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Montana's Major Population Centers

(U.S. Census, 1 July 2007 estimate)

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  2. Missoula = 105,650
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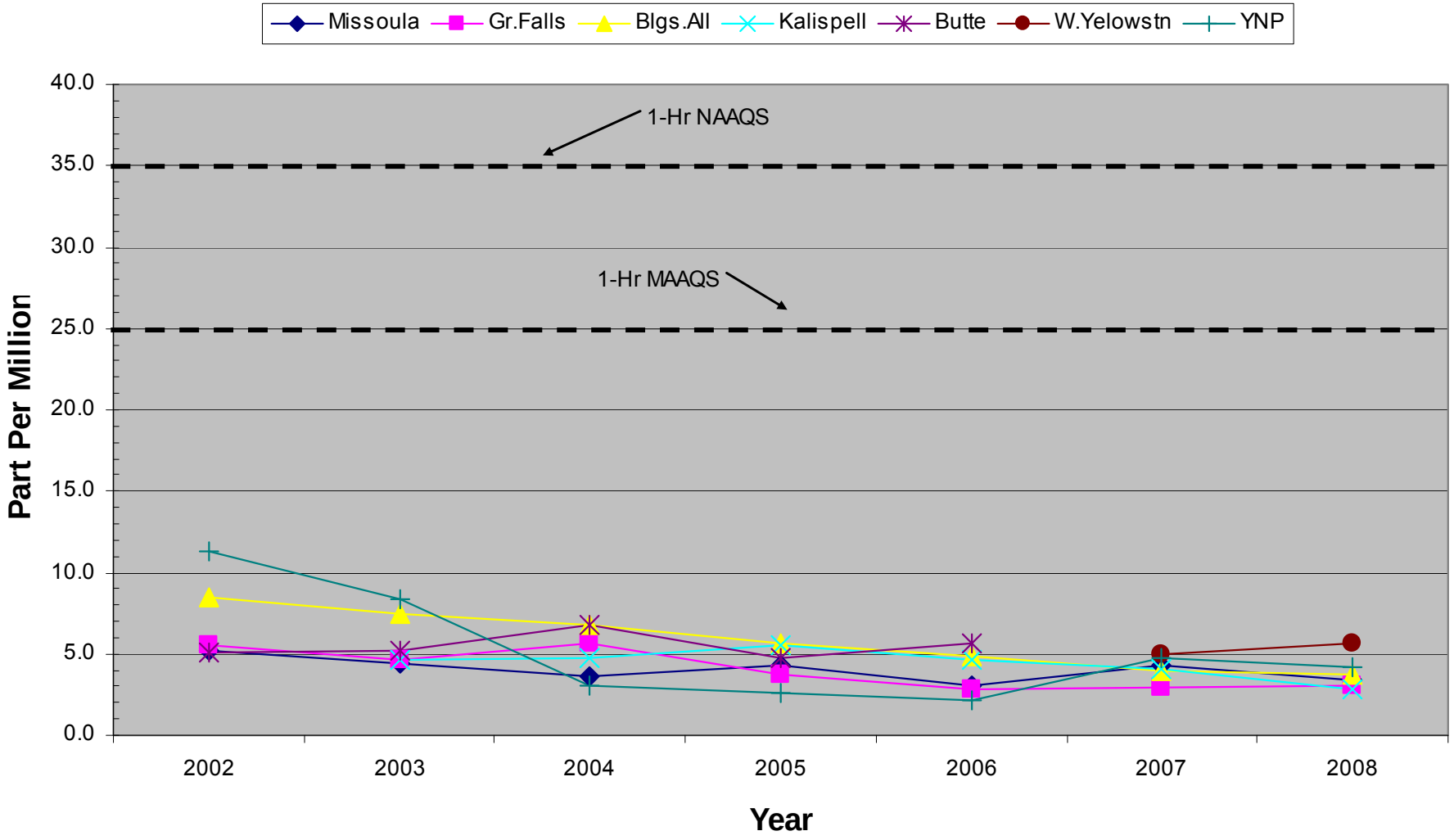
  1. Bozeman = 87,359
  2. Kalispell = 86,844
  3. Helena = 71,119
  4. Butte-Sliver Bow = 32,652
  5. Havre = 16,568

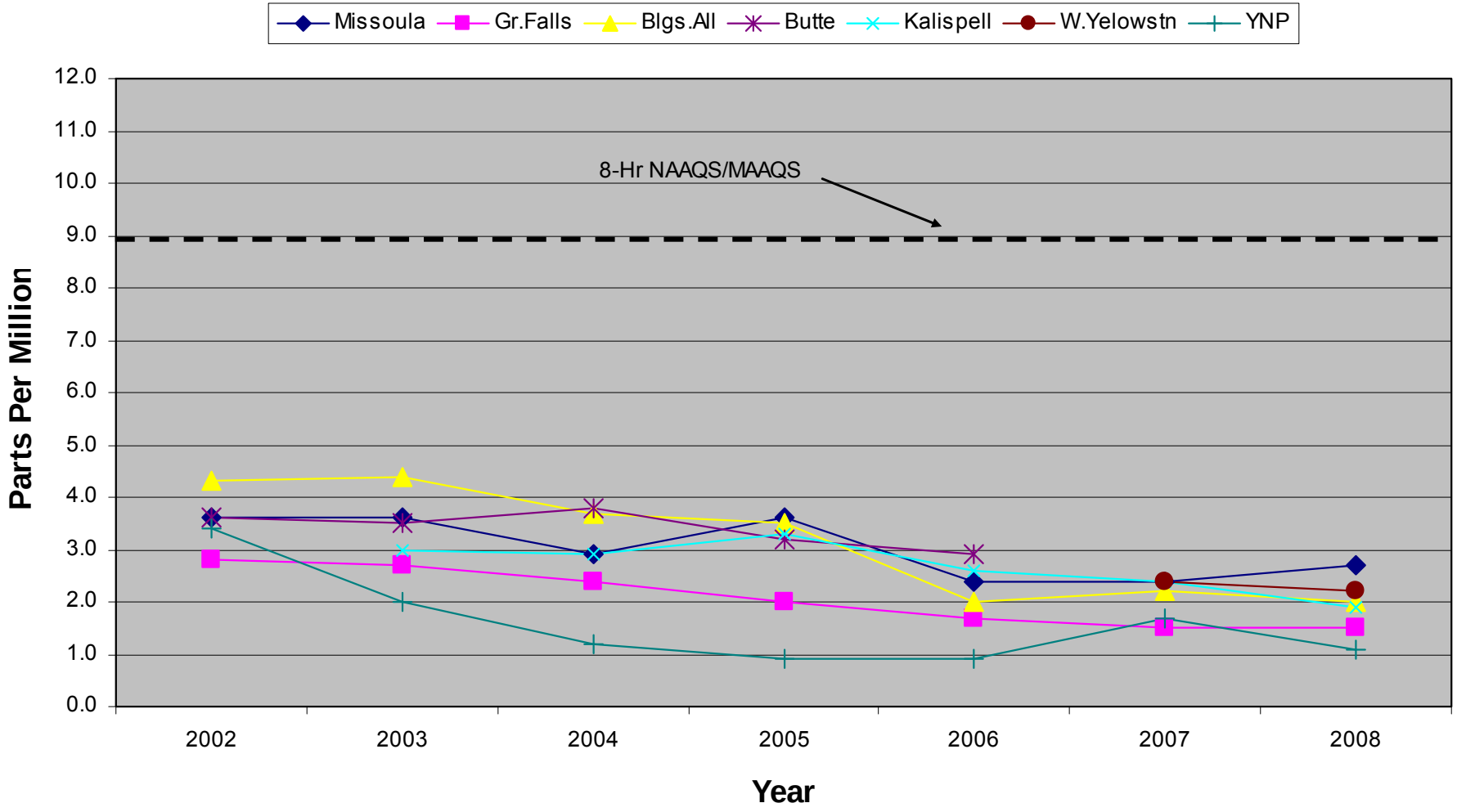
Carbon Monoxide (CO)

- 1-Hr NAAQS 1° = 35 ppm[a]
- 8-Hr NAAQS 1° = 9 ppm[a]
- 1-Hr MAAQS 1° = 25 ppm[b]
- 8-Hr MAAQS 1° = 9 ppm[b]
- 1° = primary, health-based standard
- [a] no more than 1 exceedance per calendar year
- [b] no more than 1 exceedance per rolling 12 months

