

# PM2.5 Quality Assurance Activities

SAMWG April 20, 2001  
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# Agenda

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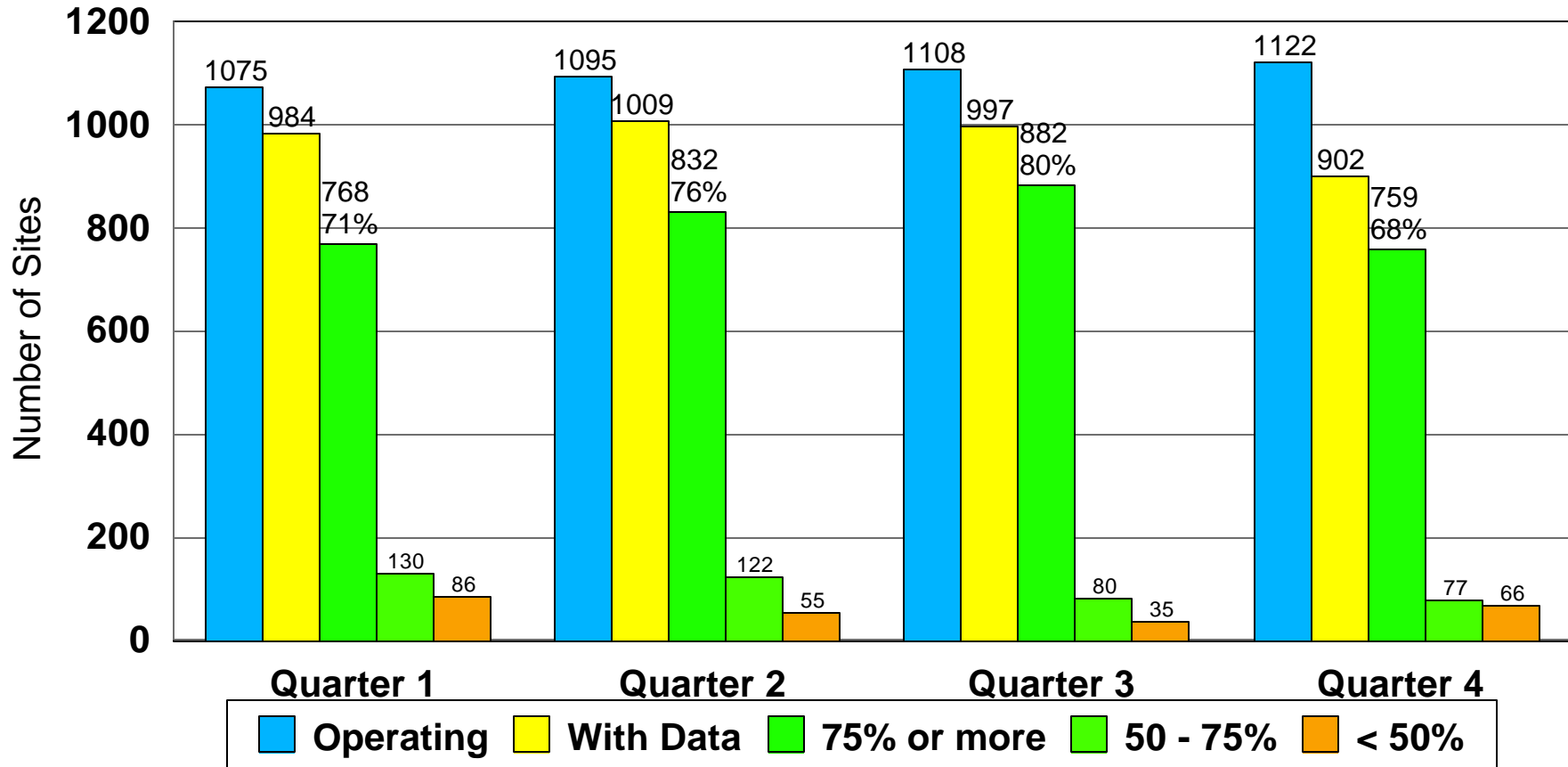
- PM2.5 CY2000 Interim QA Report
- NPAP- New Directions
- QA Strategy
- Others Items
  - Flag Evaluation
  - Filter Extension Study



# Completeness - Routine FRM

## Data Capture by Quarter, 2000

[4/5/01 AIRS Extraction]

