				3	3	3	3	3	3	3	3	3
530611007	1	3	3	3	3	3	3	3	3	3	3	3	3
530630016	1	1	1	1	1	1	1	1	1	1	1	1	1
530630047	1	3	3	3	3	3	3	3	3	3	3	3	3
530670013	1	3	3	3	3	3	3	3	3	3	3	3	3
530730015	1	3	3	3	3	3	3	3	3	3	3	3	3
530770009	1						3	3	3	3	3	3	3
530770012	1	3	3	3									
WEST VIRGINIA													
540030003	1	3	3	3	3	3	3	3	3	3	3	3	3
540090005	1	3	3	3	3	3	3	3	3	3	3	3	3
540110006	1	3	3	3	3	3	3	3	3	3	3	3	3
540290011	1	3	3	3	3	3	3	3	3	3	3	3	3
540291004	1	3	3	3	3	3	3	3	3	3	3	3	3
540390009	1	3	3	3	3	3	3						
540390010	1						3	3	3	3	3	3	3
540391005	1	3	3	3	3	3	3	3	3	3	3	3	3
540511002	1	3	3	3	3	3	3	3	3	3	3	3	3
540610003	1	3	3	3	3	3	3	3	3	3	3	3	3
540690008	1	3	3	3	3	3	3	3	3	3	3	3	3
541071002	1	3	3	3	3	3	3	3	3	3	3	3	3
WISCONSIN													
550090005	1	3	3	3	3	3	3	3	3	3	3	3	3
550090026	1	3	3	3	3	3	3	3	3	3	3	3	3
550090028	1									3	3	3	3
550250025	1	3	3	3	3	3	3	3	3	3	3	3	3
550290004	1	3	3	3	3	3	3	3	3	3	3	3	3
550310025	1	3	3	3	3	3	3	3	3	3	3	3	3
550590019	3	3	3	3	3	3	3	3	3	3	3	3	3
550710007	1	3	3	3	3	3	3	3	3	3	3	3	3
550790010	2	1	1	1	1	1	1	1	1	1	1	1	1
550790026	1	1	1	1	1	1	1	1	1	1	1	1	1
550790043	1	3	3	3	3	3	3	3	3	3	3	3	3
550790050	1	3	3	3	3	3	3	3	3	3	3	3	3
550790051	1	3	3	3	3	3	3	3	3	3	3	3	3
550790059	2	3	3	3	3	3	3	3	3	3	3	3	3
550790099	1	3	3	3	3	3	3	3	3	3	3	3	3
550870009	1	3	3	3	3	3	3	3	3	3	3	3	3
550890008	1	3	3	3	3	3	3	3	3	3	3	3	3
551050002	1	3	3	3	3	3	3	3	3	3	3	3	
551050024	1											3	3
551330027	2	3	3	3	3	1	1	1	1	1	1	1	1
551330034	1	3	3	3	3	3	3	3	3	3	3	3	3
551390011	1	3	3	3	3	3	3	3	3	3	3	3	3
551410016	1	3	3	3	3	3	3	3	3	3	3	3	3
WYOMING													
560131003	1												3
560131004	1					3	3	3	3	3	3	3	3
560210001	1	3	3	3	3	3	3	3	3	3	3	3	3
560330001	1	3	3	3	3	3	3	3	3	3	3	3	3
560330002	1	3	3	3	3	3	3	3	3	3	3	3	3
560390006	1											3	3

Attachment 3- 1 PM2.5 Data Flags

1) Flag Definitions

2) Data Qualifiers by State

3) Null Data Flags by State

Data Qualifiers and Null Data Codes

Qualifier	Qualifier Description	Qt Qualifier
AA	SAMPLE PRESSURE OUT OF LIMITS	NULL
AB	TECHNICIAN UNAVAILABLE	NULL
AC	CONSTRUCTION/REPAIRS IN AREA	NULL
AD	SHELTER STORM DAMAGE	NULL
AE	SHELTER TEMPERATURE OUTSIDE LIMITS	NULL
AF	SCHEDULED BUT NOT COLLECTED	NULL
AG	SAMPLE TIME OUT OF LIMITS	NULL
AH	SAMPLE FLOW RATE OUT OF LIMITS	NULL
AI	INSUFFICIENT DATA (CANNOT CALCULATE)	NULL
AJ	FILTER DAMAGE	NULL
AK	FILTER LEAK	NULL
AL	VOIDED BY OPERATOR	NULL
AM	MISCELLANEOUS VOID	NULL
AN	MACHINE MALFUNCTION	NULL
AO	BAD WEATHER	NULL
AP	VANDALISM	NULL
AQ	COLLECTION ERROR	NULL
AR	LAB ERROR	NULL
AS	POOR QUALITY ASSURANCE RESULTS	NULL
AT	CALIBRATION	NULL
AU	MONITORING WAIVED	NULL
AV	POWER FAILURE (POWR)	NULL
AW	WILDLIFE DAMAGE	NULL
AX	PRECISION CHECK (PREC)	NULL
AY	Q C CONTROL POINTS (ZERO/SPAN)	NULL
AZ	Q C AUDIT (AUDT)	NULL
BA	MAINTENANCE/ROUTINE REPAIRS	NULL
BB	UNABLE TO REACH SITE	NULL
BC	MULTI-POINT CALIBRATION	NULL
BD	AUTO CALIBRATION	NULL
BE	BUILDING/SITE REPAIR	NULL
BF	PRECISION/ZERO/SPAN	NULL
BG	MISSING OZONE DATA NOT LIKELY TO EXCEED LEVEL OF STANDARD	NULL
BH	INTERFERENCE/CO-ELUTION	NULL
BI	LOST OR DAMAGED IN TRANSIT	NULL
BJ	OPERATOR ERROR	NULL

1A	HIGH WINDS	EX
B	STRATOSPHERIC OZONE INTRUSION	EX
1C	VOLCANIC ERUPTIONS	EX
D	SANDBLASTING	EX
1E	FOREST FIRE	EX
F	STRUCTURAL FIRE	EX
G	HIGH POLLEN COUNT	EX
H	CHEMICAL SPILLS & INDUSTRIAL ACCIDENTS	EX
I	UNUSUAL TRAFFIC CONGESTION	EX
J	CONSTRUCTION/DEMOLITION	EX
K	AGRICULTURAL TILLING	EX
L	HIGHWAY CONSTRUCTION	EX
M	REROUTING OF TRAFFIC	EX
N	SANDING/SALTING OF STREETS	EX
O	INFREQUENT LARGE GATHERINGS	EX
P	ROOFING OPERATIONS	EX
Q	PRESCRIBED BURNING	EX
R	CLEAN UP AFTER A MAJOR DISASTER	EX
1S	SEISMIC ACTIVITY	EX
T	MULTIPLE PM2.5 VALIDITY FLAGS	QA
1U	SAHARA DUST	EX
V	VALIDATED VALUE	QA
W	FLOW RATE AVERAGE OUT OF SPEC.	QA
X	FILTER TEMPERATURE DIFFERENCE OUT OF SPEC.	QA
Y	ELAPSED SAMPLE TIME OUT OF SPEC.	QA
1	DEVIATION FROM A CFR/CRITICAL CRITERIA REQUIREMENT	QA
2	OPERATIONAL DEVIATION	QA
3	FIELD ISSUE	QA
4	LAB ISSUE	QA
5	OUTLIER	QA
6	QAPP ISSUE	QA
7	BELOW LOWEST CALIBRATION LEVEL	QA

Summary of PM2.5 Data Qualifiers by State

State	Total # of Monitors w/ Data	Total # of Values	Not Flagged	Flagged	Flagged % of Values	1	2	3	4	5	6	A	C	E	F	I	J	K	L	M	N	O	P	Q	T	U	W	X	Y
ALABAMA	17	6,272	4,967	1,305	20.8%	437	741																		2		1	123	1
ALASKA	7	2,011	1,810	201	10.0%	70	78	7	2					7											6			23	13
ARIZONA	5	1,173	915	258	22.0%	65	25	4				18		1			9							1	13			122	
ARKANSAS	27	5,207	5,206	1	0.0%					1																			
CALIFORNIA	83	26,805	24,194	2,611	9.7%	5						23		76		12	68	15	4	1	1		3	11	39		13	2,303	38
COLORADO	14	4,581	4,566	15	0.3%																							15	
CONNECTICUT	10	3,863	3,104	759	19.6%	273	120	174	20	18															11		4	127	12
DELAWARE	8	3,409	2,982	427	12.5%	51	59	16	175	5															1		1	119	
DIST. OF COLUMBIA	3	2,043	1,947	96	4.7%									13										8	18		2	26	29
FLORIDA	31	16,887	16,887	0	0.0%																								
GEORGIA	24	8,590	7,881	709	8.3%	14	601			14	9			1											51			19	
HAWAII	5	2,746	2,539	207	7.5%		2										9					1			27			160	11
IDAHO	14	3,968	3,702	266	6.7%	122	4	2																				138	
ILLINOIS	39	9,677	9,672	5	0.1%																								5
INDIANA	39	13,889	12,437	1,452	10.5%	989	285	6	15	13														3	40			100	1
IOWA	18	6,707	6,527	180	2.7%	33	47	3	5	2															9			63	18
KANSAS	12	3,842	3,633	209	5.4%																						6	200	3
KENTUCKY	21	7,536	4,817	2,719	36.1%	2,411	5		63					73			15		4						21		3	113	11
LOUISIANA	22	8,388	8,388	0	0.0%																								
MAINE	5	1,590	1,590	0	0.0%																								
MARYLAND	19	5,202	5,197	5	0.1%																							2	3
MASSACHUSETTS	21	6,822	4,332	2,490	36.5%		2,025																		2		1	462	
MICHIGAN	27	9,678	9,678	0	0.0%																								
MINNESOTA	17	4,179	3,811	368	8.8%	1		23		4																		338	2
MISSISSIPPI	16	5,061	3,054	2,007	39.7%	2,007																							
MISSOURI	20	9,008	8,752	256	2.8%	169	45			2															8			28	4
MONTANA	12	2,642	2,598	44	1.7%									30													1	13	
NEBRASKA	13	4,141	3,882	259	6.3%	229	6	4	4	1																		13	2
NEVADA	8	2,963	2,694	269	9.1%	1								12										1	68		1	181	5
NEW HAMPSHIRE	11	1,720	199	1,521	88.4%	914					605																		2
NEW JERSEY	21	5,620	5,488	132	2.3%	132																							
NEW MEXICO	8	2,495	2,258	237	9.5%	10					41														2			178	6
NEW YORK	46	11,707	11,557	150	1.3%	3			44						28												1	72	2
NORTH CAROLINA	32	13,188	11,767	1,421	10.8%	86	20							54											871		7	348	37
NORTH DAKOTA	7	1,509	1,498	11	0.7%																							11	
OHIO	46	22,131	21,100	1,031	4.7%	18		3							1										181		9	703	116
OKLAHOMA	13	3,081	3,042	39	1.3%																				3			1	35
OREGON	26	13,873	13,862	11	0.1%									2														9	
PENNSYLVANIA	38	16,896	16,201	695	4.1%	409	108	7	21	5															12		25	93	15
RHODE ISLAND	6	2,887	2,865	22	0.8%																							18	4
SOUTH CAROLINA	15	6,901	6,782	119	1.7%			3						17											72			27	
SOUTH DAKOTA	12	2,680	1,102	1,578	58.9%	589	76																		732			187	
TENNESSEE	17	7,942	3,940	4,002	50.4%	2,540	363			6				42											757			294	2
TEXAS	56	18,447	17,910	537	2.9%							1													70		8	458	
UTAH	18	5,758	5,718	40	0.7%																								40
VERMONT	3	1,014	1,014	0	0.0%																								
VIRGINIA	20	7,716	7,369	347	4.5%									39											65		48	193	2
WASHINGTON	22	10,122	10,005	117	1.2%																							107	10
WEST VIRGINIA	12	3,731	3,604	127	3.4%									16	1										38			68	4
WISCONSIN	23	9,146	9,125	21	0.2%										1										2			17	1
WYOMING	6	1,339	1,249	90	6.7%																							88	2
PUERTO RICO	10	3,936	3,296	640	16.3%								8				6		515							111			
VIRGIN ISLANDS	2	160	152	8	5.0%																					8			
U.S. Total	1,027	362,879	332,865	30,014	8.3%	11,578	4,610	252	349	71	655	42	8	383	31	12	107	15	523	1	1	1	3	24	3,121	119	131	7,560	436
				Percent of Flagged Values		38.6%	15.4%	0.8%	1.2%	0.2%	2.2%	0.1%	0.0%	1.3%	0.1%	0.0%	0.4%	0.0%	1.7%	0.0%	0.0%	0.0%	0.0%	0.1%	10.4%	0.4%	0.4%	25.2%	1.5%
				Percent of Total Values		3.2%	1.3%	0.1%	0.1%	0.0%	0.2%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.9%	0.0%	0.0%	2.1%	0.1%

Summary of PM2.5 Null Data Records by State

State	# of Monitors w/ Data	Total # of AQS Data Rcrds.	Total # of Null Data Rcrds.	Null % of Rcrds.	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BH	BI	BJ
ALABAMA	17	7,338	1,066	14.5%		14	2			76	40		10	16		32	212	225			36	34	40	2	41	128		4			139	15							
ALASKA	7	2,011	0	0.0%																																		
ARIZONA	5	1,274	101	7.9%		23				39	14			4		4		5			2		1			3											6	
ARKANSAS	27	5,207	0	0.0%																																		
CALIFORNIA	83	30,919	4,114	13.3%		8	1		1	746	309	139	4	57	50	35	121	1,016			501	76	756	14		56		1		20	70	1	2		130				
COLORADO	14	5,427	846	15.6%		13				90	6			2		45	19	385			58					20									208				
CONNECTICUT	10	4,548	685	15.1%						34	73	20		4	3		22	183	61		45	213				13					2				12				
DELAWARE	8	3,893	484	12.4%							70		3	12		1	71	190	19		11	59	2			21					25								
DIST. OF COLUMBIA	3	2,079	36	1.7%														16				1				19												
FLORIDA	31	17,205	318	1.8%							2			11			292	6				1									6								
GEORGIA	24	10,184	1,594	15.7%		10	41			137	87	3	6	412		50	197	379			110	44		2		71				2	31	3			8			1	
HAWAII	5	2,967	221	7.4%						14	11			3		1	25	155			1	8		3														
IDAHO	14	4,127	159	3.9%					2	42	9	1		6		10	12	49			7	8				8				1	4							
ILLINOIS	39	9,677	0	0.0%																																		
INDIANA	39	15,614	1,725	11.0%		1	7			158	96	13	9	63	13	4	27	555	5	2	443	41	16	3		144				1	11	33	1	1	78				
IOWA	18	7,111	404	5.7%						4	5		9	3		6	6	231	1	3	87	16	10			22						1							
KANSAS	12	4,143	301	7.3%						21	46		53	5		28	18	96			9		11			14													
KENTUCKY	21	8,254	718	8.7%		17		41	1	12	60	4	27	35		54	73	221		3	51	39			16	34					8	13			9				
LOUISIANA	22	8,388	0	0.0%																																		
MAINE	5	1,752	162	9.2%							11		1	14	1	9	1	70	7		26	2	2	1		15						2						
MARYLAND	19	5,205	3	0.1%														1								2												
MASSACHUSETTS	21	9,344	2,522	27.0%							37	94		4		1	32	1,350	37	2	295	293	24			66					4	274			9				
MICHIGAN	27	9,679	1	0.0%																																		1
MINNESOTA	17	4,661	482	10.3%							73	19		3			172	3			35	163	13			1													
MISSISSIPPI	16	5,271	210	4.0%							8		1	11		1	42	109	1		3	31				2						1						
MISSOURI	20	9,249	241	2.6%						6	5	1		37	1	39	16	102			9	1		4		13					2				5				
MONTANA	12	2,982	340	11.4%			3			37	58	31	9	3		3	28	51		2	44	21	49							1								
NEBRASKA	13	4,954	813	16.4%	1				1	62	14	1	33	100			53	283			99	113			3	20				4	1					23		2
NEVADA	8	3,119	156	5.0%						6	4	1		4	1		116	20			3		1															
NEW HAMPSHIRE	11	2,054	334	16.3%	1	3					5	8	43	1		51	79	123	1		2					8						1			8				
NEW JERSEY	21	5,991	371	6.2%							42		7	1			10	182				1				1						50				77				
NEW MEXICO	8	2,631	136	5.2%			1			2	8	4		26		3	2	5			52	10	1			8					3	9	1	1					
NEW YORK	46	13,613	1,906	14.0%		2	3			8	94	28	16	469	32	10	332	327	4		284	188			22	60					9	9			9				
NORTH CAROLINA	32	14,780	1,592	10.8%			283			19	103	3	24	27	1	123	91	599	43	7	72	11	7	5	7	106				3	22	19	5		12				
NORTH DAKOTA	7	1,641	132	8.0%						18	9		4			12	3	65		3	6		5		3	4												
OHIO	46	25,800	3,669	14.2%						129	42	83	11	71	1	50	31	2,543	20	1	85	96	16	30	4	194			2	2	76	24	16		140	2			
OKLAHOMA	13	3,081	0	0.0%																																		
OREGON	26	13,873	0	0.0%																																		
PENNSYLVANIA	38	17,698	802	4.5%					26		18	20		4		6	64	200			78	252	118				1				15								
RHODE ISLAND	6	3,422	535	15.6%							92	1	6	2		14	72	74			2		257			15												
SOUTH CAROLINA	15	7,472	571	7.6%						1	9	11		23			8	226	12	11	114	71	17			62	2				2	2							
SOUTH DAKOTA	12	3,136	456	14.5%							33		4	2		9	2	271			2	133																	
TENNESSEE	17	9,738	1,796	18.4%		15				52	50	3	17	48		25	205	764	2		43	42		6	363	108				2	32	6	12						
TEXAS	56	18,695	248	1.3%							245	3																											
UTAH	18	6,130	372	6.1%							3		31	3		72	108	113		1	1	11				19	1			1	4		4						
VERMONT	3	1,104	90	8.2%						1								55			15					17									2				
VIRGINIA	20	7,721	5	0.1%																	3					1												1
WASHINGTON	22	10,122	0	0.0%																																		
WEST VIRGINIA	12	4,003	272	6.8%						4	36			8			11	149			27	20	2			11	3			1									
WISCONSIN	23	9,439	293	3.1%						175	17			25		6	4	5			38	3		1		18				1									
WYOMING	6	1,399	60	4.3%						13	23		6	3		1	5	5			3	1																	
PUERTO RICO	10	3,972	36	0.9%							7			1	1		18				7					2													
VIRGIN ISLANDS	2	281	121	43.1%		11	1			3	9		3	5			10	47	13		1					4					9	2							
U.S. Total	1027	394,378	31,499	8.0%	2	117	342	41	31	1,909	1,883	491	337	1,528	104	705	2,610	11,454	226	35	2,710	2,003	1,348	71	459	1,310	7	5	2	39	475	465	41	2	707	2	23	7	4
			Percent of Null Rcrds.		0.0%	0.4%	1.1%	0.1%	0.1%	6.1%	6.0%	1.6%	1.1%	4.9%	0.3%	2.2%	8.3%	36.4%	0.7%	0.1%	8.6%	6.4%	4.3%	0.2%	1.5%	4.2%	0.0%	0.0%	0.0%	0.1%	1.5%	1.5%	0.1%	0.0%	2.2%	0.0%	0.1%	0.0%	0.0%
			Percent of Total Data Rc		0.0%	0.0%	0.1%	0.0%	0.0%	0.5%	0.5%	0.1%	0.1%	0.4%	0.0%	0.2%	0.7%	2.9%	0.1%	0.0%	0.7%	0.5%	0.3%	0.0%	0.1%	0.3%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%

Attachment 4

PM2.5 Collocated Precision Data Completeness Precision

EPA Region	State	Rep Org	Site	1999				2000				2001							
				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	1999	2000	2001	3-Year
1	CT	0251	090010010		100.0	100.0	100.0	100.0	100.0	86.7	100.0	80.0	100.0	93.3	93.3	100.0	96.7	91.7	95.8
1	CT	0251	090090018		100.0	100.0	100.0	100.0	86.7	86.7	93.3	100.0	100.0	66.7	100.0	100.0	91.7	91.7	93.9
1	CT	0251	090091123		100.0	100.0	100.0	100.0	100.0	100.0	93.3	100.0	100.0	100.0	100.0	100.0	98.3	100.0	99.4
1	CT	0251	090092123		100.0	100.0	100.0	100.0	93.3	100.0	86.7	100.0	80.0	100.0	100.0	100.0	95.0	95.0	96.4
1	MA	0660	250130016		100.0	100.0	100.0	100.0	100.0	100.0	93.3	100.0	100.0	100.0	100.0	100.0	98.3	100.0	99.4
1	MA	0660	250210007		ND	66.7	100.0	100.0	100.0	ND	ND	ND	20.0	100.0	100.0	55.6	50.0	55.0	53.3
1	MA	0660	250230004		100.0	100.0	86.7	26.7	100.0	100.0	100.0	100.0	100.0	100.0	100.0	95.6	81.7	100.0	92.1
1	MA	0660	250250027		100.0	100.0	73.3	40.0	93.3	73.3	ND	ND	66.7	93.3	40.0	91.1	51.7	50.0	61.8
1	MA	0660	250270020		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	73.3	100.0	100.0	100.0	100.0	93.3	97.6
1	ME	0635	230030013		93.3	80.0	93.3	93.3	86.7	93.3	ND	100.0	100.0	86.7	93.3	88.9	68.3	95.0	83.6
1	ME	0635	230050027		26.7	80.0	73.3	93.3	93.3	93.3	73.3	80.0	86.7	80.0	86.7	60.0	88.3	83.3	78.8
1	ME	0635	230190002		ND	ND	33.3	100.0	60.0	60.0	80.0	80.0	100.0	73.3	86.7	11.1	75.0	85.0	61.2
1	NH	0762	330012004											93.3	100.0			96.7	96.7
1	NH	0762	330070014		80.0	73.3	73.3	6.7	33.3	53.3	26.7	80.0	66.7	80.0	80.0	75.6	30.0	76.7	59.4
1	NH	0762	330110019				ND	66.7	46.7	33.3	86.7	60.0				ND	58.3	60.0	48.9
1	NH	0762	330110020											93.3	80.0			86.7	86.7
1	RI	0907	440070022		80.0	100.0	93.3	53.3	80.0	93.3	60.0	46.7	73.3	46.7	93.3	91.1	71.7	65.0	74.5
1	RI	0907	440071010		100.0	93.3	93.3	66.7	93.3	93.3	80.0	80.0	86.7	100.0	86.7	95.6	83.3	88.3	88.5
1	VT	1119	500070012					100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0		100.0	100.0	100.0
1	VT	1119	500230005	100.0	100.0	100.0	100.0									100.0			100.0
2	NJ	0764	340070003		100.0	80.0	66.7	93.3	73.3	86.7	46.7	6.7	73.3	80.0	80.0	82.2	75.0	60.0	71.5
2	NJ	0764	340130016												53.3			53.3	53.3
2	NJ	0764	340171003		ND	ND	26.7	60.0	73.3	86.7	73.3	ND	66.7	66.7	80.0	8.9	73.3	53.3	48.5
2	NJ	0764	340390004		33.3	100.0	100.0	86.7	100.0	86.7	66.7	13.3	86.7	86.7	86.7	77.8	85.0	68.3	77.0
2	NY	0768	360010005				40.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	40.0	40.0	100.0	85.0	86.7
2	NY	0768	360050110				80.0	100.0	100.0	100.0	100.0	100.0	100.0	53.3	100.0	80.0	100.0	88.3	92.6
2	NY	0768	360556001				100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2	NY	0768	360610056				40.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	40.0	100.0	100.0	93.3
2	NY	0768	360610062				100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	ND	100.0	100.0	75.0	88.9
2	NY	0768	360632008				100.0	80.0	100.0	100.0	100.0	100.0	100.0	100.0	53.3	100.0	95.0	88.3	92.6
2	NY	0768	360671015				100.0	93.3	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	98.3	100.0	99.3
2	NY	0768	360810094				100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2	PR	0889	720610005		ND	ND	ND	ND	40.0	73.3	66.7	73.3	ND	86.7	66.7	ND	45.0	56.7	37.0
2	PR	0889	721270003		ND	ND	ND	ND	80.0	73.3	80.0	73.3	ND	93.3	53.3	ND	58.3	55.0	41.2
3	DC	0350	110010041		ND	ND	ND	100.0	66.7	60.0	66.7	100.0	100.0	100.0	86.7	ND	73.3	96.7	61.8
3	DC	0350	110010043		100.0	26.7	ND	53.3	20.0	13.3	6.7	100.0	66.7	100.0	93.3	42.2	23.3	90.0	52.7
3	DE	0294	100031011		100.0	100.0										100.0			100.0
3	DE	0294	100031012					100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0		100.0	100.0	100.0
3	DE	0294	100032004		100.0	100.0	100.0	100.0	100.0	86.7	100.0	100.0	100.0	93.3	73.3	100.0	96.7	91.7	95.8
3	MD	1002	240032002				ND	ND	100.0	100.0	100.0	100.0	100.0	93.3	93.3	ND	75.0	96.7	76.3
3	MD	1002	240330001				ND	13.3	100.0	100.0	100.0	100.0	100.0	100.0	93.3	ND	78.3	98.3	78.5
3	MD	1002	245100035					46.7	73.3	100.0	100.0	100.0	100.0	100.0	93.3		80.0	98.3	89.2
3	PA	0021	420030008		ND	ND	6.7	73.3	13.3	60.0	20.0	ND	100.0	ND	ND	2.2	41.7	25.0	24.8
3	PA	0021	420030064		ND	ND	6.7	73.3	20.0	80.0	73.3	ND	80.0	ND	ND	2.2	61.7	20.0	30.3
3	PA	0021	420031301		ND	13.3	ND	53.3	20.0	60.0	53.3	ND	100.0	ND	ND	4.4	46.7	25.0	27.3
3	PA	0851	420070014					80.0	86.7	40.0	53.3	66.7	93.3	60.0	66.7		65.0	71.7	68.3
3	PA	0851	420450002		80.0	86.7	86.7	100.0	73.3	66.7	80.0	93.3	100.0	93.3	86.7	84.4	80.0	93.3	86.1
3	PA	0851	420692006		46.7	66.7	80.0	100.0	80.0	86.7	73.3	46.7	80.0	66.7	40.0	64.4	85.0	58.3	69.7
3	PA	0851	420710007		66.7	40.0	80.0	93.3	60.0	80.0	73.3	86.7	46.7	86.7	80.0	62.2	76.7	75.0	72.1