2002-08 CO Review 2nd Max 1-Hr



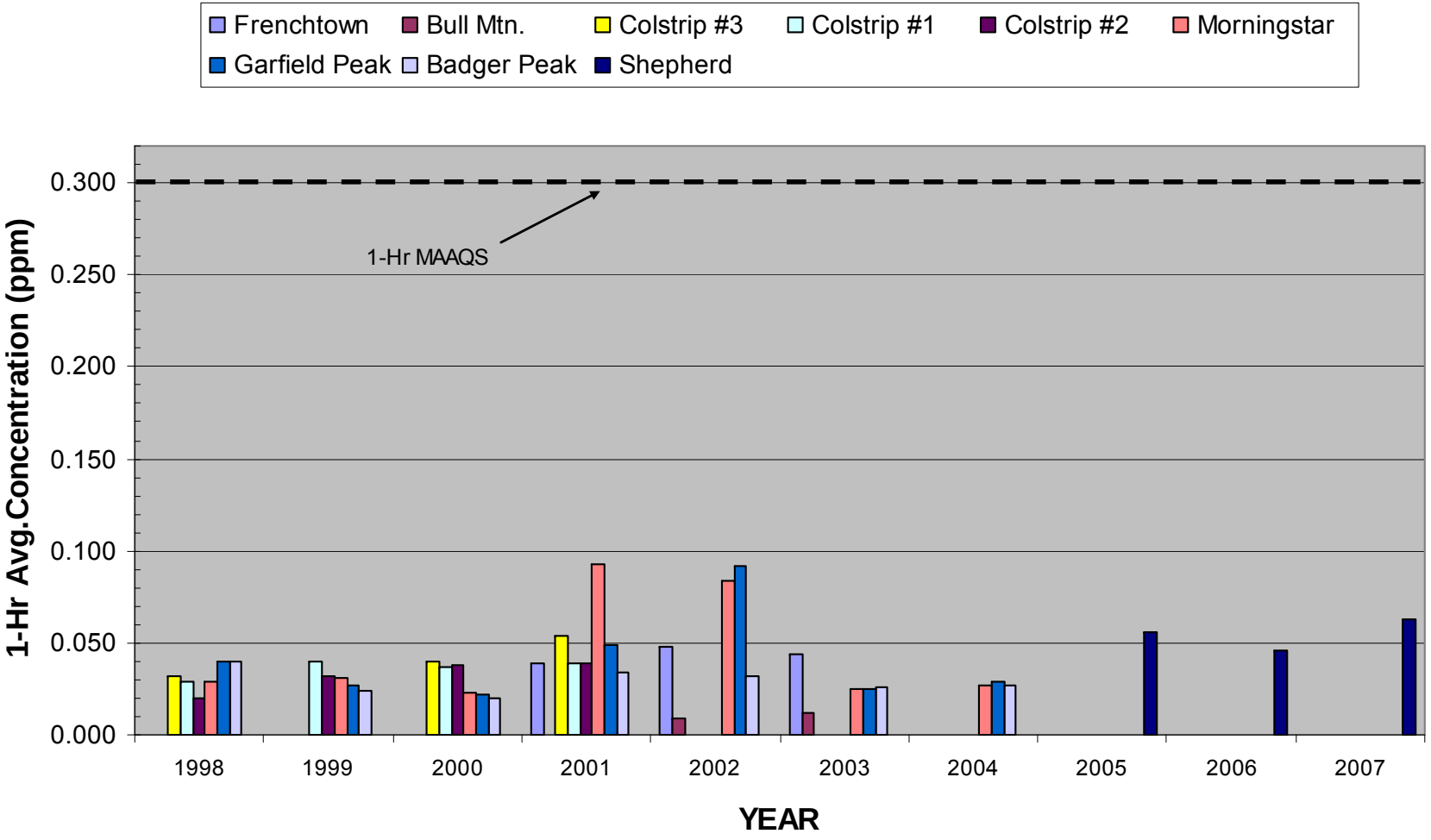
2002-08 CO Review 2nd Max 8-Hr



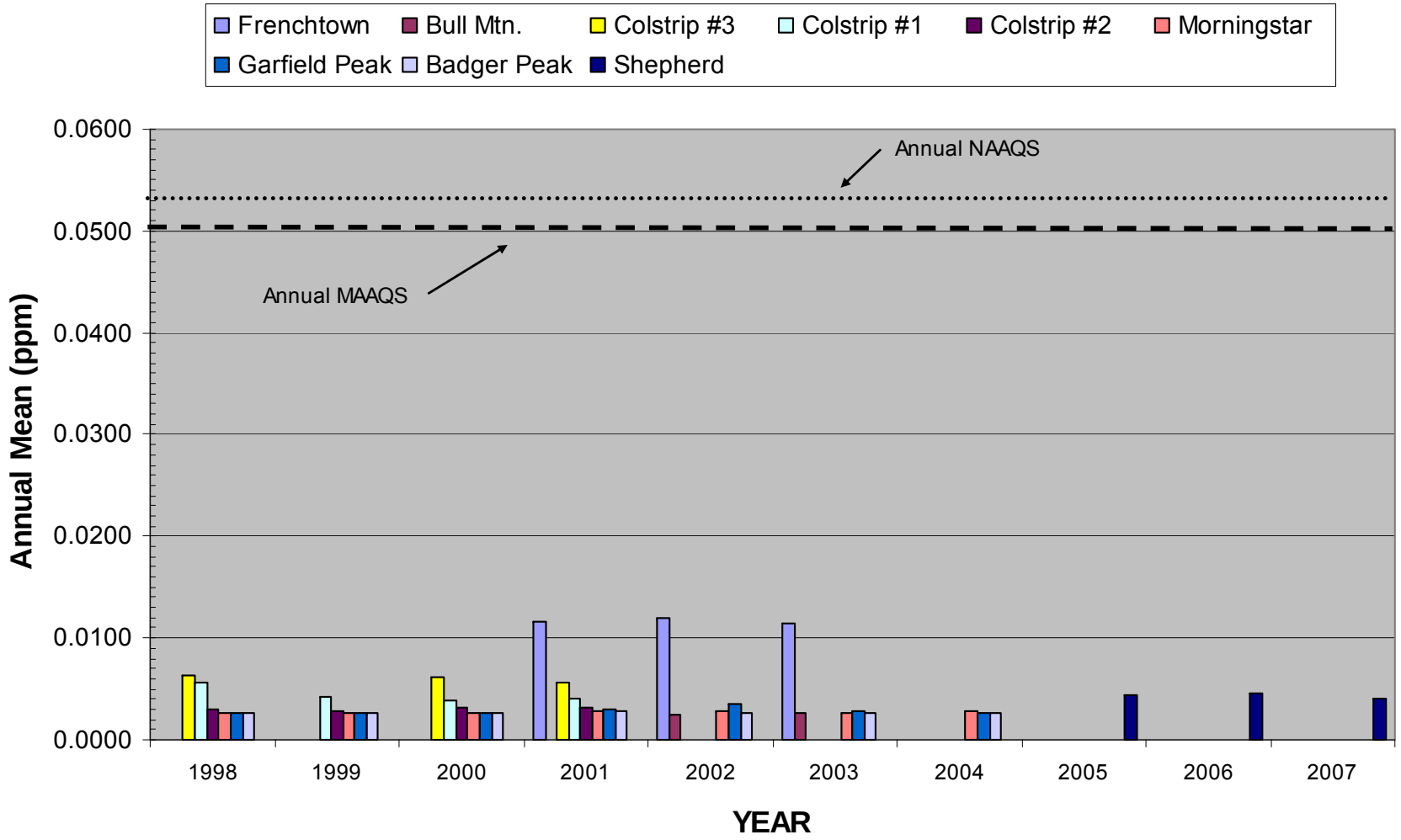
Nitrogen Dioxide (NO_2)

- Annual NAAQS 1° = 0.053 ppm
- 1-Hr MAAQS 1° = 0.30 ppm[b]
- Annual MAAQS 1° = 0.050 ppm
- [b] no more than 1 exceedance per rolling 12 months

1998-2007 NO2 Review 2nd Max 1-Hr



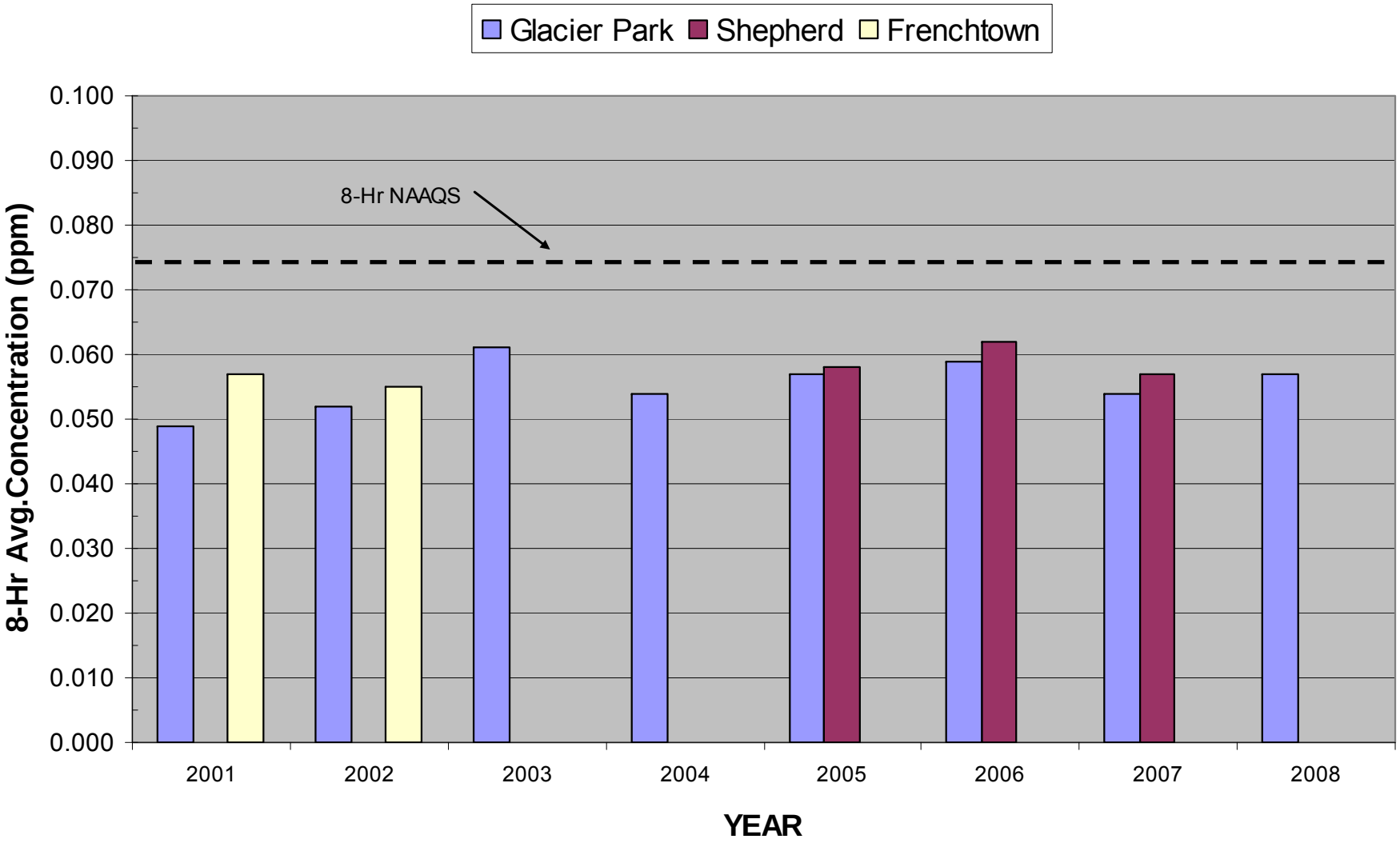
1998-2007 NO2 Review Annual Average



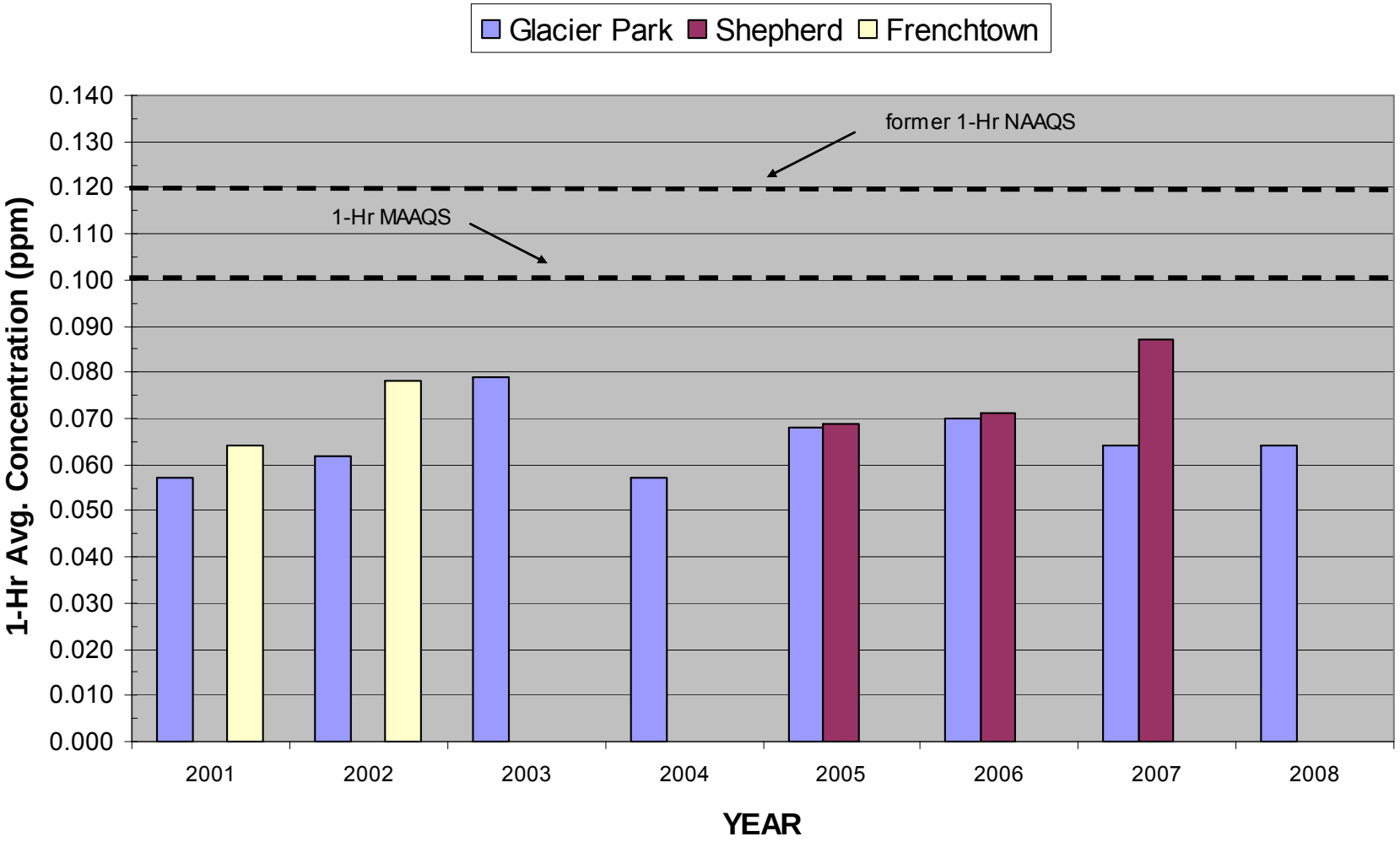
Ozone (O^3)

- 8-Hr NAAQS 1° = 0.075 ppm[d]
- 1-Hr MAAQS 1° = 0.10 ppm[b]
- [b] no more than 1 exceedance per rolling 12 months
- [d] 3-yr avg. of 4th Hi daily max from each year from each site can not be exceeded