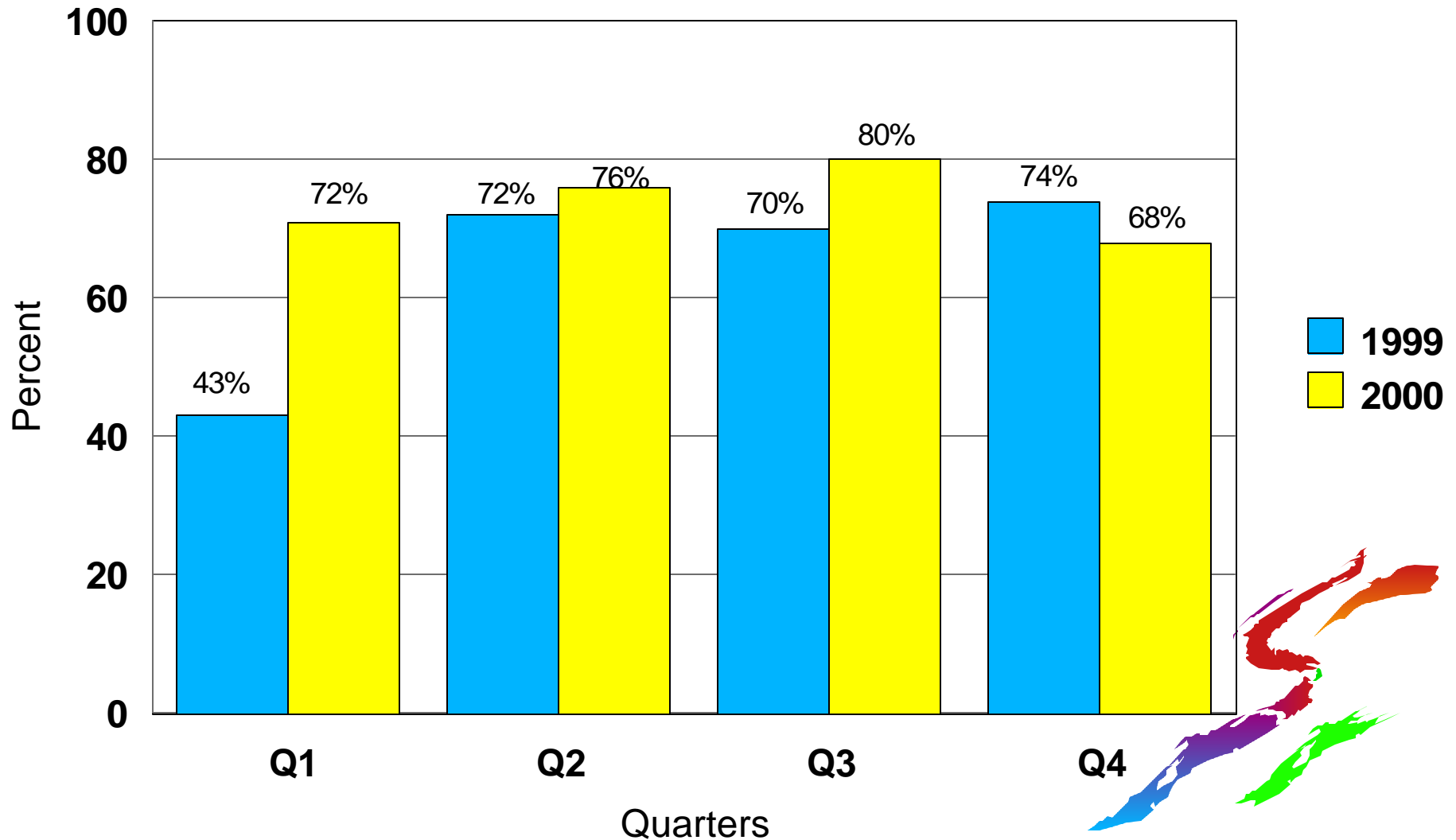


[1056 sites operated in all 4 quarters]

- 503 sites (48% of 1056) have 4 complete quarters (ge 75%).
- 727 sites (69% of 1056) have 11+ samples in each quarter

# Completeness - Routine FRM

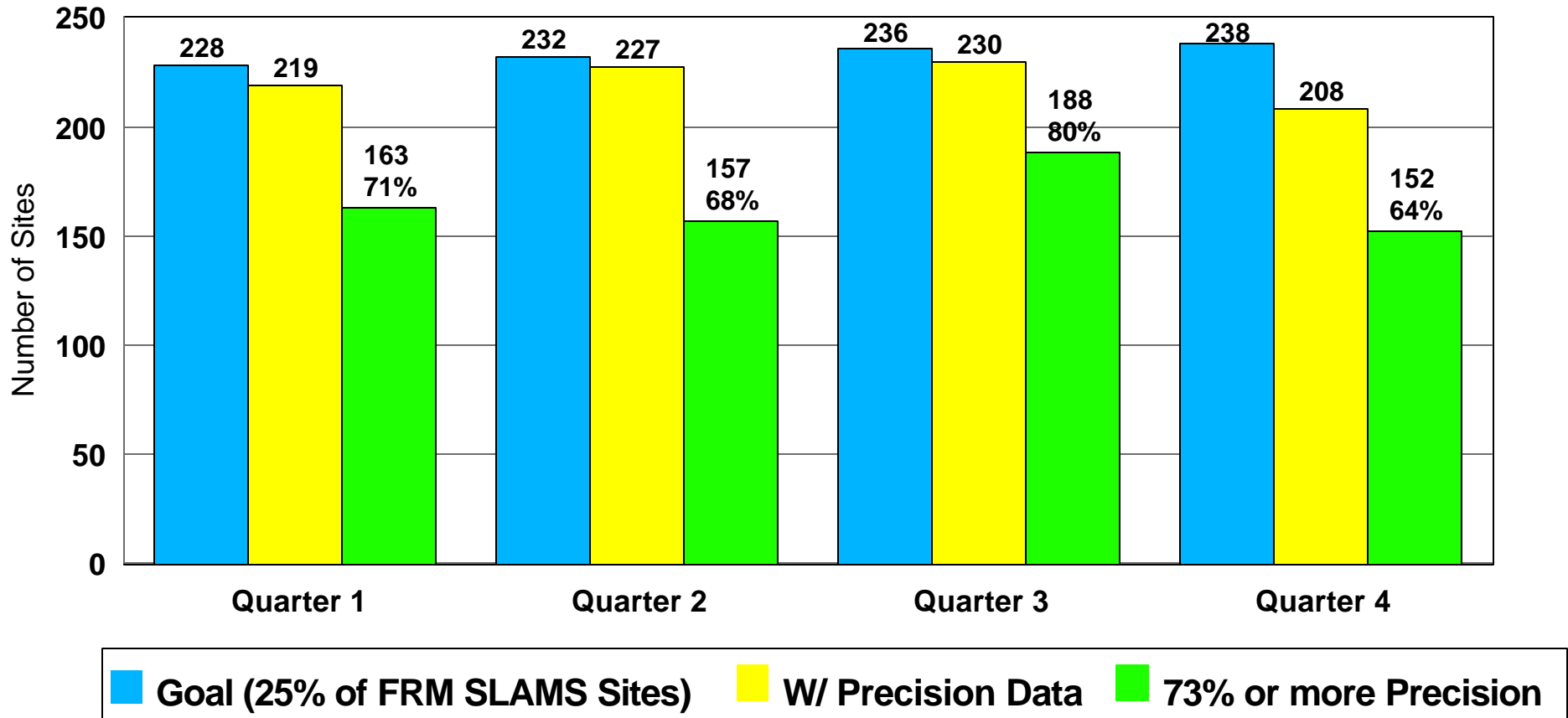
## *Data Capture by Quarter, 1999 & 2000*