EPA Region	State	Rep Org	Site	1999				2000				2001				1999	2000	2001	3-Year
				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
3	PA	0851	421250005		53.3	ND	40.0	66.7	93.3	93.3	66.7	33.3	100.0	86.7	66.7	31.1	80.0	71.7	63.6
3	PA	0851	421330008		73.3	33.3	86.7	93.3	80.0	100.0	93.3	73.3	60.0	60.0	73.3	64.4	91.7	66.7	75.2
3	PA	0861	421010004		33.3	60.0	86.7	66.7	26.7	73.3	73.3	53.3	80.0	86.7	86.7	60.0	60.0	76.7	66.1
3	VA	1127	510130020		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
3	VA	1127	517100024		100.0	100.0	73.3	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	91.1	100.0	100.0	97.6
3	VA	1127	517600020		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
3	WV	1150	540391005		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
3	WV	1151	540290011		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
4	AL	0013	010970002		80.0	86.7	73.3	100.0	86.7	80.0	46.7	80.0	100.0	93.3	93.3	80.0	78.3	91.7	83.6
4	AL	0013	011010007		93.3	60.0	66.7	80.0	93.3	100.0	93.3	73.3	100.0	100.0	86.7	73.3	91.7	90.0	86.1
4	AL	0300	010890014		86.7	86.7	100.0	100.0	86.7	93.3	100.0	93.3	100.0	100.0	100.0	91.1	95.0	98.3	95.2
4	AL	0550	010730023	66.7	ND	26.7	73.3	60.0	73.3	86.7	80.0	73.3	66.7	93.3	86.7	41.7	75.0	80.0	65.6
4	AL	0550	010732003	86.7	26.7	46.7	86.7	80.0	86.7	66.7	93.3	73.3	66.7	73.3	86.7	61.7	81.7	75.0	72.8
4	AL	0550	010735002		ND	13.3	20.0	33.3	20.0	33.3	26.7	26.7	26.7	26.7	26.7	11.1	28.3	26.7	23.0
4	FL	0391	120010023		ND	ND	93.3	100.0	86.7	100.0	ND	100.0	100.0	93.3	ND	31.1	71.7	73.3	61.2
4	FL	0391	120111002	86.7	73.3	86.7	100.0	93.3	93.3	100.0	93.3	93.3	100.0	80.0	ND	86.7	95.0	68.3	83.3
4	FL	0391	120170005		ND	ND	ND	ND	ND	ND	100.0	100.0	100.0	100.0	ND	ND	25.0	75.0	36.4
4	FL	0391	120310099			ND	ND	80.0	40.0	ND	80.0	86.7	80.0	93.3	ND	ND	50.0	65.0	46.0
4	FL	0391	120330004		66.7	86.7	93.3	93.3	86.7	ND	ND	ND	100.0	86.7	ND	82.2	45.0	46.7	55.8
4	FL	0391	120570030	73.3	73.3	93.3	60.0	93.3	86.7	93.3	93.3	80.0	100.0	86.7	ND	75.0	91.7	66.7	77.8
4	FL	0391	120710005		60.0	73.3	80.0	73.3	100.0	100.0	100.0	100.0	100.0	100.0	ND	71.1	93.3	75.0	80.6
4	FL	0391	120730012		ND	ND	ND	ND	ND	ND	ND	6.7	73.3	6.7	ND	ND	ND	21.7	7.9
4	FL	0391	120952002		93.3	93.3	100.0	100.0	93.3	100.0	93.3	100.0	100.0	100.0	ND	95.6	96.7	75.0	88.5
4	FL	0391	120992003		ND	ND	ND	86.7	ND	73.3	100.0	60.0	26.7			ND	65.0	43.3	38.5
4	FL	0391	121030018	93.3	86.7	80.0	86.7	86.7	86.7	93.3	86.7	86.7	93.3	80.0	ND	86.7	88.3	65.0	80.0
4	FL	0391	121056006		53.3	60.0	93.3	73.3	73.3	66.7	86.7	80.0	66.7	93.3	ND	68.9	75.0	60.0	67.9
4	FL	0391	121111002		100.0	73.3	93.3	66.7	86.7	73.3	73.3	ND	100.0	ND	ND	88.9	75.0	25.0	60.6
4	FL	0391	121150013		93.3	86.7	100.0	100.0	66.7	80.0	100.0	86.7	93.3	93.3	ND	93.3	86.7	68.3	81.8
4	FL	0391	121171002		86.7	73.3	80.0	93.3	93.3	100.0	100.0	100.0	100.0	ND	ND	80.0	96.7	50.0	75.2
4	GA	0437	130210007		60.0	80.0	46.7	86.7	66.7	53.3	53.3	53.3	40.0	26.7	13.3	62.2	65.0	33.3	52.7
4	GA	0437	130510017		66.7	73.3	60.0	93.3	53.3	40.0	60.0	20.0	53.3	20.0	13.3	66.7	61.7	26.7	50.3
4	GA	0437	130892001	80.0	60.0	73.3	66.7	73.3	86.7	26.7	73.3	53.3	33.3	53.3	20.0	70.0	65.0	40.0	58.3
4	GA	0437	131210032	46.7	46.7	80.0	73.3	66.7	60.0	46.7	60.0	26.7	40.0	66.7	46.7	61.7	58.3	45.0	55.0
4	GA	0437	132150001		100.0	73.3	66.7	80.0	66.7	86.7	60.0	40.0	53.3	53.3	46.7	80.0	73.3	48.3	66.1
4	GA	0437	132450005		73.3	66.7	40.0	26.7	53.3	46.7	60.0	33.3	46.7	40.0	33.3	60.0	46.7	38.3	47.3
4	KY	0549	211110043		100.0	100.0	60.0	73.3	93.3	80.0	73.3	ND	ND	ND	ND	86.7	80.0	ND	52.7
4	KY	0584	210190017		53.3	86.7	86.7	80.0	53.3	93.3	86.7	86.7	100.0	80.0	100.0	75.6	78.3	91.7	82.4
4	KY	0584	210590014		66.7	73.3	80.0	ND	66.7	93.3	93.3	73.3	86.7	66.7	ND	73.3	63.3	56.7	63.6
4	KY	0584	210670012		86.7	100.0	80.0	93.3	80.0	86.7	93.3	80.0	100.0	100.0	100.0	88.9	88.3	95.0	90.9
4	KY	0584	211010006		ND	ND	ND	ND	ND	ND	ND	ND	ND	13.3	80.0	ND	ND	23.3	8.5
4	KY	0584	211950002		80.0	93.3	60.0	60.0	80.0	100.0	80.0	86.7	73.3	73.3	93.3	77.8	80.0	81.7	80.0
4	KY	0584	212270007		80.0	86.7	100.0	100.0	86.7	80.0	93.3	80.0	86.7	93.3	86.7	88.9	90.0	86.7	88.5
4	MS	0703	280330002		86.7	100.0	93.3	80.0	86.7	100.0	33.3	86.7	100.0	93.3	53.3	93.3	75.0	83.3	83.0
4	MS	0703	280350004		80.0	73.3	100.0	93.3	100.0	93.3	26.7	93.3	93.3	93.3	66.7	84.4	78.3	86.7	83.0
4	MS	0703	280670002		ND	ND	ND	ND	46.7	100.0	26.7	93.3	100.0	100.0	86.7	ND	43.3	95.0	50.3
4	MS	0703	281210001		73.3	66.7	66.7	60.0	53.3	73.3	33.3	86.7	93.3	73.3	80.0	68.9	55.0	83.3	69.1
4	NC	0776	370210034		86.7	93.3	100.0	66.7	26.7	93.3	80.0	66.7	66.7	80.0	60.0	93.3	66.7	68.3	74.5
4	NC	0776	370510009		ND	66.7	86.7	93.3	86.7	100.0	86.7	100.0	100.0	100.0	100.0	51.1	91.7	100.0	83.6
4	NC	0776	370670024		100.0	66.7	93.3	93.3	66.7	80.0	66.7	100.0	86.7	86.7	86.7	86.7	76.7	90.0	84.2

EPA Region	State	Rep Org	Site	1999				2000				2001							
				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	1999	2000	2001	3-Year
4	NC	0776	370710016		ND	93.3	86.7	86.7	100.0	86.7	93.3	93.3	100.0	93.3	100.0	60.0	91.7	96.7	84.8
4	NC	0776	370810009	ND	ND	ND	20.0	66.7	66.7	73.3	80.0	100.0	100.0	86.7	93.3	5.0	71.7	95.0	57.2
4	NC	0776	370990006							80.0	53.3	20.0	66.7	80.0	66.7		66.7	58.3	61.1
4	NC	0776	371190034	86.7	93.3											90.0			90.0
4	NC	0776	371190040		ND	53.3	66.7	86.7	80.0							40.0	83.3		57.3
4	NC	0776	371190042								93.3	80.0	86.7	100.0	86.7		93.3	88.3	89.3
4	NC	0776	371210001		ND	80.0	80.0	80.0	93.3	100.0	100.0	100.0	100.0	100.0	100.0	53.3	93.3	100.0	84.8
4	NC	0776	371290009		ND	73.3	86.7	73.3	73.3	86.7	86.7	86.7	93.3	100.0	60.0	53.3	80.0	85.0	74.5
4	NC	0776	371470005		ND	86.7	46.7	93.3	93.3	93.3	73.3	66.7	66.7	93.3	93.3	44.4	88.3	80.0	73.3
4	NC	0776	371830014	ND	ND	53.3	80.0	80.0	93.3	100.0	93.3	93.3	100.0	100.0	100.0	33.3	91.7	98.3	74.4
4	SC	0971	450190048			86.7	100.0	86.7	93.3	100.0	93.3	86.7	100.0	80.0	86.7	93.3	93.3	88.3	91.3
4	SC	0971	450450009			53.3	86.7	93.3	93.3	66.7	60.0	86.7	100.0	80.0	93.3	70.0	78.3	90.0	81.3
4	SC	0971	450510002									100.0	100.0	100.0	100.0			100.0	100.0
4	SC	0971	450790019	ND	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	75.0	100.0	100.0	91.7
4	TN	0170	470654002	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
4	TN	1025	470370023	80.0	80.0	100.0	100.0	60.0	86.7	60.0	100.0	100.0	100.0	80.0	93.3	90.0	76.7	93.3	86.7
4	TN	1025	470370025		ND	ND	ND	ND	ND	ND	ND	ND	ND	6.7	ND	ND	ND	1.7	0.6
4	TN	1025	470931017	60.0	60.0	93.3	86.7	80.0	73.3	66.7	66.7	93.3	93.3	100.0	86.7	75.0	71.7	93.3	80.0
4	TN	1025	471130004		ND	66.7	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	55.6	100.0	100.0	87.9
4	TN	1025	471570014		ND	6.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.2	ND	ND	0.6
4	TN	1025	471570047		100.0	100.0	100.0	100.0	100.0	100.0	100.0	ND	100.0	73.3	ND	100.0	100.0	43.3	79.4
4	TN	1025	471631007		ND	ND	20.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	6.7	100.0	100.0	74.5
4	TN	1025	471650007		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
5	IL	0258	170310050		66.7	66.7	80.0	73.3	86.7	86.7	13.3	6.7	100.0	80.0	80.0	71.1	65.0	66.7	67.3
5	IL	0258	170310052		ND	ND	ND	73.3	80.0	86.7	73.3	66.7	60.0	60.0	93.3	ND	78.3	70.0	53.9
5	IL	0258	170313301		ND	ND	ND	73.3	60.0	80.0	80.0	73.3	80.0	60.0	93.3	ND	73.3	76.7	54.5
5	IL	0513	170314201		80.0	66.7	66.7	73.3	60.0	73.3	73.3	46.7	46.7	60.0	80.0	71.1	70.0	58.3	66.1
5	IL	0513	171150013		ND	ND	ND	86.7	86.7	60.0	80.0	73.3	86.7	93.3	46.7	ND	78.3	75.0	55.8
5	IL	0513	171191007		ND	ND	ND	73.3	93.3	60.0	80.0	40.0	73.3	66.7	46.7	ND	76.7	56.7	48.5
5	IL	0513	171193007		ND	ND	ND	93.3	93.3	80.0	66.7	66.7	100.0	66.7	26.7	ND	83.3	65.0	53.9
5	IL	0513	171430037		ND	ND	ND	86.7	6.7	40.0	73.3	93.3	100.0	86.7	73.3	ND	51.7	88.3	50.9
5	IL	0513	171610003		ND	ND	ND	66.7	73.3	93.3	46.7					ND	70.0		40.0
5	IL	0513	171613002									40.0	73.3	73.3	46.7			58.3	58.3
5	IN	0520	180030004		ND	ND	73.3	93.3	80.0	100.0	86.7	80.0	60.0	93.3	100.0	24.4	90.0	83.3	69.7
5	IN	0520	180431004		86.7	93.3	80.0	66.7	73.3	66.7	93.3	46.7	100.0	100.0	93.3	86.7	75.0	85.0	81.8
5	IN	0520	180891016	26.7	93.3	66.7	80.0	100.0	86.7	80.0	66.7	53.3	93.3	80.0	86.7	66.7	83.3	78.3	76.1
5	IN	0520	180950009		93.3	53.3	100.0	86.7	80.0	93.3	86.7	60.0	46.7	73.3	60.0	82.2	86.7	60.0	75.8
5	IN	0520	181411008			93.3	73.3	46.7	86.7	86.7	93.3	80.0	100.0	80.0	86.7	83.3	78.3	86.7	82.7
5	IN	0520	181570007			80.0	86.7	93.3	86.7	93.3	73.3	86.7	93.3	80.0	86.7	83.3	86.7	86.7	86.0
5	IN	0520	181630006			86.7	93.3	86.7	93.3	80.0	80.0	80.0	93.3	80.0	86.7	90.0	85.0	85.0	86.0
5	IN	0520	181670023					100.0	100.0	100.0	100.0	86.7	100.0	80.0	66.7		100.0	83.3	91.7
5	IN	0523	180970081		93.3	86.7	93.3	80.0	93.3	86.7	66.7	100.0	100.0	86.7	86.7	91.1	81.7	93.3	88.5
5	IN	0523	180970083		80.0	100.0	100.0	93.3	86.7	80.0	100.0	100.0	100.0	100.0	100.0	93.3	90.0	100.0	94.5
5	MI	0685	260330901										100.0	80.0	60.0			80.0	80.0
5	MI	0685	260650012		100.0	100.0	100.0	100.0	100.0	100.0	100.0	93.3	93.3	93.3	93.3	100.0	100.0	93.3	97.6
5	MI	0685	260770008		100.0	100.0	100.0	100.0	100.0	100.0	100.0	86.7	100.0	86.7	80.0	100.0	100.0	88.3	95.8
5	MI	0685	260810020		66.7	86.7	93.3	100.0	93.3	80.0	86.7	86.7	93.3	93.3	100.0	82.2	90.0	93.3	89.1
5	MI	0685	261210040		66.7	46.7	73.3	100.0	93.3	86.7	93.3	ND	ND	ND	ND	62.2	93.3	ND	50.9
5	MI	0685	261450018		100.0	100.0	73.3	46.7	100.0	100.0	73.3	6.7	ND	ND	ND	91.1	80.0	1.7	54.5

EPA Region	State	Rep Org	Site	1999				2000				2001				1999	2000	2001	3-Year
				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
5	MI	0685	261470005										93.3	73.3	73.3			80.0	80.0
5	MI	0685	261610008				ND	ND	ND	ND	ND	86.7	100.0	80.0	93.3	ND	ND	90.0	40.0
5	MI	0685	261630001			73.3	66.7	80.0	73.3	93.3	93.3	86.7	73.3	93.3	60.0	70.0	85.0	78.3	79.3
5	MN	0700	270530960			ND	ND	6.7	ND	ND	ND					ND	1.7		1.1
5	MN	0700	271230866			73.3	73.3	100.0	53.3	40.0	66.7	80.0	93.3	100.0	100.0	73.3	65.0	93.3	78.0
5	MN	0700	271230868		ND	66.7	80.0	100.0	40.0	60.0	ND	ND	60.0	100.0	100.0	48.9	50.0	65.0	55.2
5	MN	0700	271230871			ND	ND	ND	ND	ND	ND	ND	66.7	93.3	93.3	ND	ND	63.3	25.3
5	MN	0700	271377550			66.7	66.7	93.3	66.7	93.3	73.3	93.3	93.3	73.3	86.7	66.7	81.7	86.7	80.7
5	OH	0012	391530017	86.7	100.0	100.0	40.0	60.0	66.7	93.3	73.3	100.0	100.0	86.7	80.0	81.7	73.3	91.7	82.2
5	OH	0151	391510017		ND	ND	ND	93.3	93.3	93.3	100.0	ND	93.3	86.7	86.7	ND	95.0	66.7	58.8
5	OH	0220	390950024		ND	ND	ND	ND	ND	66.7	33.3	ND	80.0	73.3	ND	ND	25.0	38.3	23.0
5	OH	0229	390350038		ND	ND	ND	ND	ND	73.3	80.0	73.3	86.7	86.7	100.0	ND	38.3	86.7	45.5
5	OH	0229	390350060		ND	ND	ND	93.3	73.3	93.3	73.3	93.3	80.0	86.7	93.3	ND	83.3	88.3	62.4
5	OH	0287	391130014		ND	ND	ND	ND	100.0	86.7	80.0	60.0	100.0			ND	66.7	80.0	47.4
5	OH	0287	391130032												100.0			100.0	100.0
5	OH	0595	390851001		ND	ND	ND	ND	ND	46.7	93.3	ND	ND	100.0	66.7	ND	35.0	41.7	27.9
5	OH	0634	390990005	ND	ND	ND	ND	80.0	93.3	100.0	73.3	86.7	100.0	86.7	100.0	ND	86.7	93.3	60.0
5	OH	0805	390490025	ND	ND	ND	ND	66.7	80.0	93.3	73.3	66.7	100.0	100.0	46.7	ND	78.3	78.3	52.2
5	OH	0807	390932003		ND	ND	ND	ND	ND	ND	20.0	ND	ND	66.7		ND	5.0	22.2	8.7
5	OH	0809	390811001		ND	73.3	33.3	33.3	73.3	53.3	60.0	60.0	ND	ND	80.0	35.6	55.0	35.0	42.4
5	OH	0880	391450013		ND	ND	ND	ND	ND	26.7	66.7	60.0	86.7	86.7	80.0	ND	23.3	78.3	37.0
5	OH	0979	390170003	93.3	100.0	100.0	60.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	88.3	100.0	100.0	96.1
5	OH	0979	390610014	53.3	100.0	100.0	73.3	100.0	93.3	100.0	100.0	100.0	100.0	93.3	100.0	81.7	98.3	98.3	92.8
5	OH	0979	390610041		100.0	100.0	93.3	100.0	100.0	100.0	ND	100.0	100.0	100.0	100.0	97.8	75.0	100.0	90.3
5	WI	1175	550090005		100.0	100.0	100.0	100.0	100.0	100.0	73.3	ND	100.0	100.0	100.0	100.0	93.3	75.0	88.5
5	WI	1175	550250025		100.0	100.0	100.0	80.0	100.0	100.0	100.0	ND	100.0	100.0	100.0	100.0	95.0	75.0	89.1
5	WI	1175	550310025		100.0	100.0	100.0	100.0	100.0	100.0	66.7	ND	100.0	100.0	100.0	100.0	91.7	75.0	87.9
5	WI	1175	550790026	80.0	93.3	100.0	86.7	100.0	100.0	100.0	60.0	ND	86.7	53.3	73.3	90.0	90.0	53.3	77.8
5	WI	1175	550790059		ND	66.7	73.3	100.0	93.3	86.7	66.7	ND	60.0	86.7	93.3	46.7	86.7	60.0	66.1
5	WI	1175	551330027		100.0	80.0	100.0	100.0	100.0	86.7	86.7	ND	93.3	53.3	86.7	93.3	93.3	58.3	80.6
6	AR	0055	050010001				66.7	100.0	86.7							66.7	93.3		84.4
6	AR	0055	050010010								53.3	53.3	73.3				53.3	63.3	60.0
6	AR	0055	050010011												93.3			93.3	93.3
6	AR	0055	050310001				60.0	66.7	66.7	93.3	80.0	80.0	80.0	53.3	93.3	60.0	76.7	76.7	74.8
6	AR	0055	050450002							93.3	93.3	93.3	100.0	100.0	100.0		93.3	98.3	96.7
6	AR	0055	051190007			100.0	86.7	53.3	100.0	93.3	80.0	86.7	100.0	100.0	86.7	93.3	81.7	93.3	88.7
6	AR	0055	051191008				86.7	66.7	66.7	86.7	93.3	93.3	100.0	93.3	60.0	86.7	78.3	86.7	83.0
6	AR	0055	051310008				80.0	86.7	93.3	93.3	80.0	46.7	80.0	100.0	100.0	80.0	88.3	81.7	84.4
6	LA	1001	220171002		100.0	100.0	100.0	100.0	93.3	73.3	100.0	100.0	100.0	100.0	100.0	100.0	91.7	100.0	97.0
6	LA	1001	220330009	93.3	100.0	100.0	93.3	100.0	100.0	86.7	100.0	93.3	100.0	93.3	100.0	96.7	96.7	96.7	96.7
6	LA	1001	220550005		93.3	100.0	93.3	100.0	73.3	93.3	100.0	86.7	80.0	86.7	86.7	95.6	91.7	85.0	90.3
6	LA	1001	220710012		66.7	60.0	73.3	93.3	100.0	80.0	93.3	80.0	40.0	100.0	73.3	66.7	91.7	73.3	78.2
6	NM	0017	350010023		ND	86.7	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	62.2	100.0	100.0	89.7
6	NM	0017	350010024		ND	ND	ND	ND	6.7	ND	13.3	ND	ND	ND	ND	ND	5.0	ND	1.8
6	NM	1218	350439003					73.3	100.0	100.0	93.3	80.0	86.7	93.3	ND		91.7	65.0	78.3
6	NM	1218	350439005										100.0	80.0	ND			60.0	60.0
6	NM	1219	350439004					100.0	66.7	66.7	80.0	80.0	100.0	93.3	100.0		78.3	93.3	85.8
6	OK	0535	400219002				46.7	60.0	46.7	33.3	86.7	100.0	86.7	66.7	86.7	46.7	56.7	85.0	68.1
6	OK	0535	400719003						100.0	100.0	80.0	80.0	86.7	80.0	80.0		93.3	81.7	86.7

EPA Region	State	Rep Org	Site	1999				2000				2001				1999	2000	2001	3-Year
				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
6	OK	0535	400819005						ND	ND	ND	ND	6.7	80.0	93.3		ND	45.0	25.7
6	OK	0812	401430110			80.0	53.3	93.3	53.3	86.7	93.3	86.7	93.3	ND	ND	66.7	81.7	45.0	64.0
6	TX	1035	480290034		20.0	ND										10.0			10.0
6	TX	1035	480290060							53.3	33.3	26.7	40.0	93.3	13.3		43.3	43.3	43.3
6	TX	1035	481130050	ND	ND	40.0	20.0	33.3	73.3	93.3	80.0	100.0	100.0	100.0	100.0	15.0	70.0	100.0	61.7
6	TX	1035	481130069		20.0	ND	80.0	93.3	80.0	100.0	93.3	93.3	100.0	60.0	86.7	33.3	91.7	85.0	73.3
6	TX	1035	481410010					40.0	46.7	13.3	40.0	46.7	100.0	100.0	100.0		35.0	86.7	60.8
6	TX	1035	481410044		53.3	20.0	66.7	53.3	93.3	93.3	100.0	100.0	93.3	100.0	100.0	46.7	85.0	98.3	79.4
6	TX	1035	481671005					ND	ND	26.7	66.7	93.3	66.7	6.7	ND		23.3	41.7	32.5
6	TX	1035	482011035		6.7	20.0	46.7	46.7	33.3	73.3	66.7	73.3	100.0	86.7	60.0	24.4	55.0	80.0	55.8
6	TX	1035	482450021						20.0	73.3	46.7	100.0	100.0	93.3	93.3		46.7	96.7	75.2
6	TX	1035	483550032						33.3	46.7	73.3	73.3	93.3	86.7	80.0		51.1	83.3	69.5
6	TX	1035	484391002		ND	ND	20.0	86.7	80.0	80.0	93.3	100.0	100.0	80.0	100.0	6.7	85.0	95.0	67.3
6	TX	1035	484393006		26.7	26.7	86.7	93.3	86.7	93.3	100.0	100.0	100.0	100.0	93.3	46.7	93.3	98.3	82.4
6	TX	1035	484530020		20.0	33.3	53.3	66.7	66.7	100.0	80.0	66.7	46.7	100.0	73.3	35.6	78.3	71.7	64.2
7	IA	0613	191130037		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	46.7	53.3	100.0	100.0	75.0	90.9
7	IA	0874	191532520		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
7	IA	1080	190450021		ND	ND	ND	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	ND	100.0	100.0	72.7
7	IA	1080	191550009				100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
7	IA	1080	191630015		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
7	KS	0563	200910007		73.3	93.3	93.3	100.0	93.3	80.0	100.0	60.0	80.0	73.3	100.0	86.7	93.3	78.3	86.1
7	KS	0563	201070002		53.3	80.0	86.7	100.0	80.0	66.7	100.0	100.0	100.0	86.7	66.7	73.3	86.7	88.3	83.6
7	KS	0563	201730010		80.0	33.3	86.7	86.7	93.3	100.0	93.3	93.3	93.3	100.0	86.7	66.7	93.3	93.3	86.1
7	KS	0563	202090021			100.0	93.3	100.0	100.0	100.0	93.3	86.7	100.0	93.3	100.0	96.7	98.3	95.0	96.7
7	MO	0561	290952002		86.7	93.3	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	ND	93.3	100.0	75.0	89.1
7	MO	0588	290210010		100.0	93.3	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	97.8	100.0	100.0	99.4
7	MO	0588	290470026	60.0	73.3	86.7	100.0	100.0	100.0	93.3	93.3	80.0	100.0	100.0	93.3	80.0	96.7	93.3	90.0
7	MO	0588	291831002		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
7	MO	0986	290770032		100.0	93.3	100.0	93.3	93.3	100.0	100.0	100.0	100.0	ND	ND	97.8	96.7	50.0	80.0
7	MO	0990	295100085		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
7	MO	0992	291892003		93.3	100.0	100.0	100.0	80.0	100.0	86.7	93.3	100.0	100.0	100.0	97.8	91.7	98.3	95.8
7	NE	0752	311090022		80.0	80.0	73.3	73.3	60.0	73.3	73.3	80.0	66.7	66.7	80.0	77.8	70.0	73.3	73.3
7	NE	0752	311530007		60.0	86.7	86.7	40.0	66.7	46.7	86.7	40.0	53.3	73.3	60.0	77.8	60.0	56.7	63.6
7	NE	0816	310550019		ND	33.3	20.0	73.3	60.0	86.7	60.0	60.0	40.0	86.7	66.7	17.8	70.0	63.3	53.3
7	NE	0816	310550052			33.3	73.3	73.3	33.3	46.7	13.3	53.3	80.0	93.3	86.7	53.3	41.7	78.3	58.7
8	CO	0240	080010001		100.0	86.7	86.7	100.0	86.7	100.0	93.3	80.0				91.1	95.0	80.0	91.7
8	CO	0240	080010006										100.0	80.0	93.3			91.1	91.1
8	CO	0240	080310002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.7	100.0	ND	ND	26.7	8.9
8	CO	0240	080410011		80.0	33.3	60.0	86.7	73.3	100.0	100.0	93.3	73.3	100.0	ND	57.8	90.0	66.7	72.7
8	CO	0240	080770003		100.0	73.3	100.0	100.0	100.0	93.3	100.0	80.0	93.3	100.0	86.7	91.1	98.3	90.0	93.3
8	MT	0250	300470028					100.0	100.0	93.3	80.0	93.3	100.0	93.3	86.7		93.3	93.3	93.3
8	MT	0730	300530018		ND	ND	73.3	80.0	ND	73.3	46.7	100.0	100.0	86.7	73.3	24.4	50.0	90.0	57.6
8	MT	0730	300630024		100.0	73.3	80.0	80.0	ND	93.3	13.3	100.0	93.3	46.7	93.3	84.4	46.7	83.3	70.3
8	MT	0787	300870307					73.3	100.0	100.0	46.7	73.3	93.3	100.0	93.3		80.0	90.0	85.0
8	ND	0782	380171004		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
8	ND	0782	380570004		73.3	86.7	93.3	93.3	100.0	93.3	100.0	100.0	100.0	100.0	100.0	84.4	96.7	100.0	94.5
8	SD	0973	460130003					20.0	46.7	93.3	93.3	60.0	100.0	100.0	86.7		63.3	86.7	75.0
8	SD	0973	460990006			80.0	93.3	60.0	60.0	93.3	80.0	80.0	100.0	86.7	93.3	86.7	73.3	90.0	82.7
8	SD	0973	461031001			100.0	93.3	33.3	33.3	93.3	86.7	100.0	100.0	80.0	93.3	96.7	61.7	93.3	81.3