2001-08 O3 Review 4th Max 8-Hr



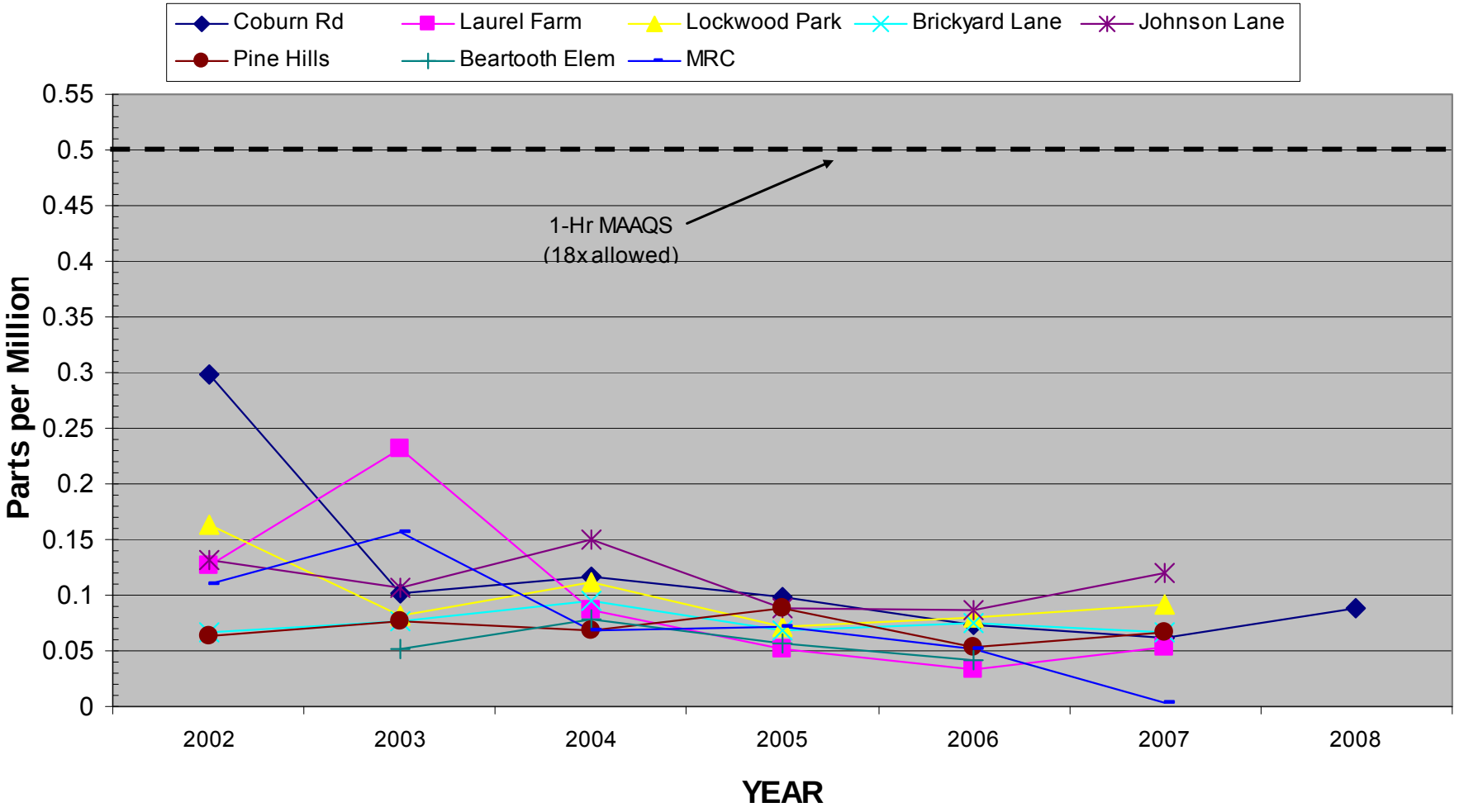
2001-08 O3 Review Max 1-Hr



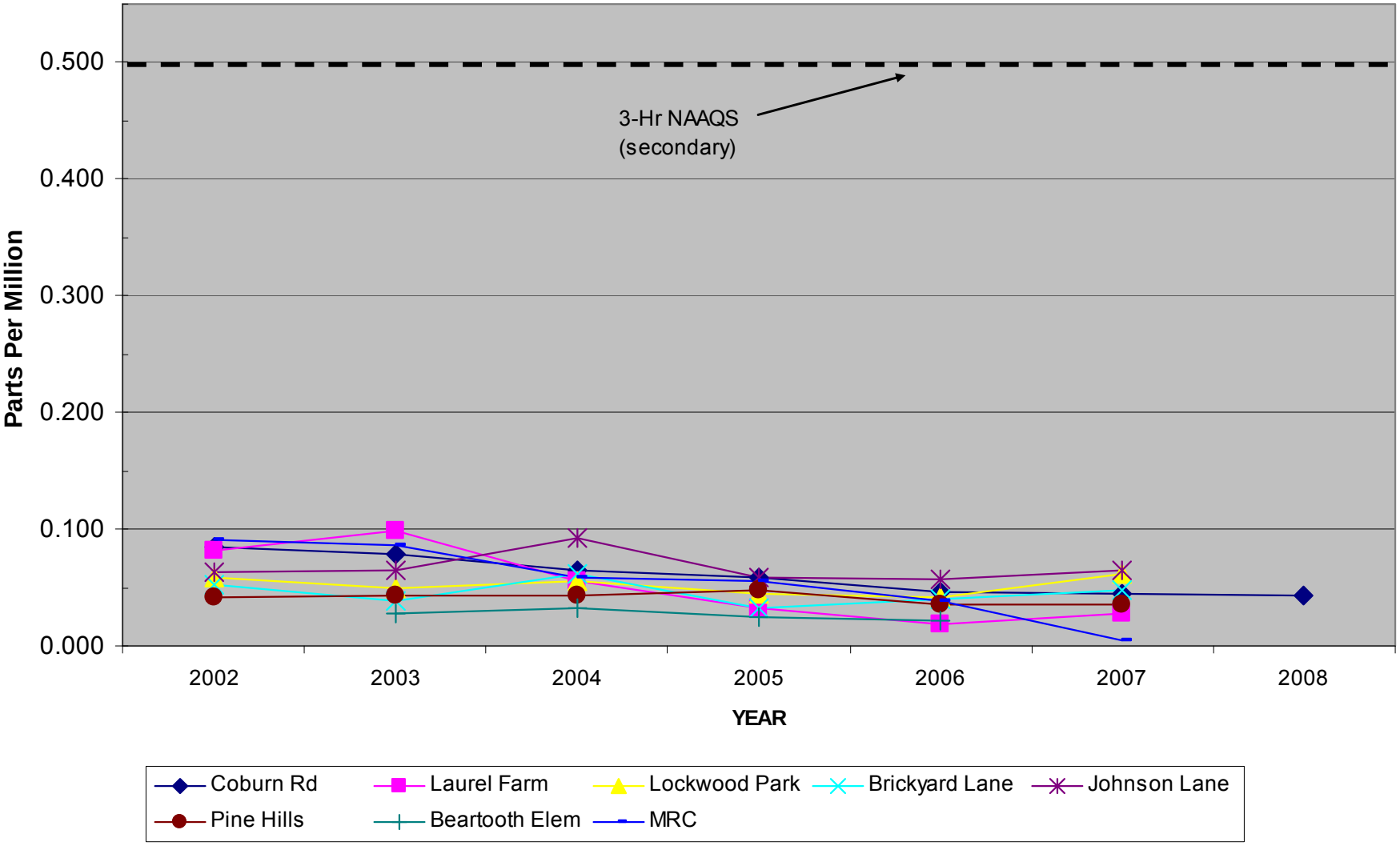
Sulfur Dioxide (SO_2)

- 3-Hr NAAQS 2° = 0.50 ppm[a]
- 24-Hr NAAQS 1° = 0.14 ppm[a]
- Annual NAAQS 1° = 0.03 ppm
- 1-Hr MAAQS 1° = 0.5 ppm[c]
- 24-Hr MAAQS 1° = 0.10 ppm[b]
- Annual MAAQS 1° = 0.02 ppm
- 2° = secondary, welfare standard
- [a] no more than 1 exceedance per calendar year
- [b] no more than 1 exceedance per rolling 12 months
- [c] no more than 18 exceedance per rolling 12 months