# Completeness - Precision

## Data Capture by Quarter, 2000

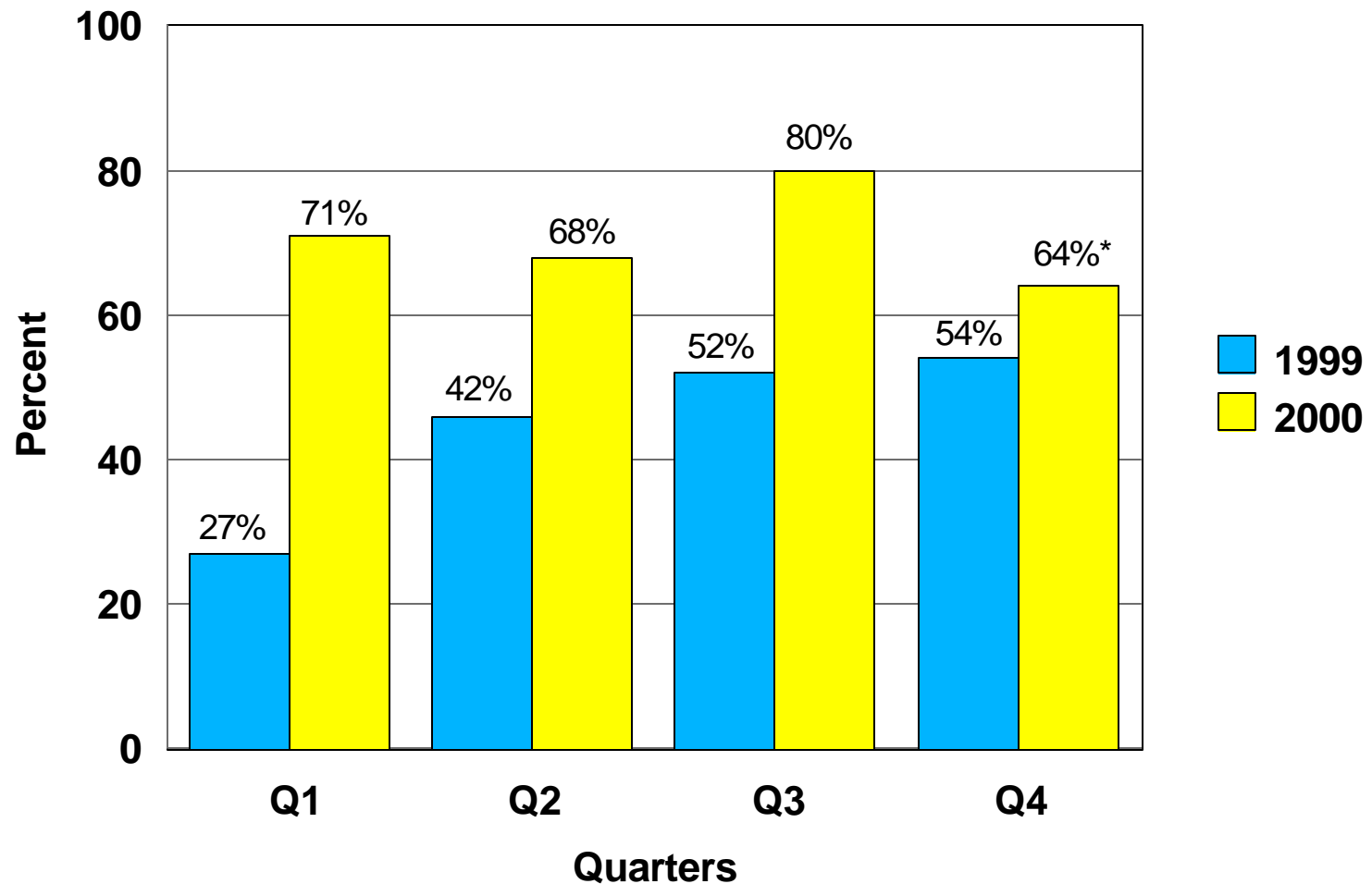
[4/5/01 AIRS Extraction]



95 sites (40% of goal) have 4 complete quarters (ge 73%).