EPA Region	State	Rep Org	Site	1999				2000				2001				1999	2000	2001	3-Year
				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
8	UT	1113	490110001		ND	ND	ND	ND	66.7	93.3	93.3	100.0	100.0	93.3	100.0	ND	63.3	98.3	58.8
8	UT	1113	490353007		ND	ND	ND	13.3	60.0	80.0	100.0	100.0	93.3	66.7	100.0	ND	63.3	90.0	55.8
8	UT	1113	490494001	ND	93.3	80.0	86.7	93.3	93.3	73.3	100.0	73.3	100.0	100.0	86.7	65.0	90.0	90.0	81.7
8	UT	1113	490570007		ND	ND	ND	26.7	80.0	80.0	93.3	86.7	100.0	80.0	100.0	ND	70.0	91.7	58.8
8	WY	1188	560330002	93.3	93.3	100.0	86.7	100.0	100.0	100.0	100.0	ND	100.0	93.3	100.0	93.3	100.0	73.3	88.9
9	AZ	0053	040230004		80.0	73.3	93.3	86.7	93.3	66.7	100.0	80.0	100.0	80.0	86.7	82.2	86.7	86.7	85.5
9	AZ	0864	040191028		46.7	40.0	46.7	20.0	73.3	60.0	33.3	46.7	46.7	ND	20.0	44.4	46.7	28.3	39.4
9	CA	0086	060450006		93.3	6.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	33.3	ND	ND	9.1
9	CA	0145	060170011		100.0	100.0	100.0	100.0	86.7	100.0	100.0	100.0	100.0	100.0	100.0	100.0	96.7	100.0	98.8
9	CA	0145	060190008		100.0	93.3	80.0	73.3	86.7	100.0	66.7	80.0	100.0	86.7	93.3	91.1	81.7	90.0	87.3
9	CA	0145	060271003		66.7	73.3	6.7	ND	53.3	100.0	80.0	80.0	100.0	100.0	ND	48.9	58.3	70.0	60.0
9	CA	0145	060571001		ND	6.7	73.3	100.0	80.0	93.3	80.0	53.3	80.0	93.3	86.7	26.7	88.3	78.3	67.9
9	CA	0145	060670006		86.7	ND	66.7	86.7	93.3	46.7	ND	20.0	60.0	46.7	ND	51.1	56.7	31.7	46.1
9	CA	0145	061010003	100.0	60.0	93.3	73.3	100.0	100.0	86.7	100.0	100.0	100.0	100.0	100.0	81.7	96.7	100.0	92.8
9	CA	0709	060710306					46.7	73.3	86.7	80.0	80.0	93.3	ND	ND		71.7	43.3	57.5
9	CA	0942	060250005		80.0	80.0	33.3	73.3	93.3	73.3	73.3	86.7	80.0	60.0	53.3	64.4	78.3	70.0	71.5
9	CA	0942	060710014		93.3	80.0	100.0	ND	ND	ND	ND	ND	ND	ND	ND	91.1	ND	ND	24.8
9	CA	0942	060730006		40.0	20.0	53.3	73.3	66.7	66.7	86.7	80.0	80.0	93.3	53.3	37.8	73.3	76.7	64.8
9	CA	0972	060370002		ND	ND	ND	ND	ND	ND	6.7	86.7	100.0	100.0	100.0	ND	1.7	96.7	35.8
9	CA	0972	060371103		93.3	100.0	80.0	93.3	93.3	93.3	100.0	93.3	100.0	66.7	80.0	91.1	95.0	85.0	90.3
9	CA	0972	060590001		26.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8.9	ND	ND	2.4
9	CA	0972	060652002		ND	ND	ND	ND	60.0	93.3	93.3	86.7	93.3	93.3	93.3	ND	61.7	91.7	55.8
9	CA	0972	060658001		93.3	66.7	73.3	66.7	46.7	100.0	66.7	93.3	100.0	66.7	93.3	77.8	70.0	88.3	78.8
9	CA	0972	060712002		73.3	100.0	80.0	86.7	80.0	73.3	100.0	86.7	66.7	86.7	86.7	84.4	85.0	81.7	83.6
9	CA	1118	060290014		93.3	80.0	86.7	80.0	66.7	93.3	80.0	73.3	86.7	93.3	100.0	86.7	80.0	88.3	84.8
9	CA	1118	060798001		86.7	93.3	100.0	100.0	100.0	100.0	100.0	100.0	93.3	93.3	93.3	93.3	100.0	95.0	96.4
9	CA	1118	061110007		80.0	80.0	86.7	66.7	86.7	40.0	80.0	80.0	53.3	53.3	60.0	82.2	68.3	61.7	69.7
9	HI	0481	150031001	86.7	100.0	86.7	26.7	86.7	66.7	100.0	80.0	80.0	100.0	100.0	ND	75.0	83.3	70.0	76.1
9	HI	0481	150032004	86.7	86.7	86.7	46.7	93.3	73.3	86.7	66.7	80.0	93.3	93.3	ND	76.7	80.0	66.7	74.4
9	NV	0226	320030560		93.3	100.0	100.0	100.0	100.0	100.0	100.0	100.0	86.7	86.7	86.7	97.8	100.0	90.0	95.8
9	NV	1138	320310016		100.0	86.7	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	95.6	100.0	100.0	98.8
10	AK	0015	020200018	100.0	ND	100.0	93.3	73.3	100.0	100.0	100.0	93.3	80.0	93.3	93.3	73.3	93.3	90.0	85.6
10	AK	0015	020900010		ND	ND	26.7	73.3	93.3	93.3	100.0	100.0	100.0	80.0	80.0	8.9	90.0	90.0	67.9
10	AK	0015	021100004			60.0	93.3	100.0	100.0	93.3	100.0	100.0	100.0	80.0	100.0	76.7	98.3	95.0	92.7
10	AK	0015	021700008		60.0	73.3	80.0	ND	ND	ND	ND	ND	ND	ND	ND	71.1	ND	ND	19.4
10	ID	0511	160010011	86.7	100.0	20.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	51.7	ND	ND	17.2
10	ID	0511	160050015	86.7	86.7	13.3	ND	ND	ND	ND	ND	60.0	93.3	86.7	80.0	46.7	ND	80.0	42.2
10	ID	0511	160170001	100.0	100.0	13.3	ND	ND	ND	ND	ND	ND	ND	ND		53.3	ND	ND	19.4
10	ID	0511	160270004	ND	ND	60.0	100.0	100.0	93.3	93.3	100.0	100.0	100.0	80.0	100.0	40.0	96.7	95.0	77.2
10	ID	0511	160550006				80.0	86.7	93.3	93.3	93.3	100.0	100.0	100.0	100.0	80.0	91.7	100.0	94.1
10	ID	0511	160690009					86.7	86.7	93.3	100.0	100.0	100.0	80.0	86.7		91.7	91.7	91.7
10	ID	0511	160830010					100.0	100.0	93.3	86.7	ND	ND	ND	ND		95.0	ND	47.5
10	ID	0962	160770011						100.0	93.3	100.0	73.3	100.0	93.3	80.0		97.8	86.7	91.4
10	OR	0821	410290133	100.0	100.0	93.3	100.0	80.0	80.0	93.3	73.3	100.0	100.0	86.7	93.3	98.3	81.7	95.0	91.7
10	OR	0821	410330107				86.7	80.0	66.7	93.3	80.0	73.3	80.0	80.0	93.3	86.7	80.0	81.7	81.5
10	OR	0821	410370001		ND	ND	100.0	80.0	93.3	80.0	93.3	100.0	100.0	100.0	100.0	33.3	86.7	100.0	77.0
10	OR	0821	410390060	100.0	100.0	100.0	100.0	100.0	ND	ND	ND	100.0	100.0	100.0	100.0	100.0	25.0	100.0	75.0
10	OR	0821	410510080	100.0	100.0	100.0	100.0	100.0	100.0	93.3	100.0	93.3	100.0	93.3	93.3	100.0	98.3	95.0	97.8
10	OR	0821	410650007					93.3	66.7	86.7	93.3	93.3	86.7	86.7	73.3		85.0	85.0	85.0

EPA Region	State	Rep Org	Site	1999				2000				2001							
				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	1999	2000	2001	3-Year
10	OR	0821	410671003				93.3	93.3	73.3	93.3	66.7	100.0	100.0	93.3	100.0	93.3	81.7	98.3	90.4
10	WA	1136	530330057	80.0	93.3	73.3	86.7	100.0	100.0	93.3	100.0	100.0	100.0	100.0	100.0	83.3	98.3	100.0	93.9
10	WA	1136	530530031	86.7	86.7	86.7	73.3	100.0	93.3	100.0	86.7	100.0	73.3	93.3	93.3	83.3	95.0	90.0	89.4
10	WA	1136	530630016	40.0	66.7	53.3	53.3	100.0	80.0	100.0	100.0	93.3	93.3	100.0	86.7	53.3	95.0	93.3	80.6
10	WA	1136	530670013		ND	ND	ND	ND	ND	ND	ND	ND	46.7	100.0	100.0	ND	ND	61.7	22.4
10	WA	1136	530730015		80.0	33.3	53.3	66.7	80.0	86.7	53.3	46.7	73.3	66.7	100.0	55.6	71.7	71.7	67.3
10	WA	1136	530770009							100.0	100.0	86.7	100.0	100.0	100.0		100.0	96.7	97.8
10	WA	1136	530770012		66.7											66.7			66.7

Attachment 5

Reporting Agency- and State-Level Bias Data Completeness

Field Definitions

State: State abbreviation

Rep Org: 4-digit Reporting Organization AQS code. If there are multiple reporting organizations within a state for which bias pairs have been reported, a summary across all reporting organizations is provided in the rows where the reporting organization is listed as "ALL."

Year: The year for which the summary statistics are being provided. Possibilities include 1999, 2000, 2001, and "ALL."

1 Pair: Number of sites in the reporting organization or state for which there is one PEP/AQS bias pair in a year. Pairs where one or both concentrations are # 6 : g/m^3 are included in the count.

2 Pairs: Number of sites in the reporting organization or state for which there are two PEP/AQS bias pairs in a year. Pairs where one or both concentrations are # 6 : g/m^3 are included in the count.

3 Pairs: Number of sites in the reporting organization or state for which there are three PEP/AQS bias pairs in a year. Pairs where one or both concentrations are # 6 : g/m^3 are included in the count.

4 Pairs: Number of sites in the reporting organization or state for which there are four PEP/AQS bias pairs in a year. Pairs where one or both concentrations are # 6 : g/m^3 are included in the count.

>4 Pairs: Number of sites in the reporting organization or state for which there are more than 4 PEP/AQS bias pairs in a year. Pairs where one or both concentrations are # 6 : g/m^3 are included in the count.

Avg Comp: Average completeness for each year. Sites with 1 pair are 25% complete, 2 pairs are 50% complete, 3 pairs are 75% complete, and 4 or more pairs are 100% complete.

(number of sites with various number of pairs, as of 7/8/02)

State	Rep Org	Year	1 Pair	2 Pairs	3 Pairs	4 Pairs	>4 Pairs	Avg Comp
AK	0015	1999	1	3	.	.	.	44%
		2000	.	.	3	.	.	75%
		2001	.	.	1	1	.	88%
		ALL	1	3	4	1	.	64%
AL	0013	1999	.	.	1	3	.	94%
		2000	.	1	3	.	.	69%
		2001	.	.	.	2	.	100%
		ALL	.	1	4	5	.	85%
AL	0300	2000	.	.	.	1	.	100%
		ALL	.	.	.	1	.	100%
AL	0550	1999	.	.	1	.	.	75%
		2000	.	.	.	1	.	100%
		2001	.	.	.	1	.	100%
		ALL	.	.	1	2	.	92%
AL	_ALL	1999	.	.	2	3	.	90%
		2000	.	1	3	2	.	79%
		2001	.	.	.	3	.	100%
		ALL	.	1	5	8	.	88%
AR	0055	1999	.	4	.	.	.	50%
		2000	.	.	3	2	.	85%
		2001	1	2	1	2	.	67%
		ALL	1	6	4	4	.	68%
AZ	0053	2000	.	.	.	1	.	100%
		2001	.	.	1	1	.	88%
		ALL	.	.	1	2	.	92%
AZ	0864	1999	.	.	1	.	.	75%
		2000	.	.	1	.	.	75%
		2001	.	.	1	.	.	75%
		ALL	.	.	3	.	.	75%
AZ	_ALL	1999	.	.	1	.	.	75%
		2000	.	.	1	1	.	88%

(number of sites with various number of pairs, as of 7/8/02)

State	Rep Org	Year	1 Pair	2 Pairs	3 Pairs	4 Pairs	>4 Pairs	Avg Comp
AZ	_ALL	2001	.	.	2	1	.	83%
		ALL	.	.	4	2	.	83%
CA	0086	1999	.	.	1	2	.	92%
		2000	.	.	1	2	.	92%
		2001	.	.	1	3	.	94%
		ALL	.	.	3	7	.	93%
CA	0145	1999	.	2	.	4	1	86%
		2000	.	1	.	3	.	88%
		2001	.	1	2	3	.	83%
		ALL	.	4	2	10	1	85%
CA	0458	2001	1	.	.	.	.	25%
		ALL	1	.	.	.	.	25%
CA	0709	2000	.	1	.	.	.	50%
		ALL	.	1	.	.	.	50%
CA	0942	1999	.	2	.	1	.	67%
		2000	1	1	1	1	.	63%
		2001	.	2	1	1	.	69%
		ALL	1	5	2	3	.	66%
CA	0972	1999	.	3	1	.	.	56%
		2000	.	.	1	2	.	92%
		2001	.	.	1	2	.	92%
		ALL	.	3	3	4	.	78%
CA	1118	1999	.	1	.	2	.	83%
		2000	.	.	1	3	.	94%
		2001	.	.	1	1	.	88%
		ALL	.	1	2	6	.	89%
CA	_ALL	1999	.	8	2	9	1	78%
		2000	1	3	4	11	.	83%
		2001	1	3	6	10	.	81%
		ALL	2	14	12	30	1	81%

(number of sites with various number of pairs, as of 7/8/02)

State	Rep Org	Year	1 Pair	2 Pairs	3 Pairs	4 Pairs	>4 Pairs	Avg Comp
CO	0240	1999	.	1	2	.	1	75%
		2000	.	.	.	5	.	100%
		2001	.	.	.	4	.	100%
		ALL	.	1	2	9	1	92%
CT	0251	1999	1	.	3	.	.	63%
		2000	.	.	.	3	.	100%
		2001	.	.	.	2	.	100%
		ALL	1	.	3	5	.	83%
DC	0350	1999	.	.	1	1	.	88%
		2000	.	.	1	1	.	88%
		2001	.	.	.	2	.	100%
		ALL	.	.	2	4	.	92%
DE	0294	1999	1	1	.	.	.	38%
		2000	.	.	.	2	.	100%
		2001	.	1	1	1	.	75%
		ALL	1	2	1	3	.	71%
FL	0391	1999	.	1	1	8	.	93%
		2000	.	.	2	6	.	94%
		2001	.	.	.	5	.	100%
		ALL	.	1	3	19	.	95%
GA	0437	1999	1	.	2	2	.	75%
		2000	.	.	1	4	.	95%
		2001	.	.	2	4	.	92%
		ALL	1	.	5	10	.	88%
HI	0481	1999	.	.	.	1	.	100%
		2000	.	.	.	2	.	100%
		2001	.	.	.	1	.	100%
		ALL	.	.	.	4	.	100%
IA	0613	1999	.	1	.	.	.	50%
		ALL	.	1	.	.	.	50%
IA	0874	1999	.	.	.	1	.	100%

(number of sites with various number of pairs, as of 7/8/02)

State	Rep Org	Year	1 Pair	2 Pairs	3 Pairs	4 Pairs	>4 Pairs	Avg Comp
IA	0874	2001	.	.	.	3	.	100%
		ALL	.	.	.	4	.	100%
IA	1080	1999	.	1	.	.	.	50%
		2000	.	1	2	.	.	67%
		2001	.	.	.	3	.	100%
		ALL	.	2	2	3	.	79%
IA	_ALL	1999	.	2	.	1	.	67%
		2000	.	1	2	.	.	67%
		2001	.	.	.	6	.	100%
		ALL	.	3	2	7	.	83%
ID	0511	1999	.	.	.	4	.	100%
		2000	.	.	.	3	.	100%
		2001	.	.	.	3	.	100%
		ALL	.	.	.	10	.	100%
IL	0258	1999	.	1	1	.	.	63%
		2000	.	.	2	1	.	83%
		2001	.	.	.	2	.	100%
		ALL	.	1	3	3	.	82%
IL	0513	1999	.	3	1	.	.	56%
		2000	.	.	4	2	.	83%
		2001	2	.	3	2	.	68%
		ALL	2	3	8	4	.	71%
IL	_ALL	1999	.	4	2	.	.	58%
		2000	.	.	6	3	.	83%
		2001	2	.	3	4	.	75%
		ALL	2	4	11	7	.	74%
IN	0520	1999	.	.	2	4	.	92%
		2000	.	.	3	4	.	89%
		2001	.	4	.	5	.	78%
		ALL	.	4	5	13	.	85%
IN	0523	1999	.	.	1	1	.	88%

(number of sites with various number of pairs, as of 7/8/02)

State	Rep Org	Year	1 Pair	2 Pairs	3 Pairs	4 Pairs	>4 Pairs	Avg Comp
IN	0523	2000	.	.	.	2	.	100%
		2001	.	.	.	2	.	100%
		ALL	.	.	1	5	.	96%
IN	_ALL	1999	.	.	3	5	.	91%
		2000	.	.	3	6	.	92%
		2001	.	4	.	7	.	82%
		ALL	.	4	6	18	.	88%
KS	0563	1999	.	.	3	1	.	81%
		2000	.	.	1	2	.	92%
		2001	.	.	2	2	.	88%
		ALL	.	.	6	5	.	86%
KY	0549	1999	.	.	1	.	.	75%
		2000	.	.	.	1	.	100%
		2001	.	.	.	1	.	100%
		ALL	.	.	1	2	.	92%
KY	0584	1999	.	.	.	4	.	100%
		2000	.	1	2	1	.	75%
		2001	.	.	.	3	.	100%
		ALL	.	1	2	8	.	91%
KY	_ALL	1999	.	.	1	4	.	95%
		2000	.	1	2	2	.	80%
		2001	.	.	.	4	.	100%
		ALL	.	1	3	10	.	91%
LA	1001	1999	.	.	.	3	1	100%
		2000	.	.	.	5	.	100%
		2001	.	.	.	5	.	100%
		ALL	.	.	.	13	1	100%
MA	0660	1999	.	1	4	.	.	70%
		2000	.	.	1	3	1	95%
		2001	1	.	2	2	.	75%
		ALL	1	1	7	5	1	80%

(number of sites with various number of pairs, as of 7/8/02)

State	Rep Org	Year	1 Pair	2 Pairs	3 Pairs	4 Pairs	>4 Pairs	Avg Comp
MD	1002	1999	1	.	.	.	.	25%
		2000	.	.	4	.	.	75%
		2001	.	.	3	1	.	81%
		ALL	1	.	7	1	.	72%
ME	0635	1999	.	1	2	.	.	67%
		2000	.	.	1	1	.	88%
		2001	.	1	.	.	.	50%
		ALL	.	2	3	1	.	71%
MI	0685	1999	2	1	2	3	.	69%
		2000	.	.	3	2	1	88%
		2001	.	1	2	3	.	83%
		ALL	2	2	7	8	1	79%
MN	0700	1999	.	1	2	.	.	67%
		2000	.	2	3	1	.	71%
		2001	.	2	2	.	.	63%
		ALL	.	5	7	1	.	67%
MO	0561	1999	.	.	.	2	.	100%
		2000	.	.	.	1	.	100%
		2001	.	.	.	2	.	100%
		ALL	.	.	.	5	.	100%
MO	0588	1999	.	.	1	.	.	75%
		2000	.	.	.	3	.	100%
		2001	.	.	.	2	.	100%
		ALL	.	.	1	5	.	96%
MO	0990	1999	.	.	.	1	.	100%
		2000	.	.	.	1	.	100%
		2001	.	.	1	.	.	75%
		ALL	.	.	1	2	.	92%
MO	0992	1999	.	.	.	1	.	100%
		2000	.	.	.	1	.	100%
		ALL	.	.	.	2	.	100%

(number of sites with various number of pairs, as of 7/8/02)

State	Rep Org	Year	1 Pair	2 Pairs	3 Pairs	4 Pairs	>4 Pairs	Avg Comp
MO	_ALL	1999	.	.	1	4	.	95%
		2000	.	.	.	6	.	100%
		2001	.	.	1	4	.	95%
		ALL	.	.	2	14	.	97%
MS	0703	1999	.	1	1	2	.	81%
		2000	.	.	1	3	.	94%
		2001	.	.	1	4	.	95%
		ALL	.	1	3	9	.	90%
MT	0250	2000	.	.	.	1	.	100%
		2001	.	.	.	1	.	100%
		ALL	.	.	.	2	.	100%
MT	0730	1999	.	.	.	1	.	100%
		2000	.	.	1	.	.	75%
		2001	1	.	2	.	.	58%
		ALL	1	.	3	1	.	70%
MT	0787	2000	.	.	1	.	.	75%
		2001	.	1	.	.	.	50%
		ALL	.	1	1	.	.	63%
MT	_ALL	1999	.	.	.	1	.	100%
		2000	.	.	2	1	.	83%
		2001	1	1	2	1	.	65%
		ALL	1	1	4	3	.	75%
NC	0776	1999	1	1	3	4	.	78%
		2000	.	.	.	8	.	100%
		2001	.	.	2	5	.	93%
		ALL	1	1	5	17	.	90%
ND	0782	1999	.	.	2	1	.	83%
		2000	.	.	.	2	.	100%
		2001	.	1	.	.	.	50%
		ALL	.	1	2	3	.	83%
NE	0752	1999	.	.	.	1	.	100%

(number of sites with various number of pairs, as of 7/8/02)

State	Rep Org	Year	1 Pair	2 Pairs	3 Pairs	4 Pairs	>4 Pairs	Avg Comp
NE	0752	2000	.	.	.	2	.	100%
		2001	.	1	3	1	.	75%
		ALL	.	1	3	4	.	84%
NE	0816	1999	1	.	.	.	.	25%
		2001	.	.	.	2	.	100%
		ALL	1	.	.	2	.	75%
NE	_ALL	1999	1	.	.	1	.	63%
		2000	.	.	.	2	.	100%
		2001	.	1	3	3	.	82%
		ALL	1	1	3	6	.	82%
NH	0762	1999	.	.	3	.	.	75%
		2000	.	.	2	1	.	83%
		2001	1	.	2	1	.	69%
		ALL	1	.	7	2	.	75%
NJ	0764	1999	.	.	1	3	.	94%
		2000	.	.	.	5	.	100%
		2001	.	.	2	3	.	90%
		ALL	.	.	3	11	.	95%
NM	0017	1999	.	.	.	2	.	100%
		2000	.	.	.	1	.	100%
		2001	.	.	.	1	.	100%
		ALL	.	.	.	4	.	100%
NM	1218	2000	.	.	.	1	.	100%
		2001	.	.	1	.	.	75%
		ALL	.	.	1	1	.	88%
NM	1219	2000	.	.	1	.	.	75%
		2001	.	.	.	1	.	100%
		ALL	.	.	1	1	.	88%
NM	_ALL	1999	.	.	.	2	.	100%
		2000	.	.	1	2	.	92%
		2001	.	.	1	2	.	92%

(number of sites with various number of pairs, as of 7/8/02)

State	Rep Org	Year	1 Pair	2 Pairs	3 Pairs	4 Pairs	>4 Pairs	Avg Comp
NM	_ALL	ALL	.	.	2	6	.	94%
NV	0226	1999	.	.	.	1	.	100%
		2000	1	.	.	1	.	63%
		2001	.	.	.	1	.	100%
		ALL	1	.	.	3	.	81%
NV	1138	1999	.	.	.	1	.	100%
		2000	.	.	.	1	.	100%
		2001	.	.	.	1	.	100%
		ALL	.	.	.	3	.	100%
NV	_ALL	1999	.	.	.	2	.	100%
		2000	1	.	.	2	.	75%
		2001	.	.	.	2	.	100%
		ALL	1	.	.	6	.	89%
NY	0768	1999	6	2	.	.	.	31%
		2000	.	.	2	7	.	94%
		2001	.	1	2	8	.	91%
		ALL	6	3	4	15	.	75%
OH	0012	1999	.	.	2	.	.	75%
		2000	.	.	1	.	.	75%
		2001	.	.	.	1	.	100%
		ALL	.	.	3	1	.	81%
OH	0151	2000	.	.	.	1	.	100%
		2001	.	.	.	1	.	100%
		ALL	.	.	.	2	.	100%
OH	0220	1999	.	.	.	1	.	100%
		2000	.	.	1	.	.	75%
		2001	.	.	1	.	.	75%
		ALL	.	.	2	1	.	83%
OH	0229	1999	.	1	.	1	.	75%
		2000	.	.	1	2	.	92%
		2001	.	.	1	2	.	92%

(number of sites with various number of pairs, as of 7/8/02)

State	Rep Org	Year	1 Pair	2 Pairs	3 Pairs	4 Pairs	>4 Pairs	Avg Comp
OH	0229	ALL	.	1	2	5	.	88%
OH	0287	1999	.	1	1	.	.	63%
		2000	.	1	.	.	.	50%
		2001	.	1	.	.	.	50%
		ALL	.	3	1	.	.	56%
OH	0595	1999	.	.	1	.	.	75%
		2000	.	.	.	1	.	100%
		2001	.	.	.	1	.	100%
		ALL	.	.	1	2	.	92%
OH	0634	1999	.	.	.	2	.	100%
		2000	.	.	.	1	.	100%
		2001	.	.	1	.	.	75%
		ALL	.	.	1	3	.	94%
OH	0805	1999	.	.	.	2	.	100%
		2001	1	.	.	1	.	63%
		ALL	1	.	.	3	.	81%
OH	0807	2000	.	1	.	.	.	50%
		ALL	.	1	.	.	.	50%
OH	0809	2000	.	1	.	.	.	50%
		2001	.	.	.	1	.	100%
		ALL	.	1	.	1	.	75%
OH	0880	1999	.	.	1	.	.	75%
		2000	.	.	.	1	.	100%
		2001	.	.	.	1	.	100%
		ALL	.	.	1	2	.	92%
OH	0979	1999	.	1	1	.	.	63%
		2000	.	1	1	1	.	75%
		2001	.	.	2	1	.	83%
		ALL	.	2	4	2	.	75%
OH	_ALL	1999	.	3	6	6	.	80%

(number of sites with various number of pairs, as of 7/8/02)

State	Rep Org	Year	1 Pair	2 Pairs	3 Pairs	4 Pairs	>4 Pairs	Avg Comp
OH	_ALL	2000	.	4	4	7	.	80%
		2001	1	1	5	9	.	84%
		ALL	1	8	15	22	.	82%
OK	0535	2000	.	.	1	1	.	88%
		2001	.	.	3	2	.	85%
		ALL	.	.	4	3	.	86%
OK	0812	1999	.	1	1	.	.	63%
		2000	.	.	1	.	.	75%
		2001	.	.	.	1	.	100%
		ALL	.	1	2	1	.	75%
OK	_ALL	1999	.	1	1	.	.	63%
		2000	.	.	2	1	.	83%
		2001	.	.	3	3	.	88%
		ALL	.	1	6	4	.	82%
OR	0821	1999	.	.	.	4	.	100%
		2000	.	.	2	4	.	92%
		2001	.	.	1	3	.	94%
		ALL	.	.	3	11	.	95%
PA	0021	1999	.	2	.	.	.	50%
		2000	.	.	2	1	.	83%
		2001	.	.	1	.	.	75%
		ALL	.	2	3	1	.	71%
PA	0851	1999	1	4	.	.	.	45%
		2000	.	.	1	3	.	94%
		2001	.	.	.	4	.	100%
		ALL	1	4	1	7	.	77%
PA	0861	1999	1	.	.	1	.	63%
		2000	.	.	2	.	.	75%
		2001	.	1	1	.	.	63%
		ALL	1	1	3	1	.	67%
PA	_ALL	1999	2	6	.	1	.	50%

(number of sites with various number of pairs, as of 7/8/02)

State	Rep Org	Year	1 Pair	2 Pairs	3 Pairs	4 Pairs	>4 Pairs	Avg Comp
PA	_ALL	2000	.	.	5	4	.	86%
		2001	.	1	2	4	.	86%
		ALL	2	7	7	9	.	73%
PR	0889	1999	.	1	1	1	.	75%
		2000	1	.	1	2	.	75%
		2001	.	.	3	.	.	75%
		ALL	1	1	5	3	.	75%
RI	0907	1999	.	.	.	2	.	100%
		2000	.	.	.	1	.	100%
		2001	.	.	.	2	.	100%
		ALL	.	.	.	5	.	100%
SC	0971	1999	.	.	1	3	.	94%
		2000	.	.	.	4	.	100%
		2001	.	.	1	2	.	92%
		ALL	.	.	2	9	.	95%
SD	0973	1999	1	1	1	1	.	63%
		2000	.	2	1	.	.	58%
		2001	.	.	.	3	.	100%
		ALL	1	3	2	4	.	73%
TN	0170	2000	.	.	.	1	.	100%
		ALL	.	.	.	1	.	100%
TN	1025	1999	.	.	3	2	.	85%
		2000	.	.	.	2	.	100%
		2001	.	.	.	5	.	100%
		ALL	.	.	3	9	.	94%
TN	_ALL	1999	.	.	3	2	.	85%
		2000	.	.	.	3	.	100%
		2001	.	.	.	5	.	100%
		ALL	.	.	3	10	.	94%
TX	1035	1999	6	3	.	.	.	33%
		2000	.	5	4	3	1	73%

(number of sites with various number of pairs, as of 7/8/02)

State	Rep Org	Year	1 Pair	2 Pairs	3 Pairs	4 Pairs	>4 Pairs	Avg Comp
TX	1035	2001	.	.	5	7	.	90%
		ALL	6	8	9	10	1	68%
UT	1113	1999	.	.	.	3	.	100%
		2000	.	.	.	4	.	100%
		2001	.	.	1	3	.	94%
		ALL	.	.	1	10	.	98%
VA	1127	1999	1	1	1	2	.	70%
		2000	.	1	1	2	1	85%
		2001	.	.	2	3	.	90%
		ALL	1	2	4	7	1	82%
VI	1124	1999	.	.	1	.	.	75%
		2001	.	.	1	.	.	75%
		ALL	.	.	2	.	.	75%
VT	1119	1999	.	.	1	.	.	75%
		2000	.	.	.	1	.	100%
		2001	.	.	.	1	.	100%
		ALL	.	.	1	2	.	92%
WA	1136	1999	1	1	1	2	.	70%
		2000	.	.	1	4	.	95%
		2001	.	.	.	6	.	100%
		ALL	1	1	2	12	.	89%
WI	1175	1999	1	.	1	4	.	83%
		2000	.	.	2	6	.	94%
		2001	1	1	1	2	1	75%
		ALL	2	1	4	12	1	85%
WV	1150	1999	.	.	3	.	.	75%
		2000	.	.	2	1	.	83%
		ALL	.	.	5	1	.	79%
WV	1151	1999	.	1	.	.	.	50%
		2000	.	.	1	1	.	88%
		ALL	.	1	1	1	.	75%

(number of sites with various number of pairs, as of 7/8/02)

State	Rep Org	Year	1 Pair	2 Pairs	3 Pairs	4 Pairs	>4 Pairs	Avg Comp
WV	_ALL	1999	.	1	3	.	.	69%
		2000	.	.	3	2	.	85%
		ALL	.	1	6	2	.	78%
WY	1188	1999	.	.	1	.	.	75%
		2000	.	1	.	.	.	50%
		2001	.	.	.	1	.	100%
		ALL	.	1	1	1	.	75%
_ALL	_ALL	1999	27	50	66	96	3	74%
		2000	3	21	78	154	4	88%
		2001	9	21	68	160	1	87%
		ALL	39	92	212	410	8	83%

Attachment 6

Flow Rate Audit Data Summary

The following data summary provides an assessment of the completeness for flow rate accuracy and the percentage of audits meeting the accuracy quality control requirements at the reporting organization level. Each routine SLAMS site is required to ne audited once every calendar quarter therefore completeness for a site would be 4 audit values per year. For completeness, each calendar year has a column representing the percentage of sites meeting this completeness requirements (4 audits per year) and a second column representing the actual number of complete sites compared to the total number of SLAMS site. There are two acceptance criteria for flow rate: 1) the flow rate measured by the FRM must be within 4% of the flow rate measured by an independent transfer standard, and 2) the flow rate measured by the FRM instrument must be within 5% of the 16.67 L/min design flow rate. The first two columns in the accuracy assessment represent the percentage of audits, within a reporting organization, meeting the 4% ans 5% acceptance criteria. The last column represent the average percent difference of all audits implemented by the reporting organization.

