

Quality Assurance Data Issues and AQS

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Presentation Overview

- Where We've Been
- Where We Are
 - New Features
 - Current Data Issues
- Where We Are Going
 - Projects on the Horizon

Where We've Been – Brief History

- ORD Original “Keepers” of the P&A Data
 - NPAP
 - Performance Evaluation Audits
- 1990 – P&A Data Brought into AQS
 - NPAP Data Not Brought In
 - P&A Data Separated from Ambient Data

Where We've Been – How Much & What Kind?

- Accuracy Data
 - Collected & Stored Since 1983
 - 256,000 Audits (Between 1 - 5 Levels per Audit)
- Precision Data
 - Collected & Stored Since 1986
 - 2.3 Million data points
- Ambient Data
 - Collected & Stored Since 1957
 - 1+ Billion Data Points

New QA Features in AQS

- New Report: Completeness, Precision, and Bias Report (AMP255)
 - Completeness, Precision, Bias Estimates
 - For Criteria Pollutants
 - Annual Report Available on TTN:

<http://www.epa.gov/ttn/amtic/parslist.html>

Example of AMP255 Report

Microsoft Excel - Gaseous QI Completeness Tables.xls

File Edit View Insert Format Tools Data Window Help

Snagit Window

A3 01

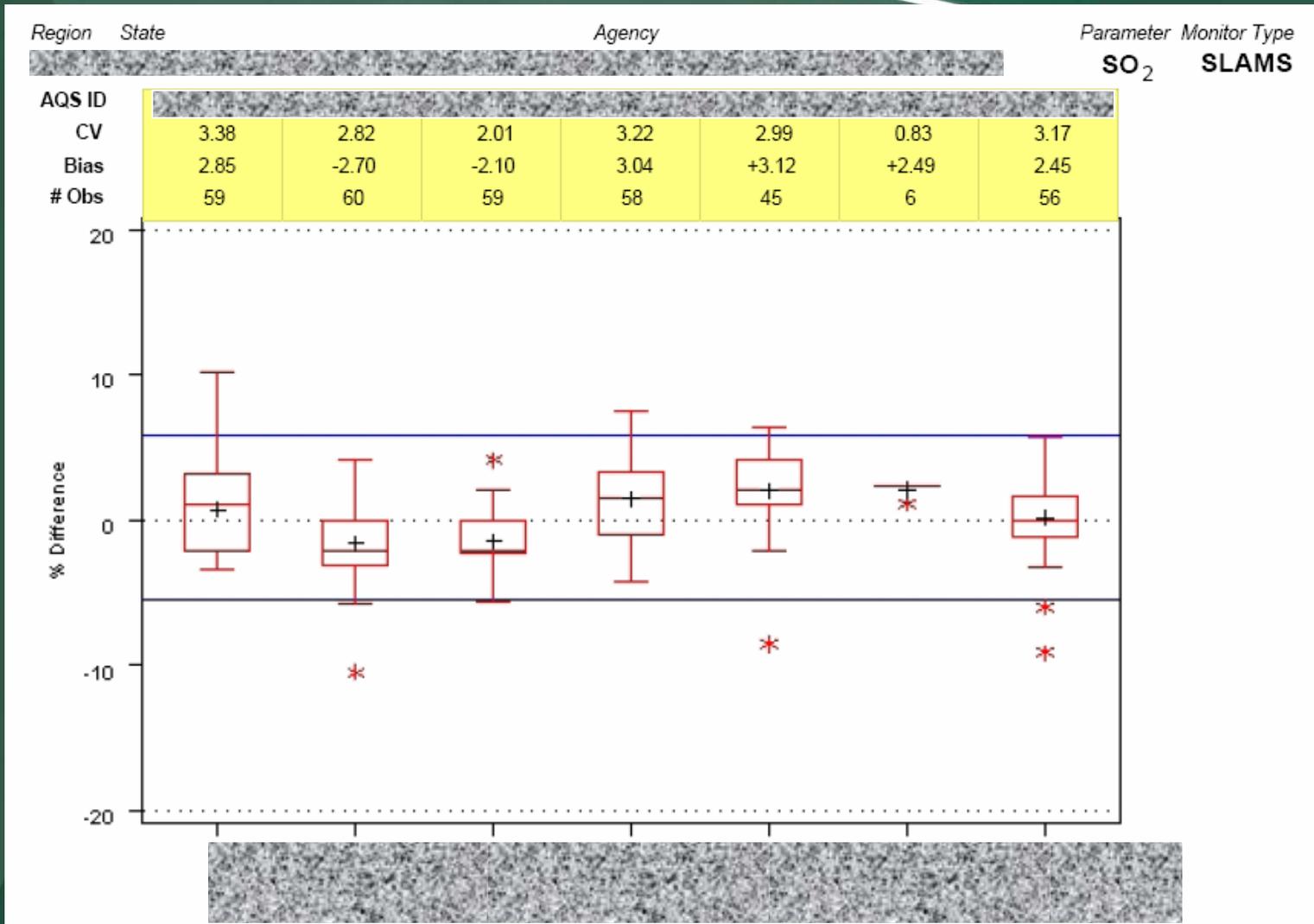
Table A. Single Point Quality Check Completeness for CO, 2004.