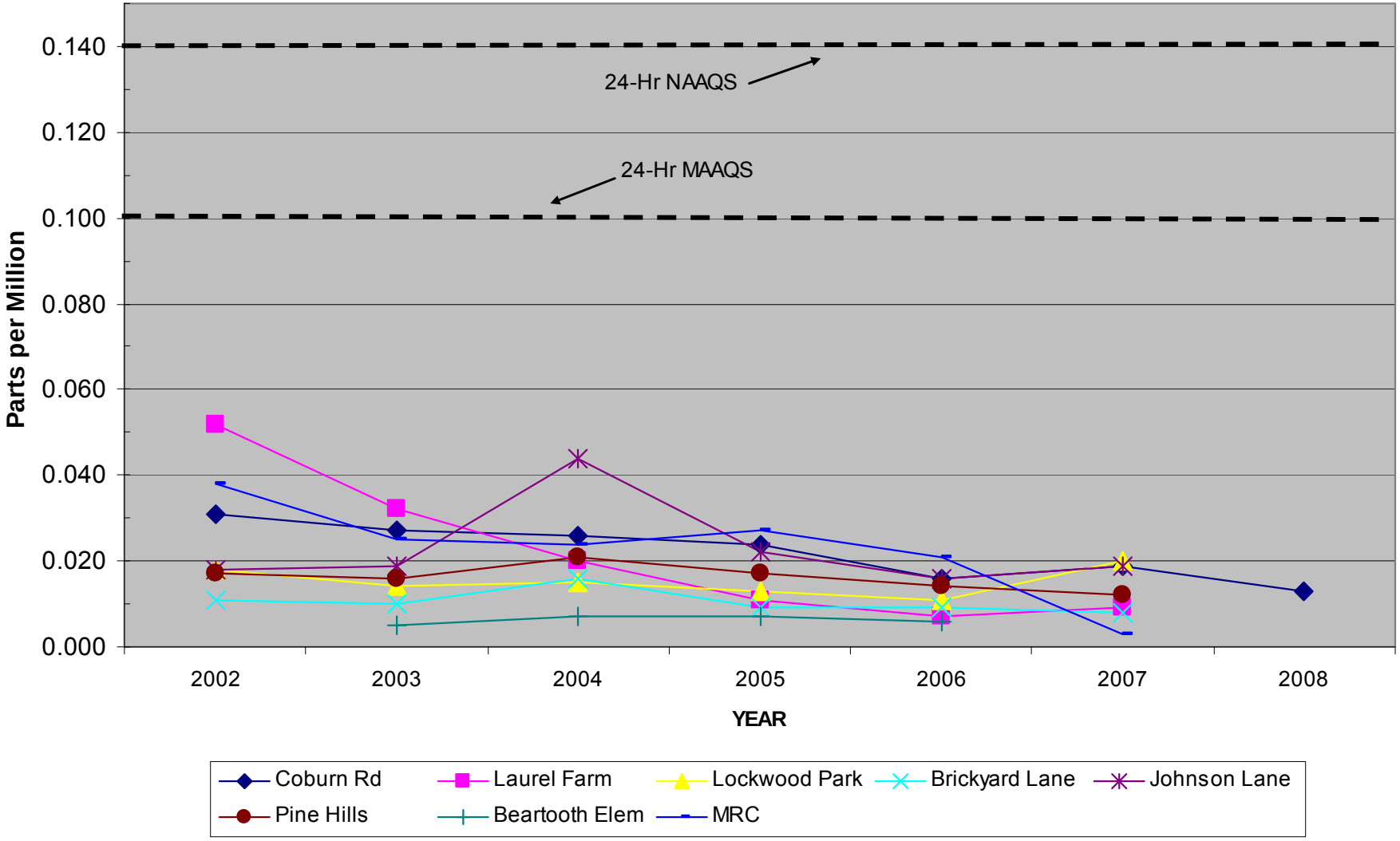
2002-08 SO2 Review 1-Hr 2nd Max



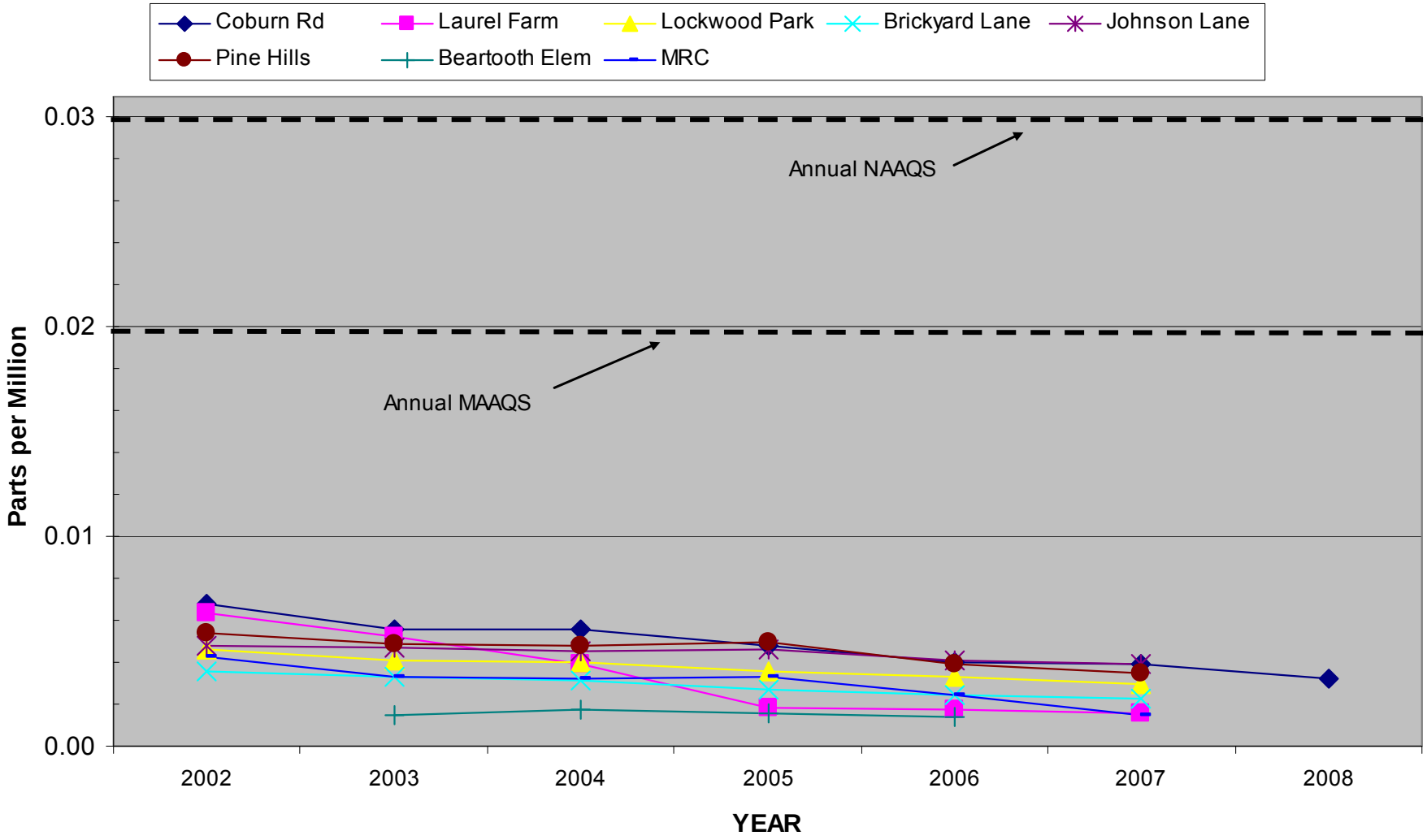
2002-08 SO2 Review 3-Hr 2nd Max



2002-08 SO2 Review 24-Hr 2nd Max



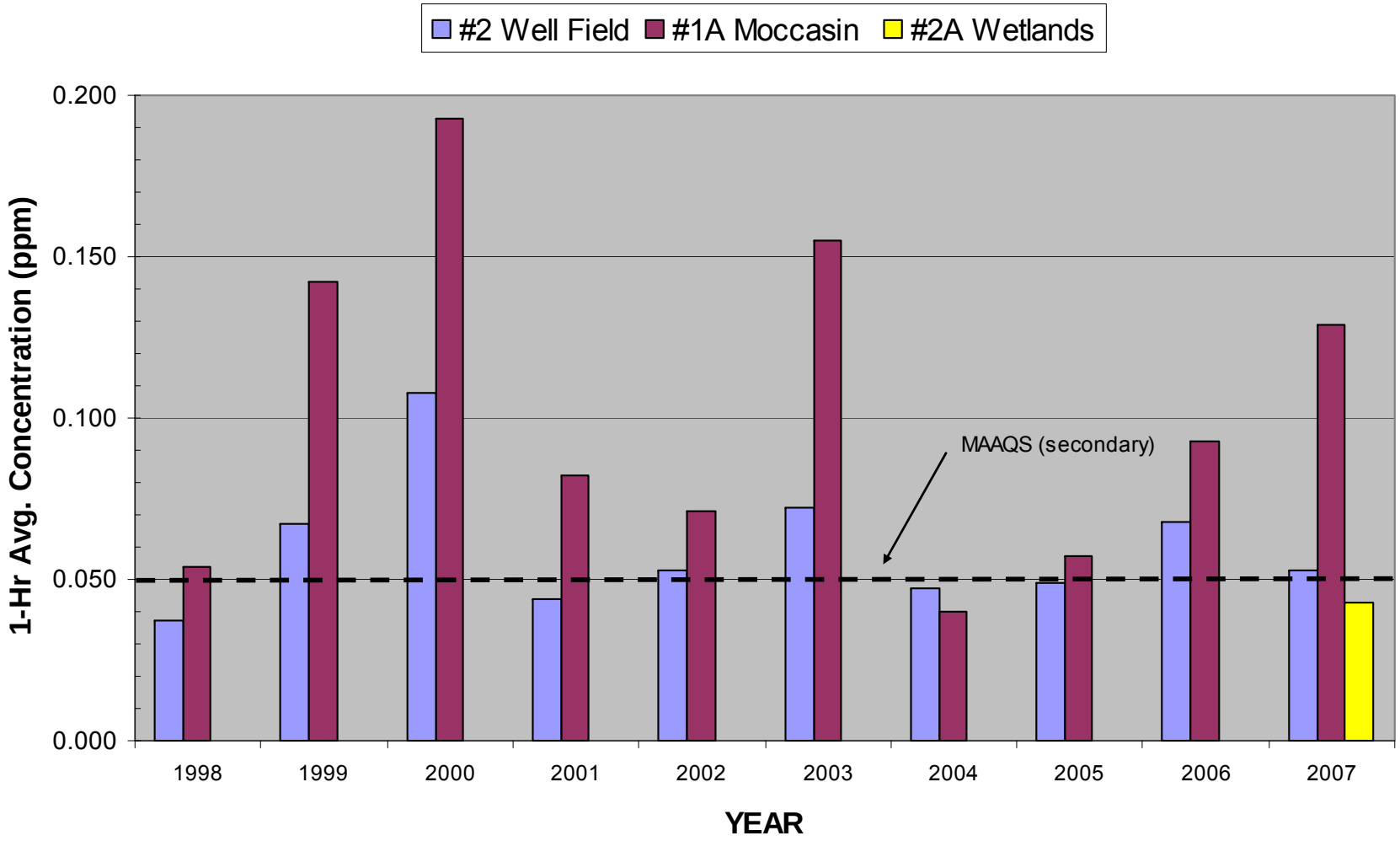
2002-08 SO2 Review Annual Avg.



Hydrogen Sulfide (H_2S)

- 1-Hr MAAQS 2° = 0.50 ppm[b]
- 2° = secondary, welfare (odor) standard
- [b] no more than 1 exceedance per rolling 12 months

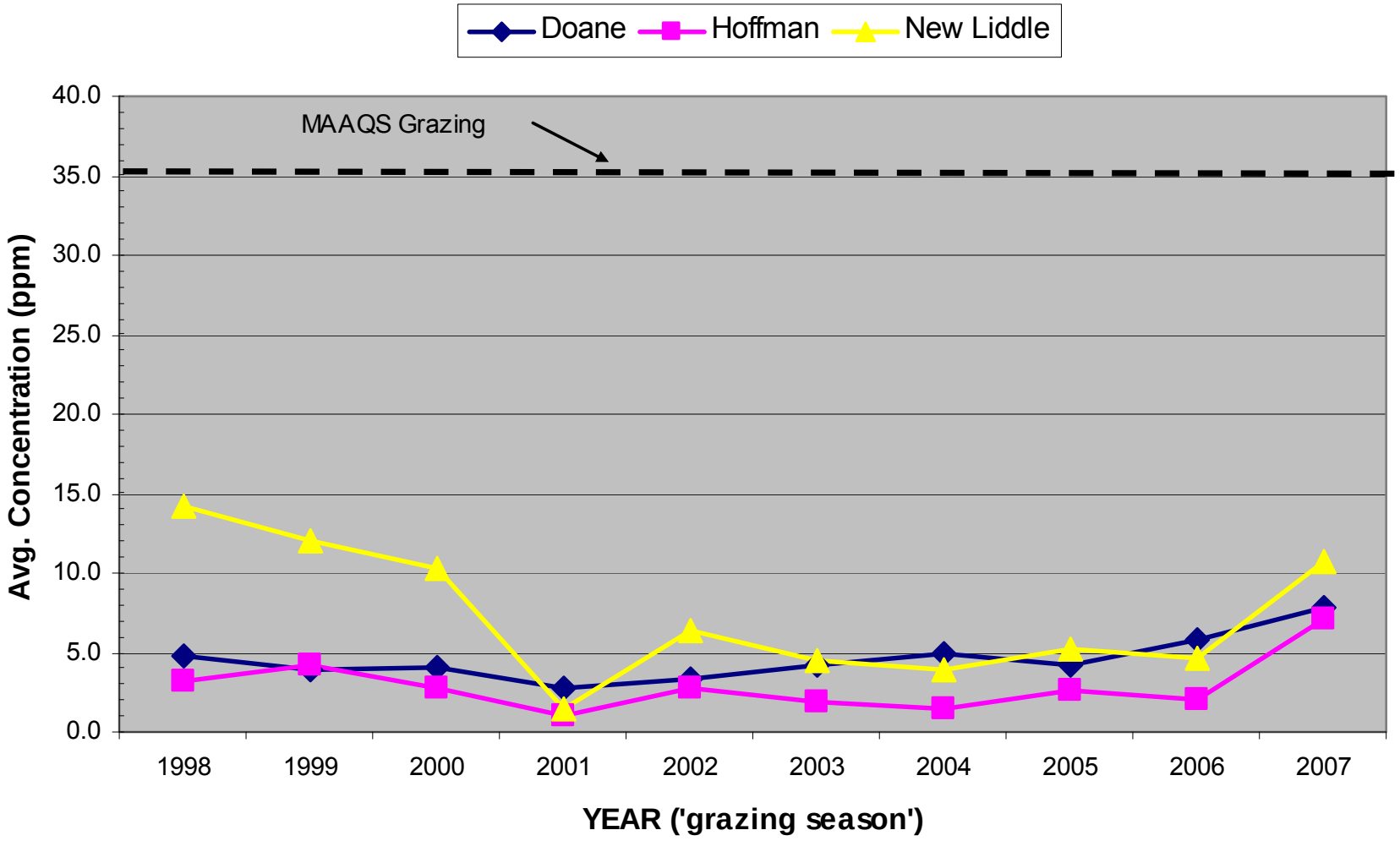
1998-2007 Stone Container H2S Review 2nd Max 1-Hr



Fluoride in Forage

- Monthly Avg. MAAQS = 50 µg/g (ppm)
- Grazing Season Avg. MAAQS = 35 µg/g (ppm)
- Secondary Standard
- Compliance complicated by ‘grazing season’ and ‘minimum nutritional requirement’ definitions

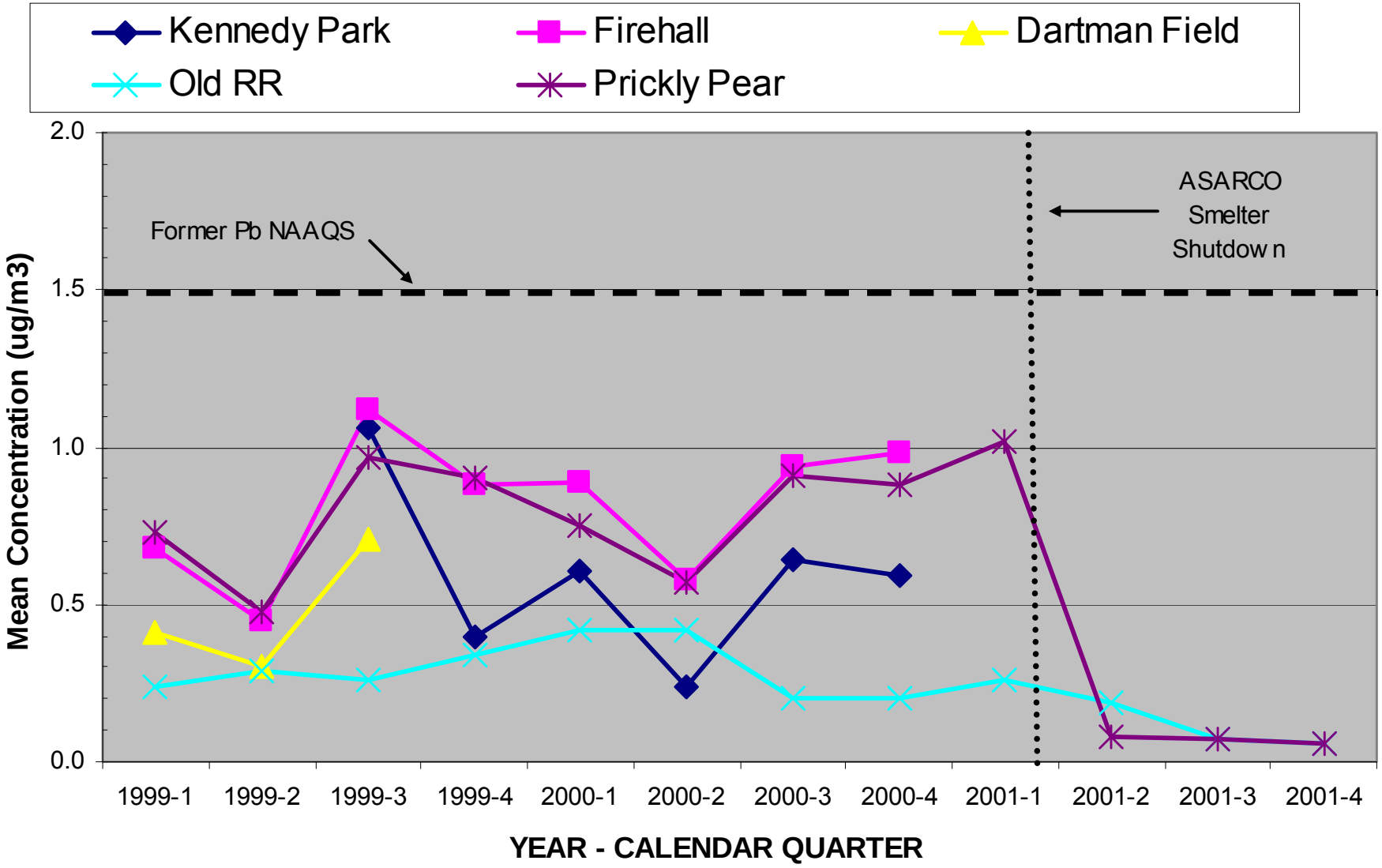
1998-2007 CFAC Fl in Veg Review Arith.Mean