State	Reporting Organization	Percentage of Sites Meeting completeness requirements for all 4 quarters for CY99, 00, and 01 Average Completeness :: Number comp sites/number operating						Accuracy Assessment		
		CY1999		CY2000		CY2001		% > 4%	% > 5% of Design Flow	Avg % Diff
AK	0015	0%	0/5	14%	1/7	14%	1/7	3.08	1.54	-1.25
AL	0013	8%	1/12	33%	4/12	54%	7/13	7.89	5.38	-0.45
AL	0300	100%	1/1	100%	1/1	0%	0/1	0.00	0.00	0.11
AL	0550	0%	0/3	0%	0/3	0%	0/3	0.00	0.00	-1.82
AR	0055	0%	0/17	0%	0/23	0%	0/24	0.85	0.00	0.20
AZ	0053	0%	0/3	0%	0/3	0%	0/3	ND	ND	ND
AZ	0864	0%	0/2	0%	0/2	0%	0/2	0.00	0.00	-0.60
CA	0086	43%	6/14	0%	0/15	0%	0/15	10.28	7.48	1.10
CA	0145	0%	0/21	43%	10/23	0%	0/22	11.18	8.07	1.55
CA	0458	NA	0/0	0%	0/1	0%	0/1	0.00	0.00	0.15
CA	0709	NA	0/0	100%	1/1	0%	0/1	0.00	0.00	0.08
CA	0942	0%	0/12	42%	5/12	0%	0/12	7.94	6.35	0.46
CA	0972	87%	13/15	69%	11/16	88%	14/16	5.63	4.23	0.13
CA	1118	0%	0/12	40%	6/15	0%	0/14	7.00	3.00	0.92
CO	0240	15%	2/13	23%	3/13	21%	3/14	0.54	6.99	0.44
CT	0251	78%	7/9	80%	8/10	0%	0/10	0.96	0.96	-0.40
DC	0350	0%	0/3	0%	0/3	0%	0/3	ND	ND	ND
DE	0294	50%	4/8	71%	5/7	57%	4/7	3.74	0.93	-0.80
FL	0391	50%	14/28	59%	17/29	0%	0/31	9.06	3.83	-0.52
GA	0437	0%	0/24	43%	10/23	43%	10/23	13.85	7.09	0.65
HI	0481	0%	0/5	20%	1/5	0%	0/5	3.75	1.25	0.31
IA	0613	0%	0/3	0%	0/3	0%	0/3	0.00	0.00	-0.52
IA	0874	0%	0/4	25%	1/4	0%	0/4	2.33	0.00	-0.42
IA	1080	0%	0/8	18%	2/11	20%	2/10	2.27	0.00	0.29
ID	0511	33%	4/12	42%	5/12	54%	7/13	2.76	1.84	-0.81
ID	0962	NA	0/0	0%	0/1	0%	0/1	9.62	7.69	-0.45
IL	0258	0%	0/8	100%	10/10	100%	9/9	17.11	11.84	0.59
IL	0513	0%	0/17	60%	15/25	69%	18/26	33.33	22.92	0.79
IN	0520	12%	3/25	28%	9/32	28%	9/32	1.27	1.27	-0.37
IN	0523	0%	0/7	0%	0/7	0%	0/7	5.32	2.13	0.93
KS	0563	0%	0/12	50%	6/12	50%	6/12	18.89	9.44	1.90
KY	0549	0%	0/3	67%	2/3	75%	3/4	4.17	0.00	-0.49
KY	0584	0%	0/16	6%	1/16	13%	2/16	9.38	7.29	0.74
LA	1001	28%	5/18	100%	21/21	91%	20/22	2.15	1.29	-0.01
MA	0660	68%	13/19	38%	8/21	0%	0/20	2.40	1.92	-0.18
MD	1002	0%	0/16	22%	4/18	21%	4/19	5.01	5.21	-0.68
ME	0635	0%	0/5	0%	0/5	0%	0/5	14.29	3.57	0.85
MI	0685	0%	0/21	8%	2/24	44%	12/27	4.10	0.82	0.27
MN	0700	0%	0/13	0%	0/16	24%	4/17	1.35	0.00	0.81
MO	0561	50%	1/2	25%	1/4	0%	0/3	7.14	3.57	0.21
MO	0588	100%	9/9	89%	8/9	89%	8/9	1.90	0.00	0.09
MO	0986	100%	1/1	100%	1/1	0%	0/1	5.00	0.00	0.01
MO	0990	50%	1/2	33%	1/3	33%	1/3	0.00	0.00	-0.05
MO	0992	0%	0/2	100%	2/2	33%	1/3	7.14	3.57	0.01
MS	0703	0%	0/15	0%	0/16	0%	0/16	3.73	0.62	-0.69
MT	0250	NA	0/0	100%	2/2	100%	2/2	3.33	6.67	-0.79
MT	0730	0%	0/6	43%	3/7	63%	5/8	7.04	5.63	-0.21
MT	0787	NA	0/0	100%	1/1	0%	0/1	33.33	33.33	5.64
NC	0776	21%	6/29	65%	20/31	10%	3/29	4.93	1.74	-0.03
ND	0782	100%	5/5	86%	6/7	14%	1/7	3.53	0.00	0.30
NE	0752	0%	0/10	0%	0/10	0%	0/10	1.64	1.09	-0.07
NE	0816	0%	0/3	0%	0/3	0%	0/3	13.04	4.35	-1.17
NH	0762	0%	0/9	0%	0/9	0%	0/10	23.53	11.76	2.75
NJ	0764	11%	2/19	53%	10/19	29%	6/21	6.49	4.68	0.05
NM	0017	0%	0/2	0%	0/2	0%	0/2	0.00	0.00	0.14
NM	1218	NA	0/0	0%	0/4	0%	0/5	ND	ND	ND
NM	1219	NA	0/0	0%	0/1	0%	0/1	ND	ND	ND

State	Reporting Organization	Percentage of Sites Meeting completeness requirements for all 4 quarters for CY99, 00, and 01 Average Completeness :: Number comp sites/number operating						Accuracy Assessment		
		CY1999		CY2000		CY2001		% > 4%	% > 5% of Design Flow	Avg % Diff
NV	0145	0%	0/2	0%	0/2	0%	0/2	16.67	16.67	0.64
NV	0226	0%	0/4	0%	0/5	0%	0/5	ND	ND	ND
NV	1138	0%	0/1	100%	1/1	100%	1/1	25.00	25.00	-0.10
NY	0768	0%	0/33	7%	3/42	0%	0/45	3.73	2.07	-0.36
OH	0012	0%	0/3	0%	0/3	33%	1/3	9.09	9.09	0.09
OH	0151	0%	0/2	0%	0/2	0%	0/2	5.56	11.11	2.21
OH	0220	0%	0/3	0%	0/3	0%	0/3	50.00	50.00	1.25
OH	0229	0%	0/8	0%	0/9	44%	4/9	3.08	1.54	0.00
OH	0287	0%	0/3	0%	0/4	40%	2/5	11.11	11.11	-1.38
OH	0471	NA	0/0	NA	0/0	0%	0/1	ND	ND	ND
OH	0595	0%	0/1	0%	0/1	100%	1/1	0.00	0.00	-0.57
OH	0634	0%	0/2	0%	0/2	50%	1/2	0.00	0.00	0.42
OH	0805	0%	0/3	0%	0/3	0%	0/3	8.33	8.33	-1.67
OH	0807	0%	0/1	0%	0/2	0%	0/2	0.00	0.00	-1.51
OH	0809	0%	0/3	0%	0/3	0%	0/3	0.00	0.00	-0.06
OH	0880	0%	0/2	0%	0/2	0%	0/2	8.33	8.33	-1.21
OH	0979	0%	0/6	0%	0/10	20%	2/10	4.48	0.00	-1.32
OK	0535	0%	0/3	0%	0/8	0%	0/8	1.25	0.00	0.32
OK	0812	0%	0/4	25%	1/4	0%	0/5	2.33	2.33	0.14
OR	0821	39%	9/23	65%	15/23	0%	0/24	0.00	0.46	0.53
PA	0021	0%	0/8	0%	0/8	0%	0/8	11.73	2.79	-0.04
PA	0851	56%	10/18	52%	12/23	50%	12/24	1.64	0.66	0.98
PA	0861	0%	0/5	0%	0/6	0%	0/5	4.92	1.64	0.10
PR	0889	0%	0/9	0%	0/10	0%	0/10	ND	ND	ND
RI	0907	67%	4/6	67%	4/6	0%	0/6	1.35	1.35	-0.23
SC	0971	54%	7/13	50%	7/14	53%	8/15	2.71	0.35	0.15
SD	0973	38%	3/8	50%	5/10	50%	5/10	2.54	1.69	0.24
TN	0170	100%	1/1	100%	1/1	0%	0/1	9.09	9.09	2.60
TN	1025	60%	9/15	50%	8/16	50%	8/16	4.78	1.44	0.90
TX	1035	0%	0/40	0%	0/52	0%	0/49	4.55	4.55	1.07
UT	1113	82%	9/11	56%	9/16	59%	10/17	2.76	1.38	0.68
VA	1127	0%	0/20	5%	1/20	5%	1/20	0.00	0.00	-0.49
VI	1124	0%	0/1	0%	0/2	0%	0/2	ND	ND	ND
VT	1119	33%	1/3	100%	3/3	100%	3/3	6.06	3.03	-0.22
WA	1136	50%	10/20	55%	11/20	65%	13/20	1.79	1.43	-0.04
WI	1175	19%	4/21	67%	14/21	0%	0/23	2.55	1.53	-0.09
WV	1150	33%	2/6	57%	4/7	67%	4/6	6.31	3.60	0.21
WV	1151	100%	5/5	100%	5/5	100%	5/5	1.90	1.43	0.08
WY	1188	67%	2/3	0%	0/4	0%	0/6	12.50	4.69	-0.52
Overall		21%	174/848	34%	328/969	25%	243/990	5.21	3.10	0.13

Attachment 7

Data Quality Objective Variable Table

The following table provides the DQO variable values for each SLAMS and Tribal monitoring site in AQS. The table provide the following values:

State	- State
Rep. Org.	Reporting organization. **Note:** based on conversation with the EPA Regional monitoring representative, some reporting organizations have been combined for the determination of precision and bias data. Therefore, some values for reporting organization may not be correct. However the AIRS Site ID will be correct
Siteid	AIRS Site ID
Ave Conc.	Average 3-year routine $PM_{2.5}$ concentration
Season Ratio	Season ratio is the ratio of the high and the low monthly or bi-monthly mean concentration estimate within a year. Based upon a review of the monthly and bimonthly ratios it was found that about 99% of the sites evaluated were below ~5.3.
Pop CV	Population Coefficient of Variability based upon a review of the monthly and bimonthly variability of routine data.
Autocor.	Auto Correlation - how well one value compares to the next. 1 in 6 day and 1 in 3 day sampling frequency was set to 0. Auto correlation was calculated for everyday sampling frequencies.
Sample Freq	Sampling frequency associated with the site.
Complete.	Average 3-year site completeness
Bias	3-year bias assessment - value is either at the reporting organization or state level
Measure.CV	3-year measurement precision - value is either at the reporting organization or state level
99-01 Gray Zones	The sites gray zone calculated through the DQO software
Gray Zone within DQO	A determination on whether the sites calculated gray zone is within the $PM_{2.5}$ gray zone

PM2.5 CY 99-01 Data Quality Objective Parameters

State	Rep. Org	Siteid	Ave Conc.	Season Ratio	Pop CV	Autocor.	Sample Freq.	Complete.	Bias	Measure. CV	99-01 Gray Zones	Gray Zone Within DQO
AK	15	20200018	6.00	2.96	0.52	0.00	3	0.896	0.003	0.076	(14.4,15.8)	Yes
AK	15	20200044	6.17	2.07	0.48	0.00	3	0.945	0.003	0.076	(14.4,15.7)	Yes
AK	15	20900010	11.53	5.73	0.53	0.00	3	0.834	0.003	0.076	(14.3,15.9)	Yes
AK	15	21100004	5.72	4.16	0.78	0.00	3	0.894	0.003	0.076	(14.1,16.2)	Yes
AK	15	21700004	3.33	3.16	0.36	0.00	3	0.846	0.003	0.076	(14.5,15.6)	Yes
AK	15	21700008	6.78	6.07	1.02	0.00	3	0.876	0.003	0.076	(13.7,16.6)	Yes
AK	15	22900003	1.73	4.82	0.64	0.00	3	0.757	0.003	0.076	(14,16)	Yes
AL	13	10270001	15.55	2.58	0.49	0.00	3	0.843	0.040	0.145	(13.8,16.5)	Yes
AL	13	10331002	15.30	2.09	0.42	0.00	3	0.790	0.040	0.145	(13.8,16.3)	Yes
AL	13	10690002	16.33	1.39	0.42	0.00	3	0.745	0.040	0.145	(13.8,16.4)	Yes
AL	13	10970002	15.35	1.82	0.59	0.00	3	0.923	0.040	0.145	(13.8,16.5)	Yes
AL	13	11010007	16.80	2.09	0.50	0.00	3	0.910	0.040	0.145	(13.8,16.5)	Yes
AL	13	11030010	19.20	2.59	0.41	0.00	3	0.685	0.040	0.145	(13.7,16.4)	Yes
AL	13	11030011	13.32	1.59	1.37	0.00	3	0.655	0.040	0.145	(12.6,18.1)	Yes
AL	13	11130001	18.46	1.91	0.62	0.00	3	0.872	0.040	0.145	(13.7,16.6)	Yes
AL	13	11170006	16.99	1.90	0.41	0.00	3	0.858	0.040	0.145	(13.9,16.3)	Yes
AL	13	11190002	14.81	2.27	0.45	0.00	3	0.874	0.040	0.145	(13.8,16.4)	Yes
AL	13	11210002	17.76	2.15	0.52	0.00	3	0.863	0.040	0.145	(13.8,16.5)	Yes
AL	13	11250003	17.30	2.11	0.38	0.00	3	0.831	0.040	0.145	(13.9,16.3)	Yes
AL	13	11270002	18.54	2.41	0.42	0.00	3	0.418	0.040	0.145	(13.5,16.6)	Yes
AL	300	10890014	15.50	1.97	0.37	0.00	3	0.968	0.035	0.059	(14.1,16.1)	Yes
AL	550	10730023	21.58	1.87	0.54	0.46	1	0.965	0.029	0.076	(14.5,15.6)	Yes
AL	550	10732003	20.01	1.82	0.53	0.47	1	0.955	0.029	0.076	(14.5,15.7)	Yes
AL	550	10735002	16.64	2.10	0.36	0.00	3	0.968	0.029	0.076	(14.2,16)	Yes
AR	55	50010001	15.92	2.26	0.40	0.00	3	0.862	0.086	0.060	(13.4,17.1)	Yes
AR	55	50010010	13.92	2.49	0.48	0.00	3	0.534	0.086	0.060	(13.1,17.4)	Yes
AR	55	50010011	11.70	1.78	0.67	0.00	3	0.735	0.086	0.060	(13.1,17.6)	Yes
AR	55	50030003	17.17	1.90	0.32	0.00	3	0.778	0.086	0.060	(13.4,17)	Yes
AR	55	50030004	16.23	2.42	0.47	0.00	3	0.610	0.086	0.060	(13.2,17.4)	Yes
AR	55	50030005	11.19	1.78	0.56	0.00	3	0.970	0.086	0.060	(13.3,17.2)	Yes
AR	55	50310001	14.41	1.88	0.50	0.00	6	0.880	0.086	0.060	(13,17.6)	Yes
AR	55	50350004	15.12	1.78	0.44	0.00	3	0.809	0.086	0.060	(13.3,17.1)	Yes
AR	55	50450002	13.48	1.95	0.46	0.00	6	0.937	0.086	0.060	(13.1,17.5)	Yes
AR	55	50510002	13.02	1.90	0.58	0.00	3	0.879	0.086	0.060	(13.2,17.3)	Yes
AR	55	50690005	14.50	1.83	0.47	0.00	6	0.906	0.086	0.060	(13,17.5)	Yes
AR	55	50690006	17.88	2.29	0.56	0.00	3	0.500	0.086	0.060	(13,17.7)	Yes
AR	55	50890001	9.76	2.24	0.57	0.00	6	0.789	0.086	0.060	(12.9,17.8)	Yes
AR	55	50910004	14.23	1.78	0.52	0.00	6	0.705	0.086	0.060	(12.8,17.8)	Yes
AR	55	50930007	13.42	2.30	0.43	0.00	6	0.860	0.086	0.060	(13.1,17.4)	Yes
AR	55	51070001	14.11	2.08	0.44	0.00	3	0.885	0.086	0.060	(13.4,17.1)	Yes
AR	55	51130002	12.02	1.87	0.45	0.00	3	0.892	0.086	0.060	(13.4,17.1)	Yes
AR	55	51150003	13.85	1.69	0.54	0.00	3	0.883	0.086	0.060	(13.3,17.2)	Yes
AR	55	51190003	16.87	2.30	0.50	0.00	3	0.904	0.086	0.060	(13.3,17.2)	Yes
AR	55	51190007	15.53	1.62	0.48	0.32	1	0.846	0.086	0.060	(13.7,16.7)	Yes
AR	55	51191004	15.16	2.20	0.43	0.00	3	0.762	0.086	0.060	(13.3,17.2)	Yes
AR	55	51191008	15.75	1.78	0.45	0.47	1	0.898	0.086	0.060	(13.7,16.7)	Yes
AR	55	51310008	13.68	1.76	0.49	0.00	3	0.895	0.086	0.060	(13.3,17.1)	Yes
AR	55	51390004	13.80	1.79	0.51	0.00	3	0.754	0.086	0.060	(13.2,17.2)	Yes
AR	55	51390005	16.05	2.23	0.58	0.00	3	0.610	0.086	0.060	(13,17.6)	Yes
AR	55	51430003	12.10	1.77	0.48	0.00	3	0.780	0.086	0.060	(13.3,17.2)	Yes
AR	55	51450001	13.42	2.29	0.51	0.00	6	0.820	0.086	0.060	(13,17.7)	Yes
AZ	53	40031005	8.44	2.77	0.50	0.00	6	0.627	0.004	0.074	(13.8,16.4)	Yes
AZ	53	40051008	7.48	2.57	0.46	0.00	6	0.895	0.004	0.074	(14.1,16.1)	Yes
AZ	53	40230004	12.05	2.99	0.41	0.00	6	0.907	0.004	0.074	(14.1,16)	Yes
AZ	864	40190011	8.35	2.32	0.40	0.00	3	0.669	0.116	0.100	(12.9,17.8)	Yes
AZ	864	40191028	7.47	1.89	0.29	0.00	3	0.772	0.116	0.100	(13.1,17.6)	Yes
CA	86	60010007	13.79	3.87	0.73	0.00	3	0.894	0.039	0.082	(13.6,16.7)	Yes
CA	86	60011001	12.22	2.42	0.51	0.00	3	0.943	0.039	0.082	(13.9,16.4)	Yes
CA	86	60130002	11.07	2.83	0.49	0.31	1	0.850	0.039	0.082	(14.3,15.9)	Yes
CA	86	60231002	9.21	2.65	0.60	0.00	6	0.912	0.039	0.082	(13.4,17)	Yes
CA	86	60333001	4.25	2.21	0.55	0.00	6	0.733	0.039	0.082	(13.4,16.9)	Yes
CA	86	60450006	8.02	2.59	0.53	0.00	6	0.938	0.039	0.082	(13.5,16.8)	Yes
CA	86	60531002	9.76	2.47	0.87	0.00	3	0.276	0.039	0.082	(12.6,18)	Yes
CA	86	60531003	8.28	2.48	0.45	0.00	6	0.925	0.039	0.082	(13.6,16.6)	Yes
CA	86	60750005	11.83	2.50	0.44	0.27	1	0.829	0.039	0.082	(14.3,15.9)	Yes
CA	86	60811001	11.45	2.94	0.48	0.00	3	0.876	0.039	0.082	(13.9,16.4)	Yes
CA	86	60850004	12.78	3.04	0.51	0.12	1	0.853	0.039	0.082	(14.3,15.9)	Yes
CA	86	60852003	12.66	3.26	0.65	0.40	1	0.803	0.039	0.082	(14.1,16.1)	Yes
CA	86	60870007	8.82	1.98	0.43	0.00	6	0.862	0.039	0.082	(13.7,16.6)	Yes

PM2.5 CY 99-01 Data Quality Objective Parameters

State	Rep. Org	Siteid	Ave Conc.	Season Ratio	Pop CV	Autocor.	Sample Freq.	Complete.	Bias	Measure. CV	99-01 Gray Zones	Gray Zone Within DQO
CA	86	60950004	12.71	4.37	0.56	0.00	3	0.901	0.039	0.082	(13.8,16.5)	Yes
CA	86	60970003	11.07	3.30	0.80	0.00	3	0.901	0.039	0.082	(13.6,16.8)	Yes
CA	145	60070002	15.43	4.51	0.54	0.00	6	0.973	0.000	0.089	(14,16.2)	Yes
CA	145	60090001	9.37	2.51	0.46	0.00	6	0.978	0.000	0.089	(14.2,16)	Yes
CA	145	60111002	10.26	2.48	0.70	0.00	3	0.869	0.000	0.089	(14.2,16)	Yes
CA	145	60170011	8.05	1.92	0.60	0.00	6	0.978	0.000	0.089	(14,16.2)	Yes
CA	145	60170012	3.76	3.28	0.52	0.00	3	0.923	0.000	0.089	(14.3,15.7)	Yes
CA	145	60190008	23.96	6.24	0.56	0.68	1	0.704	0.000	0.089	(14.4,15.7)	Yes
CA	145	60271003	7.53	3.64	0.84	0.00	3	0.629	0.000	0.089	(13.8,16.6)	Yes
CA	145	60490001	8.00	4.95	0.80	0.00	6	0.883	0.000	0.089	(13.5,16.9)	Yes
CA	145	60570005	6.49	3.19	0.58	0.00	6	0.785	0.000	0.089	(13.8,16.3)	Yes
CA	145	60571001	9.01	2.59	0.54	0.00	3	0.706	0.000	0.089	(14.2,15.9)	Yes
CA	145	60610006	12.51	3.33	0.42	0.00	6	0.978	0.000	0.089	(14.2,15.9)	Yes
CA	145	60631006	11.40	4.27	0.48	0.00	3	0.745	0.000	0.089	(14.3,15.8)	Yes
CA	145	60631008	11.66	2.79	0.70	0.00	3	0.314	0.000	0.089	(13.5,16.8)	Yes
CA	145	60631009	13.45	7.03	0.66	0.00	3	0.678	0.000	0.089	(14,16.2)	Yes
CA	145	60670006	13.97	7.44	0.54	0.00	3	0.324	0.000	0.089	(13.6,16.4)	Yes
CA	145	60670010	13.63	4.63	0.59	0.20	1	0.808	0.000	0.089	(14.7,15.4)	Yes
CA	145	60674001	12.14	5.81	0.44	0.00	1	0.518	0.000	0.089	(14.6,15.4)	Yes
CA	145	60771002	16.35	4.16	0.46	0.00	3	0.927	0.000	0.089	(14.5,15.7)	Yes
CA	145	60890004	10.42	4.30	0.62	0.00	6	0.928	0.000	0.089	(13.9,16.4)	Yes
CA	145	60990005	19.72	4.46	0.62	0.00	3	0.951	0.000	0.089	(14.3,15.9)	Yes
CA	145	61010003	12.92	3.46	0.54	0.00	6	0.911	0.000	0.089	(13.9,16.2)	Yes
CA	145	61072002	24.67	5.45	0.54	0.00	3	0.856	0.000	0.089	(14.2,15.7)	Yes
CA	145	61131003	12.31	4.13	0.48	0.00	3	0.883	0.000	0.089	(14.4,15.8)	Yes
CA	458	60510001	11.96	3.75	0.92	0.00	3	0.376	0.100	ND		
CA	709	60710306	11.97	1.43	0.42	0.00	3	0.710	0.107	0.072	(13,17.6)	Yes
CA	942	60250003	11.54	2.64	0.57	0.00	3	0.630	0.046	0.096	(13.5,16.8)	Yes
CA	942	60250005	15.67	2.55	0.54	0.00	3	0.877	0.046	0.096	(13.7,16.6)	Yes
CA	942	60251003	10.34	2.49	0.51	0.00	3	0.774	0.046	0.096	(13.7,16.6)	Yes
CA	942	60290011	7.37	2.17	0.75	0.00	3	0.773	0.046	0.096	(13.5,17)	Yes
CA	942	60290012	7.50	2.25	0.53	0.00	3	0.684	0.046	0.096	(13.6,16.6)	Yes
CA	942	60379002	10.85	1.78	0.36	0.00	3	0.768	0.046	0.096	(13.9,16.3)	Yes
CA	942	60710014	11.89	1.42	0.45	0.00	3	0.314	0.046	0.096	(13.4,16.9)	Yes
CA	942	60730001	14.57	1.88	0.47	0.00	3	0.858	0.046	0.096	(13.8,16.4)	Yes
CA	942	60730003	16.58	1.99	0.48	0.65	1	0.855	0.046	0.096	(14.1,16.1)	Yes
CA	942	60730006	13.35	1.77	0.68	0.00	3	0.818	0.046	0.096	(13.5,16.7)	Yes
CA	942	60731002	17.08	2.15	0.39	0.52	1	0.808	0.046	0.096	(14.1,16.1)	Yes
CA	942	60731007	16.65	1.88	0.44	0.06	1	0.803	0.046	0.096	(14.2,16)	Yes
CA	972	60370002	21.84	2.01	0.61	0.62	1	0.696	0.022	0.092	(14.2,16)	Yes
CA	972	60371002	22.97	1.80	0.46	0.00	3	0.804	0.022	0.092	(14.1,16.1)	Yes
CA	972	60371103	22.57	1.68	0.49	0.59	1	0.723	0.022	0.092	(14.3,15.9)	Yes
CA	972	60371201	17.89	2.10	0.58	0.00	3	0.790	0.022	0.092	(13.9,16.2)	Yes
CA	972	60371301	23.92	2.12	0.50	0.00	3	0.952	0.022	0.092	(14.2,16)	Yes
CA	972	60371601	25.94	1.99	0.52	0.00	3	0.877	0.022	0.092	(14.1,16.1)	Yes
CA	972	60372005	20.06	1.99	0.58	0.00	3	0.862	0.022	0.092	(14,16.2)	Yes
CA	972	60374002	20.50	2.03	0.50	0.59	1	0.703	0.022	0.092	(14.3,15.9)	Yes
CA	972	60590001	22.44	2.24	0.65	0.69	1	0.563	0.022	0.092	(13.8,16.4)	Yes
CA	972	60651003	26.74	1.54	0.66	0.00	3	0.897	0.022	0.092	(14,16.3)	Yes
CA	972	60652002	12.06	1.31	0.39	0.00	3	0.852	0.022	0.092	(14.2,15.9)	Yes
CA	972	60655001	10.16	2.19	0.48	0.00	3	0.930	0.022	0.092	(14.1,16)	Yes
CA	972	60658001	29.82	1.84	0.69	0.63	1	0.700	0.022	0.092	(14.1,16.1)	Yes
CA	972	60710025	25.30	1.87	0.63	0.00	3	0.878	0.022	0.092	(14,16.2)	Yes
CA	972	60712002	25.09	1.72	0.71	0.00	3	0.933	0.022	0.092	(13.9,16.3)	Yes
CA	972	60719004	25.85	2.23	0.70	0.00	3	0.841	0.022	0.092	(13.9,16.4)	Yes
CA	1118	60195001	18.05	4.15	0.69	0.00	3	0.874	0.000	0.054	(14.2,16)	Yes
CA	1118	60195025	18.52	4.70	0.58	0.00	3	0.894	0.000	0.054	(14.3,15.9)	Yes
CA	1118	60290010	23.56	4.30	0.67	0.00	3	0.944	0.000	0.054	(14.2,15.9)	Yes
CA	1118	60290014	23.72	4.37	0.58	0.73	1	0.883	0.000	0.054	(14.7,15.4)	Yes
CA	1118	60290016	20.55	4.49	0.55	0.00	3	0.889	0.000	0.054	(14.3,15.7)	Yes
CA	1118	60310004	16.83	7.07	0.66	0.00	3	0.733	0.000	0.054	(14.1,16.1)	Yes
CA	1118	60472510	18.54	4.86	0.54	0.00	6	0.920	0.000	0.054	(14,16.2)	Yes
CA	1118	60792002	8.58	1.93	0.43	0.00	6	0.896	0.000	0.054	(14.2,15.9)	Yes
CA	1118	60798001	10.01	2.88	0.51	0.00	6	0.961	0.000	0.054	(14.1,16.1)	Yes
CA	1118	60830010	12.97	1.97	0.42	0.00	6	0.485	0.000	0.054	(13.9,16.2)	Yes
CA	1118	60831007	10.35	1.88	0.51	0.00	6	0.919	0.000	0.054	(14.1,16)	Yes
CA	1118	61110007	13.40	2.07	0.62	0.00	3	0.844	0.000	0.054	(14.3,15.9)	Yes
CA	1118	61110009	12.51	2.68	0.66	0.00	3	0.754	0.000	0.054	(14.1,16)	Yes
CA	1118	61112002	14.49	2.04	0.62	0.00	3	0.893	0.000	0.054	(14.3,15.9)	Yes