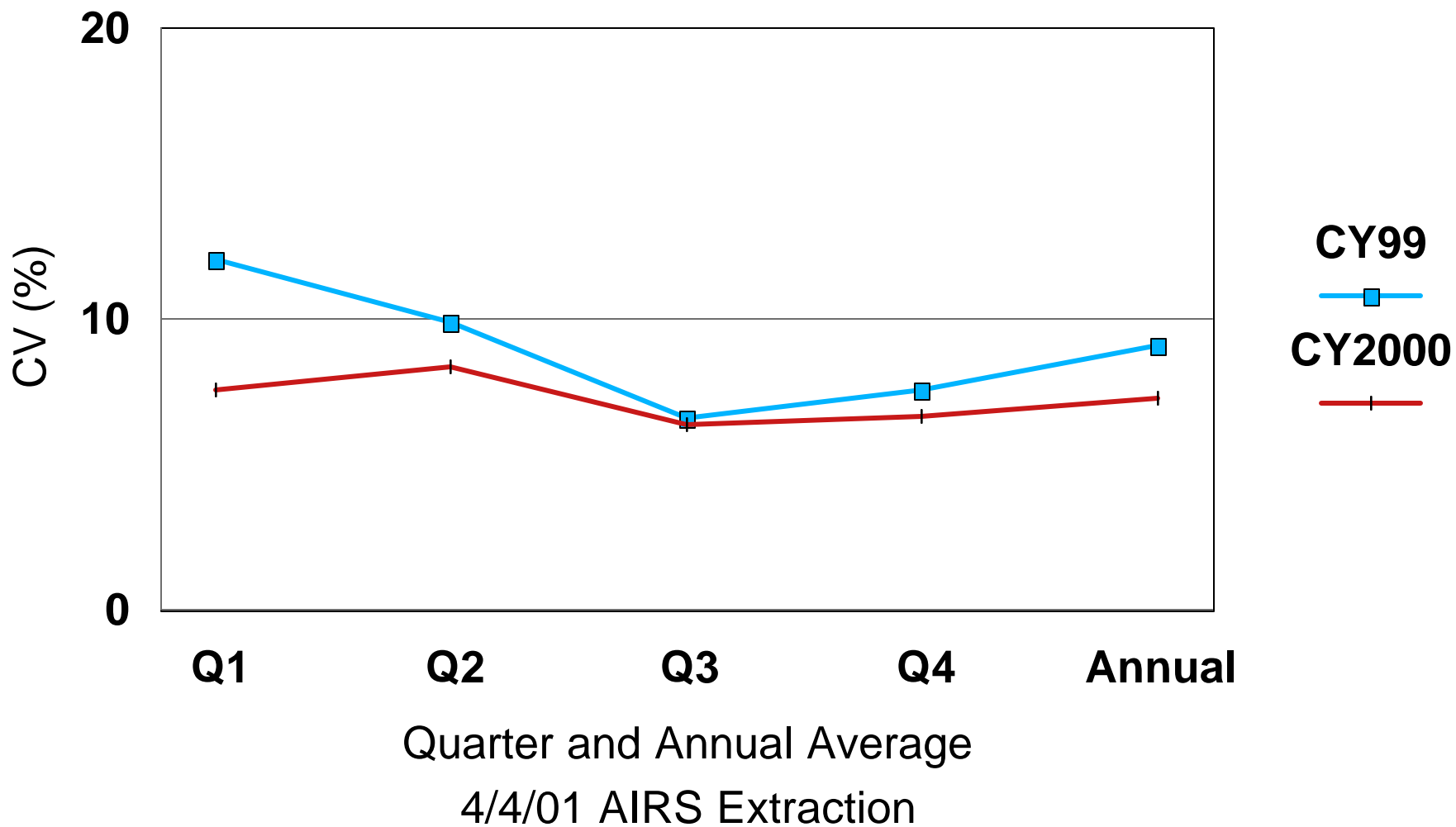
# Completeness - Precision

## *Data Capture by Quarter, 1999 & 2000*

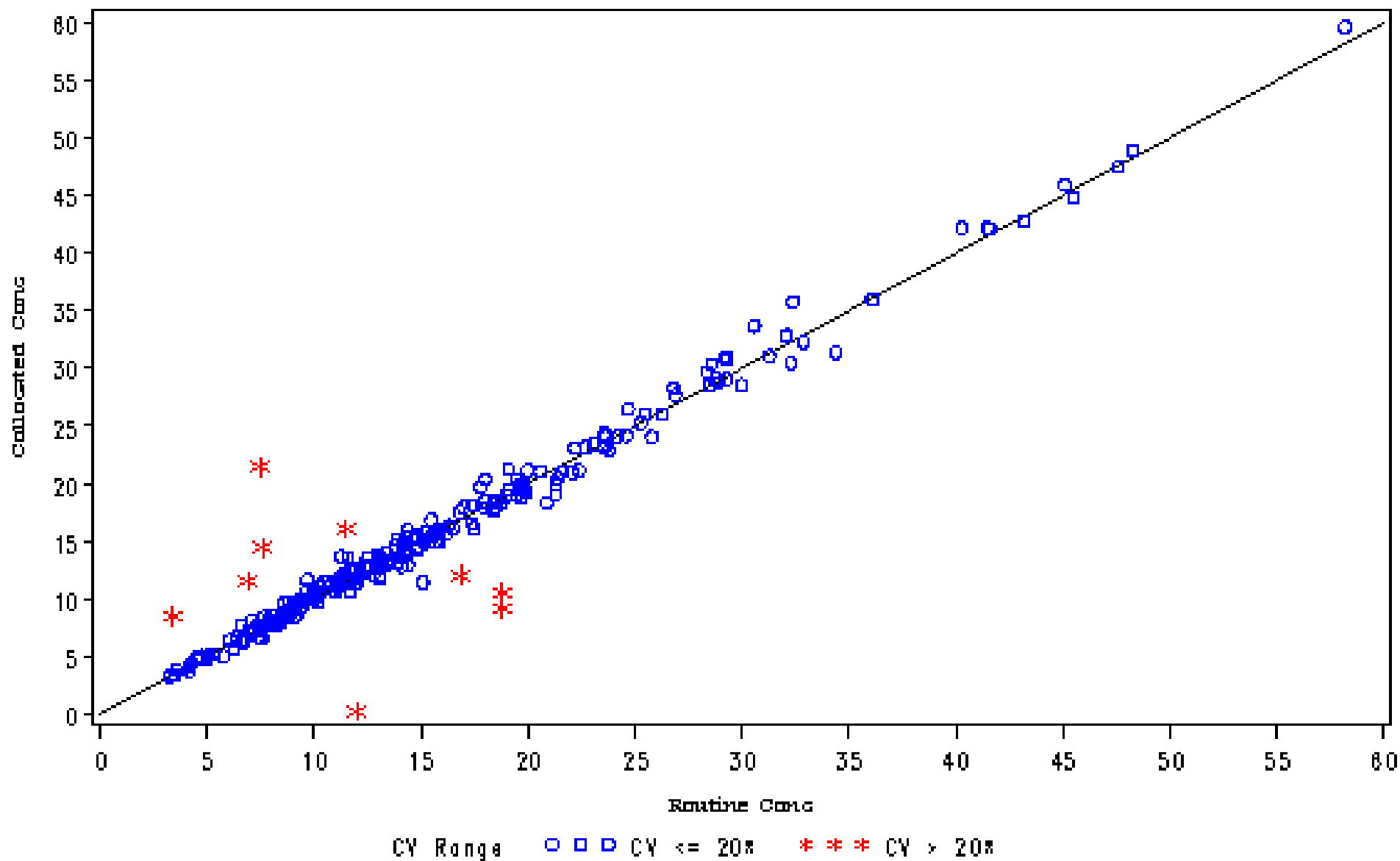


# PM2.5 Precision CY99 and 2000

## DQO < 