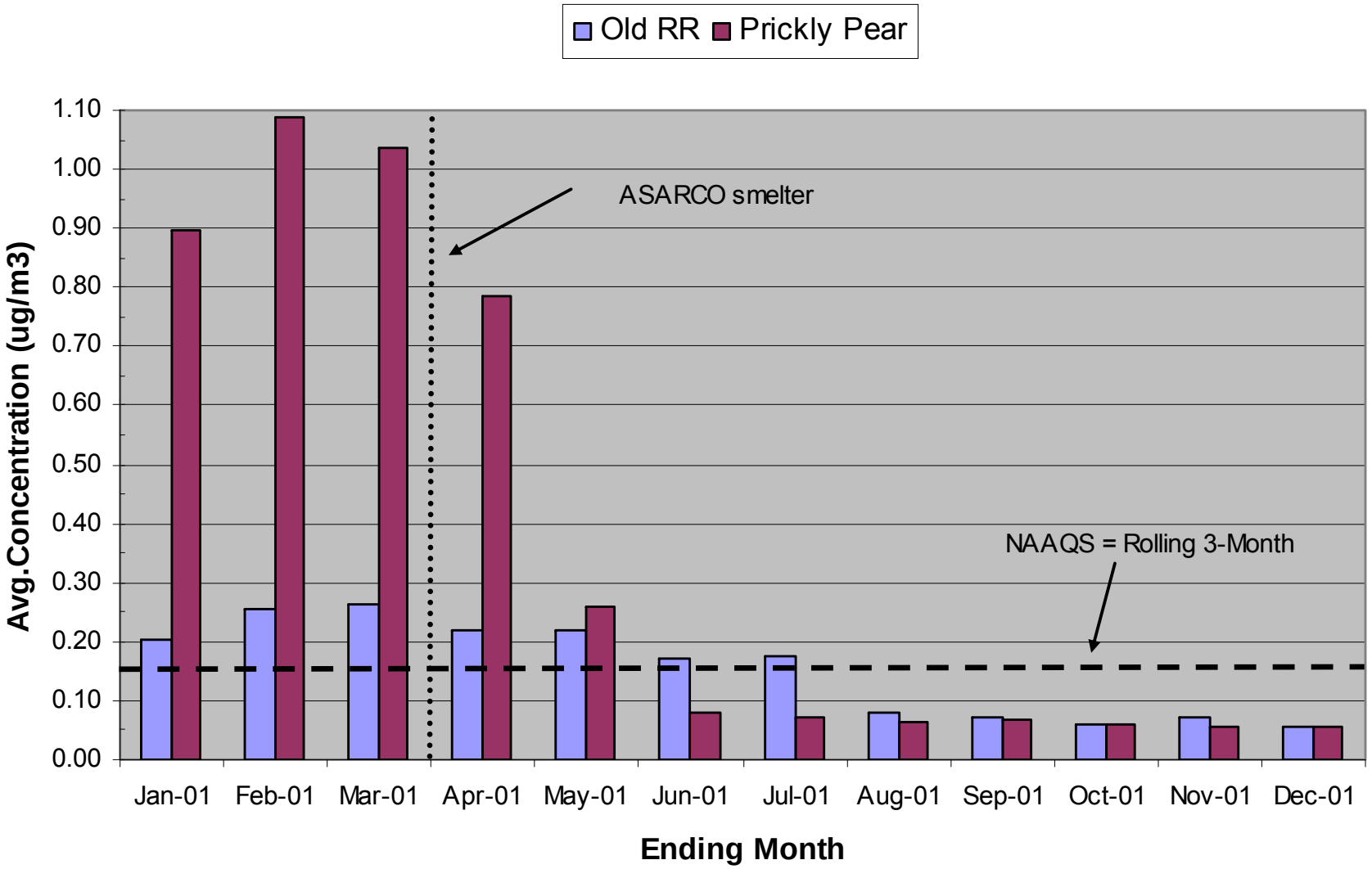
Lead (Pb)

- 90-Day MAAQS 1° = 1.5 μg/m^3 [f]
- Old Quarterly NAAQS 1° = 1.5 μg/m^3 [g]
- New Quarterly NAAQS 1° = 0.15 μg/m^3 [h]
- [f] rolling 90-day avg. do not exceed
- [g] calendar quarter avg. do not exceed
- [h] rolling 3-month avg. do not exceed

1999-2001 Pb Review Quarterly Means



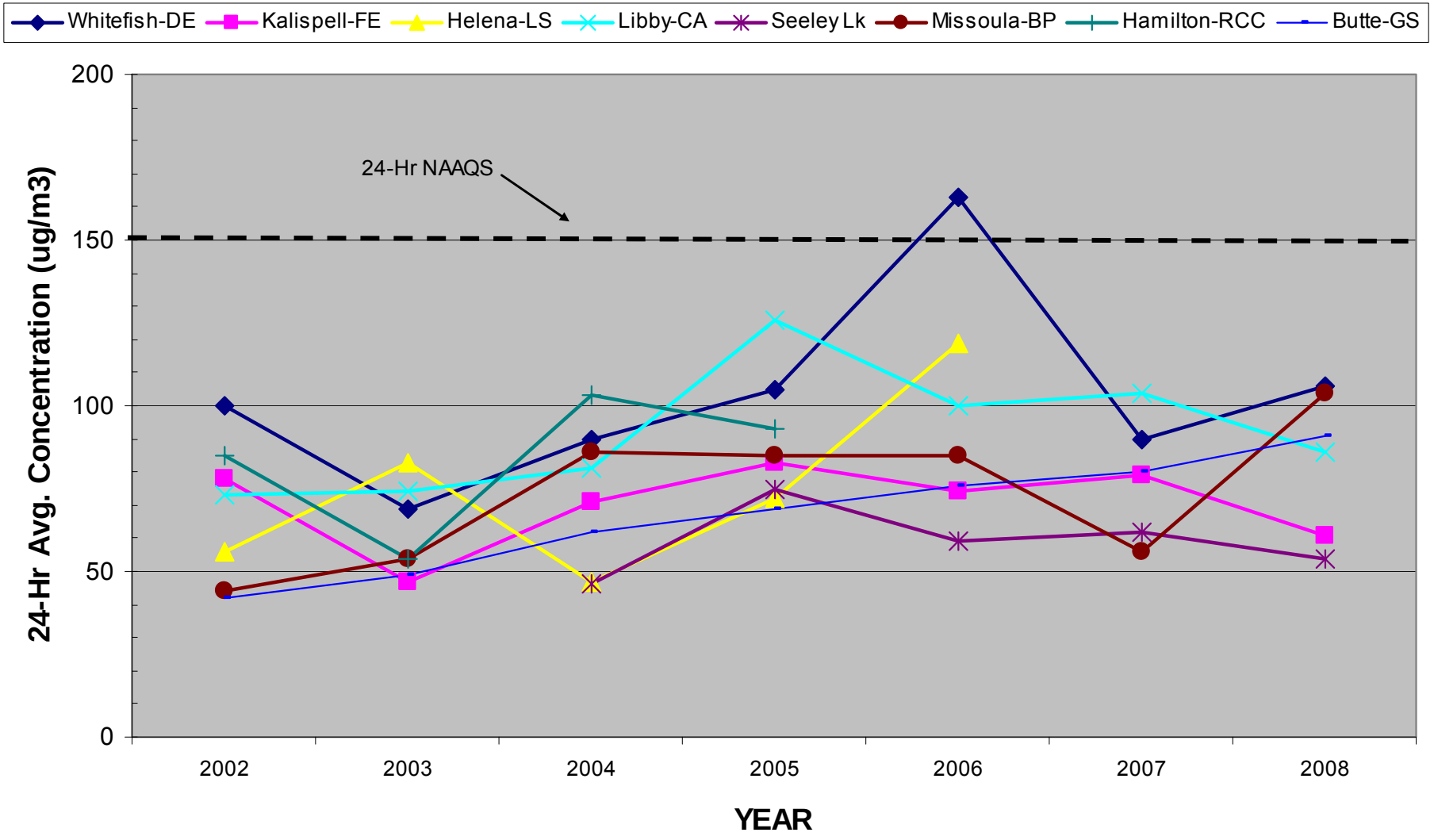
2001 Pb Review Rolling 3-Month Averages



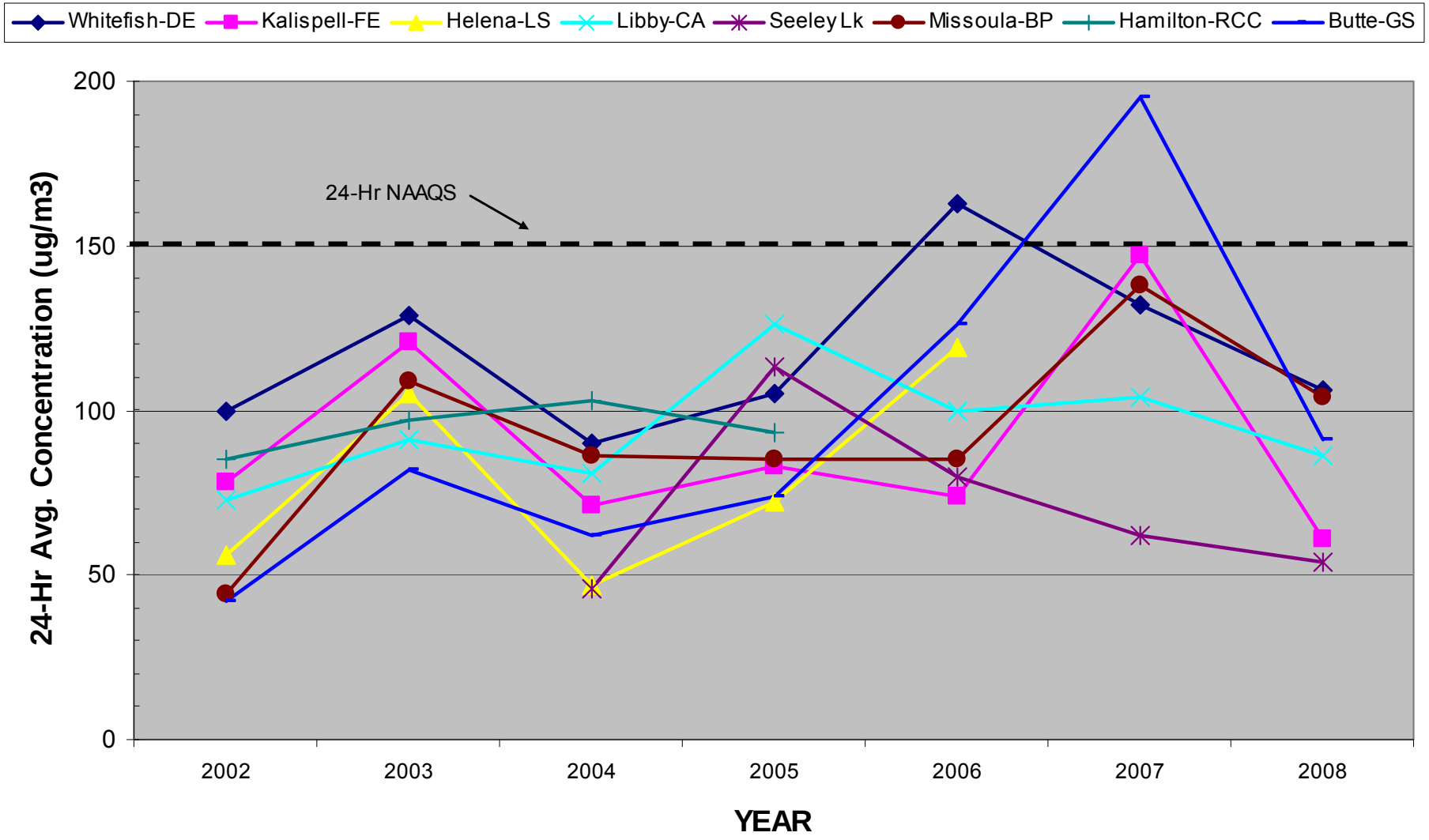
Particulate Matter ≤ 10 microns (PM10)

- 24-Hr M / NAAQS 1° = 150 μg/m^3 [e]
- Annual MAAQS 1° = 50 μg/m^3
- [e] no more than 1 expected exceedance/year over 3-yrs
- Secondary std. same as primary std.