PM2.5 CY 99-01 Data Quality Objective Parameters

State	Rep. Org	Siteid	Ave Conc.	Season Ratio	Pop CV	Autocor.	Sample Freq.	Complete.	Bias	Measure. CV	99-01 Gray Zones	Gray Zone Within DQO
CA	1118	61113001	12.78	2.32	0.42	0.00	3	0.851	0.000	0.054	(14.5,15.6)	Yes
CO	240	80010001	10.26	2.13	0.59	0.00	3	0.808	0.023	0.073	(14,16.2)	Yes
CO	240	80010006	10.51	2.37	0.67	0.00	3	0.925	0.023	0.073	(14,16.3)	Yes
CO	240	80050005	8.73	2.05	0.43	0.00	3	0.866	0.023	0.073	(14.2,16)	Yes
CO	240	80130003	9.20	1.73	0.49	0.00	3	0.938	0.023	0.073	(14.2,16)	Yes
CO	240	80130012	7.80	1.60	0.57	0.00	3	0.891	0.023	0.073	(14,16.2)	Yes
CO	240	80310002	10.75	1.99	0.64	0.70	1	0.725	0.023	0.073	(14.1,16.2)	Yes
CO	240	80390001	4.07	1.89	0.70	0.00	3	0.807	0.023	0.073	(13.8,16.4)	Yes
CO	240	80410008	7.06	1.97	0.60	0.00	3	0.898	0.023	0.073	(14,16.2)	Yes
CO	240	80410011	7.38	1.50	0.35	0.00	3	0.736	0.023	0.073	(14.2,15.9)	Yes
CO	240	80690009	8.25	1.82	0.58	0.00	3	0.903	0.023	0.073	(14,16.2)	Yes
CO	240	80770003	7.35	3.07	0.43	0.00	3	0.928	0.023	0.073	(14.2,16)	Yes
CO	240	81010012	7.84	1.78	0.35	0.00	3	0.795	0.023	0.073	(14.2,15.9)	Yes
CO	240	81230006	8.65	2.67	0.48	0.00	3	0.850	0.023	0.073	(14.1,16.1)	Yes
CO	240	81230008	9.48	2.30	0.55	0.00	3	0.909	0.023	0.073	(14.1,16.1)	Yes
CT	251	90010010	13.59	1.86	0.67	0.00	3	0.929	0.057	0.073	(13.5,16.9)	Yes
CT	251	90010113	12.46	2.08	0.66	0.00	3	0.728	0.057	0.073	(13.4,17)	Yes
CT	251	90011123	12.84	1.97	0.59	0.00	3	0.793	0.057	0.073	(13.5,16.8)	Yes
CT	251	90031003	11.24	2.22	0.72	0.45	1	0.771	0.057	0.073	(13.8,16.5)	Yes
CT	251	90031018	12.29	2.17	0.67	0.00	3	0.777	0.057	0.073	(13.4,17)	Yes
CT	251	90090018	16.81	2.09	0.52	0.34	1	0.923	0.057	0.073	(14.1,16.1)	Yes
CT	251	90091123	14.08	2.07	0.63	0.00	3	0.954	0.057	0.073	(13.5,16.8)	Yes
CT	251	90092123	13.61	2.30	0.62	0.00	3	0.912	0.057	0.073	(13.5,16.8)	Yes
CT	251	90099005	11.66	2.02	0.66	0.00	3	0.891	0.057	0.073	(13.5,16.9)	Yes
CT	251	90113002	11.48	1.81	0.62	0.00	3	0.768	0.057	0.073	(13.5,16.9)	Yes
DC	350	110010041	16.62	1.77	0.96	0.54	1	0.775	0.053	0.088	(13.7,16.6)	Yes
DC	350	110010042	15.26	1.65	0.75	0.00	3	0.594	0.053	0.088	(13.2,17.3)	Yes
DC	350	110010043	15.74	1.69	0.66	0.18	1	0.827	0.053	0.088	(14,16.2)	Yes
DE	294	100010002	12.90	1.71	0.72	0.00	3	0.943	0.005	0.071	(14.1,16.1)	Yes
DE	294	100010003	13.40	1.98	0.57	0.00	3	0.896	0.005	0.071	(14.3,15.9)	Yes
DE	294	100031003	15.08	1.82	0.66	0.00	3	0.945	0.005	0.071	(14.2,16)	Yes
DE	294	100031007	14.10	1.90	0.56	0.00	3	0.888	0.005	0.071	(14.2,15.8)	Yes
DE	294	100031011	14.31	1.62	0.53	0.00	1	0.533	0.005	0.071	(14.6,15.5)	Yes
DE	294	100031012	15.56	1.77	0.69	0.55	1	0.764	0.005	0.071	(14.5,15.6)	Yes
DE	294	100032004	16.62	1.66	0.56	0.42	1	0.804	0.005	0.071	(14.7,15.5)	Yes
DE	294	100051002	14.48	1.76	0.57	0.00	3	0.939	0.005	0.071	(14.3,15.8)	Yes
FL	391	120010023	10.91	1.42	0.50	0.00	3	0.949	0.056	0.086	(13.7,16.6)	Yes
FL	391	120010024	10.97	1.48	0.53	0.00	3	0.917	0.056	0.086	(13.6,16.7)	Yes
FL	391	120051004	12.31	1.77	0.34	0.00	3	0.850	0.056	0.086	(13.8,16.5)	Yes
FL	391	120090007	9.38	1.89	0.51	0.00	3	0.851	0.056	0.086	(13.6,16.7)	Yes
FL	391	120111002	9.08	1.38	0.53	0.65	1	0.947	0.056	0.086	(14.1,16.1)	Yes
FL	391	120112004	8.88	1.55	0.52	0.68	1	0.922	0.056	0.086	(14,16.2)	Yes
FL	391	120113002	8.75	1.53	0.50	0.00	3	0.965	0.056	0.086	(13.7,16.6)	Yes
FL	391	120170005	10.58	1.90	0.44	0.00	3	0.883	0.056	0.086	(13.7,16.6)	Yes
FL	391	120251016	11.14	1.29	0.41	0.53	1	0.863	0.056	0.086	(14,16.2)	Yes
FL	391	120256001	8.52	1.65	0.49	0.00	3	0.896	0.056	0.086	(13.7,16.6)	Yes
FL	391	120310098	11.50	1.51	0.53	0.69	1	0.785	0.056	0.086	(13.8,16.4)	Yes
FL	391	120310099	11.79	1.62	0.59	0.71	1	0.694	0.056	0.086	(13.7,16.7)	Yes
FL	391	120330004	13.42	1.54	0.50	0.00	3	0.946	0.056	0.086	(13.7,16.6)	Yes
FL	391	120570030	12.69	1.29	0.32	0.24	1	0.899	0.056	0.086	(14.1,16.1)	Yes
FL	391	120571075	12.38	1.21	0.39	0.47	1	0.915	0.056	0.086	(14.1,16.1)	Yes
FL	391	120710005	9.67	1.56	0.49	0.00	3	0.903	0.056	0.086	(13.7,16.6)	Yes
FL	391	120730012	13.40	1.41	0.46	0.00	3	0.892	0.056	0.086	(13.7,16.6)	Yes
FL	391	120814012	10.81	1.56	0.61	0.00	3	0.806	0.056	0.086	(13.5,16.9)	Yes
FL	391	120830003	10.94	1.46	0.50	0.00	3	0.904	0.056	0.086	(13.7,16.6)	Yes
FL	391	120951004	11.41	1.46	0.48	0.54	1	0.960	0.056	0.086	(14.1,16.1)	Yes
FL	391	120952002	11.35	1.42	0.46	0.50	1	0.943	0.056	0.086	(14.1,16.1)	Yes
FL	391	120990009	8.69	1.84	0.66	0.79	1	0.854	0.056	0.086	(13.8,16.5)	Yes
FL	391	120992003	9.23	1.37	0.41	0.60	1	0.803	0.056	0.086	(14,16.3)	Yes
FL	391	120992005	6.55	1.55	0.34	0.40	1	0.920	0.056	0.086	(14.1,16.1)	Yes
FL	391	121030018	11.87	1.34	0.44	0.55	1	0.934	0.056	0.086	(14.1,16.1)	Yes
FL	391	121031008	11.12	1.50	0.44	0.00	3	0.907	0.056	0.086	(13.7,16.6)	Yes
FL	391	121056006	11.54	1.85	0.71	0.00	3	0.781	0.056	0.086	(13.4,17)	Yes
FL	391	121111002	9.59	1.61	0.56	0.00	3	0.941	0.056	0.086	(13.6,16.7)	Yes
FL	391	121150013	10.56	1.52	0.55	0.00	3	0.941	0.056	0.086	(13.6,16.7)	Yes
FL	391	121171002	10.54	1.42	0.59	0.00	3	0.937	0.056	0.086	(13.6,16.7)	Yes
FL	391	121275002	10.66	1.41	0.56	0.00	3	0.938	0.056	0.086	(13.6,16.7)	Yes
GA	437	130210007	17.63	2.50	0.69	0.00	3	0.770	0.041	0.077	(13.6,16.7)	Yes
GA	437	130210012	16.14	1.84	0.52	0.00	3	0.819	0.041	0.077	(13.8,16.4)	Yes

PM2.5 CY 99-01 Data Quality Objective Parameters

State	Rep. Org	Siteid	Ave Conc.	Season Ratio	Pop CV	Autocor.	Sample Freq.	Complete.	Bias	Measure. CV	99-01 Gray Zones	Gray Zone Within DQO
GA	437	130510017	16.50	1.51	0.37	0.00	3	0.823	0.041	0.077	(14,16.2)	Yes
GA	437	130510091	15.47	1.83	0.42	0.00	3	0.790	0.041	0.077	(13.9,16.3)	Yes
GA	437	130590001	18.62	1.88	0.47	0.00	3	0.798	0.041	0.077	(13.9,16.4)	Yes
GA	437	130630091	19.16	1.86	0.47	0.00	3	0.858	0.041	0.077	(13.9,16.4)	Yes
GA	437	130670003	18.56	1.69	0.55	0.00	3	0.829	0.041	0.077	(13.8,16.5)	Yes
GA	437	130890002	18.35	1.84	0.55	0.27	1	0.803	0.041	0.077	(14.2,16)	Yes
GA	437	130892001	19.56	1.81	0.57	0.60	1	0.838	0.041	0.077	(14.1,16.1)	Yes
GA	437	130950007	16.61	1.60	0.43	0.00	3	0.827	0.041	0.077	(13.9,16.3)	Yes
GA	437	131150005	18.46	1.94	0.70	0.00	3	0.806	0.041	0.077	(13.6,16.7)	Yes
GA	437	131210032	18.73	1.62	0.46	0.31	1	0.819	0.041	0.077	(14.2,16)	Yes
GA	437	131210039	21.21	1.65	0.38	0.00	3	0.868	0.041	0.077	(14,16.2)	Yes
GA	437	131211001	18.09	1.77	0.56	0.00	3	0.830	0.041	0.077	(13.8,16.5)	Yes
GA	437	131270004	17.85	2.03	0.40	0.00	3	0.390	0.041	0.077	(13.6,16.6)	Yes
GA	437	131270006	13.39	1.63	0.45	0.00	3	0.748	0.041	0.077	(13.8,16.4)	Yes
GA	437	131390003	17.31	1.95	0.46	0.00	3	0.863	0.041	0.077	(13.9,16.3)	Yes
GA	437	132150001	16.29	1.80	0.54	0.00	3	0.852	0.041	0.077	(13.8,16.4)	Yes
GA	437	132150011	17.98	1.89	0.54	0.00	3	0.913	0.041	0.077	(13.8,16.4)	Yes
GA	437	132230003	16.77	2.13	0.54	0.00	3	0.886	0.041	0.077	(13.8,16.4)	Yes
GA	437	132450005	17.12	1.57	0.66	0.00	3	0.815	0.041	0.077	(13.7,16.6)	Yes
GA	437	132450091	17.37	1.51	0.69	0.00	3	0.778	0.041	0.077	(13.6,16.8)	Yes
GA	437	133030001	16.47	1.83	0.43	0.00	6	0.846	0.041	0.077	(13.6,16.6)	Yes
GA	437	133190001	17.97	2.08	0.53	0.00	3	0.853	0.041	0.077	(13.8,16.4)	Yes
HI	481	150030010	4.02	2.00	0.47	0.00	3	0.825	0.175	0.163	(12.2,19.2)	No
HI	481	150031001	4.40	2.25	0.46	0.34	1	0.932	0.175	0.163	(12.6,18.6)	Yes
HI	481	150031004	4.90	2.15	0.40	0.00	6	0.877	0.175	0.163	(12,19.4)	No
HI	481	150032004	4.77	2.80	0.54	0.71	1	0.898	0.175	0.163	(12.5,18.7)	Yes
HI	481	150090006	5.13	2.15	0.38	0.00	3	0.825	0.175	0.163	(12.3,19.1)	No
IA	613	190130008	11.74	2.02	0.62	0.00	3	0.962	0.144	0.054	(12.5,18.5)	Yes
IA	613	191130036	11.40	1.94	0.61	0.00	3	0.934	0.144	0.054	(12.5,18.5)	Yes
IA	613	191130037	11.35	1.83	0.71	0.56	1	0.893	0.144	0.054	(12.9,18)	Yes
IA	874	191530059	10.98	1.75	0.59	0.00	3	0.846	0.152	0.037	(12.4,18.7)	Yes
IA	874	191532510	10.41	1.84	0.80	0.00	3	0.879	0.152	0.037	(12.2,19)	No
IA	874	191532520	10.85	1.84	0.62	0.00	3	0.953	0.152	0.037	(12.4,18.7)	Yes
IA	874	191692530	10.33	2.29	0.65	0.00	3	0.886	0.152	0.037	(12.4,18.7)	Yes
IA	1080	190330019	10.66	2.63	0.58	0.00	3	0.969	0.155	0.036	(12.5,18.6)	Yes
IA	1080	190450021	12.44	2.05	0.65	0.00	3	0.967	0.155	0.036	(12.4,18.8)	Yes
IA	1080	190630003	8.93	2.44	0.71	0.00	3	0.931	0.155	0.036	(12.3,18.9)	No
IA	1080	191032001	11.68	1.96	0.58	0.00	3	0.970	0.155	0.036	(12.5,18.6)	Yes
IA	1080	191390015	12.59	2.09	0.63	0.00	3	0.991	0.155	0.036	(12.4,18.7)	Yes
IA	1080	191390016	13.01	1.58	0.58	0.00	3	0.940	0.155	0.036	(12.5,18.7)	Yes
IA	1080	191550009	10.40	1.86	0.65	0.00	3	0.935	0.155	0.036	(12.4,18.8)	Yes
IA	1080	191630015	13.03	1.59	0.61	0.00	3	0.963	0.155	0.036	(12.5,18.7)	Yes
IA	1080	191630018	12.24	1.80	0.60	0.00	3	0.988	0.155	0.036	(12.4,18.7)	Yes
IA	1080	191770005	10.30	2.04	0.62	0.00	3	0.926	0.155	0.036	(12.4,18.7)	Yes
IA	1080	191930017	10.00	1.84	0.61	0.00	3	0.955	0.155	0.036	(12.4,18.6)	Yes
ID	511	160010011	9.51	4.32	0.58	0.00	3	0.987	0.035	0.044	(13.9,16.3)	Yes
ID	511	160010017	8.56	3.59	0.57	0.00	3	0.954	0.035	0.044	(13.9,16.3)	Yes
ID	511	160050006	9.60	3.90	0.62	0.00	3	0.929	0.035	0.044	(13.8,16.4)	Yes
ID	511	160050015	10.01	3.86	0.62	0.00	3	0.949	0.035	0.044	(13.8,16.4)	Yes
ID	511	160170001	9.14	2.97	0.47	0.00	3	0.890	0.035	0.044	(13.9,16.2)	Yes
ID	511	160170004	9.63	2.70	0.55	0.00	3	0.740	0.035	0.044	(13.8,16.5)	Yes
ID	511	160190010	7.39	4.25	0.80	0.00	6	0.803	0.035	0.044	(13,17.5)	Yes
ID	511	160270004	9.60	4.18	0.61	0.00	3	0.982	0.035	0.044	(13.8,16.4)	Yes
ID	511	160270005	10.22	4.26	0.63	0.00	3	0.982	0.035	0.044	(13.8,16.4)	Yes
ID	511	160550006	9.56	4.37	0.59	0.00	3	0.937	0.035	0.044	(13.8,16.4)	Yes
ID	511	160690009	10.39	3.06	0.56	0.00	6	0.957	0.035	0.044	(13.5,16.8)	Yes
ID	511	160790017	11.94	4.14	0.36	0.00	6	0.851	0.035	0.044	(13.8,16.3)	Yes
ID	511	160830010	7.70	2.77	0.58	0.00	6	0.893	0.035	0.044	(13.5,16.8)	Yes
ID	962	160770011	17.17	1.77	0.48	0.00	6	0.833	ND	0.091		
IL	258	170310014	17.02	1.92	0.67	0.00	3	0.883	0.067	0.079	(13.4,17.1)	Yes
IL	258	170310022	17.45	2.03	0.57	0.00	3	0.941	0.067	0.079	(13.5,16.9)	Yes
IL	258	170310050	17.26	1.71	0.61	0.54	1	0.829	0.067	0.079	(13.8,16.5)	Yes
IL	258	170310052	18.79	1.96	0.57	0.60	1	0.878	0.067	0.079	(13.8,16.5)	Yes
IL	258	170310057	16.77	1.99	0.66	0.00	3	0.918	0.067	0.079	(13.4,17.1)	Yes
IL	258	170310076	16.57	2.27	0.54	0.00	3	0.901	0.067	0.079	(13.5,16.9)	Yes
IL	258	170311701	18.19	2.00	0.71	0.00	6	0.950	0.067	0.079	(12.9,17.7)	Yes
IL	258	170312001	17.12	1.75	0.62	0.00	3	0.918	0.067	0.079	(13.4,17)	Yes
IL	258	170313301	16.97	2.01	0.62	0.00	3	0.941	0.067	0.079	(13.4,17)	Yes
IL	258	170314006	15.21	1.68	0.80	0.00	3	0.785	0.067	0.079	(13.2,17.3)	Yes

PM2.5 CY 99-01 Data Quality Objective Parameters

State	Rep. Org	Siteid	Ave Conc.	Season Ratio	Pop CV	Autocor.	Sample Freq.	Complete.	Bias	Measure. CV	99-01 Gray Zones	Gray Zone Within DQO
IL	258	170316005	16.94	1.90	0.55	0.00	3	0.885	0.067	0.079	(13.5,16.9)	Yes
IL	513	170010006	12.64	2.46	0.58	0.00	6	0.935	0.060	0.064	(13.2,17.2)	Yes
IL	513	170190004	13.71	1.59	0.54	0.00	6	0.918	0.060	0.064	(13.3,17.1)	Yes
IL	513	170191001	13.79	1.72	0.49	0.00	6	0.901	0.060	0.064	(13.3,17)	Yes
IL	513	170311016	20.97	1.85	0.59	0.00	3	0.933	0.060	0.064	(13.6,16.8)	Yes
IL	513	170314007	14.82	2.83	0.60	0.00	3	0.935	0.060	0.064	(13.5,16.8)	Yes
IL	513	170314201	14.83	1.82	0.65	0.55	1	0.900	0.060	0.064	(14,16.3)	Yes
IL	513	170434002	15.45	1.76	0.57	0.00	3	0.902	0.060	0.064	(13.6,16.8)	Yes
IL	513	170890003	14.78	1.84	0.68	0.00	3	0.860	0.060	0.064	(13.4,16.9)	Yes
IL	513	170971007	12.99	2.07	0.70	0.00	3	0.883	0.060	0.064	(13.4,17)	Yes
IL	513	170990007	14.84	1.70	0.57	0.00	3	0.840	0.060	0.064	(13.5,16.8)	Yes
IL	513	171110001	14.22	2.05	0.59	0.00	3	0.868	0.060	0.064	(13.5,16.8)	Yes
IL	513	171132002	14.82	1.67	0.45	0.00	6	0.901	0.060	0.064	(13.4,17)	Yes
IL	513	171150013	15.42	1.64	0.47	0.00	3	0.923	0.060	0.064	(13.7,16.6)	Yes
IL	513	171170002	15.97	2.66	0.68	0.00	6	0.965	0.060	0.064	(13.1,17.5)	Yes
IL	513	171190023	20.33	1.30	0.53	0.00	3	0.935	0.060	0.064	(13.6,16.7)	Yes
IL	513	171191007	17.27	1.65	0.54	0.00	3	0.929	0.060	0.064	(13.6,16.7)	Yes
IL	513	171192009	15.90	1.46	0.47	0.00	3	0.926	0.060	0.064	(13.7,16.6)	Yes
IL	513	171193007	15.52	1.48	0.59	0.00	3	0.934	0.060	0.064	(13.6,16.8)	Yes
IL	513	171430037	14.94	1.70	0.57	0.00	3	0.935	0.060	0.064	(13.6,16.8)	Yes
IL	513	171570001	13.91	1.88	0.49	0.00	6	0.955	0.060	0.064	(13.4,17)	Yes
IL	513	171610003	15.01	2.09	0.52	0.00	6	0.959	0.060	0.064	(13.3,17.1)	Yes
IL	513	171613002	12.79	3.14	0.47	0.00	6	0.968	0.060	0.064	(13.3,17)	Yes
IL	513	171630010	17.43	1.63	0.43	0.00	3	0.907	0.060	0.064	(13.7,16.6)	Yes
IL	513	171634001	15.24	1.73	0.49	0.00	3	0.840	0.060	0.064	(13.6,16.7)	Yes
IL	513	171670012	14.16	1.61	0.68	0.00	3	0.926	0.060	0.064	(13.5,16.9)	Yes
IL	513	171971002	15.87	1.55	0.61	0.00	3	0.890	0.060	0.064	(13.5,16.8)	Yes
IL	513	171971011	13.68	1.76	0.60	0.00	6	0.945	0.060	0.064	(13.2,17.2)	Yes
IL	513	172010010	14.43	2.02	0.56	0.00	3	0.829	0.060	0.064	(13.6,16.8)	Yes
IN	520	180030004	14.43	1.63	0.72	0.00	3	0.853	0.014	0.074	(14,16.2)	Yes
IN	520	180030014	14.23	1.98	0.68	0.00	3	0.870	0.014	0.074	(14,16.2)	Yes
IN	520	180190005	17.34	1.64	0.51	0.00	3	0.908	0.014	0.074	(14.2,15.9)	Yes
IN	520	180350006	14.89	1.72	0.52	0.00	3	0.872	0.014	0.074	(14.2,16)	Yes
IN	520	180372001	16.85	1.65	0.50	0.00	3	0.811	0.014	0.074	(14.2,16)	Yes
IN	520	180390003	15.20	2.17	0.55	0.00	3	0.878	0.014	0.074	(14.2,16)	Yes
IN	520	180431004	15.60	1.93	0.49	0.00	3	0.811	0.014	0.074	(14.2,16)	Yes
IN	520	180650003	13.49	1.82	0.58	0.00	3	0.800	0.014	0.074	(14.1,16.1)	Yes
IN	520	180670003	15.38	1.82	0.69	0.00	3	0.826	0.014	0.074	(14,16.2)	Yes
IN	520	180830004	13.63	1.77	0.51	0.00	3	0.774	0.014	0.074	(14.2,16)	Yes
IN	520	180890006	15.62	1.64	0.73	0.62	1	0.828	0.014	0.074	(14.4,15.8)	Yes
IN	520	180890022	17.14	1.98	0.53	0.34	1	0.845	0.014	0.074	(14.6,15.6)	Yes
IN	520	180890026	17.78	2.09	0.51	0.00	3	0.807	0.014	0.074	(14.2,16)	Yes
IN	520	180890027	14.61	2.68	0.54	0.00	3	0.806	0.014	0.074	(14.1,16.1)	Yes
IN	520	180891003	14.99	1.93	0.71	0.00	3	0.836	0.014	0.074	(14,16.2)	Yes
IN	520	180891016	16.26	1.54	0.52	0.42	1	0.880	0.014	0.074	(14.6,15.5)	Yes
IN	520	180892004	14.92	2.02	0.62	0.00	3	0.821	0.014	0.074	(14,16.1)	Yes
IN	520	180892010	14.18	2.41	0.70	0.00	3	0.613	0.014	0.074	(13.8,16.5)	Yes
IN	520	180910011	13.66	1.85	0.58	0.00	3	0.787	0.014	0.074	(14,16)	Yes
IN	520	180910012	13.37	2.16	0.60	0.00	3	0.845	0.014	0.074	(14.1,16.1)	Yes
IN	520	180950009	14.56	1.76	0.63	0.00	3	0.779	0.014	0.074	(14,16.2)	Yes
IN	520	181270020	13.15	1.73	0.66	0.00	3	0.875	0.014	0.074	(14,16.1)	Yes
IN	520	181270024	13.93	1.77	0.76	0.00	3	0.854	0.014	0.074	(13.9,16.2)	Yes
IN	520	181410014	13.64	1.88	0.63	0.00	3	0.853	0.014	0.074	(14,16.1)	Yes
IN	520	181411008	13.87	2.01	0.60	0.00	3	0.842	0.014	0.074	(14.1,16.1)	Yes
IN	520	181412004	13.76	1.80	0.60	0.00	3	0.916	0.014	0.074	(14.1,16.1)	Yes
IN	520	181570007	15.37	1.64	0.51	0.00	3	0.874	0.014	0.074	(14.2,16)	Yes
IN	520	181630006	16.02	1.95	0.42	0.00	3	0.918	0.014	0.074	(14.3,15.8)	Yes
IN	520	181630012	16.08	1.92	0.44	0.00	3	0.873	0.014	0.074	(14.3,15.9)	Yes
IN	520	181630016	16.75	2.01	0.47	0.00	3	0.835	0.014	0.074	(14.2,15.9)	Yes
IN	520	181670018	15.37	1.72	0.60	0.00	3	0.866	0.014	0.074	(14.1,16.1)	Yes
IN	520	181670023	13.28	1.76	0.53	0.00	3	0.824	0.014	0.074	(14.2,16)	Yes
IN	523	180970042	14.44	1.50	0.47	0.00	3	0.873	0.011	0.059	(14.3,15.8)	Yes
IN	523	180970043	17.93	1.56	0.49	0.00	3	0.928	0.011	0.059	(14.3,15.8)	Yes
IN	523	180970066	18.39	1.59	0.54	0.00	3	0.788	0.011	0.059	(14.2,15.9)	Yes
IN	523	180970078	16.69	1.64	0.56	0.00	3	0.899	0.011	0.059	(14.3,16)	Yes
IN	523	180970079	15.58	1.62	0.49	0.00	3	0.794	0.011	0.059	(14.3,15.9)	Yes
IN	523	180970081	16.90	1.45	0.52	0.41	1	0.939	0.011	0.059	(14.7,15.4)	Yes
IN	523	180970083	17.01	1.44	0.47	0.34	1	0.945	0.011	0.059	(14.8,15.4)	Yes
KS	563	200910007	12.20	1.70	0.56	0.00	3	0.862	0.020	0.082	(14.1,16.1)	Yes