10%

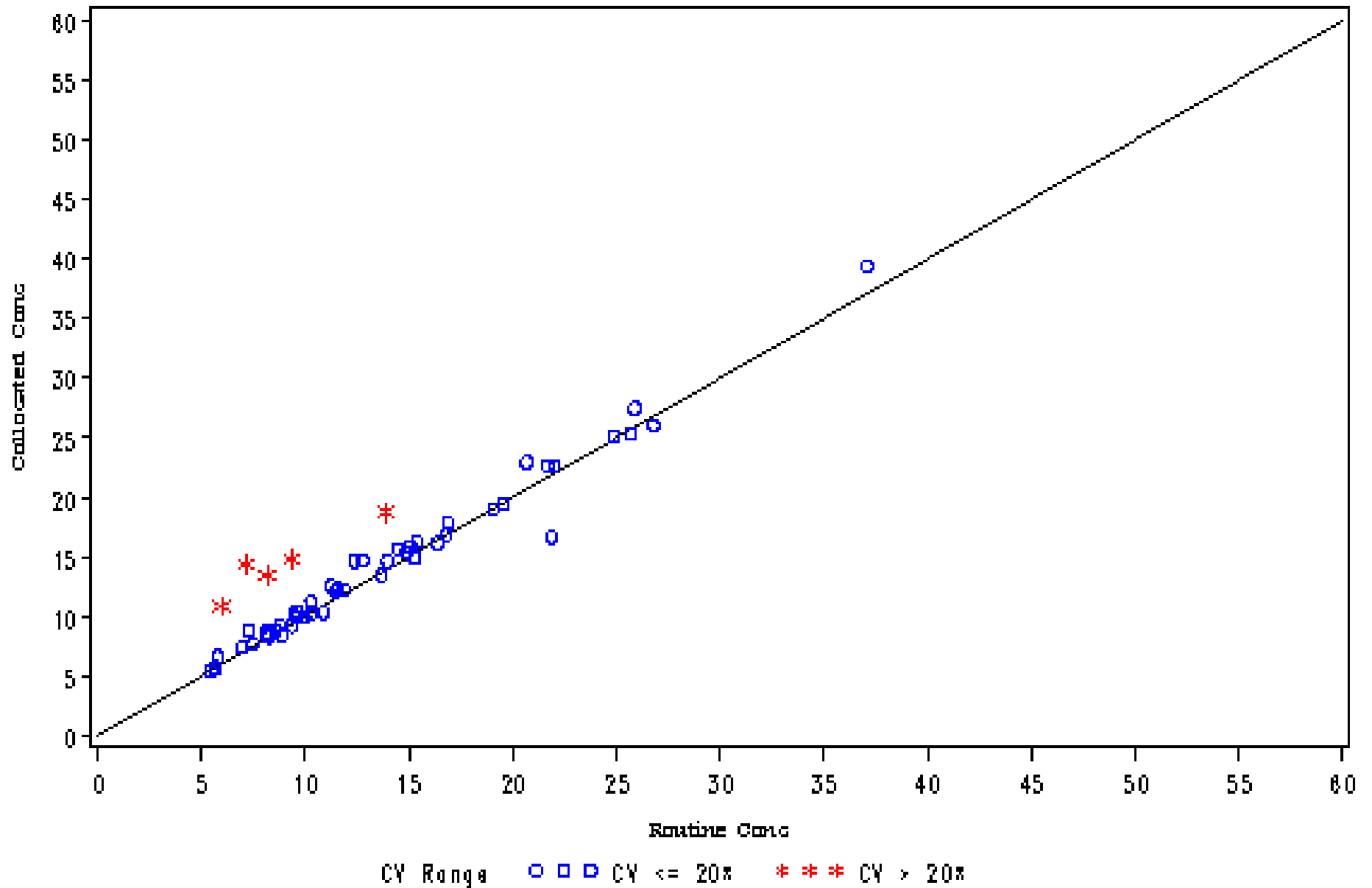


Plot of Routine vs. Collocated Concentrations by Reporting Organization  
based on AIRS extraction dated 040401  
State=CT Reporting Organization=001