	Region	State	Reporting Agency	Monitor Type	Site ID	Start Date	End Date	Number Required	Number Submitted	Comp. %	% Sites <50% Complete
3	01	CT	0251	SLAMS	090010020	1/1/2004	12/31/2004	26	24	92	NA
4	01	CT	0251	SLAMS	090030013	1/1/2004	12/31/2004	26	0	0	NA
5	01	CT	0251	SLAMS	090030017	1/1/2004	12/31/2004	26	23	88	NA
6	01	CT	0251	SLAMS	090031003	1/1/2004	12/31/2004	26	24	92	NA
7	01	CT	0251	SLAMS	090090025	1/1/2004	12/31/2004	26	24	92	NA
8	01	CT	0251	All - NSP	NA	NA	NA	130	95	73	20
9	01	MA	0660	SLAMS	250130016	1/1/2004	12/31/2004	26	24	92	NA
10	01	MA	0660	SLAMS	250170007	1/1/2004	12/31/2004	26	25	96	NA
11	01	MA	0660	SLAMS	250250002	1/1/2004	12/31/2004	26	24	92	NA
12	01	MA	0660	SLAMS	250250021	1/1/2004	12/31/2004	26	0	0	NA
13	01	MA	0660	SLAMS	250250038	1/1/2004	12/31/2004	26	0	0	NA
14	01	MA	0660	SLAMS	250250042	1/1/2004	12/31/2004	26	22	85	NA
15	01	MA	0660	SLAMS	250270022	1/1/2004	12/31/2004	26	0	0	NA
16	01	MA	0660	SLAMS	250270023	1/1/2004	12/31/2004	26	27	100	NA
17	01	MA	0660	All - NSP	NA	NA	NA	208	122	58	38
18	01	ME	0635	OTHER	230052003	1/1/2004	12/31/2004	26	19	73	NA
19	01	ME	0635	OTHER	230090102	1/1/2004	12/31/2004	26	0	0	NA
20	01	ME	0635	SPECIAL PURPOSE	230090103	2/1/2004	12/31/2004	23	28	100	NA
21	01	ME	0635	All - Other	NA	NA	NA	75	47	58	33
22	01	RI	0907	SLAMS	440071009	1/1/2004	12/31/2004	26	53	100	NA
23	01	RI	0907	SLAMS	440071010	1/1/2004	12/31/2004	26	52	100	NA
24	01	RI	0907	All - NSP	NA	NA	NA	52	105	100	0
25	01	VT	1119	SLAMS	500070014	1/1/2004	12/31/2004	26	25	96	NA
26	01	VT	1119	SLAMS	500210002	1/27/2004	12/31/2004	24	24	100	NA
27	01	VT	1119	All - NSP	NA	NA	NA	50	49	98	0
28	02	NY	0764	SLAMS	340030004	1/1/2004	12/31/2004	26	19	73	NA

CO QC / CO PEC / NO2 QC / NO2 PEC / O3 QC / O3 PEC / SO2 QC / SO2 PEC

Draw AutoShapes

Example of Corresponding Box Plots



New QA Features in AQS

- New Report - Completeness, Precision, and Bias Report
- Automatic Generation of Collocated Precision Data
 - Eliminates Need to Report Same Data Twice
 - Can be used for any pollutant
 - When ambient concentration data is available for defined collocated monitors, precision data is generated for the pair