PM2.5 CY 99-01 Data Quality Objective Parameters

State	Rep. Org	Siteid	Ave Conc.	Season Ratio	Pop CV	Autocor.	Sample Freq.	Complete.	Bias	Measure. CV	99-01 Gray Zones	Gray Zone Within DQO
KS	563	200910008	11.80	1.81	0.55	0.00	3	0.902	0.020	0.082	(14.1,16.1)	Yes
KS	563	200910009	11.49	1.95	0.59	0.00	3	0.918	0.020	0.082	(14.1,16.2)	Yes
KS	563	201070002	11.20	1.91	0.59	0.00	3	0.877	0.020	0.082	(14,16.2)	Yes
KS	563	201730008	11.77	1.43	0.55	0.00	3	0.900	0.020	0.082	(14.1,16.1)	Yes
KS	563	201730009	11.51	1.50	0.53	0.00	3	0.930	0.020	0.082	(14.2,16)	Yes
KS	563	201730010	11.81	1.51	0.58	0.00	3	0.895	0.020	0.082	(14.1,16.1)	Yes
KS	563	201770010	11.25	1.68	0.58	0.00	3	0.938	0.020	0.082	(14.1,16.1)	Yes
KS	563	201770011	11.21	1.80	0.79	0.00	3	0.922	0.020	0.082	(13.9,16.4)	Yes
KS	563	201910002	10.37	1.66	0.55	0.00	3	0.890	0.020	0.082	(14.1,16)	Yes
KS	563	202090021	13.74	1.61	0.55	0.00	3	0.952	0.020	0.082	(14.1,16.1)	Yes
KS	563	202090022	11.78	1.66	0.59	0.00	3	0.895	0.020	0.082	(14.1,16.2)	Yes
KY	549	211110043	17.36	1.95	0.41	0.24	1	0.689	0.028	0.082	(14.4,15.8)	Yes
KY	549	211110044	17.08	1.99	0.54	0.54	1	0.923	0.028	0.082	(14.4,15.7)	Yes
KY	549	211110048	16.85	1.81	0.43	0.00	3	0.854	0.028	0.082	(14.1,16)	Yes
KY	549	211111041	18.74	2.25	0.53	0.61	1	0.903	0.028	0.082	(14.4,15.7)	Yes
KY	584	210190017	15.46	2.01	0.66	0.00	3	0.888	0.018	0.074	(14,16.2)	Yes
KY	584	210290006	16.04	1.87	0.41	0.00	3	0.876	0.018	0.074	(14.3,15.9)	Yes
KY	584	210370003	15.46	1.86	0.40	0.00	3	0.923	0.018	0.074	(14.3,15.8)	Yes
KY	584	210430500	12.95	2.09	0.59	0.00	3	0.864	0.018	0.074	(14.1,16.2)	Yes
KY	584	210470006	14.76	2.03	0.60	0.00	3	0.891	0.018	0.074	(14.1,16.1)	Yes
KY	584	210590014	15.77	2.10	0.56	0.00	3	0.799	0.018	0.074	(14.1,16.1)	Yes
KY	584	210670012	15.96	1.72	0.53	0.00	3	0.931	0.018	0.074	(14.2,16)	Yes
KY	584	210670014	16.82	1.56	0.67	0.00	3	0.902	0.018	0.074	(14,16.2)	Yes
KY	584	210730006	14.54	1.88	0.51	0.00	3	0.892	0.018	0.074	(14.2,16)	Yes
KY	584	210930005	15.58	2.61	0.56	0.00	3	0.640	0.018	0.074	(14,16.3)	Yes
KY	584	210930006	15.67	1.80	0.51	0.00	3	0.821	0.018	0.074	(14.1,16)	Yes
KY	584	211010006	15.02	2.04	0.53	0.00	3	0.810	0.018	0.074	(14.1,16.1)	Yes
KY	584	211170007	15.87	1.74	0.50	0.00	3	0.883	0.018	0.074	(14.2,16)	Yes
KY	584	211451004	15.10	1.87	0.52	0.00	3	0.818	0.018	0.074	(14.1,16)	Yes
KY	584	211510003	14.94	1.76	0.38	0.00	3	0.877	0.018	0.074	(14.3,15.9)	Yes
KY	584	211950002	16.14	2.34	0.46	0.00	3	0.880	0.018	0.074	(14.2,16)	Yes
KY	584	212270007	15.41	2.01	0.50	0.00	3	0.933	0.018	0.074	(14.2,16)	Yes
LA	1001	220171002	13.69	1.61	0.45	0.00	3	0.995	0.092	0.070	(13.3,17.2)	Yes
LA	1001	220190009	11.79	1.69	0.54	0.00	3	0.882	0.092	0.070	(13.2,17.4)	Yes
LA	1001	220190010	12.75	1.60	0.59	0.00	3	0.950	0.092	0.070	(13.2,17.4)	Yes
LA	1001	220290002	12.42	1.72	0.47	0.00	6	0.817	0.092	0.070	(12.9,17.6)	Yes
LA	1001	220290003	15.21	1.74	0.57	0.00	6	0.335	0.092	0.070	(12.1,18.7)	No
LA	1001	220330002	14.55	1.38	0.53	0.00	3	0.906	0.092	0.070	(13.2,17.3)	Yes
LA	1001	220330009	14.49	1.34	0.49	0.70	1	0.974	0.092	0.070	(13.7,16.7)	Yes
LA	1001	220331001	13.10	1.64	0.44	0.00	6	0.962	0.092	0.070	(13,17.5)	Yes
LA	1001	220470005	13.88	1.48	0.59	0.00	6	0.955	0.092	0.070	(12.8,17.9)	Yes
LA	1001	220470009	11.86	1.43	0.61	0.00	6	0.898	0.092	0.070	(12.8,18)	Yes
LA	1001	220511001	13.21	1.54	0.49	0.60	1	0.914	0.092	0.070	(13.6,16.8)	Yes
LA	1001	220512001	13.59	1.59	0.64	0.00	6	0.968	0.092	0.070	(12.8,18)	Yes
LA	1001	220550005	12.44	1.51	0.50	0.00	3	0.957	0.092	0.070	(13.2,17.2)	Yes
LA	1001	220550006	12.28	1.53	0.53	0.00	3	0.783	0.092	0.070	(13.1,17.4)	Yes
LA	1001	220710010	14.15	1.35	0.47	0.00	3	0.972	0.092	0.070	(13.3,17.2)	Yes
LA	1001	220710012	13.98	1.40	0.48	0.52	1	0.853	0.092	0.070	(13.5,16.9)	Yes
LA	1001	220730004	13.04	1.79	0.43	0.00	3	0.950	0.092	0.070	(13.3,17.2)	Yes
LA	1001	220790001	13.26	1.64	0.48	0.00	3	0.942	0.092	0.070	(13.3,17.3)	Yes
LA	1001	220870004	12.18	1.43	0.43	0.00	3	0.955	0.092	0.070	(13.3,17.1)	Yes
LA	1001	221050001	13.47	1.58	0.58	0.00	3	0.934	0.092	0.070	(13.2,17.4)	Yes
LA	1001	221090001	11.63	1.42	0.45	0.00	3	0.939	0.092	0.070	(13.3,17.2)	Yes
LA	1001	221210001	14.06	1.42	0.53	0.63	1	0.942	0.092	0.070	(13.6,16.8)	Yes
MA	660	250035001	12.64	1.91	0.69	0.00	3	0.806	0.052	0.098	(13.4,16.9)	Yes
MA	660	250052004	12.25	1.92	0.55	0.00	3	0.774	0.052	0.098	(13.6,16.7)	Yes
MA	660	250053001	12.26	1.88	0.57	0.00	3	0.856	0.052	0.098	(13.6,16.7)	Yes
MA	660	250092006	11.60	1.73	0.53	0.00	3	0.739	0.052	0.098	(13.6,16.7)	Yes
MA	660	250095005	11.65	1.90	0.67	0.00	3	0.706	0.052	0.098	(13.4,17)	Yes
MA	660	250096001	10.68	2.17	0.71	0.00	3	0.619	0.052	0.098	(13.2,17.1)	Yes
MA	660	250130008	10.42	1.76	0.70	0.11	1	0.595	0.052	0.098	(13.8,16.4)	Yes
MA	660	250130016	14.10	2.23	0.62	0.00	3	0.973	0.052	0.098	(13.6,16.7)	Yes
MA	660	250132007	15.15	2.06	0.54	0.00	3	0.913	0.052	0.098	(13.7,16.6)	Yes
MA	660	250154002	9.06	2.04	0.63	0.00	3	0.909	0.052	0.098	(13.6,16.8)	Yes
MA	660	250170008	10.60	1.78	0.63	0.00	3	0.477	0.052	0.098	(13.2,17.3)	Yes
MA	660	250171102	9.58	1.91	0.64	0.00	3	0.704	0.052	0.098	(13.4,16.9)	Yes
MA	660	250210007	11.63	1.69	0.60	0.00	3	0.600	0.052	0.098	(13.4,17)	Yes
MA	660	250230004	11.30	2.02	0.55	0.00	3	0.828	0.052	0.098	(13.6,16.7)	Yes
MA	660	250250002	15.01	1.49	0.52	0.00	3	0.784	0.052	0.098	(13.6,16.7)	Yes

PM2.5 CY 99-01 Data Quality Objective Parameters

State	Rep. Org	Siteid	Ave Conc.	Season Ratio	Pop CV	Autocor.	Sample Freq.	Complete.	Bias	Measure. CV	99-01 Gray Zones	Gray Zone Within DQO
MA	660	250250027	14.11	2.29	0.55	0.00	3	0.746	0.052	0.098	(13.5,16.8)	Yes
MA	660	250250042	12.92	1.71	0.63	0.39	1	0.565	0.052	0.098	(13.7,16.6)	Yes
MA	660	250250043	16.03	1.51	0.45	0.00	3	0.645	0.052	0.098	(13.6,16.7)	Yes
MA	660	250270016	12.51	1.72	0.64	0.00	3	0.804	0.052	0.098	(13.5,16.9)	Yes
MA	660	250270020	12.68	1.62	0.65	0.00	3	0.965	0.052	0.098	(13.6,16.8)	Yes
MA	660	250272004	9.88	2.06	0.58	0.00	3	0.665	0.052	0.098	(13.5,16.8)	Yes
MD	1002	240030014	13.24	2.44	0.58	0.00	3	0.755	0.068	0.039	(13.3,17)	Yes
MD	1002	240030019	14.61	2.08	0.61	0.00	3	0.686	0.068	0.039	(13.3,17.1)	Yes
MD	1002	240031003	15.87	1.73	0.59	0.00	3	0.903	0.068	0.039	(13.5,17)	Yes
MD	1002	240032002	14.67	1.90	0.58	0.00	3	0.678	0.068	0.039	(13.4,17.1)	Yes
MD	1002	240051007	14.92	1.75	0.65	0.00	3	0.883	0.068	0.039	(13.4,17.1)	Yes
MD	1002	240053001	15.67	2.22	0.67	0.00	3	0.835	0.068	0.039	(13.3,17.1)	Yes
MD	1002	240150003	13.40	1.95	0.67	0.00	3	0.852	0.068	0.039	(13.3,17.1)	Yes
MD	1002	240251001	14.50	1.67	0.64	0.00	3	0.806	0.068	0.039	(13.3,17.1)	Yes
MD	1002	240313001	13.54	1.81	0.55	0.00	3	0.880	0.068	0.039	(13.5,16.9)	Yes
MD	1002	240330001	16.96	1.66	0.58	0.00	3	0.773	0.068	0.039	(13.4,17)	Yes
MD	1002	240338001	14.21	1.91	0.61	0.00	3	0.812	0.068	0.039	(13.4,17)	Yes
MD	1002	240430009	14.41	1.63	0.60	0.00	3	0.873	0.068	0.039	(13.4,17)	Yes
MD	1002	245100006	15.78	1.87	0.60	0.00	3	0.731	0.068	0.039	(13.3,17.1)	Yes
MD	1002	245100007	16.11	1.57	0.65	0.00	3	0.759	0.068	0.039	(13.3,17.2)	Yes
MD	1002	245100008	19.35	2.17	0.37	0.00	3	0.710	0.068	0.039	(13.6,16.7)	Yes
MD	1002	245100035	16.96	1.85	0.60	0.00	3	0.826	0.068	0.039	(13.4,17)	Yes
MD	1002	245100040	17.78	1.90	0.63	0.00	3	0.823	0.068	0.039	(13.3,17)	Yes
MD	1002	245100049	16.04	1.69	0.66	0.00	3	0.701	0.068	0.039	(13.3,17.2)	Yes
MD	1002	245100052	17.75	1.54	0.52	0.00	3	0.541	0.068	0.039	(13.3,17.1)	Yes
ME	635	230030013	10.79	1.86	0.46	0.00	3	0.958	0.070	0.061	(13.6,16.8)	Yes
ME	635	230031011	7.99	1.89	0.60	0.00	3	0.939	0.070	0.061	(13.4,17)	Yes
ME	635	230050027	10.86	2.50	0.68	0.00	3	0.860	0.070	0.061	(13.3,17.2)	Yes
ME	635	230090103	6.03	2.16	0.62	0.00	3	0.865	0.070	0.061	(13.4,17.1)	Yes
ME	635	230190002	9.38	2.18	0.61	0.00	3	0.891	0.070	0.061	(13.4,17)	Yes
MI	685	260050003	12.23	1.49	0.76	0.48	1	0.947	0.013	0.046	(14.7,15.4)	Yes
MI	685	260070005	8.75	2.08	0.98	0.00	3	0.806	0.013	0.046	(13.7,16.7)	Yes
MI	685	260170014	11.05	2.15	0.89	0.00	3	0.865	0.013	0.046	(13.8,16.5)	Yes
MI	685	260210014	12.51	1.68	0.68	0.00	3	0.968	0.013	0.046	(14.1,16.1)	Yes
MI	685	260330901	8.33	2.20	0.43	0.00	3	0.843	0.013	0.046	(14.3,15.8)	Yes
MI	685	260330902	7.94	2.38	0.63	0.00	3	0.878	0.013	0.046	(14.1,16.1)	Yes
MI	685	260490021	12.70	1.48	0.64	0.00	3	0.883	0.013	0.046	(14.1,16.1)	Yes
MI	685	260550003	8.73	1.88	1.07	0.00	3	0.738	0.013	0.046	(13.5,16.9)	Yes
MI	685	260650012	13.15	1.61	0.62	0.00	3	0.857	0.013	0.046	(14.1,16)	Yes
MI	685	260770008	15.01	1.92	0.61	0.00	3	0.870	0.013	0.046	(14.1,16.1)	Yes
MI	685	260810020	14.06	1.60	0.68	0.46	1	0.959	0.013	0.046	(14.7,15.4)	Yes
MI	685	260990009	13.25	1.58	0.72	0.00	3	0.912	0.013	0.046	(14.1,16.2)	Yes
MI	685	261150005	14.94	1.49	0.77	0.00	3	0.839	0.013	0.046	(14,16.3)	Yes
MI	685	261210040	12.19	1.76	0.78	0.00	3	0.933	0.013	0.046	(14,16.2)	Yes
MI	685	261250001	14.76	1.68	0.68	0.00	3	0.763	0.013	0.046	(14,16.3)	Yes
MI	685	261390005	13.33	1.94	0.73	0.00	3	0.963	0.013	0.046	(14.1,16.2)	Yes
MI	685	261450018	10.63	1.63	0.89	0.00	3	0.785	0.013	0.046	(13.8,16.4)	Yes
MI	685	261470005	13.80	1.76	0.80	0.00	6	0.885	0.013	0.046	(13.4,16.9)	Yes
MI	685	261610005	13.20	1.68	0.73	0.00	3	0.797	0.013	0.046	(13.9,16.3)	Yes
MI	685	261610008	14.31	1.65	0.74	0.00	3	0.870	0.013	0.046	(14,16.3)	Yes
MI	685	261630001	16.50	1.42	0.64	0.52	1	0.842	0.013	0.046	(14.5,15.6)	Yes
MI	685	261630015	18.02	1.50	0.68	0.00	3	0.873	0.013	0.046	(14,16.2)	Yes
MI	685	261630016	16.03	1.53	0.65	0.41	1	0.836	0.013	0.046	(14.6,15.6)	Yes
MI	685	261630019	14.59	1.63	0.81	0.00	3	0.856	0.013	0.046	(13.9,16.3)	Yes
MI	685	261630025	14.29	1.56	0.73	0.00	3	0.843	0.013	0.046	(14,16.2)	Yes
MI	685	261630033	18.91	1.69	0.69	0.00	3	0.864	0.013	0.046	(14.1,16.2)	Yes
MI	685	261630036	17.38	1.99	0.66	0.00	3	0.785	0.013	0.046	(14,16.1)	Yes
MN	700	270376018	10.74	1.99	0.78	0.00	3	0.854	0.049	0.138	(13.4,16.9)	Yes
MN	700	270530960	11.22	2.99	0.53	0.00	1	0.574	0.049	0.138	(13.9,16.3)	Yes
MN	700	270530961	10.92	3.07	0.80	0.00	3	0.859	0.049	0.138	(13.3,17)	Yes
MN	700	270530963	11.61	2.31	0.80	0.53	1	0.800	0.049	0.138	(13.8,16.5)	Yes
MN	700	270531007	11.82	1.92	0.68	0.00	3	0.809	0.049	0.138	(13.5,17)	Yes
MN	700	270532006	10.78	3.00	0.66	0.00	3	0.801	0.049	0.138	(13.5,16.9)	Yes
MN	700	270953051	8.47	2.07	0.82	0.00	3	0.733	0.049	0.138	(13.3,17.2)	Yes
MN	700	271095008	11.95	2.23	0.69	0.00	3	0.790	0.049	0.138	(13.4,16.9)	Yes
MN	700	271230866	12.62	2.21	0.73	0.00	3	0.834	0.049	0.138	(13.4,16.9)	Yes
MN	700	271230868	13.30	2.53	0.64	0.00	3	0.741	0.049	0.138	(13.4,16.9)	Yes
MN	700	271230871	11.56	2.10	0.80	0.55	1	0.737	0.049	0.138	(13.8,16.5)	Yes
MN	700	271230872	11.03	2.93	0.86	0.00	3	0.846	0.049	0.138	(13.3,17.2)	Yes

PM2.5 CY 99-01 Data Quality Objective Parameters

State	Rep. Org	Siteid	Ave Conc.	Season Ratio	Pop CV	Autocor.	Sample Freq.	Complete.	Bias	Measure. CV	99-01 Gray Zones	Gray Zone Within DQO
MN	700	271377001	7.70	1.24	0.74	0.00	3	0.682	0.049	0.138	(13.3,17.1)	Yes
MN	700	271377550	7.29	1.73	0.87	0.00	3	0.775	0.049	0.138	(13.2,17.2)	Yes
MN	700	271377551	8.78	1.97	0.81	0.00	3	0.779	0.049	0.138	(13.3,17.1)	Yes
MN	700	271390505	11.52	2.84	0.89	0.00	3	0.749	0.049	0.138	(13.2,17.4)	Yes
MN	700	271453052	10.22	2.93	0.69	0.00	3	0.672	0.049	0.138	(13.3,17.1)	Yes
MO	561	290370003	11.19	1.70	0.62	0.00	3	0.948	0.047	0.020	(13.7,16.6)	Yes
MO	561	290950036	11.65	2.15	0.55	0.00	3	0.728	0.047	0.020	(13.6,16.7)	Yes
MO	561	290950037	12.28	2.03	0.50	0.00	3	0.991	0.047	0.020	(13.8,16.4)	Yes
MO	561	290952002	13.87	1.76	0.50	0.00	3	0.971	0.047	0.020	(13.8,16.4)	Yes
MO	588	290210010	12.43	1.71	0.59	0.00	3	0.976	0.087	0.028	(13.2,17.2)	Yes
MO	588	290390001	11.52	1.86	0.60	0.00	3	0.934	0.087	0.028	(13.2,17.3)	Yes
MO	588	290470005	11.60	1.73	0.63	0.00	3	0.932	0.087	0.028	(13.2,17.4)	Yes
MO	588	290470026	12.84	1.58	0.54	0.45	1	0.942	0.087	0.028	(13.7,16.7)	Yes
MO	588	290470041	12.32	1.58	0.55	0.55	1	0.901	0.087	0.028	(13.6,16.8)	Yes
MO	588	290910003	13.46	1.96	0.51	0.00	3	0.890	0.087	0.028	(13.3,17.1)	Yes
MO	588	290990012	14.97	1.77	0.48	0.00	3	0.960	0.087	0.028	(13.4,17.1)	Yes
MO	588	291831002	14.64	1.63	0.62	0.00	3	0.956	0.087	0.028	(13.2,17.3)	Yes
MO	588	291860006	14.19	1.66	0.46	0.00	3	0.961	0.087	0.028	(13.4,17.1)	Yes
MO	986	290770032	12.24	1.71	0.51	0.00	3	1.000	ND	0.036		
MO	990	295100007	15.07	1.68	0.40	0.00	1	0.834	0.045	0.058	(14.3,15.9)	Yes
MO	990	295100085	16.21	1.49	0.49	0.42	1	0.979	0.045	0.058	(14.3,15.8)	Yes
MO	990	295100086	14.87	1.48	0.47	0.37	1	0.931	0.045	0.058	(14.3,15.9)	Yes
MO	992	291890004	12.37	1.98	0.52	0.00	3	0.807	0.069	0.061	(13.5,17)	Yes
MO	992	291892003	14.80	1.71	0.51	0.00	3	0.945	0.069	0.061	(13.5,16.9)	Yes
MO	992	291895001	14.12	1.77	0.57	0.00	3	0.966	0.069	0.061	(13.5,16.9)	Yes
MS	703	280010004	13.57	1.79	0.59	0.00	3	0.879	0.063	0.068	(13.5,16.9)	Yes
MS	703	280110001	14.61	1.93	0.50	0.00	3	0.925	0.063	0.068	(13.6,16.7)	Yes
MS	703	280330002	13.98	2.02	0.47	0.00	3	0.929	0.063	0.068	(13.6,16.7)	Yes
MS	703	280350004	15.22	1.50	0.45	0.00	3	0.928	0.063	0.068	(13.7,16.7)	Yes
MS	703	280470008	13.06	1.61	0.44	0.00	3	0.964	0.063	0.068	(13.7,16.6)	Yes
MS	703	280490010	14.98	1.55	0.46	0.00	3	0.910	0.063	0.068	(13.6,16.7)	Yes
MS	703	280490018	15.09	1.54	0.47	0.00	3	0.905	0.063	0.068	(13.6,16.7)	Yes
MS	703	280590006	13.82	1.41	0.41	0.00	3	0.943	0.063	0.068	(13.7,16.6)	Yes
MS	703	280670002	16.62	1.46	0.45	0.00	3	0.918	0.063	0.068	(13.7,16.7)	Yes
MS	703	280750003	15.06	1.80	0.47	0.00	3	0.933	0.063	0.068	(13.7,16.7)	Yes
MS	703	280810005	14.20	1.86	0.46	0.00	3	0.931	0.063	0.068	(13.7,16.7)	Yes
MS	703	280870001	15.06	1.88	0.48	0.00	3	0.904	0.063	0.068	(13.6,16.7)	Yes
MS	703	281090001	12.78	1.41	0.41	0.00	3	0.934	0.063	0.068	(13.7,16.6)	Yes
MS	703	281210001	14.84	1.65	0.50	0.00	3	0.874	0.063	0.068	(13.6,16.8)	Yes
MS	703	281230001	13.33	1.90	0.49	0.00	3	0.906	0.063	0.068	(13.6,16.7)	Yes
MS	703	281490004	14.20	1.66	0.55	0.00	3	0.851	0.063	0.068	(13.5,16.8)	Yes
MT	250	300470013	10.35	3.36	0.71	0.00	3	0.953	0.029	0.141	(13.7,16.6)	Yes
MT	250	300470028	10.94	4.00	0.65	0.00	3	0.936	0.029	0.141	(13.8,16.5)	Yes
MT	730	300131026	6.43	4.47	0.76	0.00	3	0.920	0.071	0.049	(13.2,17.3)	Yes
MT	730	300290009	11.35	2.17	0.61	0.00	3	1.000	0.071	0.049	(13.4,17)	Yes
MT	730	300290039	11.47	3.15	0.57	0.00	3	0.698	0.071	0.049	(13.3,17.2)	Yes
MT	730	300290043	9.25	2.41	0.48	0.00	3	0.830	0.071	0.049	(13.5,16.9)	Yes
MT	730	300290047	8.08	3.43	0.43	0.00	3	0.825	0.071	0.049	(13.5,16.8)	Yes
MT	730	300530018	16.39	6.39	0.51	0.00	3	0.813	0.071	0.049	(13.4,17)	Yes
MT	730	300630024	10.95	4.98	0.63	0.00	3	0.915	0.071	0.049	(13.3,17.1)	Yes
MT	730	300810001	12.53	13.41	0.85	0.00	3	0.870	0.071	0.049	(13,17.6)	Yes
MT	730	301111065	8.00	2.73	0.47	0.00	3	0.938	0.071	0.049	(13.5,16.8)	Yes
MT	787	300870307	7.56	2.21	0.36	0.00	3	0.828	0.006	0.118	(14.4,15.7)	Yes
NC	776	370010002	15.32	2.11	0.47	0.00	3	0.891	0.025	0.063	(14.1,16.1)	Yes
NC	776	370210034	14.79	1.91	0.84	0.00	3	0.745	0.025	0.063	(13.6,16.7)	Yes
NC	776	370350004	17.11	1.85	0.48	0.00	3	0.898	0.025	0.063	(14.1,16.1)	Yes
NC	776	370370004	13.42	2.16	0.41	0.00	3	0.918	0.025	0.063	(14.2,16)	Yes
NC	776	370510009	15.44	1.62	0.45	0.00	3	0.920	0.025	0.063	(14.2,16)	Yes
NC	776	370610002	12.65	1.82	0.54	0.00	3	0.948	0.025	0.063	(14.1,16.1)	Yes
NC	776	370630001	15.35	1.95	0.46	0.43	1	0.925	0.025	0.063	(14.5,15.6)	Yes
NC	776	370650003	13.74	1.93	0.46	0.00	3	0.599	0.025	0.063	(14,16.2)	Yes
NC	776	370670022	16.23	2.07	0.46	0.41	1	0.925	0.025	0.063	(14.5,15.6)	Yes
NC	776	370670024	15.35	2.14	0.44	0.00	3	0.889	0.025	0.063	(14.1,16)	Yes
NC	776	370710016	15.29	1.87	0.40	0.00	3	0.965	0.025	0.063	(14.2,15.9)	Yes
NC	776	370810009	16.25	2.07	0.48	0.47	1	0.855	0.025	0.063	(14.4,15.7)	Yes
NC	776	370811005	15.98	1.63	0.40	0.00	3	0.747	0.025	0.063	(14.1,16)	Yes
NC	776	370870010	15.38	1.94	0.44	0.00	3	0.941	0.025	0.063	(14.2,16)	Yes
NC	776	370990006	14.05	1.83	0.68	0.00	3	0.760	0.025	0.063	(13.8,16.5)	Yes
NC	776	371190010	16.77	1.77	0.39	0.41	1	0.973	0.025	0.063	(14.6,15.6)	Yes

PM2.5 CY 99-01 Data Quality Objective Parameters

State	Rep. Org	Siteid	Ave Conc.	Season Ratio	Pop CV	Autocor.	Sample Freq.	Complete.	Bias	Measure. CV	99-01 Gray Zones	Gray Zone Within DQO
NC	776	371190034	18.25	1.71	0.44	0.53	1	0.757	0.025	0.063	(14.4,15.8)	Yes
NC	776	371190040	16.26	1.92	0.46	0.00	3	0.916	0.025	0.063	(14.1,16)	Yes
NC	776	371190041	15.86	1.87	0.39	0.42	1	0.901	0.025	0.063	(14.5,15.6)	Yes
NC	776	371190042	14.70	1.90	0.42	0.00	3	0.820	0.025	0.063	(14.1,16)	Yes
NC	776	371210001	15.46	1.92	0.44	0.00	3	0.938	0.025	0.063	(14.2,16)	Yes
NC	776	371290009	12.19	1.69	0.60	0.00	3	0.911	0.025	0.063	(14,16.2)	Yes
NC	776	371330005	12.14	1.73	0.60	0.00	3	0.937	0.025	0.063	(14,16.2)	Yes
NC	776	371350007	14.32	2.03	0.43	0.00	3	0.936	0.025	0.063	(14.2,16)	Yes
NC	776	371390002	12.65	1.76	0.70	0.00	3	0.845	0.025	0.063	(13.9,16.4)	Yes
NC	776	371470005	13.72	1.82	0.43	0.00	3	0.797	0.025	0.063	(14.1,16)	Yes
NC	776	371550004	14.81	1.79	0.40	0.00	3	0.658	0.025	0.063	(14.1,16)	Yes
NC	776	371550005	13.62	1.59	0.43	0.00	3	0.836	0.025	0.063	(14.2,16)	Yes
NC	776	371730002	14.12	1.83	0.49	0.00	3	0.916	0.025	0.063	(14.1,16.1)	Yes
NC	776	371830014	15.30	1.89	0.45	0.46	1	0.937	0.025	0.063	(14.5,15.6)	Yes
NC	776	371830015	14.74	1.90	0.53	0.00	3	0.891	0.025	0.063	(14,16.1)	Yes
NC	776	371910005	15.30	1.77	0.42	0.00	3	0.905	0.025	0.063	(14.2,16)	Yes
ND	782	380070002	5.03	2.40	0.58	0.00	6	0.867	0.059	0.061	(13.2,17.3)	Yes
ND	782	380150003	6.97	2.14	0.44	0.00	3	0.913	0.059	0.061	(13.7,16.6)	Yes
ND	782	380171004	8.58	1.98	0.64	0.00	3	0.926	0.059	0.061	(13.5,16.8)	Yes
ND	782	380350004	8.90	2.16	0.73	0.00	3	0.888	0.059	0.061	(13.3,16.9)	Yes
ND	782	380570004	6.33	2.42	0.40	0.00	6	0.962	0.059	0.061	(13.5,16.8)	Yes
ND	782	380890002	5.61	2.50	0.50	0.00	6	0.733	0.059	0.061	(13.2,17.2)	Yes
ND	782	380910001	6.93	1.89	0.57	0.00	6	0.912	0.059	0.061	(13.2,17.3)	Yes
NE	752	310250002	10.57	1.80	0.66	0.00	3	0.790	0.104	0.062	(12.8,17.8)	Yes
NE	752	310270001	8.81	2.89	0.57	0.00	3	0.679	0.104	0.062	(12.9,17.8)	Yes
NE	752	310310001	4.78	2.21	0.47	0.00	3	0.782	0.104	0.062	(13,17.6)	Yes
NE	752	310490001	5.54	1.72	0.45	0.00	3	0.758	0.104	0.062	(13,17.5)	Yes
NE	752	310790003	9.48	1.82	0.64	0.00	3	0.780	0.104	0.062	(12.9,17.8)	Yes
NE	752	311090022	10.52	2.24	0.63	0.00	3	0.852	0.104	0.062	(12.9,17.8)	Yes
NE	752	311111002	7.35	1.71	0.64	0.00	3	0.792	0.104	0.062	(12.9,17.8)	Yes
NE	752	311530007	10.54	2.24	0.61	0.00	3	0.638	0.104	0.062	(12.8,17.9)	Yes
NE	752	311570003	6.90	2.06	0.62	0.00	3	0.694	0.104	0.062	(12.8,17.9)	Yes
NE	752	311770002	9.80	1.89	0.80	0.00	3	0.721	0.104	0.062	(12.6,18.1)	Yes
NE	816	310550019	11.19	1.90	0.69	0.61	1	0.647	0.086	0.138	(13.2,17.4)	Yes
NE	816	310550051	10.42	1.95	0.66	0.00	3	0.717	0.086	0.138	(12.9,17.6)	Yes
NE	816	310550052	10.55	1.89	0.63	0.59	1	0.585	0.086	0.138	(13.2,17.4)	Yes
NH	762	330012003	10.68	3.72	0.47	0.00	6	0.700	0.001	0.122	(13.8,16.3)	Yes
NH	762	330012004	10.49	2.74	0.85	0.00	6	0.707	0.001	0.122	(13.3,17.2)	Yes
NH	762	330050007	11.89	2.65	0.50	0.00	6	0.778	0.001	0.122	(13.9,16.2)	Yes
NH	762	330070014	11.04	1.70	0.73	0.00	3	0.712	0.001	0.122	(14,16.3)	Yes
NH	762	330110019	10.50	1.78	0.54	0.00	3	0.694	0.001	0.122	(14.2,16)	Yes
NH	762	330110020	11.45	1.90	0.82	0.00	3	0.837	0.001	0.122	(14,16.3)	Yes
NH	762	330111007	11.54	2.29	0.72	0.00	3	0.748	0.001	0.122	(14,16.2)	Yes
NH	762	330130003	10.28	2.37	0.71	0.00	3	0.805	0.001	0.122	(14.1,16.1)	Yes
NH	762	330135001	6.75	3.52	0.74	0.00	6	0.790	0.001	0.122	(13.5,16.8)	Yes
NH	762	330150009	10.72	2.68	0.46	0.00	3	0.473	0.001	0.122	(14.1,16.1)	Yes
NH	762	330190003	10.83	2.59	0.65	0.00	6	0.778	0.001	0.122	(13.7,16.5)	Yes
NJ	764	340011006	11.19	6.96	0.45	0.00	3	0.735	0.021	0.109	(14,16.2)	Yes
NJ	764	340030003	14.29	1.79	0.70	0.00	3	0.884	0.021	0.109	(13.9,16.3)	Yes
NJ	764	340070003	14.24	2.06	0.76	0.00	3	0.803	0.021	0.109	(13.8,16.5)	Yes
NJ	764	340071007	14.59	1.97	0.78	0.00	3	0.834	0.021	0.109	(13.8,16.5)	Yes
NJ	764	340130011	16.07	2.87	0.55	0.00	3	0.212	0.021	0.109	(13.2,17)	Yes
NJ	764	340130015	14.90	1.71	0.75	0.00	3	0.765	0.021	0.109	(13.8,16.5)	Yes
NJ	764	340130016	15.18	1.64	0.88	0.00	3	0.555	0.021	0.109	(13.4,17)	Yes
NJ	764	340155001	14.51	2.41	0.59	0.00	3	0.810	0.021	0.109	(14,16.3)	Yes
NJ	764	340171003	15.89	1.89	0.73	0.00	3	0.836	0.021	0.109	(13.8,16.4)	Yes
NJ	764	340172002	17.34	1.58	0.78	0.00	3	0.649	0.021	0.109	(13.6,16.6)	Yes
NJ	764	340210008	14.31	2.04	0.76	0.00	3	0.899	0.021	0.109	(13.8,16.5)	Yes
NJ	764	340218001	11.80	2.08	0.76	0.00	3	0.830	0.021	0.109	(13.8,16.5)	Yes
NJ	764	340230006	12.62	2.10	0.83	0.00	3	0.830	0.021	0.109	(13.7,16.6)	Yes
NJ	764	340270004	13.62	2.28	0.64	0.00	3	0.779	0.021	0.109	(13.9,16.4)	Yes
NJ	764	340273001	11.15	2.28	0.79	0.00	3	0.829	0.021	0.109	(13.8,16.5)	Yes
NJ	764	340292002	11.25	2.59	0.67	0.00	3	0.708	0.021	0.109	(13.8,16.4)	Yes
NJ	764	340310005	13.00	1.97	0.71	0.00	3	0.750	0.021	0.109	(13.8,16.5)	Yes
NJ	764	340390004	16.27	1.54	0.85	0.00	3	0.895	0.021	0.109	(13.8,16.5)	Yes
NJ	764	340390006	14.53	2.19	0.74	0.00	3	0.838	0.021	0.109	(13.8,16.4)	Yes
NJ	764	340392003	13.68	1.63	0.72	0.00	3	0.783	0.021	0.109	(13.8,16.4)	Yes
NJ	764	340410006	13.43	2.32	0.83	0.00	3	0.756	0.021	0.109	(13.6,16.6)	Yes
NM	17	350010023	6.51	2.38	0.36	0.24	1	0.850	0.140	0.057	(13,17.7)	Yes