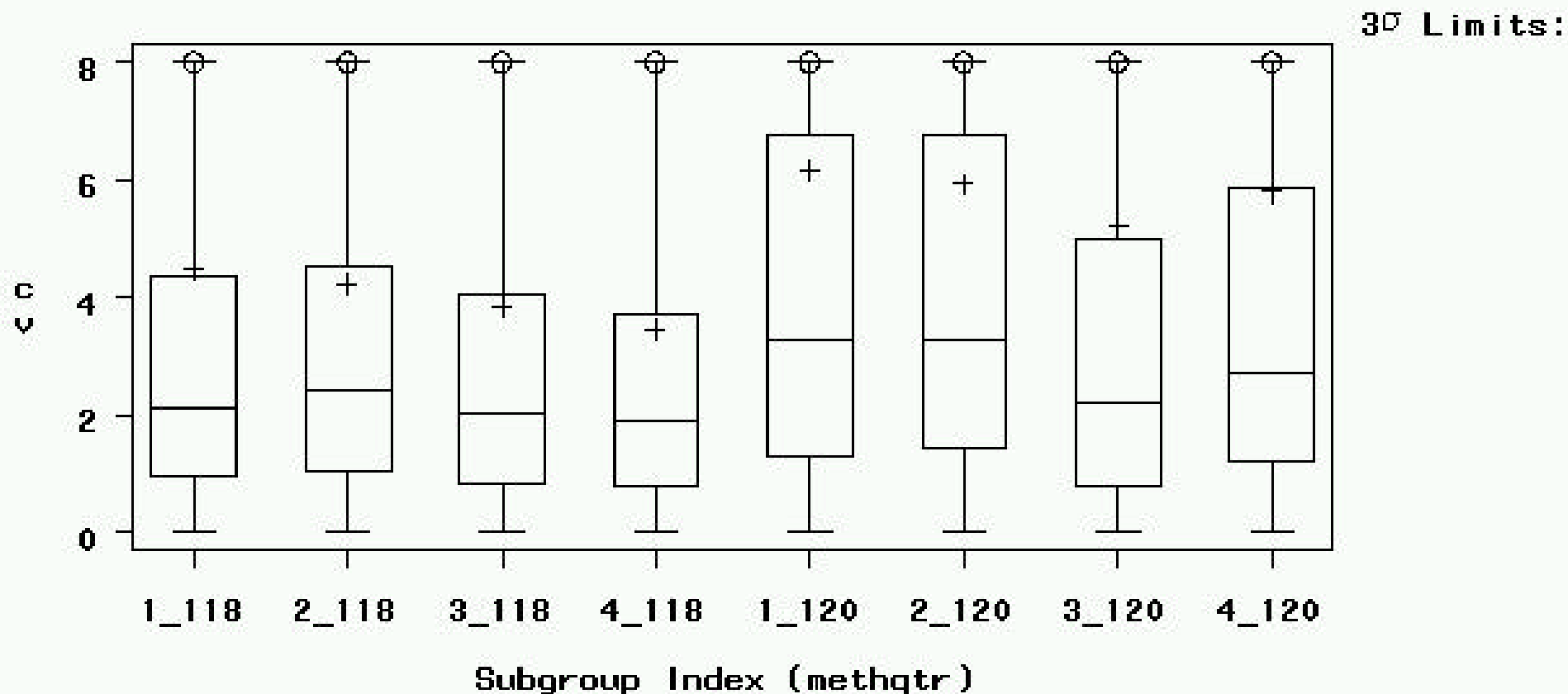




Plot of Routine vs. Collocated Concentrations by AIRS Site  
based on AIRS extraction dated 040401  
AIRS Site=220710012



Boxplots of CV's by quarter using all observations  
 from complete sites in year 2000.  
 Each observation treated equally  
 based on collocated samplers (AIRS extraction dated 040401)



Subgroup Sizes: Min n=455 Max n=2512

○ 8 boxes clipped

118 = R&P Sequential

120 = Andersen Sequential



# PEP Completeness

## PEP Site Visits with valid data

Frequency	1 QTR	2 QTRs	3 QTRs	4 QTRs	Total	# Samples
1 or 2 pairs	4	7	0	0	11	18
3 pairs	0	0	35	0	35	105
4 pairs	0	2	26	186	214	865
> 4 pairs	0	0	1	20	21	105
Total	4	9	62	206	281	~1093

281 Sites visited, 1063 PM2.5 Routine site, --  $281/1056 = 26\%$  Meets requirements

270 Sites meeting 75% completeness --  $270/1056 = 25\%$  Meets requirements

270 sites with 75% or greater visits  $270/281 = 96\%$  Complete

## PEP/AIRS Pairs

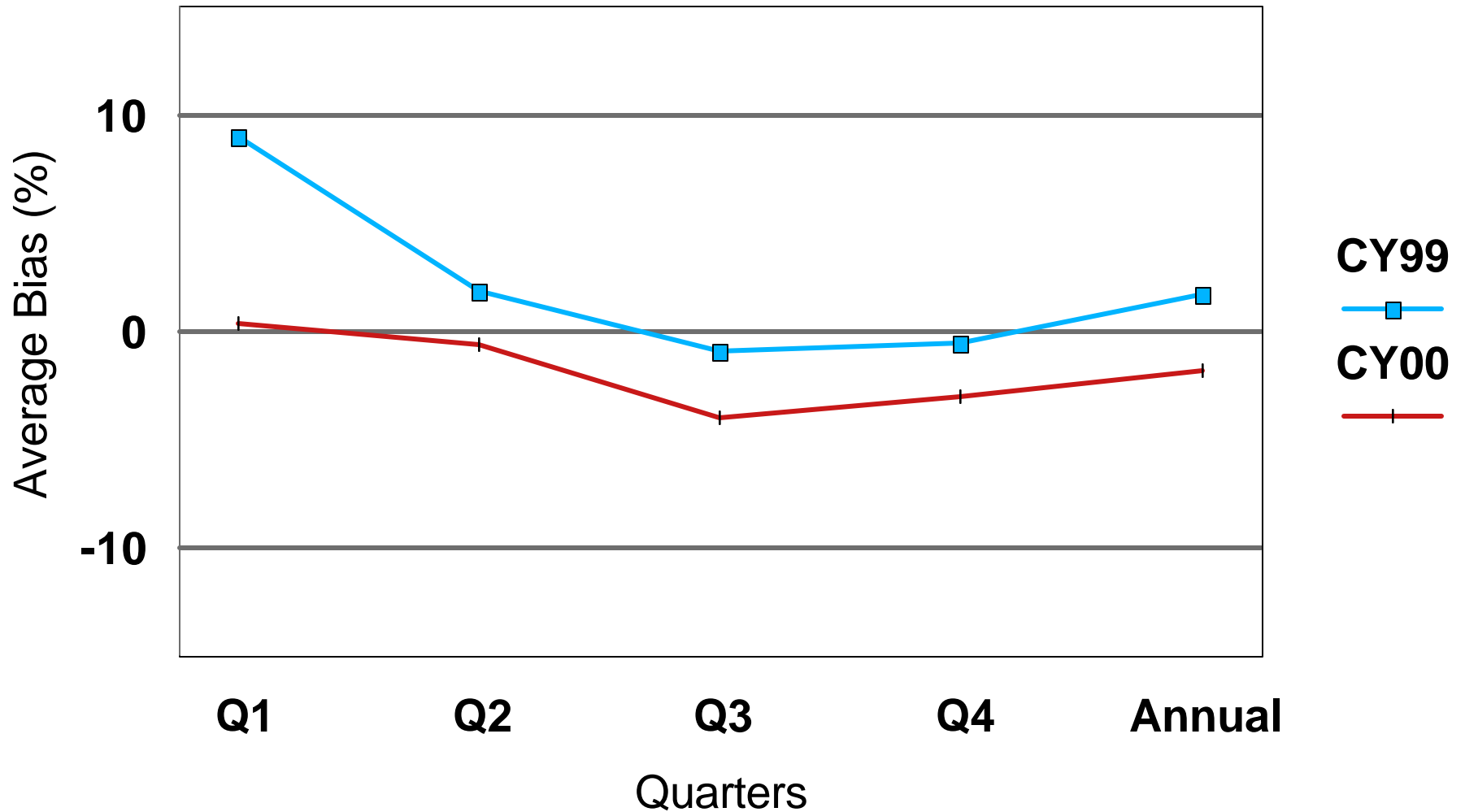
Frequency	1 QTR	2 QTRs	3 QTRs	4 QTRs	Total
1 or 2 pairs	15	30	0	0	45
3 pairs	0	3	92	0	94
4 pairs	0	2	23	99	124
> 4 pairs	0	0	1	3	4
Total	15	35	115	102	267