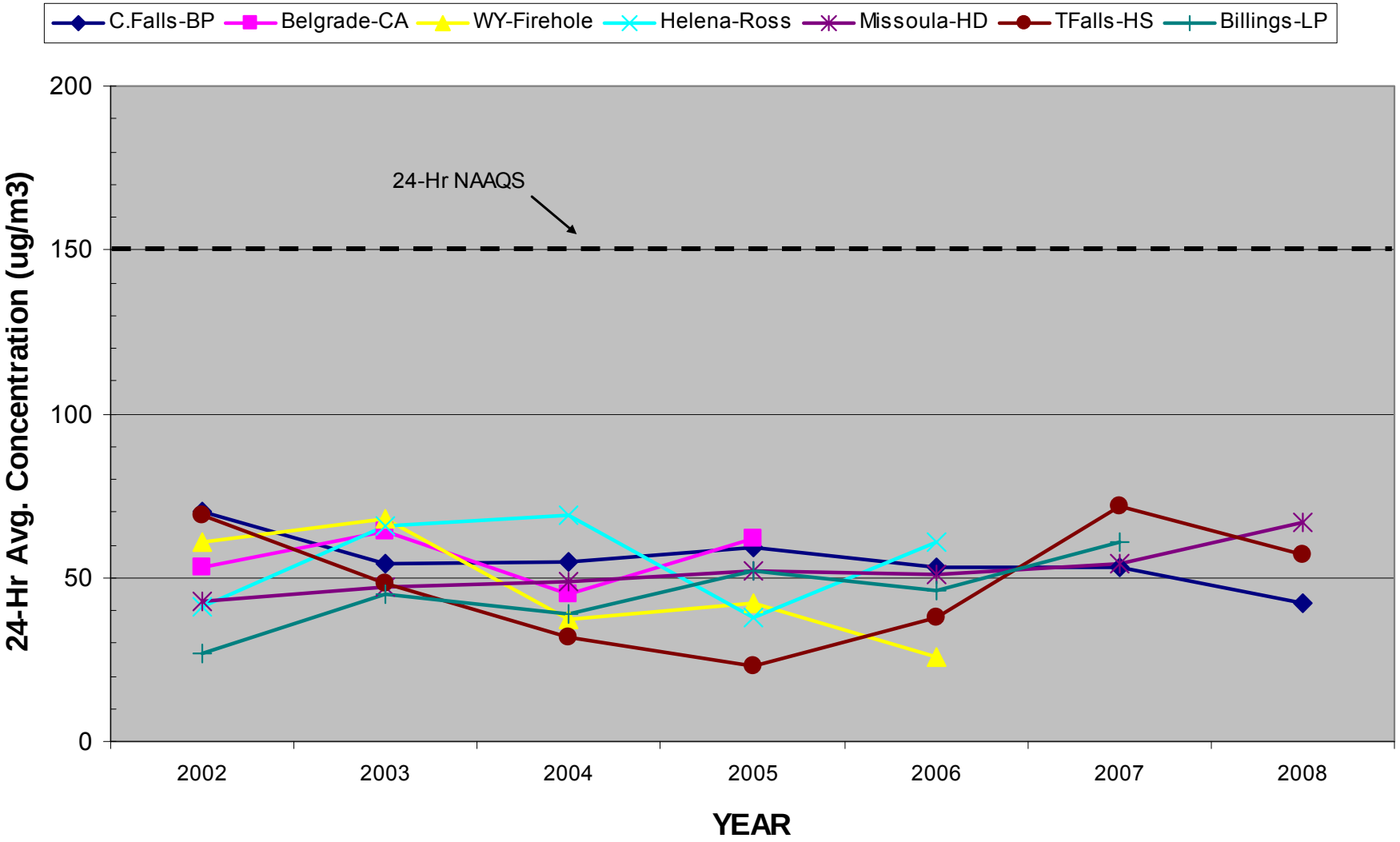
2002-08 PM10 Review 1st Max EEs NOT Incld.



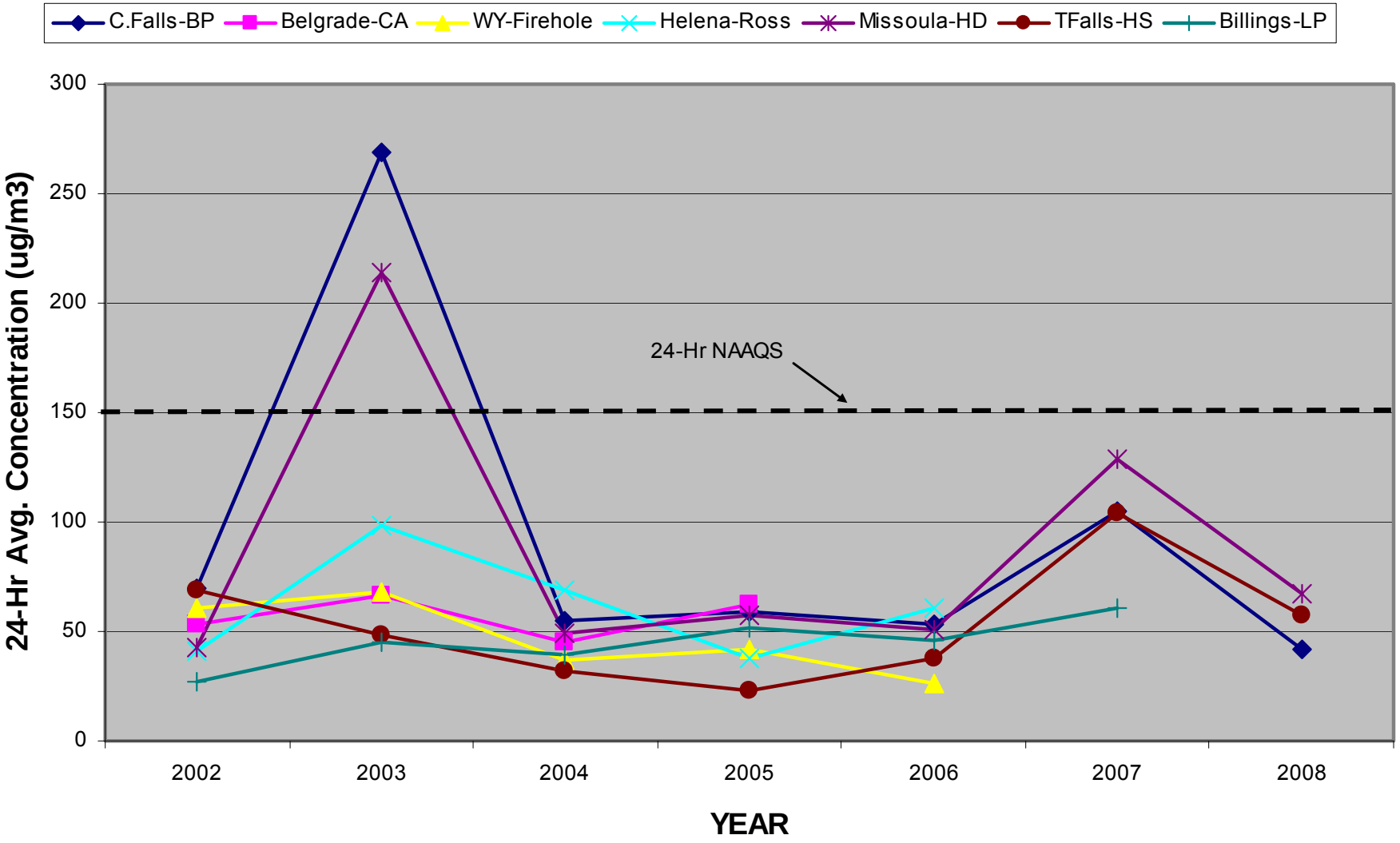
2002-08 PM10 Review 1st Max All EEs Included



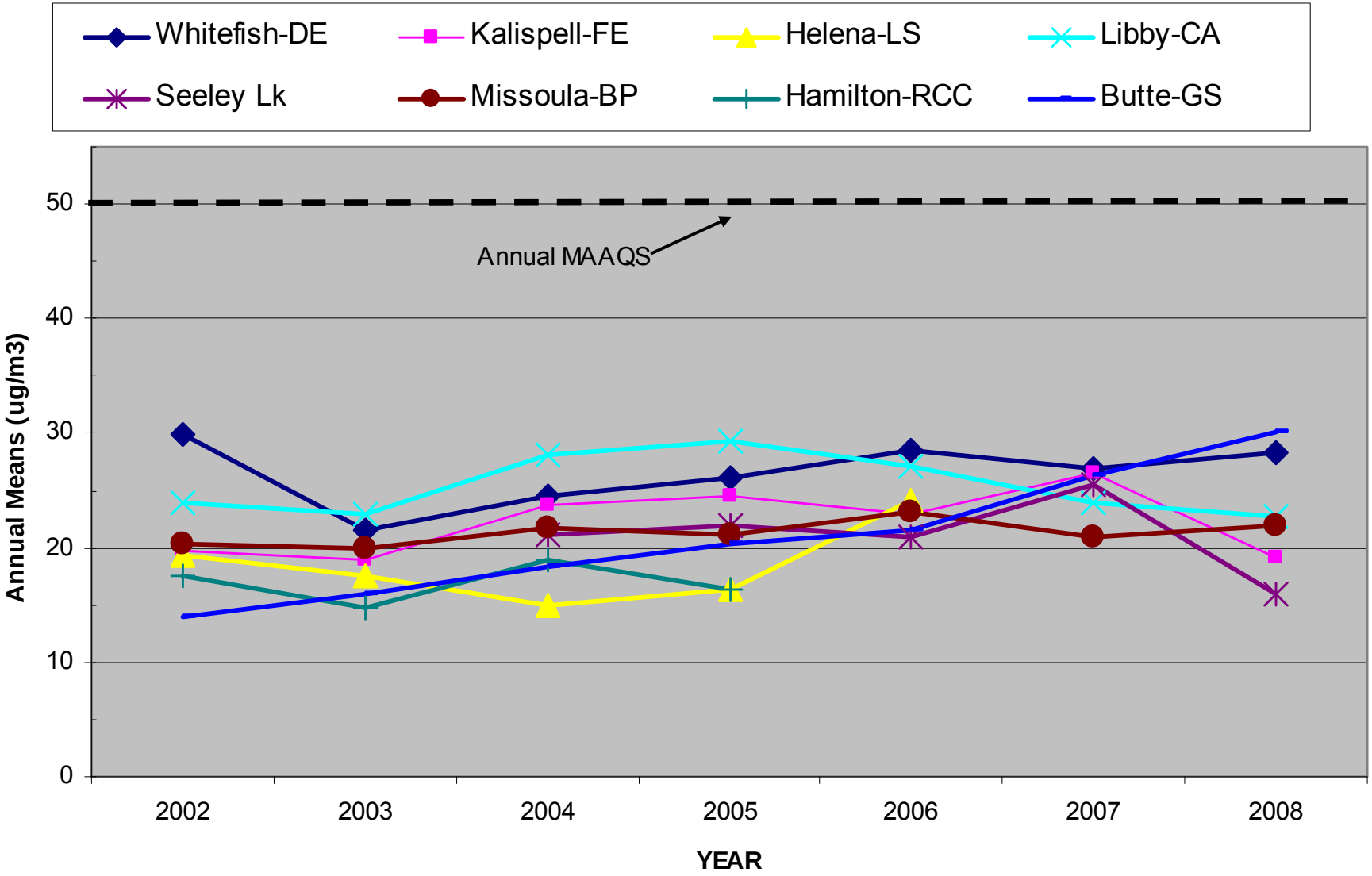
2002-08 PM10 Review 24-Hr 1st Max EEs NOT Included