PM2.5 CY 99-01 Data Quality Objective Parameters

State	Rep. Org	Siteid	Ave Conc.	Season Ratio	Pop CV	Autocor.	Sample Freq.	Complete.	Bias	Measure. CV	99-01 Gray Zones	Gray Zone Within DQO
NM	17	350010024	5.67	2.08	0.36	0.30	1	0.877	0.140	0.057	(13.1,17.7)	Yes
NM	1218	350019004	7.37	2.48	0.53	0.00	6	0.850	0.025	0.070	(13.7,16.6)	Yes
NM	1218	350439001	4.71	1.47	0.40	0.00	6	0.843	0.025	0.070	(13.9,16.3)	Yes
NM	1218	350439003	5.94	2.02	0.32	0.00	6	0.795	0.025	0.070	(14,16.1)	Yes
NM	1218	350439005	22.74	2.25	0.48	0.00	6	0.580	0.025	0.070	(13.6,16.7)	Yes
NM	1218	350499002	4.99	1.86	0.29	0.00	6	0.843	0.025	0.070	(14.1,16.1)	Yes
NM	1219	350439004	9.82	2.91	0.41	0.00	3	0.684	0.034	0.053	(13.9,16.2)	Yes
NV	145	320050008	4.09	6.60	0.67	0.00	3	0.863	ND	ND		
NV	145	320312002	5.81	2.58	0.67	0.00	3	0.893	ND	ND		
NV	226	320030022	4.51	2.25	0.41	0.00	6	0.968	0.060	0.060	(13.5,16.8)	Yes
NV	226	320030298	6.66	1.79	0.37	0.00	3	0.974	0.060	0.060	(13.8,16.5)	Yes
NV	226	320030560	10.95	2.37	0.50	0.49	1	0.932	0.060	0.060	(14,16.2)	Yes
NV	226	320031019	4.38	2.10	0.39	0.00	3	0.859	0.060	0.060	(13.7,16.5)	Yes
NV	226	320032002	9.56	2.11	0.42	0.00	3	0.876	0.060	0.060	(13.7,16.6)	Yes
NV	1138	320310016	9.72	2.67	0.55	0.00	3	0.984	0.037	0.029	(13.9,16.3)	Yes
NY	768	360010005	12.42	1.86	0.72	0.00	3	0.776	0.011	0.058	(14,16.3)	Yes
NY	768	360010012	10.67	2.02	0.73	0.00	3	0.744	0.011	0.058	(13.9,16.3)	Yes
NY	768	360050073	21.71	1.00	0.80	0.00	3	0.130	0.011	0.058	(12.4,18.6)	Yes
NY	768	360050080	16.34	1.72	0.75	0.00	3	0.880	0.011	0.058	(14,16.2)	Yes
NY	768	360050083	14.29	1.80	0.69	0.00	3	0.877	0.011	0.058	(14.1,16.1)	Yes
NY	768	360050110	14.75	1.72	0.62	0.47	1	0.742	0.011	0.058	(14.5,15.7)	Yes
NY	768	360070009	11.35	1.97	0.73	0.00	3	0.863	0.011	0.058	(14,16.2)	Yes
NY	768	360130011	11.35	2.33	0.76	0.00	3	0.813	0.011	0.058	(13.9,16.3)	Yes
NY	768	360271004	11.64	1.90	0.81	0.00	3	0.867	0.011	0.058	(14,16.3)	Yes
NY	768	360290002	12.62	1.64	0.76	0.00	3	0.878	0.011	0.058	(14,16.2)	Yes
NY	768	360290005	14.62	1.97	0.73	0.00	3	0.853	0.011	0.058	(14,16.2)	Yes
NY	768	360291007	15.27	2.20	0.54	0.00	3	0.826	0.011	0.058	(14.2,16)	Yes
NY	768	360310003	6.35	2.28	0.90	0.61	1	0.800	0.011	0.058	(14.3,15.9)	Yes
NY	768	360470011	16.05	2.06	0.49	0.00	3	0.453	0.011	0.058	(14,16.2)	Yes
NY	768	360470052	16.23	1.77	0.62	0.00	3	0.950	0.011	0.058	(14.2,16)	Yes
NY	768	360470076	14.66	1.70	0.66	0.00	3	0.857	0.011	0.058	(14.1,16.1)	Yes
NY	768	360470122	15.35	1.70	0.74	0.00	3	0.978	0.011	0.058	(14.1,16.1)	Yes
NY	768	360552002	11.81	1.80	0.72	0.00	3	0.800	0.011	0.058	(14,16.2)	Yes
NY	768	360556001	11.63	1.81	0.74	0.00	3	0.784	0.011	0.058	(14,16.3)	Yes
NY	768	360590005	13.54	2.08	0.58	0.00	3	0.151	0.011	0.058	(13.1,17.3)	Yes
NY	768	360590008	12.36	1.86	0.72	0.00	3	0.882	0.011	0.058	(14.1,16.2)	Yes
NY	768	360590011	14.47	1.95	0.72	0.00	3	0.197	0.011	0.058	(12.9,17.4)	Yes
NY	768	360590012	12.40	1.85	0.74	0.00	3	0.908	0.011	0.058	(14,16.2)	Yes
NY	768	360590013	12.39	2.16	0.63	0.00	3	0.863	0.011	0.058	(14.1,16.1)	Yes
NY	768	360610010	16.73	1.66	0.71	0.65	1	0.786	0.011	0.058	(14.4,15.8)	Yes
NY	768	360610056	17.92	1.46	0.63	0.00	3	0.885	0.011	0.058	(14.2,16.1)	Yes
NY	768	360610062	17.24	1.63	0.67	0.00	3	0.890	0.011	0.058	(14.1,16)	Yes
NY	768	360610079	15.37	1.70	0.64	0.00	3	0.953	0.011	0.058	(14.2,16)	Yes
NY	768	360610128	14.80	1.15	0.22	0.00	3	0.870	0.011	0.058	(14.6,15.5)	Yes
NY	768	360632008	12.93	1.83	0.68	0.00	3	0.820	0.011	0.058	(14,16.1)	Yes
NY	768	360652001	11.64	1.78	0.68	0.00	3	0.915	0.011	0.058	(14.1,16.1)	Yes
NY	768	360670019	11.27	1.64	0.60	0.00	3	0.782	0.011	0.058	(14.1,16.1)	Yes
NY	768	360670020	10.76	1.81	0.69	0.00	3	0.803	0.011	0.058	(14,16.2)	Yes
NY	768	360671015	10.74	2.15	0.73	0.00	3	0.801	0.011	0.058	(14,16.2)	Yes
NY	768	360710002	11.73	1.98	0.66	0.00	3	0.829	0.011	0.058	(14.1,16.1)	Yes
NY	768	360810094	13.47	1.72	0.78	0.00	3	0.851	0.011	0.058	(14,16.3)	Yes
NY	768	360810096	13.95	2.00	0.71	0.00	3	0.911	0.011	0.058	(14.1,16.1)	Yes
NY	768	360810097	13.21	1.99	0.80	0.00	3	0.526	0.011	0.058	(13.6,16.6)	Yes
NY	768	360810124	14.18	2.07	0.64	0.35	1	0.640	0.011	0.058	(14.4,15.8)	Yes
NY	768	360850055	14.15	1.73	0.76	0.00	3	0.887	0.011	0.058	(14,16.2)	Yes
NY	768	360850067	12.64	1.89	0.62	0.00	3	0.875	0.011	0.058	(14.2,16)	Yes
NY	768	360893001	7.75	2.13	0.84	0.00	3	0.870	0.011	0.058	(13.9,16.4)	Yes
NY	768	360930003	11.07	1.83	0.93	0.00	3	0.893	0.011	0.058	(13.9,16.4)	Yes
NY	768	361010003	9.53	2.11	0.71	0.43	1	0.801	0.011	0.058	(14.5,15.7)	Yes
NY	768	361030001	12.85	2.05	0.63	0.00	3	0.842	0.011	0.058	(14.1,16.1)	Yes
NY	768	361191002	12.83	1.91	0.69	0.00	3	0.923	0.011	0.058	(14.1,16)	Yes
OH	12	391330002	15.29	1.87	0.56	0.00	3	0.923	0.059	0.093	(13.5,16.7)	Yes
OH	12	391530017	17.34	1.48	0.63	0.48	1	0.877	0.059	0.093	(13.9,16.3)	Yes
OH	12	391530023	16.21	1.50	0.60	0.34	1	0.924	0.059	0.093	(14,16.2)	Yes
OH	151	391510017	18.29	1.64	0.52	0.00	3	0.923	0.030	0.100	(14,16.2)	Yes
OH	151	391510020	16.88	1.82	0.47	0.00	3	0.938	0.030	0.100	(14.1,16.2)	Yes
OH	220	390950024	16.93	1.72	0.78	0.53	1	0.718	0.032	0.125	(14,16.3)	Yes
OH	220	390950025	14.25	1.48	0.71	0.00	3	0.857	0.032	0.125	(13.7,16.5)	Yes
OH	220	390950026	15.66	1.92	0.62	0.47	1	0.706	0.032	0.125	(14.1,16.1)	Yes

PM2.5 CY 99-01 Data Quality Objective Parameters

State	Rep. Org	Siteid	Ave Conc.	Season Ratio	Pop CV	Autocor.	Sample Freq.	Complete.	Bias	Measure. CV	99-01 Gray Zones	Gray Zone Within DQO
OH	229	390350013	18.40	1.52	0.50	0.00	3	0.941	0.022	0.065	(14.2,16)	Yes
OH	229	390350027	17.74	1.43	0.70	0.39	1	0.814	0.022	0.065	(14.4,15.8)	Yes
OH	229	390350034	15.17	1.92	0.82	0.00	3	0.952	0.022	0.065	(13.8,16.4)	Yes
OH	229	390350038	20.25	1.46	0.76	0.49	1	0.848	0.022	0.065	(14.4,15.8)	Yes
OH	229	390350045	17.66	1.59	0.59	0.00	3	0.882	0.022	0.065	(14.1,16.2)	Yes
OH	229	390350060	18.41	1.61	0.87	0.00	3	0.941	0.022	0.065	(13.8,16.5)	Yes
OH	229	390350065	17.48	1.57	0.58	0.00	3	0.926	0.022	0.065	(14.1,16.1)	Yes
OH	229	390350066	14.76	1.64	0.90	0.00	3	0.905	0.022	0.065	(13.7,16.5)	Yes
OH	229	390351002	15.03	1.59	0.54	0.00	3	0.958	0.022	0.065	(14.1,16.1)	Yes
OH	287	390230005	15.26	1.90	0.57	0.00	3	0.913	0.040	0.080	(13.8,16.5)	Yes
OH	287	391130014	17.64	1.43	0.68	0.41	1	0.770	0.040	0.080	(14.1,16.1)	Yes
OH	287	391130031	15.91	1.47	0.57	0.00	1	0.808	0.040	0.080	(14.2,15.9)	Yes
OH	287	391130032	16.00	1.68	0.78	0.00	1	0.645	0.040	0.080	(14,16.2)	Yes
OH	287	391351001	14.22	1.52	0.79	0.00	3	0.773	0.040	0.080	(13.5,16.9)	Yes
OH	471	390171004	11.62	1.03	0.17	0.00	6	0.330	ND	ND		
OH	595	390851001	13.95	1.79	0.80	0.00	3	0.939	0.041	0.055	(13.6,16.7)	Yes
OH	634	390990005	16.42	1.51	0.55	0.42	1	0.929	0.019	0.033	(14.6,15.5)	Yes
OH	634	391550007	16.16	1.56	0.57	0.39	1	0.909	0.019	0.033	(14.6,15.5)	Yes
OH	805	390490024	18.13	1.39	0.57	0.11	1	0.806	0.010	0.123	(14.6,15.5)	Yes
OH	805	390490025	17.20	1.50	0.51	0.35	1	0.879	0.010	0.123	(14.6,15.5)	Yes
OH	805	390490081	17.30	1.68	0.48	0.00	3	0.896	0.010	0.123	(14.3,15.9)	Yes
OH	807	390930016	14.23	1.82	0.70	0.00	3	0.685	0.100	0.037	(12.8,17.9)	Yes
OH	807	390932003	15.08	1.65	0.60	0.00	3	0.814	0.100	0.037	(13,17.7)	Yes
OH	809	390090003	13.36	1.89	0.51	0.00	3	0.813	0.032	0.050	(13.9,16.3)	Yes
OH	809	390810016	18.90	2.03	0.59	0.00	3	0.886	0.032	0.050	(13.9,16.3)	Yes
OH	809	390811001	18.16	1.58	0.61	0.50	1	0.779	0.032	0.050	(14.2,16)	Yes
OH	880	390870010	17.40	1.97	0.83	0.00	3	0.676	0.002	0.105	(13.9,16.4)	Yes
OH	880	391450013	20.04	1.81	0.79	0.00	3	0.853	0.002	0.105	(14,16.2)	Yes
OH	979	390170003	17.41	1.53	0.49	0.39	1	0.864	0.008	0.047	(14.7,15.4)	Yes
OH	979	390170016	16.46	1.94	0.51	0.00	3	0.946	0.008	0.047	(14.3,15.8)	Yes
OH	979	390170017	16.22	1.82	0.54	0.00	3	1.000	0.008	0.047	(14.3,15.8)	Yes
OH	979	390610014	19.29	1.52	0.53	0.42	1	0.858	0.008	0.047	(14.7,15.4)	Yes
OH	979	390610040	16.15	1.56	0.50	0.00	3	0.836	0.008	0.047	(14.3,15.8)	Yes
OH	979	390610041	17.33	1.64	0.53	0.00	3	0.747	0.008	0.047	(14.2,16)	Yes
OH	979	390610042	18.23	1.87	0.49	0.00	3	0.926	0.008	0.047	(14.4,15.8)	Yes
OH	979	390610043	16.60	1.81	0.66	0.00	3	0.942	0.008	0.047	(14.2,16)	Yes
OH	979	390617001	17.16	1.58	0.46	0.38	1	0.778	0.008	0.047	(14.6,15.5)	Yes
OH	979	390618001	18.63	2.21	0.61	0.00	3	0.692	0.008	0.047	(14.1,16.1)	Yes
OK	535	400159008	8.98	2.37	1.20	0.00	6	0.913	0.064	0.107	(12.1,18.9)	No
OK	535	400179001	10.08	2.35	1.16	0.00	6	0.834	0.064	0.107	(12.1,19)	No
OK	535	400219002	12.50	2.19	0.83	0.00	6	0.704	0.064	0.107	(12.5,18.3)	Yes
OK	535	400719003	10.64	2.27	0.83	0.00	6	0.834	0.064	0.107	(12.7,18.1)	Yes
OK	535	400819005	10.37	2.83	0.82	0.00	6	0.831	0.064	0.107	(12.6,18.1)	Yes
OK	535	401159004	11.82	2.33	0.94	0.00	6	0.880	0.064	0.107	(12.5,18.2)	Yes
OK	535	401179007	9.98	2.86	1.03	0.00	6	0.764	0.064	0.107	(12.2,18.9)	No
OK	535	401339006	10.70	2.71	0.67	0.00	6	0.888	0.064	0.107	(12.9,17.7)	Yes
OK	812	400190295	9.73	1.91	0.73	0.00	3	0.837	0.086	0.079	(13,17.6)	Yes
OK	812	401210415	11.46	2.12	0.60	0.00	3	0.817	0.086	0.079	(13.1,17.4)	Yes
OK	812	401430110	12.06	1.63	0.58	0.61	1	0.877	0.086	0.079	(13.6,16.8)	Yes
OK	812	401430131	12.49	1.72	0.55	0.64	1	0.848	0.086	0.079	(13.6,16.9)	Yes
OK	812	401431127	12.41	2.18	0.56	0.00	3	0.943	0.086	0.079	(13.3,17.3)	Yes
OR	821	410030013	7.40	4.56	0.66	0.00	3	0.943	0.063	0.045	(13.4,17)	Yes
OR	821	410170113	8.25	3.76	0.62	0.60	1	0.901	0.063	0.045	(13.9,16.4)	Yes
OR	821	410170120	6.93	4.80	0.79	0.79	1	0.753	0.063	0.045	(13.4,17.1)	Yes
OR	821	410250002	9.50	7.55	0.56	0.00	6	0.851	0.063	0.045	(13.1,17.3)	Yes
OR	821	410290133	11.26	5.17	0.60	0.65	1	0.935	0.063	0.045	(14,16.3)	Yes
OR	821	410330107	10.03	4.76	0.53	0.00	3	0.897	0.063	0.045	(13.5,16.8)	Yes
OR	821	410350004	9.71	5.13	0.77	0.57	1	0.913	0.063	0.045	(13.9,16.4)	Yes
OR	821	410370001	7.62	5.32	0.85	0.62	1	0.946	0.063	0.045	(14,16.3)	Yes
OR	821	410390060	9.11	3.65	0.67	0.58	1	0.963	0.063	0.045	(14,16.2)	Yes
OR	821	410391007	6.82	2.46	0.51	0.00	3	0.953	0.063	0.045	(13.6,16.7)	Yes
OR	821	410391061	8.73	3.37	0.51	0.47	1	0.956	0.063	0.045	(14,16.2)	Yes
OR	821	410392013	13.24	6.08	0.52	0.60	1	0.942	0.063	0.045	(14,16.3)	Yes
OR	821	410430009	9.35	4.80	0.58	0.00	3	0.933	0.063	0.045	(13.5,16.9)	Yes
OR	821	410470040	8.20	4.17	0.59	0.00	3	0.970	0.063	0.045	(13.5,16.8)	Yes
OR	821	410470109	5.50	2.24	1.01	0.73	1	0.835	0.063	0.045	(13.6,16.9)	Yes
OR	821	410470110	7.10	3.24	0.60	0.00	3	0.943	0.063	0.045	(13.5,16.9)	Yes
OR	821	410510080	9.08	2.69	0.54	0.32	1	0.952	0.063	0.045	(14,16.2)	Yes
OR	821	410510244	8.66	2.22	0.61	0.49	1	0.947	0.063	0.045	(14,16.2)	Yes

PM2.5 CY 99-01 Data Quality Objective Parameters

State	Rep. Org	Siteid	Ave Conc.	Season Ratio	Pop CV	Autocor.	Sample Freq.	Complete.	Bias	Measure. CV	99-01 Gray Zones	Gray Zone Within DQO
OR	821	410510246	9.33	2.63	0.52	0.38	1	0.902	0.063	0.045	(14,16.3)	Yes
OR	821	410590121	8.78	4.57	0.61	0.39	1	0.867	0.063	0.045	(13.9,16.4)	Yes
OR	821	410610006	7.78	4.16	0.42	0.00	6	0.650	0.063	0.045	(13.2,17.1)	Yes
OR	821	410610117	6.68	3.13	0.62	0.49	1	0.838	0.063	0.045	(13.9,16.4)	Yes
OR	821	410619103	5.58	3.98	0.81	0.00	6	0.770	0.063	0.045	(12.5,18.2)	Yes
OR	821	410650007	8.57	4.52	0.52	0.00	6	0.897	0.063	0.045	(13.2,17.2)	Yes
OR	821	410670111	7.83	3.80	0.61	0.00	3	0.972	0.063	0.045	(13.5,16.9)	Yes
OR	821	410671003	9.66	4.62	0.56	0.00	3	0.874	0.063	0.045	(13.5,16.9)	Yes
PA	21	420030008	16.14	1.81	0.55	0.51	1	0.693	0.039	0.028	(14.1,16.2)	Yes
PA	21	420030021	15.74	2.05	0.62	0.00	3	0.733	0.039	0.028	(13.7,16.6)	Yes
PA	21	420030064	21.02	1.51	0.70	0.42	1	0.778	0.039	0.028	(14.1,16.1)	Yes
PA	21	420030067	14.31	2.21	0.50	0.00	3	0.708	0.039	0.028	(13.8,16.4)	Yes
PA	21	420030116	15.99	1.77	0.50	0.00	3	0.735	0.039	0.028	(13.9,16.4)	Yes
PA	21	420030131	15.75	2.32	1.02	0.00	6	0.668	0.039	0.028	(12.5,18.3)	Yes
PA	21	420031008	16.55	2.04	0.65	0.00	3	0.721	0.039	0.028	(13.6,16.6)	Yes
PA	21	420031301	17.08	1.85	0.55	0.00	3	0.705	0.039	0.028	(13.8,16.5)	Yes
PA	851	420010001	13.40	2.08	0.78	0.53	1	0.848	0.038	0.048	(14.1,16.1)	Yes
PA	851	420070014	16.38	2.06	0.56	0.00	3	0.826	0.038	0.048	(13.8,16.4)	Yes
PA	851	420110009	15.62	1.97	0.68	0.00	3	0.886	0.038	0.048	(13.7,16.6)	Yes
PA	851	420170012	13.37	2.11	0.67	0.00	3	0.773	0.038	0.048	(13.7,16.6)	Yes
PA	851	420210011	15.32	2.00	0.58	0.00	3	0.803	0.038	0.048	(13.8,16.5)	Yes
PA	851	420270100	12.71	2.26	0.65	0.00	3	0.763	0.038	0.048	(13.7,16.7)	Yes
PA	851	420410100	14.69	2.13	0.72	0.40	1	0.515	0.038	0.048	(13.8,16.6)	Yes
PA	851	420410101	14.30	2.05	0.67	0.36	1	0.708	0.038	0.048	(14.1,16.2)	Yes
PA	851	420430401	15.52	1.81	0.81	0.56	1	0.802	0.038	0.048	(14,16.2)	Yes
PA	851	420450002	14.96	1.78	0.65	0.00	3	0.887	0.038	0.048	(13.7,16.4)	Yes
PA	851	420490003	13.48	2.03	0.69	0.00	3	0.556	0.038	0.048	(13.4,16.9)	Yes
PA	851	420692006	11.81	1.93	0.73	0.46	1	0.857	0.038	0.048	(14.2,16)	Yes
PA	851	420710007	16.91	1.89	0.69	0.00	3	0.823	0.038	0.048	(13.6,16.6)	Yes
PA	851	420770004	13.75	1.86	0.63	0.23	1	0.753	0.038	0.048	(14.2,16)	Yes
PA	851	420791101	12.97	1.86	0.77	0.48	1	0.862	0.038	0.048	(14.2,16)	Yes
PA	851	420850100	14.92	1.78	0.59	0.00	3	0.790	0.038	0.048	(13.7,16.4)	Yes
PA	851	420910013	13.79	2.00	0.64	0.00	3	0.819	0.038	0.048	(13.7,16.5)	Yes
PA	851	420950025	13.96	2.42	0.77	0.51	1	0.725	0.038	0.048	(13.9,16.3)	Yes
PA	851	420990301	12.45	1.69	0.81	0.00	3	0.924	0.038	0.048	(13.6,16.7)	Yes
PA	851	421250005	15.55	2.09	0.52	0.00	3	0.819	0.038	0.048	(13.8,16.3)	Yes
PA	851	421250200	15.19	2.21	0.47	0.00	3	0.833	0.038	0.048	(13.9,16.3)	Yes
PA	851	421255001	13.53	1.96	0.56	0.52	1	0.836	0.038	0.048	(14.2,16)	Yes
PA	851	421290008	15.60	2.28	0.56	0.00	3	0.778	0.038	0.048	(13.8,16.5)	Yes
PA	851	421330008	16.25	1.56	0.69	0.00	3	0.883	0.038	0.048	(13.7,16.6)	Yes
PA	861	421010004	15.35	1.85	0.69	0.48	1	0.768	0.007	0.058	(14.5,15.6)	Yes
PA	861	421010020	14.47	1.56	0.65	0.00	3	0.745	0.007	0.058	(14.1,16.1)	Yes
PA	861	421010024	14.08	1.78	0.63	0.00	3	0.757	0.007	0.058	(14.1,16)	Yes
PA	861	421010027	23.40	1.73	0.65	0.00	3	0.510	0.007	0.058	(13.9,16.4)	Yes
PA	861	421010047	16.55	1.60	0.50	0.00	3	0.751	0.007	0.058	(14.3,15.8)	Yes
PA	861	421010136	15.37	1.79	0.66	0.44	1	0.655	0.007	0.058	(14.4,15.8)	Yes
PR	889	720210009	7.38	2.03	0.55	0.00	3	0.748	0.144	0.064	(12.5,18.5)	Yes
PR	889	720530003	5.56	2.51	0.48	0.54	1	0.672	0.144	0.064	(12.8,18.1)	Yes
PR	889	720570008	7.56	2.75	0.58	0.00	3	0.699	0.144	0.064	(12.5,18.7)	Yes
PR	889	720590016	7.57	3.02	0.44	0.00	3	0.701	0.144	0.064	(12.6,18.4)	Yes
PR	889	720610005	9.93	1.69	0.35	0.54	1	0.718	0.144	0.064	(12.9,17.9)	Yes
PR	889	720690001	5.63	2.19	0.55	0.00	3	0.670	0.144	0.064	(12.4,18.6)	Yes
PR	889	720810001	6.03	2.67	0.44	0.00	3	0.624	0.144	0.064	(12.5,18.3)	Yes
PR	889	720970003	8.57	2.33	0.53	0.00	3	0.713	0.144	0.064	(12.5,18.5)	Yes
PR	889	721130004	8.03	1.67	0.56	0.00	3	0.774	0.144	0.064	(12.5,18.5)	Yes
PR	889	721270003	10.07	1.65	0.31	0.39	1	0.691	0.144	0.064	(13,17.9)	Yes
RI	907	440030002	9.16	2.12	0.60	0.00	3	0.882	0.046	0.054	(13.7,16.6)	Yes
RI	907	440070022	11.47	1.73	0.63	0.42	1	0.815	0.046	0.054	(14.1,16.1)	Yes
RI	907	440070023	9.99	1.75	0.57	0.00	3	0.887	0.046	0.054	(13.7,16.5)	Yes
RI	907	440071005	13.15	1.79	0.69	0.00	3	0.564	0.046	0.054	(13.4,17)	Yes
RI	907	440071010	11.11	1.77	0.65	0.42	1	0.845	0.046	0.054	(14.1,16.1)	Yes
RI	907	440090007	9.55	2.28	0.75	0.00	3	0.798	0.046	0.054	(13.5,16.9)	Yes
SC	971	450130007	12.28	1.89	0.45	0.00	3	0.820	0.031	0.034	(14,16.1)	Yes
SC	971	450190046	11.62	1.65	0.52	0.00	3	0.793	0.031	0.034	(14,16.2)	Yes
SC	971	450190048	12.77	1.57	0.48	0.58	1	0.945	0.031	0.034	(14.5,15.7)	Yes
SC	971	450190049	12.62	1.65	0.51	0.62	1	0.938	0.031	0.034	(14.5,15.7)	Yes
SC	971	450370001	14.02	2.09	0.41	0.00	3	0.892	0.031	0.034	(14.1,16.1)	Yes
SC	971	450410002	13.96	1.56	0.50	0.00	3	0.863	0.031	0.034	(14,16.2)	Yes
SC	971	450450008	17.00	1.72	0.80	0.00	3	0.765	0.031	0.034	(13.6,16.7)	Yes