267 Sites with pairs, 223 with at least 3 pairs

<sup>12</sup>  $223/267 = 83\%$  complete

# PM2.5 Bias CY99 and 2000

## DQO +/- 10%



4/4/01 AIRS Extraction

# Bias

4/4/01

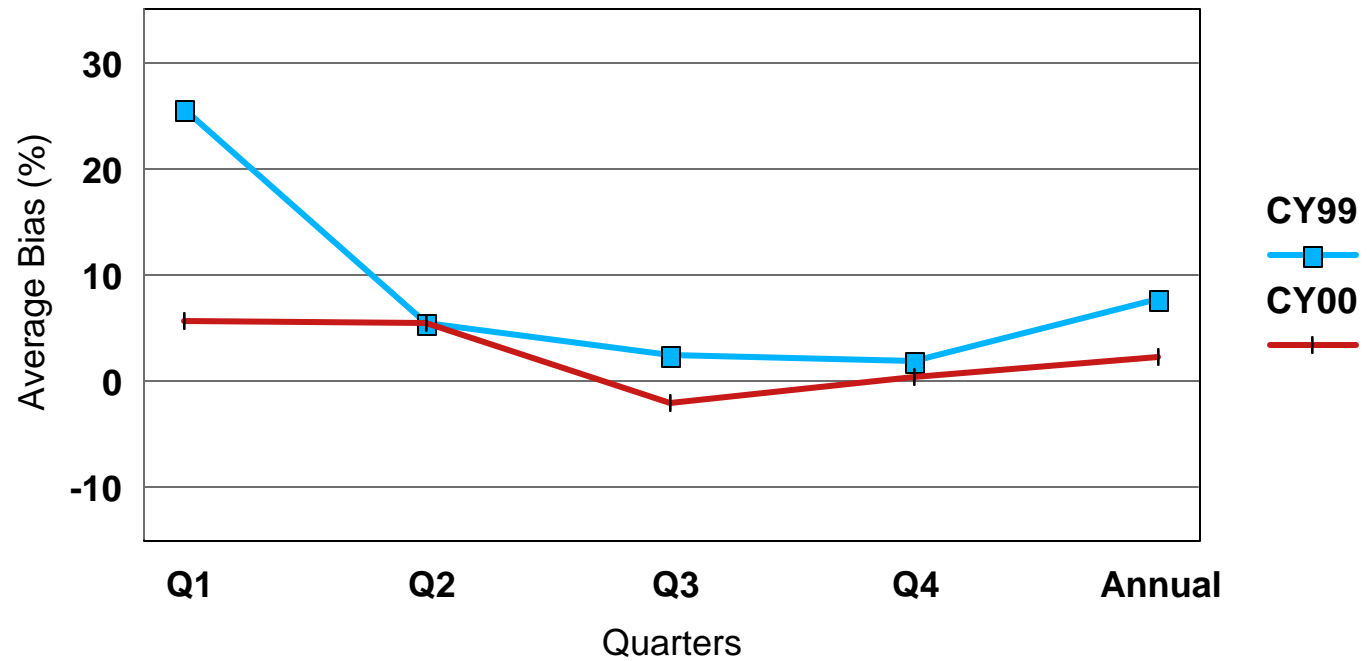
Airs

Extraction

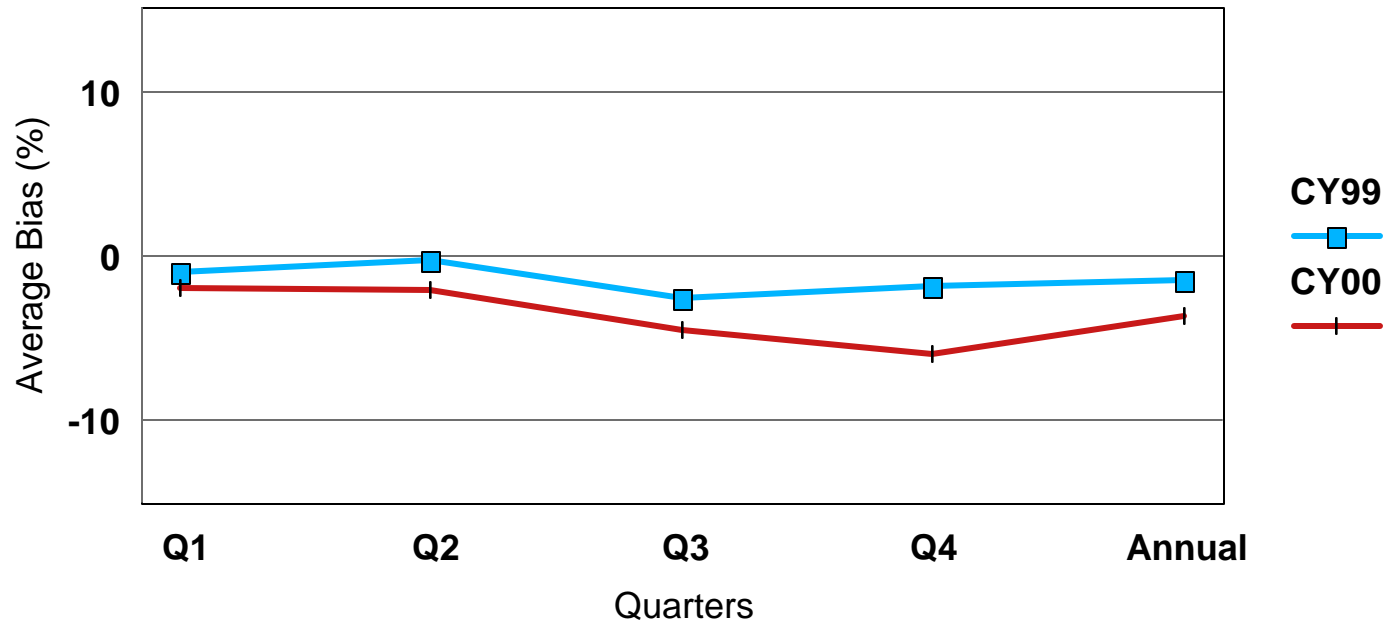
DQO

+/- 10%