Automatic Precision Generation

Old Way vs.
New Way

Input File

AQS

Raw Data

Monitor
Collocation
Definitions

Precision Data

Data Now Exists
in Both Tables

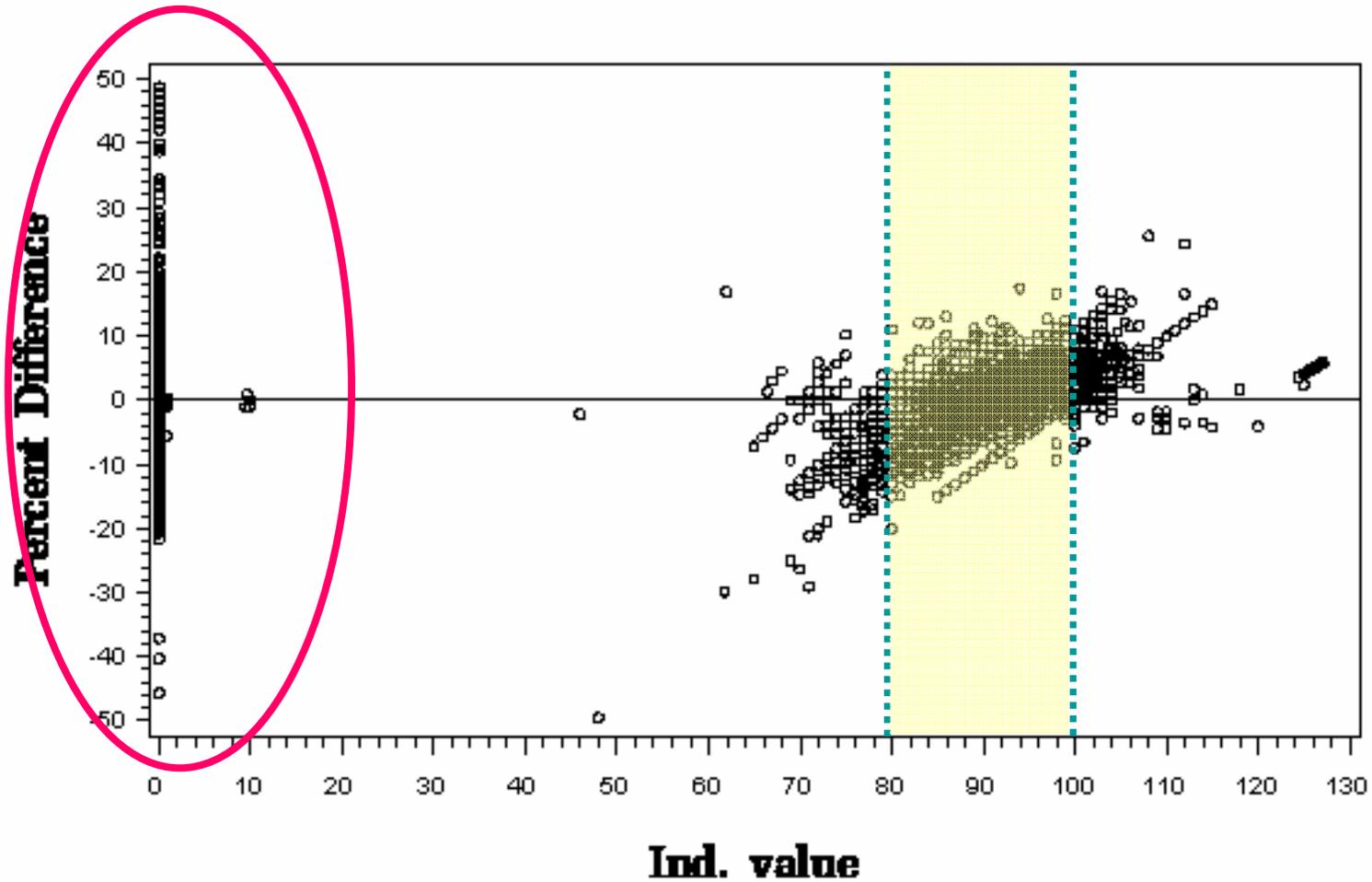
Current Data Issues

- Need for “Monitor Collocation” Definitions
 - Needed to have new features work
 - New report needs to know which is the “Primary” monitor to calculate completeness
 - Automatic generation of data needs to know what monitors are involved to make appropriate pairs of data
 - 34% of the Currently Operating PM_{2.5} SLAMS Monitors have Monitor Collocation Definitions
 - See List in Back of Handout for Status by Reporting Organization

Current Data Issues (Continued)

- “Local Conditions” Flow Data vs. “Standard Condition” Flow Data
 - Historically only “Standard” Available
 - Applies to $PM_{2.5}$ and PM_{10}
 - Data Has Been Cleaned Up for South Carolina, North Dakota, Missouri, Montana, Washington, Massachusetts, Tennessee, and Mississippi
 - Call or Email Jonathan Miller to Request to Have Your Data Corrected

Current Data Issues (Continued)



Where We Are Going

- Addition of NPAP Data
- Additional Editing of QA Audits
 - Range Checks for Single-Point Precision Check
 - Periodic OAQPS Review of Data
- Consistent Naming Conventions for QA Data Entities
- Incorporation of ESAR Naming Standards in XML Schema

Overall Message

We ARE Reviewing
and Using the Data