PM2.5 CY 99-01 Data Quality Objective Parameters

State	Rep. Org	Siteid	Ave Conc.	Season Ratio	Pop CV	Autocor.	Sample Freq.	Complete.	Bias	Measure. CV	99-01 Gray Zones	Gray Zone Within DQO
SC	971	450450009	16.75	1.77	0.47	0.50	1	0.881	0.031	0.034	(14.4,15.7)	Yes
SC	971	450470003	14.86	1.97	0.41	0.00	3	0.912	0.031	0.034	(14.1,16)	Yes
SC	971	450510002	11.10	1.63	0.50	0.00	3	0.766	0.031	0.034	(14,16.3)	Yes
SC	971	450630008	15.62	1.66	0.41	0.00	3	0.938	0.031	0.034	(14.1,16)	Yes
SC	971	450730001	12.29	3.15	0.45	0.00	3	0.855	0.031	0.034	(14,16.1)	Yes
SC	971	450790007	14.68	1.73	0.43	0.00	3	0.922	0.031	0.034	(14.1,16)	Yes
SC	971	450790019	15.39	1.58	0.44	0.00	3	0.927	0.031	0.034	(14.1,16.1)	Yes
SC	971	450830010	15.37	1.92	0.43	0.43	1	0.917	0.031	0.034	(14.5,15.7)	Yes
SD	973	460110002	9.76	1.60	0.46	0.00	3	0.858	0.108	0.105	(13,17.6)	Yes
SD	973	460130003	8.79	2.23	0.52	0.00	3	0.891	0.108	0.105	(13,17.7)	Yes
SD	973	460710001	5.52	4.92	0.38	0.00	6	0.920	0.108	0.105	(12.8,17.8)	Yes
SD	973	460930001	6.09	1.77	0.55	0.00	3	0.968	0.108	0.105	(13,17.7)	Yes
SD	973	460990006	10.29	1.50	0.47	0.00	3	0.929	0.108	0.105	(13.1,17.6)	Yes
SD	973	460990007	10.45	1.65	0.63	0.00	3	0.808	0.108	0.105	(12.8,17.9)	Yes
SD	973	461030014	9.76	2.67	0.42	0.00	3	0.810	0.108	0.105	(13,17.6)	Yes
SD	973	461030015	7.88	3.35	0.54	0.00	3	0.691	0.108	0.105	(12.8,17.8)	Yes
SD	973	461030016	8.24	1.98	0.43	0.00	3	0.843	0.108	0.105	(13,17.6)	Yes
SD	973	461030017	7.10	1.86	0.46	0.00	3	0.803	0.108	0.105	(13,17.7)	Yes
SD	973	461030019	9.17	2.24	0.41	0.00	3	0.809	0.108	0.105	(13.1,17.6)	Yes
SD	973	461031001	8.27	2.24	0.41	0.00	3	0.891	0.108	0.105	(13.1,17.5)	Yes
TN	170	470654002	17.62	1.73	0.44	0.00	3	0.943	0.024	0.042	(14.2,16)	Yes
TN	1025	470370023	17.05	1.84	0.44	0.10	1	0.931	0.008	0.089	(14.8,15.3)	Yes
TN	1025	470370025	15.98	2.00	0.90	0.00	3	0.925	0.008	0.089	(13.9,16.4)	Yes
TN	1025	470370036	15.36	1.80	0.48	0.39	1	0.884	0.008	0.089	(14.7,15.4)	Yes
TN	1025	470450004	13.77	1.94	0.41	0.00	3	0.820	0.008	0.089	(14.3,15.7)	Yes
TN	1025	470930028	18.28	1.61	0.46	0.00	3	0.814	0.008	0.089	(14.3,15.8)	Yes
TN	1025	470931017	20.42	1.65	0.43	0.56	1	0.687	0.008	0.089	(14.5,15.6)	Yes
TN	1025	470931020	17.86	1.75	0.52	0.60	1	0.582	0.008	0.089	(14.3,15.9)	Yes
TN	1025	470990002	13.43	2.12	0.48	0.00	3	0.902	0.008	0.089	(14.3,15.8)	Yes
TN	1025	471130004	14.82	2.13	0.41	0.00	3	0.803	0.008	0.089	(14.4,15.8)	Yes
TN	1025	471251009	14.66	1.98	0.47	0.00	3	0.895	0.008	0.089	(14.3,15.8)	Yes
TN	1025	471570014	14.88	1.75	0.48	0.00	3	0.808	0.008	0.089	(14.3,15.9)	Yes
TN	1025	471570038	15.58	1.71	0.53	0.57	1	0.778	0.008	0.089	(14.5,15.6)	Yes
TN	1025	471570047	15.56	1.75	0.46	0.23	1	0.886	0.008	0.089	(14.7,15.4)	Yes
TN	1025	471571004	12.30	2.08	0.57	0.00	3	0.563	0.008	0.089	(14,16.2)	Yes
TN	1025	471631007	16.98	1.84	0.52	0.00	3	0.823	0.008	0.089	(14.2,15.8)	Yes
TN	1025	471650007	15.68	1.99	0.41	0.00	3	0.938	0.008	0.089	(14.4,15.7)	Yes
TX	1035	480290034	14.98	3.62	0.80	0.00	1	0.110	0.096	0.074	(12.2,18.8)	Yes
TX	1035	480290052	10.46	2.23	0.54	0.50	1	0.446	0.096	0.074	(13.1,17.6)	Yes
TX	1035	480290053	9.65	1.85	0.56	0.00	3	0.566	0.096	0.074	(12.9,17.7)	Yes
TX	1035	480290060	10.30	1.45	0.40	0.35	1	0.686	0.096	0.074	(13.5,17)	Yes
TX	1035	480370004	14.59	1.82	0.45	0.00	3	0.777	0.096	0.074	(13.2,17.4)	Yes
TX	1035	480391003	10.05	1.68	0.49	0.00	3	0.646	0.096	0.074	(13.1,17.6)	Yes
TX	1035	480550062	10.28	2.15	0.46	0.00	3	0.519	0.096	0.074	(12.9,17.5)	Yes
TX	1035	480612002	9.67	1.61	0.41	0.00	3	0.878	0.096	0.074	(13.3,17.3)	Yes
TX	1035	480850005	11.86	1.62	0.57	0.00	3	0.708	0.096	0.074	(13,17.6)	Yes
TX	1035	481130020	12.97	1.36	0.53	0.63	1	0.758	0.096	0.074	(13.3,17.2)	Yes
TX	1035	481130035	13.32	1.36	0.52	0.00	3	0.725	0.096	0.074	(13.1,17.5)	Yes
TX	1035	481130050	14.43	1.41	0.52	0.65	1	0.695	0.096	0.074	(13.3,17.3)	Yes
TX	1035	481130057	13.17	1.27	0.49	0.00	3	0.681	0.096	0.074	(13.1,17.5)	Yes
TX	1035	481130069	13.45	1.32	0.53	0.62	1	0.766	0.096	0.074	(13.4,17.1)	Yes
TX	1035	481130087	12.44	1.45	0.55	0.00	3	0.700	0.096	0.074	(13,17.6)	Yes
TX	1035	481350003	7.73	3.05	0.42	0.00	3	0.483	0.096	0.074	(13,17.5)	Yes
TX	1035	481410002	10.40	1.73	0.72	0.61	1	0.612	0.096	0.074	(13,17.6)	Yes
TX	1035	481410010	5.96	1.51	0.46	0.00	3	0.700	0.096	0.074	(13.1,17.4)	Yes
TX	1035	481410037	9.40	1.68	0.64	0.61	1	0.695	0.096	0.074	(13.2,17.4)	Yes
TX	1035	481410038	7.96	1.88	0.43	0.00	3	0.701	0.096	0.074	(13.2,17.4)	Yes
TX	1035	481410043	10.52	2.87	0.31	0.00	3	0.445	0.096	0.074	(13.1,17.3)	Yes
TX	1035	481410044	9.24	1.63	0.54	0.45	1	0.799	0.096	0.074	(13.4,17)	Yes
TX	1035	481410045	7.72	1.65	0.47	0.00	3	0.710	0.096	0.074	(13.1,17.4)	Yes
TX	1035	481410057	9.63	1.86	0.46	0.00	3	0.933	0.096	0.074	(13.2,17.3)	Yes
TX	1035	481670053	12.51	1.83	0.50	0.00	3	0.639	0.096	0.074	(13,17.6)	Yes
TX	1035	481671005	11.31	1.64	0.51	0.00	3	0.730	0.096	0.074	(13.1,17.5)	Yes
TX	1035	481830001	12.79	2.01	0.48	0.00	3	0.913	0.096	0.074	(13.2,17.3)	Yes
TX	1035	482010024	14.98	2.06	0.26	0.00	1	0.300	0.096	0.074	(13.4,17)	Yes
TX	1035	482010026	13.45	1.42	0.34	0.26	1	0.495	0.096	0.074	(13.4,17.1)	Yes
TX	1035	482010051	11.85	1.94	0.58	0.00	3	0.716	0.096	0.074	(13,17.6)	Yes
TX	1035	482010058	12.75	1.84	0.55	0.00	3	0.646	0.096	0.074	(13,17.7)	Yes
TX	1035	482010062	12.26	1.71	0.66	0.00	3	0.693	0.096	0.074	(12.9,17.8)	Yes

PM2.5 CY 99-01 Data Quality Objective Parameters

State	Rep. Org	Siteid	Ave Conc.	Season Ratio	Pop CV	Autocor.	Sample Freq.	Complete.	Bias	Measure. CV	99-01 Gray Zones	Gray Zone Within DQO
TX	1035	482010075	12.44	2.24	0.57	0.00	3	0.870	0.096	0.074	(13.1,17.5)	Yes
TX	1035	482011035	14.87	1.37	0.46	0.59	1	0.713	0.096	0.074	(13.4,17.1)	Yes
TX	1035	482011037	13.57	1.59	0.55	0.00	3	0.713	0.096	0.074	(13,17.6)	Yes
TX	1035	482011039	11.01	2.27	0.41	0.00	3	0.432	0.096	0.074	(13,17.6)	Yes
TX	1035	482150042	10.70	1.81	0.50	0.00	3	0.756	0.096	0.074	(13.1,17.4)	Yes
TX	1035	482150043	10.65	1.55	0.46	0.00	3	0.863	0.096	0.074	(13.2,17.3)	Yes
TX	1035	482450021	11.71	1.60	0.53	0.66	1	0.723	0.096	0.074	(13.3,17.2)	Yes
TX	1035	482450022	10.72	2.07	0.58	0.00	3	0.217	0.096	0.074	(12.3,18.5)	Yes
TX	1035	483030001	7.38	1.51	0.51	0.00	3	0.673	0.096	0.074	(13.1,17.5)	Yes
TX	1035	483091002	10.12	1.84	0.39	0.00	3	0.624	0.096	0.074	(13.1,17.3)	Yes
TX	1035	483150050	11.83	1.84	0.51	0.00	3	0.749	0.096	0.074	(13.1,17.5)	Yes
TX	1035	483390089	13.01	1.50	0.28	0.00	3	0.385	0.096	0.074	(13.2,17.3)	Yes
TX	1035	483550020	10.24	1.59	0.53	0.00	3	0.846	0.096	0.074	(13.1,17.4)	Yes
TX	1035	483550032	10.48	1.54	0.58	0.00	3	0.739	0.096	0.074	(13,17.6)	Yes
TX	1035	483611001	12.10	1.51	0.51	0.00	3	0.695	0.096	0.074	(13.1,17.5)	Yes
TX	1035	483750005	7.27	1.63	0.80	0.00	3	0.553	0.096	0.074	(12.6,18.1)	Yes
TX	1035	484390063	11.22	1.56	0.53	0.00	3	0.741	0.096	0.074	(13.1,17.6)	Yes
TX	1035	484391002	12.65	1.47	0.52	0.61	1	0.731	0.096	0.074	(13.3,17.2)	Yes
TX	1035	484391003	13.24	1.50	0.61	0.70	1	0.671	0.096	0.074	(13.1,17.5)	Yes
TX	1035	484391006	12.22	1.46	0.46	0.63	1	0.957	0.096	0.074	(13.6,16.8)	Yes
TX	1035	484393006	12.27	1.28	0.52	0.62	1	0.778	0.096	0.074	(13.4,17.1)	Yes
TX	1035	484530020	9.67	1.76	0.53	0.60	1	0.727	0.096	0.074	(13.3,17.2)	Yes
TX	1035	484530021	11.33	1.30	0.48	0.57	1	0.856	0.096	0.074	(13.5,17)	Yes
TX	1035	484790016	11.01	1.61	0.46	0.00	3	0.804	0.096	0.074	(13.2,17.4)	Yes
UT	1113	490030003	8.96	6.26	0.68	0.00	3	0.887	0.014	0.074	(13.9,16.1)	Yes
UT	1113	490050004	12.14	8.30	0.62	0.00	3	0.861	0.014	0.074	(14,16.2)	Yes
UT	1113	490110001	8.99	4.01	0.64	0.00	3	0.973	0.014	0.074	(14.1,16.1)	Yes
UT	1113	490350003	12.04	4.56	0.56	0.00	3	0.957	0.014	0.074	(14.2,16)	Yes
UT	1113	490350012	13.62	4.06	0.51	0.00	3	0.948	0.014	0.074	(14.2,16)	Yes
UT	1113	490353003	7.97	4.71	0.43	0.00	3	0.654	0.014	0.074	(14.1,15.9)	Yes
UT	1113	490353006	11.13	4.98	0.50	0.53	1	0.897	0.014	0.074	(14.6,15.5)	Yes
UT	1113	490353007	11.78	4.68	0.66	0.00	3	0.907	0.014	0.074	(14,16.2)	Yes
UT	1113	490450002	7.17	3.48	0.74	0.00	3	0.890	0.014	0.074	(13.9,16.2)	Yes
UT	1113	490490002	10.41	3.63	0.39	0.00	3	0.948	0.014	0.074	(14.3,15.8)	Yes
UT	1113	490494001	10.23	4.06	0.51	0.55	1	0.941	0.014	0.074	(14.7,15.5)	Yes
UT	1113	490495008	8.85	5.04	0.46	0.00	3	0.841	0.014	0.074	(14.2,16)	Yes
UT	1113	490495010	8.30	3.41	0.47	0.00	3	0.939	0.014	0.074	(14.3,15.9)	Yes
UT	1113	490570001	11.52	3.27	0.52	0.00	3	0.858	0.014	0.074	(14.2,16)	Yes
UT	1113	490570002	11.58	4.56	0.80	0.00	3	0.815	0.014	0.074	(13.8,16.5)	Yes
UT	1113	490570007	8.81	3.06	0.38	0.00	3	0.896	0.014	0.074	(14.4,15.8)	Yes
UT	1113	490571003	9.96	6.60	0.94	0.00	3	0.908	0.014	0.074	(13.7,16.6)	Yes
VA	1127	510130020	14.45	2.01	0.62	0.00	3	0.902	0.052	0.053	(13.6,16.7)	Yes
VA	1127	510360002	13.85	2.29	0.54	0.00	3	0.798	0.052	0.053	(13.6,16.7)	Yes
VA	1127	510410003	14.25	2.21	0.44	0.00	3	0.762	0.052	0.053	(13.8,16.5)	Yes
VA	1127	510590030	13.97	2.00	0.64	0.61	1	0.773	0.052	0.053	(13.9,16.4)	Yes
VA	1127	510591004	14.68	1.98	0.51	0.00	3	0.691	0.052	0.053	(13.6,16.6)	Yes
VA	1127	510595001	14.61	2.07	0.55	0.00	3	0.794	0.052	0.053	(13.6,16.7)	Yes
VA	1127	510870014	14.10	2.19	0.52	0.00	3	0.853	0.052	0.053	(13.6,16.6)	Yes
VA	1127	510870015	13.64	2.10	0.46	0.00	3	0.814	0.052	0.053	(13.7,16.6)	Yes
VA	1127	511071005	13.57	2.17	0.60	0.00	3	0.887	0.052	0.053	(13.6,16.7)	Yes
VA	1127	511390004	12.92	1.89	0.56	0.00	3	0.804	0.052	0.053	(13.6,16.7)	Yes
VA	1127	515200006	16.01	1.84	0.57	0.00	3	0.858	0.052	0.053	(13.7,16.7)	Yes
VA	1127	515500012	13.42	1.82	0.48	0.45	1	0.793	0.052	0.053	(14,16.2)	Yes
VA	1127	516500004	13.39	2.02	0.53	0.00	3	0.822	0.052	0.053	(13.7,16.6)	Yes
VA	1127	516800014	14.68	2.35	0.55	0.00	3	0.679	0.052	0.053	(13.6,16.8)	Yes
VA	1127	517000013	12.67	2.11	0.59	0.00	3	0.863	0.052	0.053	(13.6,16.7)	Yes
VA	1127	517100024	13.65	1.93	0.51	0.00	3	0.861	0.052	0.053	(13.7,16.6)	Yes
VA	1127	517600020	14.93	2.09	0.57	0.54	1	0.873	0.052	0.053	(14.1,16.2)	Yes
VA	1127	517700014	15.24	2.07	0.53	0.00	3	0.883	0.052	0.053	(13.7,16.6)	Yes
VA	1127	517750010	14.90	2.09	0.46	0.00	3	0.873	0.052	0.053	(13.8,16.5)	Yes
VA	1127	518100008	13.21	1.92	0.55	0.00	3	0.876	0.052	0.053	(13.7,16.6)	Yes
VI	1124	780010012	8.30	3.85	0.49	0.00	6	0.533	0.052	ND		
VI	1124	780050009	7.46	2.54	0.56	0.00	6	0.591	0.052	ND		
VT	1119	500030005	9.86	2.12	0.66	0.00	3	0.954	0.023	0.100	(13.9,16.3)	Yes
VT	1119	500070007	6.76	2.15	0.80	0.00	3	0.908	0.023	0.100	(13.8,16.5)	Yes
VT	1119	500210002	11.32	2.02	0.58	0.00	3	0.908	0.023	0.100	(14,16.2)	Yes
WA	1136	530050002	7.41	2.71	0.68	0.00	3	0.717	0.041	0.052	(13.5,16.7)	Yes
WA	1136	530110013	9.92	3.74	0.54	0.00	3	0.898	0.041	0.052	(13.8,16.4)	Yes
WA	1136	530330004	8.46	1.96	0.60	0.00	3	0.683	0.041	0.052	(13.6,16.6)	Yes

PM2.5 CY 99-01 Data Quality Objective Parameters

State	Rep. Org	Siteid	Ave Conc.	Season Ratio	Pop CV	Autocor.	Sample Freq.	Complete.	Bias	Measure. CV	99-01 Gray Zones	Gray Zone Within DQO
WA	1136	530330017	5.84	1.97	0.56	0.00	3	0.866	0.041	0.052	(13.8,16.4)	Yes
WA	1136	530330021	10.95	2.55	0.56	0.45	1	0.965	0.041	0.052	(14.3,15.8)	Yes
WA	1136	530330024	11.06	3.09	0.55	0.00	3	0.893	0.041	0.052	(13.8,16.4)	Yes
WA	1136	530330027	8.66	2.40	0.53	0.00	3	0.859	0.041	0.052	(13.8,16.4)	Yes
WA	1136	530330037	10.03	2.96	0.52	0.00	3	0.886	0.041	0.052	(13.8,16.4)	Yes
WA	1136	530330057	11.87	2.37	0.49	0.54	1	0.962	0.041	0.052	(14.4,15.8)	Yes
WA	1136	530330080	8.82	1.98	0.54	0.49	1	0.924	0.041	0.052	(14.3,15.9)	Yes
WA	1136	530332004	10.68	2.32	0.54	0.00	3	0.633	0.041	0.052	(13.7,16.6)	Yes
WA	1136	530530029	12.37	3.32	0.64	0.46	1	0.954	0.041	0.052	(14.3,15.9)	Yes
WA	1136	530530031	11.73	2.40	0.65	0.56	1	0.980	0.041	0.052	(14.4,15.8)	Yes
WA	1136	530531018	10.92	2.97	0.77	0.00	3	0.960	0.041	0.052	(13.6,16.7)	Yes
WA	1136	530610005	10.26	2.87	0.57	0.00	3	0.979	0.041	0.052	(13.8,16.4)	Yes
WA	1136	530611007	11.42	2.81	0.65	0.00	3	0.964	0.041	0.052	(13.7,16.5)	Yes
WA	1136	530630016	10.44	3.42	0.67	0.62	1	0.850	0.041	0.052	(14.1,16.1)	Yes
WA	1136	530630047	9.23	3.77	0.64	0.00	3	0.834	0.041	0.052	(13.7,16.6)	Yes
WA	1136	530670013	9.73	4.33	0.66	0.00	3	0.952	0.041	0.052	(13.7,16.6)	Yes
WA	1136	530730015	7.88	1.90	0.55	0.00	3	0.874	0.041	0.052	(13.8,16.4)	Yes
WA	1136	530770009	10.26	5.24	0.57	0.00	3	0.947	0.041	0.052	(13.8,16.5)	Yes
WA	1136	530770012	8.08	7.05	0.50	0.00	3	0.693	0.041	0.052	(13.7,16.6)	Yes
WI	1175	550090005	11.43	2.00	0.76	0.00	3	0.918	0.008	0.081	(14.1,16.2)	Yes
WI	1175	550090026	10.55	2.17	0.89	0.00	3	0.921	0.008	0.081	(13.9,16.3)	Yes
WI	1175	550090028	11.76	2.50	0.91	0.00	3	0.768	0.008	0.081	(13.7,16.6)	Yes
WI	1175	550250025	12.64	2.12	0.71	0.00	3	0.938	0.008	0.081	(14.1,16.1)	Yes
WI	1175	550290004	8.02	1.70	1.10	0.00	3	0.945	0.008	0.081	(13.7,16.6)	Yes
WI	1175	550310025	8.32	1.98	0.62	0.00	3	0.963	0.008	0.081	(14.2,15.9)	Yes
WI	1175	550590019	12.14	2.20	0.76	0.00	3	0.958	0.008	0.081	(14.1,16.1)	Yes
WI	1175	550710007	10.25	2.54	0.92	0.00	3	0.941	0.008	0.081	(13.9,16.4)	Yes
WI	1175	550790010	14.01	1.71	0.66	0.48	1	0.964	0.008	0.081	(14.8,15.3)	Yes
WI	1175	550790026	13.22	1.64	0.72	0.50	1	0.923	0.008	0.081	(14.7,15.4)	Yes
WI	1175	550790043	14.50	1.90	0.75	0.00	3	0.872	0.008	0.081	(14,16.2)	Yes
WI	1175	550790050	12.40	1.98	0.74	0.00	3	0.893	0.008	0.081	(14.1,16.2)	Yes
WI	1175	550790051	13.11	1.90	0.64	0.00	3	0.906	0.008	0.081	(14.2,16)	Yes
WI	1175	550790059	14.18	2.15	0.61	0.00	3	0.923	0.008	0.081	(14.2,16)	Yes
WI	1175	550790099	14.18	2.08	0.73	0.00	3	0.964	0.008	0.081	(14.1,16.1)	Yes
WI	1175	550870009	11.27	2.13	0.79	0.00	3	0.946	0.008	0.081	(14,16.2)	Yes
WI	1175	550890008	11.63	1.85	0.71	0.00	3	0.848	0.008	0.081	(14.1,16.2)	Yes
WI	1175	551050002	13.75	1.94	0.58	0.00	3	0.952	0.008	0.081	(14.3,15.9)	Yes
WI	1175	551050024	7.64	3.73	0.78	0.00	3	0.485	0.008	0.081	(13.5,16.7)	Yes
WI	1175	551330027	14.10	1.70	0.67	0.56	1	0.953	0.008	0.081	(14.8,15.4)	Yes
WI	1175	551330034	13.14	2.19	0.74	0.00	3	0.957	0.008	0.081	(14.1,16.1)	Yes
WI	1175	551390011	11.19	2.42	0.93	0.00	3	0.954	0.008	0.081	(13.9,16.4)	Yes
WI	1175	551410016	10.61	2.15	0.68	0.00	3	0.908	0.008	0.081	(14.1,16.1)	Yes
WV	1150	540030003	16.01	1.79	0.67	0.00	3	0.868	0.004	0.059	(14.2,16)	Yes
WV	1150	540110006	17.85	1.82	0.40	0.00	3	0.959	0.004	0.059	(14.5,15.6)	Yes
WV	1150	540390009	16.65	2.10	0.38	0.00	3	0.867	0.004	0.059	(14.5,15.6)	Yes
WV	1150	540390010	16.59	1.98	0.48	0.00	3	0.866	0.004	0.059	(14.4,15.7)	Yes
WV	1150	540391005	18.39	2.01	0.53	0.00	3	0.938	0.004	0.059	(14.4,15.8)	Yes
WV	1150	540610003	14.95	2.21	0.48	0.00	3	0.958	0.004	0.059	(14.4,15.7)	Yes
WV	1150	541071002	17.62	1.75	0.47	0.00	3	0.901	0.004	0.059	(14.4,15.7)	Yes
WV	1151	540090005	17.40	2.01	0.47	0.00	3	0.927	0.040	0.061	(13.9,16.3)	Yes
WV	1151	540290011	16.70	2.12	0.64	0.00	3	0.946	0.040	0.061	(13.8,16.5)	Yes
WV	1151	540291004	17.36	1.99	0.61	0.00	3	0.902	0.040	0.061	(13.8,16.5)	Yes
WV	1151	540511002	16.52	1.96	0.47	0.00	3	0.964	0.040	0.061	(14,16.3)	Yes
WV	1151	540690008	15.66	2.14	0.49	0.00	3	0.923	0.040	0.061	(13.9,16.3)	Yes
WY	1188	560131003	17.14	1.40	0.39	0.00	3	0.520	0.072	0.065	(13.4,16.9)	Yes
WY	1188	560131004	9.83	6.52	0.48	0.00	3	0.911	0.072	0.065	(13.4,16.9)	Yes
WY	1188	560210001	5.39	1.85	0.56	0.00	3	0.888	0.072	0.065	(13.4,16.9)	Yes
WY	1188	560330001	10.16	3.61	0.52	0.00	3	0.979	0.072	0.065	(13.5,16.9)	Yes
WY	1188	560330002	10.86	3.49	0.51	0.00	3	0.983	0.072	0.065	(13.5,16.9)	Yes
WY	1188	560390006	8.55	2.88	0.54	0.00	3	0.950	0.072	0.065	(13.5,16.9)	Yes

TECHNICAL REPORT DATA

(Please read Instructions on reverse before completing)

1. REPORT NO.	2.	3. RECIPIENT'S ACCESSION NO.
EPA-454/R-04-001		

4. TITLE AND SUBTITLE	5. REPORT DATE
3-Year Quality Assurance Report for Calendar Years 1999, 2000 and 2001- The SLAMS $PM_{2.5}$ Ambient Air Monitoring Program	March, 2004
	6. PERFORMING ORGANIZATION CODE

7. AUTHOR(S)	8. PERFORMING ORGANIZATION REPORT NO.
Michael Papp, Shelly Eberly, Mark Schmidt	

9. PERFORMING ORGANIZATION NAME AND ADDRESS	10. PROGRAM ELEMENT NO.
U.S Environmental Protection Agency Office of Air Quality Planning and Standards Research Triangle Park, NC 27711	11. CONTRACT/GRANT NO.

12. SPONSORING AGENCY NAME AND ADDRESS	13. TYPE OF REPORT AND PERIOD COVERED
Director Office of Air Quality Planning and Standards Office of Air and Radiation U.S Environmental Protection Agency Research Triangle Park, NC 27711	14. SPONSORING AGENCY CODE EPA/200/04

15. SUPPLEMENTARY NOTES

16. ABSTRACT

This report documents the quality assurance activities that were undertaken for the SLAMS $PM_{2.5}$ environmental data operations for the calendar years 1999, 2000 and 2001 which are the first three years of implementation of the $PM_{2.5}$ monitoring program. The QA Report evaluates the adherence to the quality assurance requirements described in *40 CFR 58 App. A* and evaluates the data quality indicators of precision, accuracy, bias, and completeness.

17. KEY WORDS AND DOCUMENT ANALYSIS

a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
Quality Assurance	Air Pollution control	

18. DISTRIBUTION STATEMENT	19. SECURITY CLASS *(Report)*	21. NO. OF PAGES
Release Unlimited	Unclassified	141
	20. SECURITY CLASS *(Page)*	22. PRICE
	Unclassified	

United States
Environmental Protection
Agency

Office of Air Quality Planning and Standards
Air Quality Strategies and Standards Division
Research Triangle Park, NC

Publication No. EPA-454/R-04-001
March 2004