## Andersen Sequentials



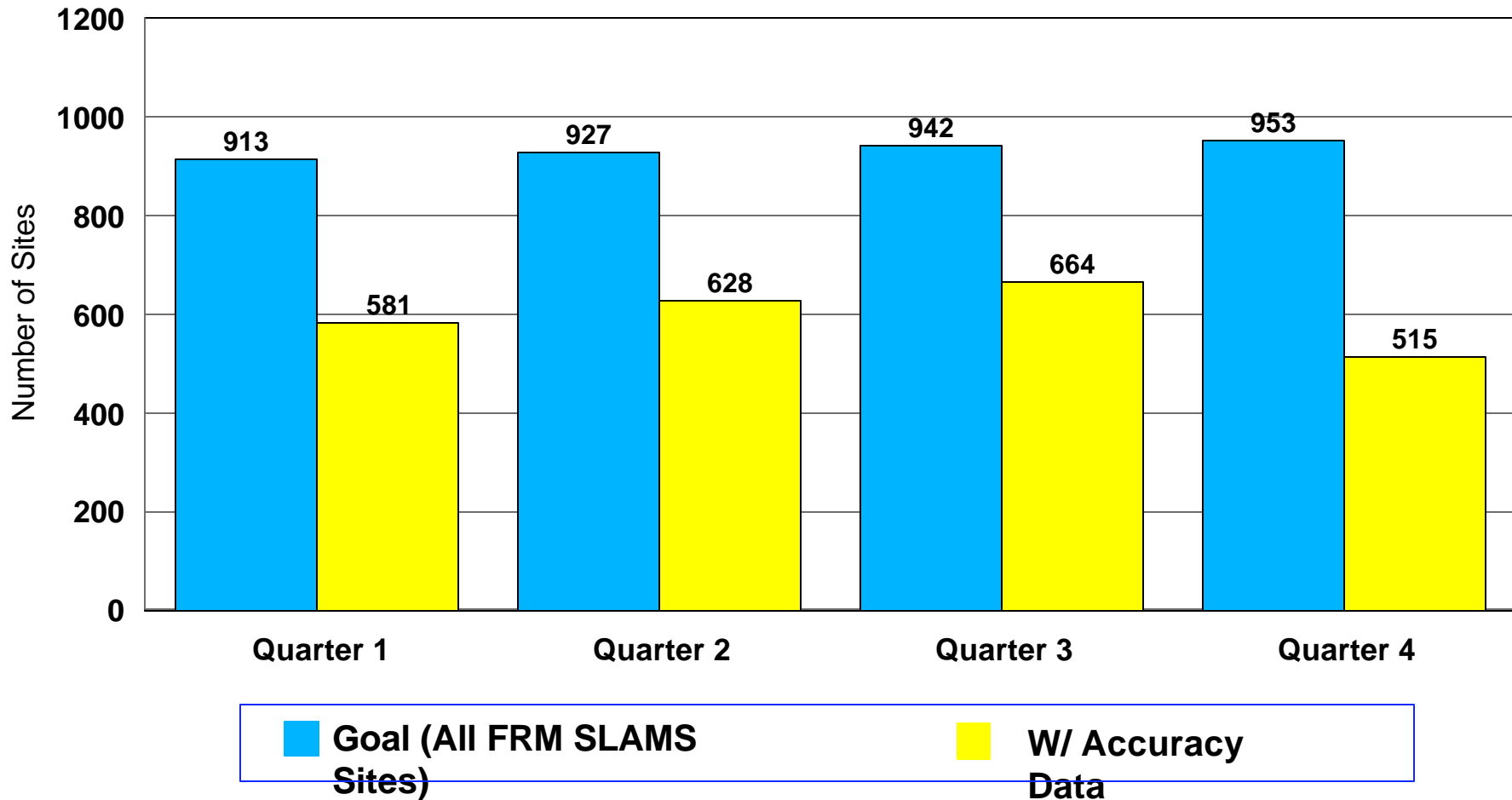
## R&P Sequentials



# Completeness - Accuracy

## Data Capture by Quarter, 2000

[4/5/01 AIRS Extraction]



Currently, 376 sites (39% of total) have 4 quarters of Accuracy data

# Completeness - Accuracy

## Data Capture by Quarter, 1999 & 2000