2002-08 PM10 Review 24-Hr 1st Max All EEs Included



2002-08 PM10 Review Annual Means; No EEs



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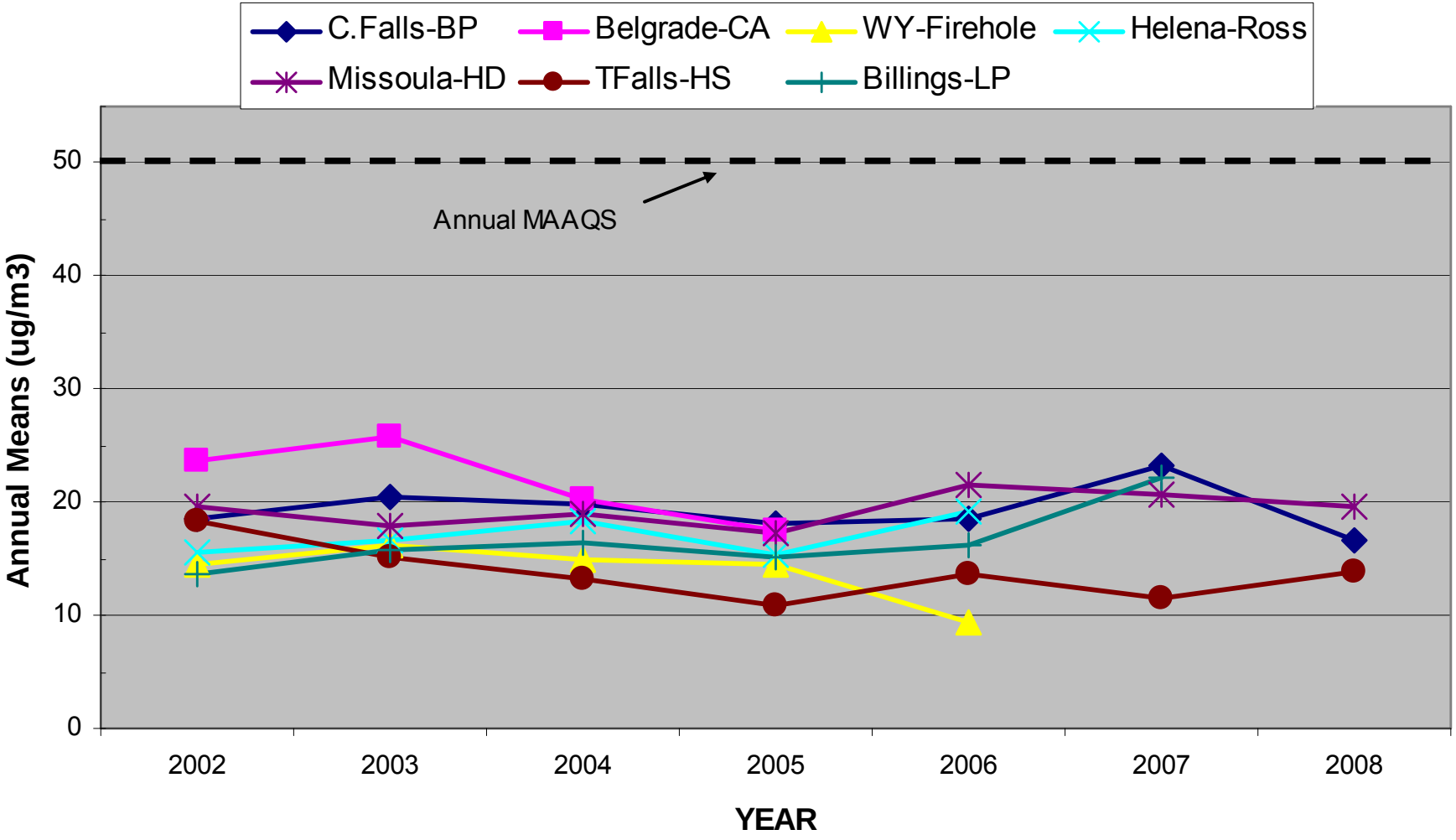
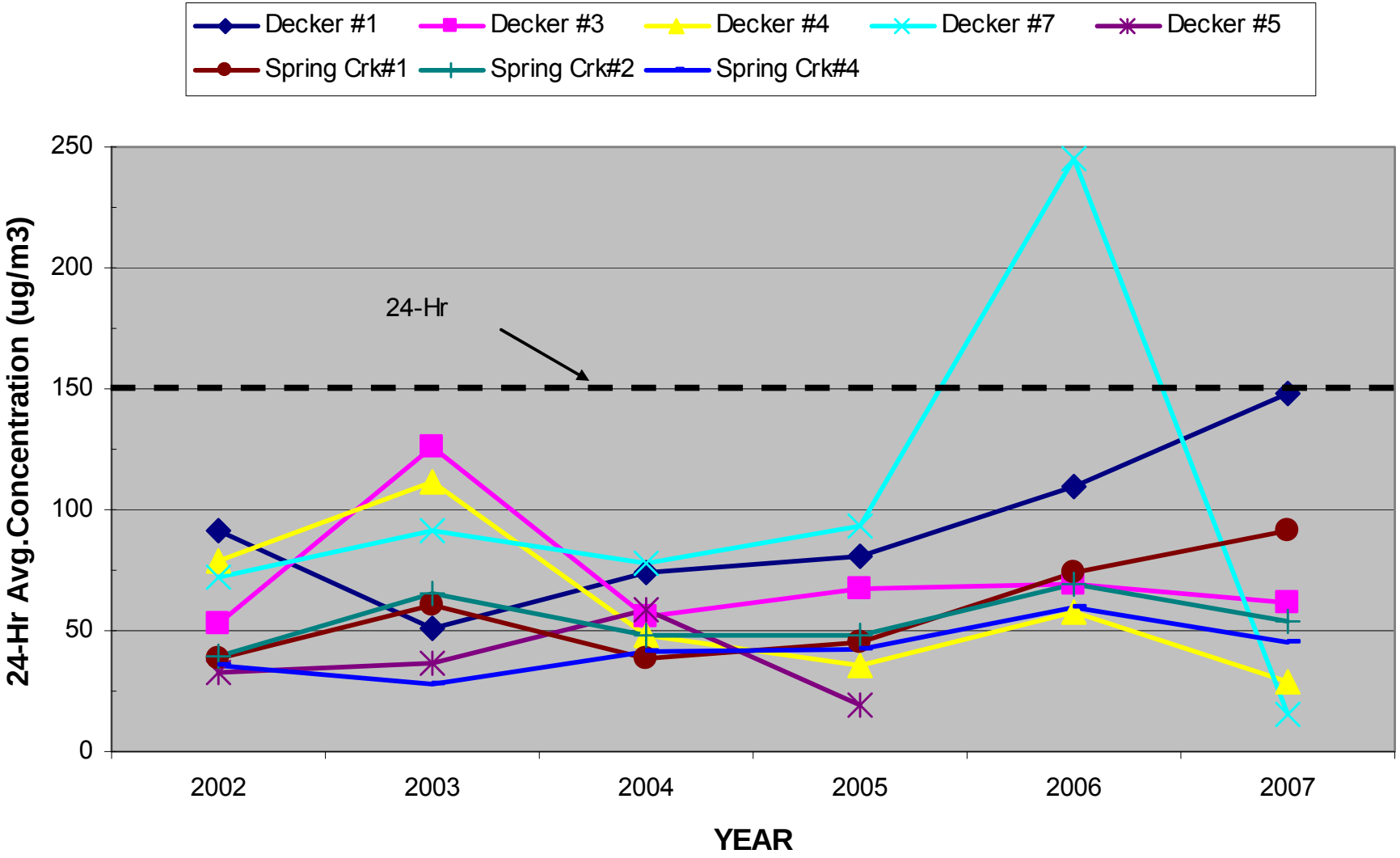
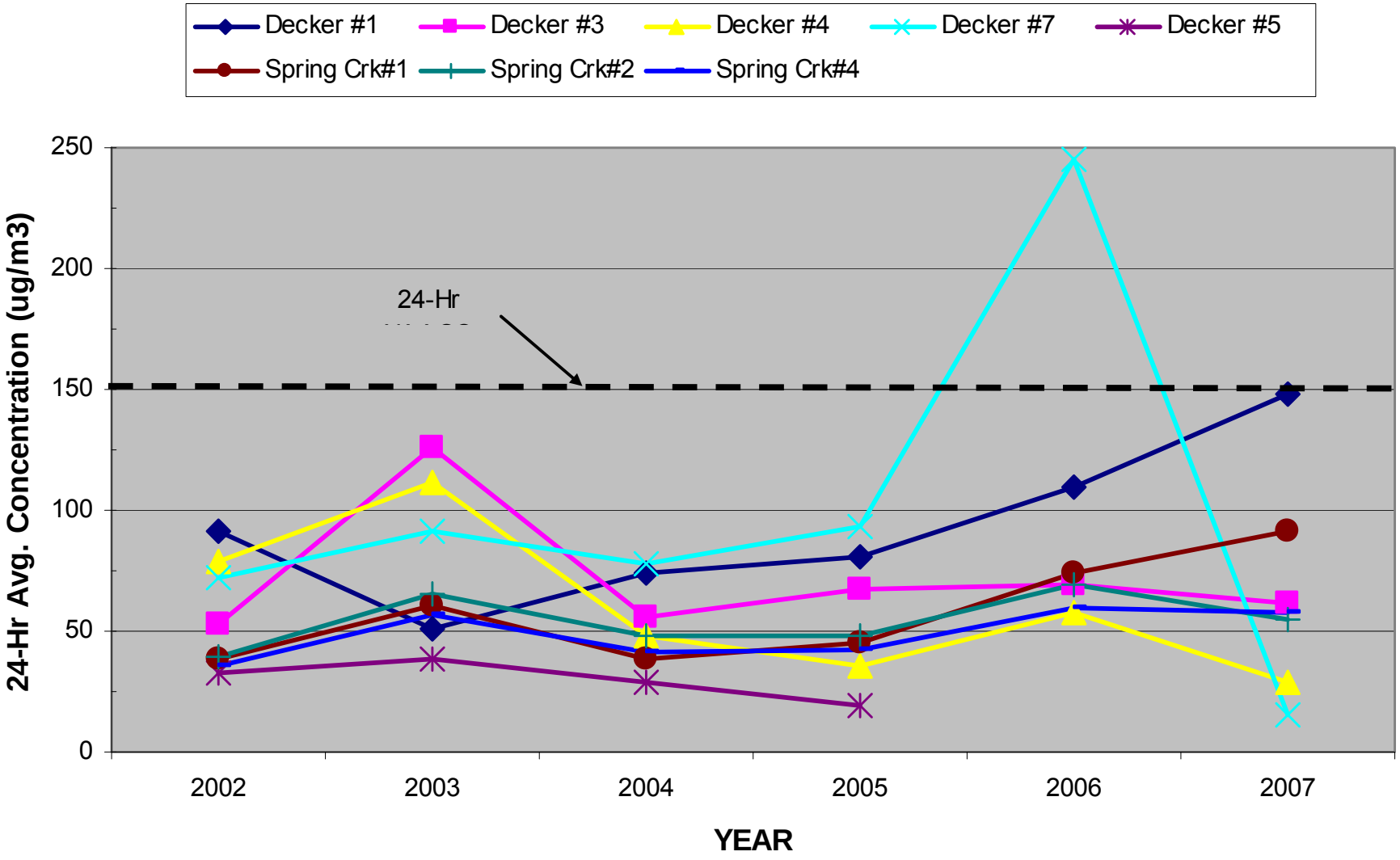


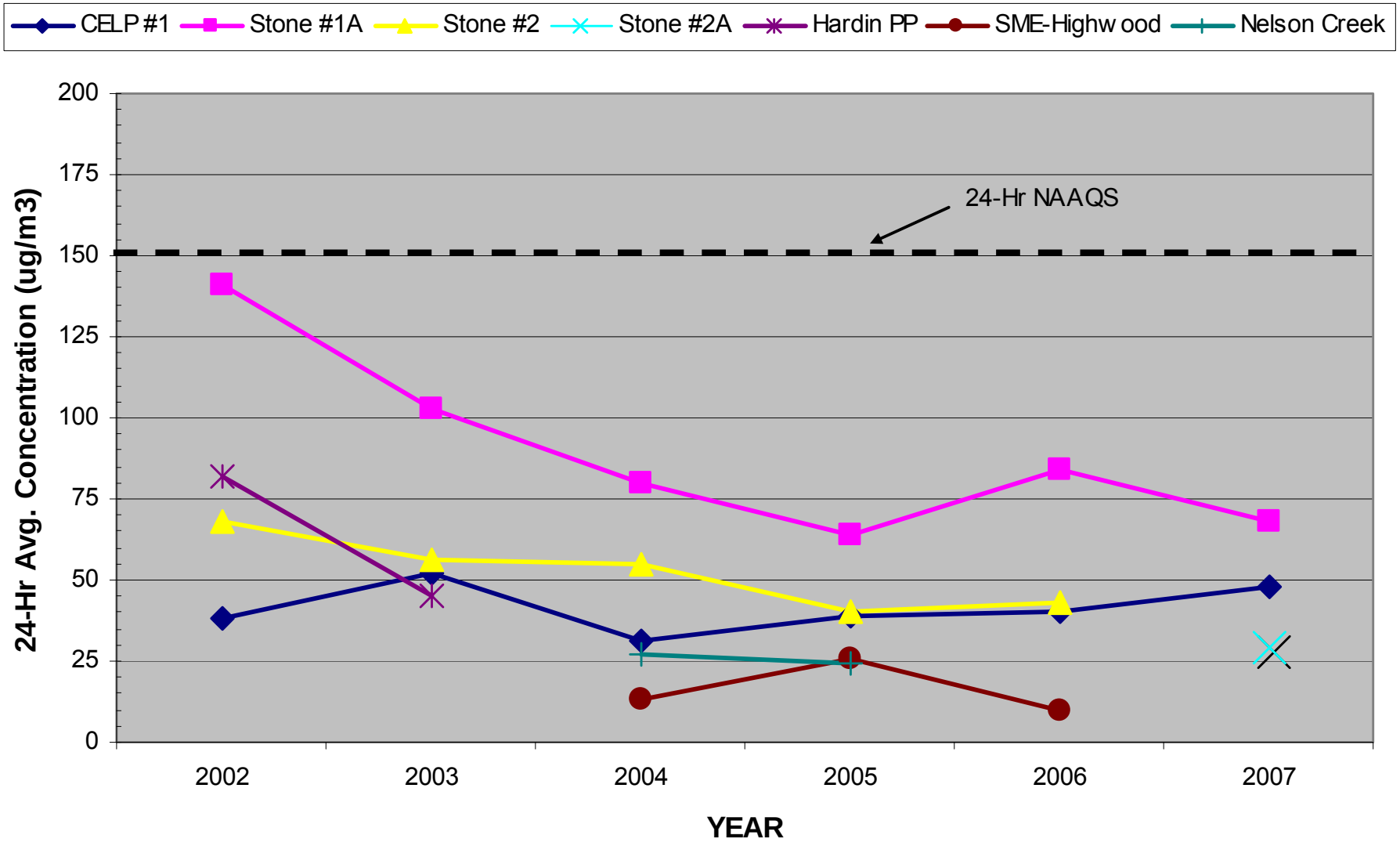
2002-07 Industrial PM10 Review 1st Max EEs Not Included



2002-07 Industrial PM10 Review 1st Max All EEs Included



2002-07 Industrial PM10 Review 1st Max No EEs Included



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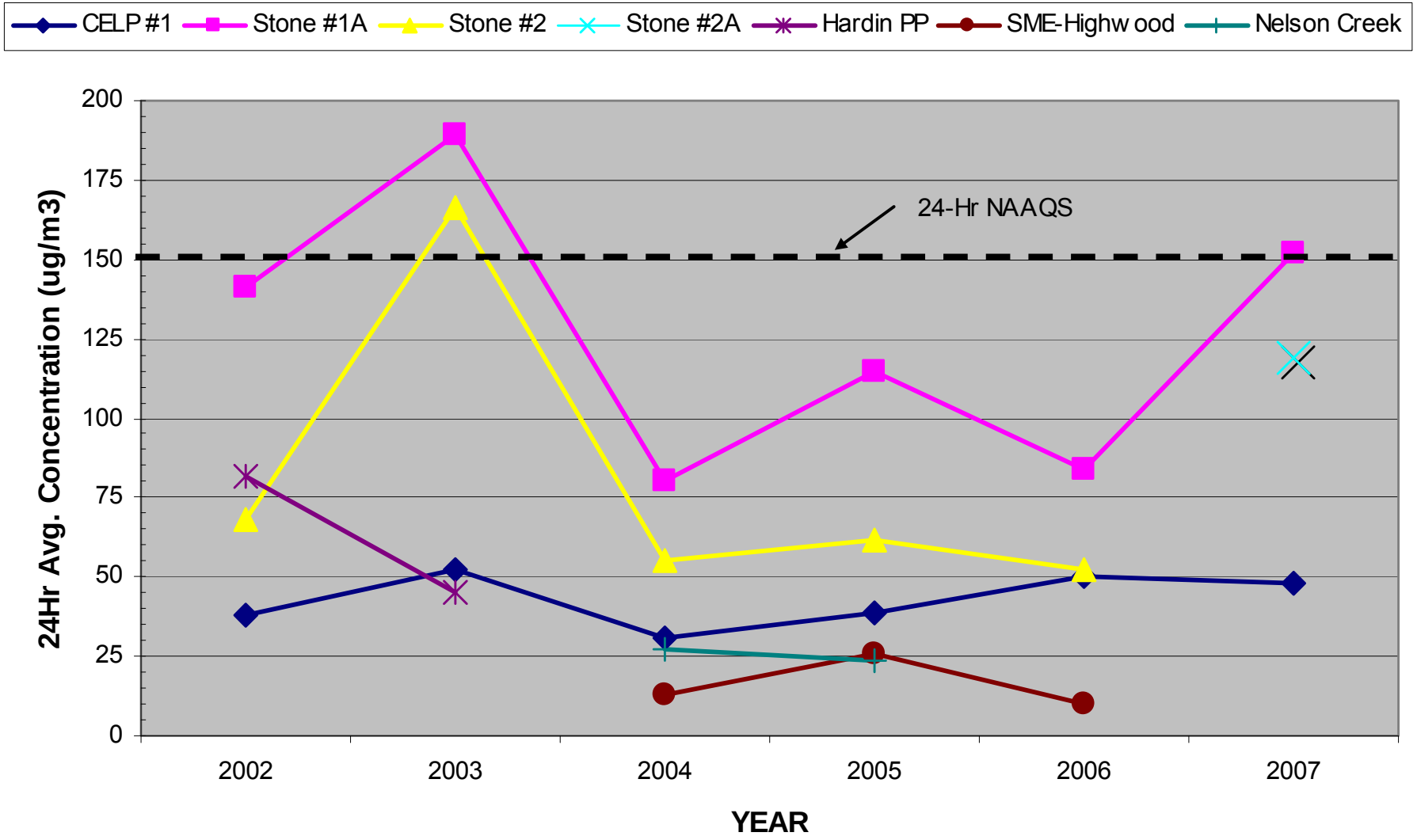

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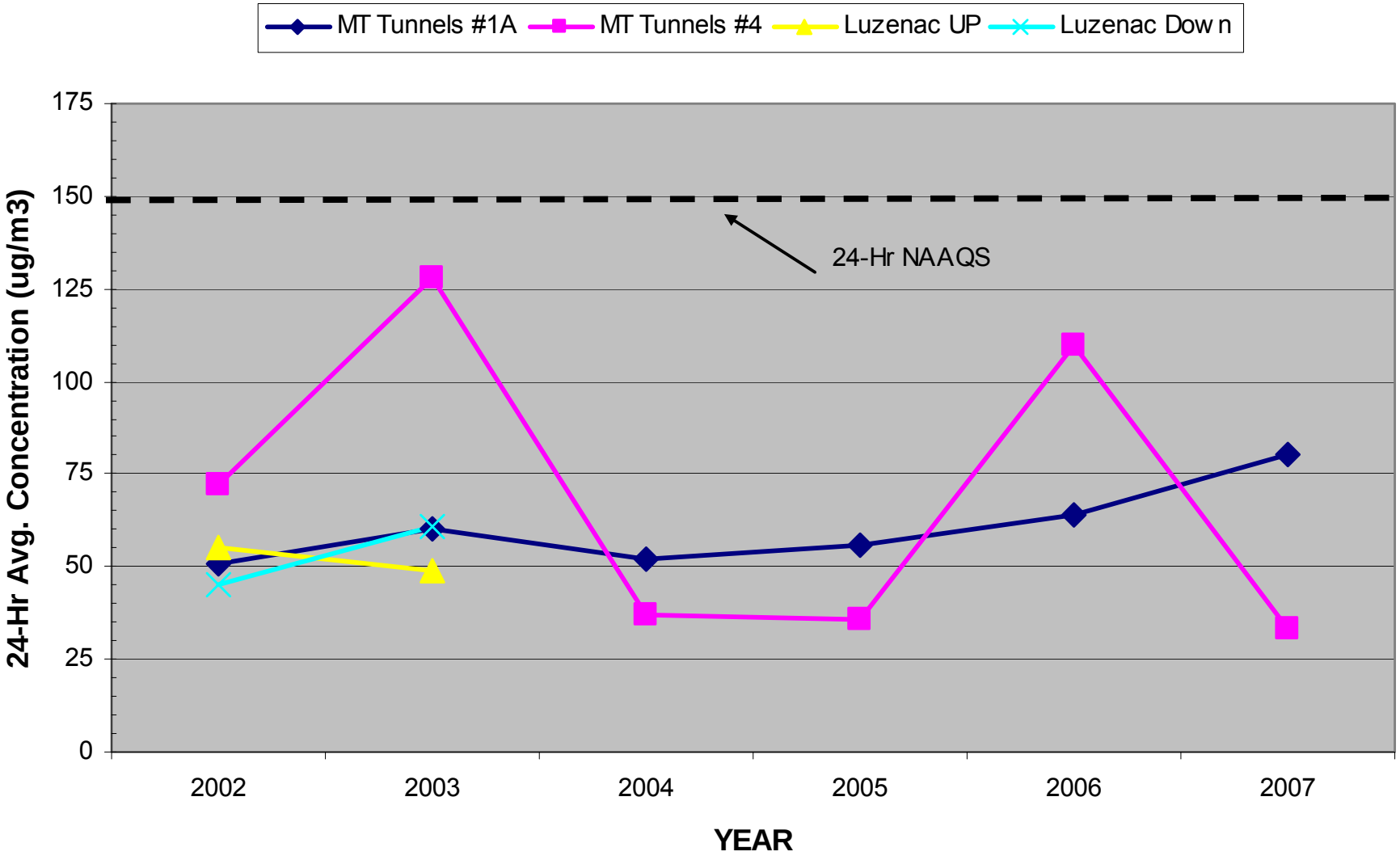

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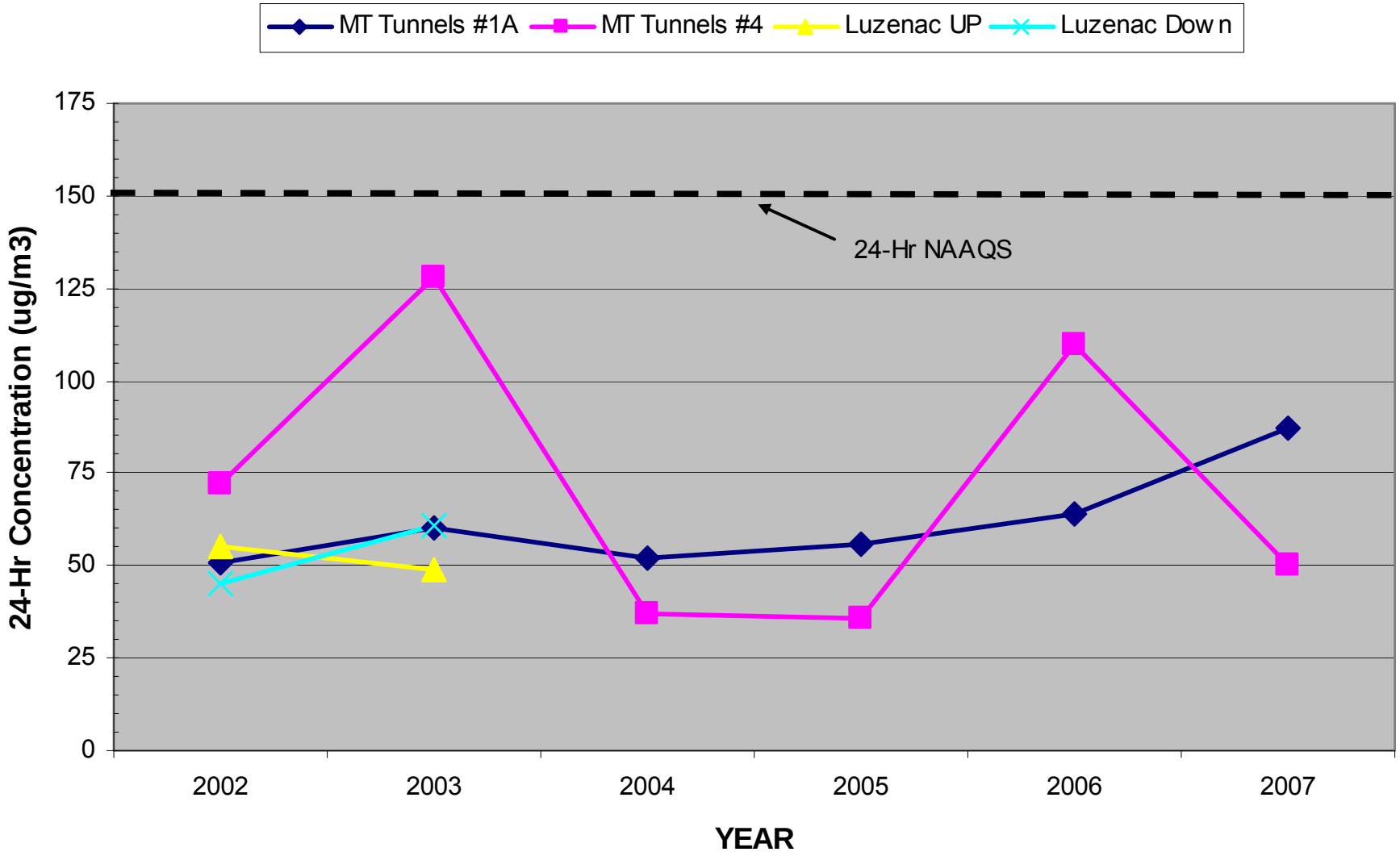

Particulate Matter ≤ 2.5 microns ($PM_{2.5}$)

- 24-Hr NAAQS 1° = 35 μg/m^3 [f]
- Annual NAAQS 1° = 15.0 μg/m^3 [g]
- [f] 3-yr avg. of 98th percentile 24-hr avgs.<35
- [g] 3-yr avg. of annual means <15.0
- Secondary std. same as primary std.

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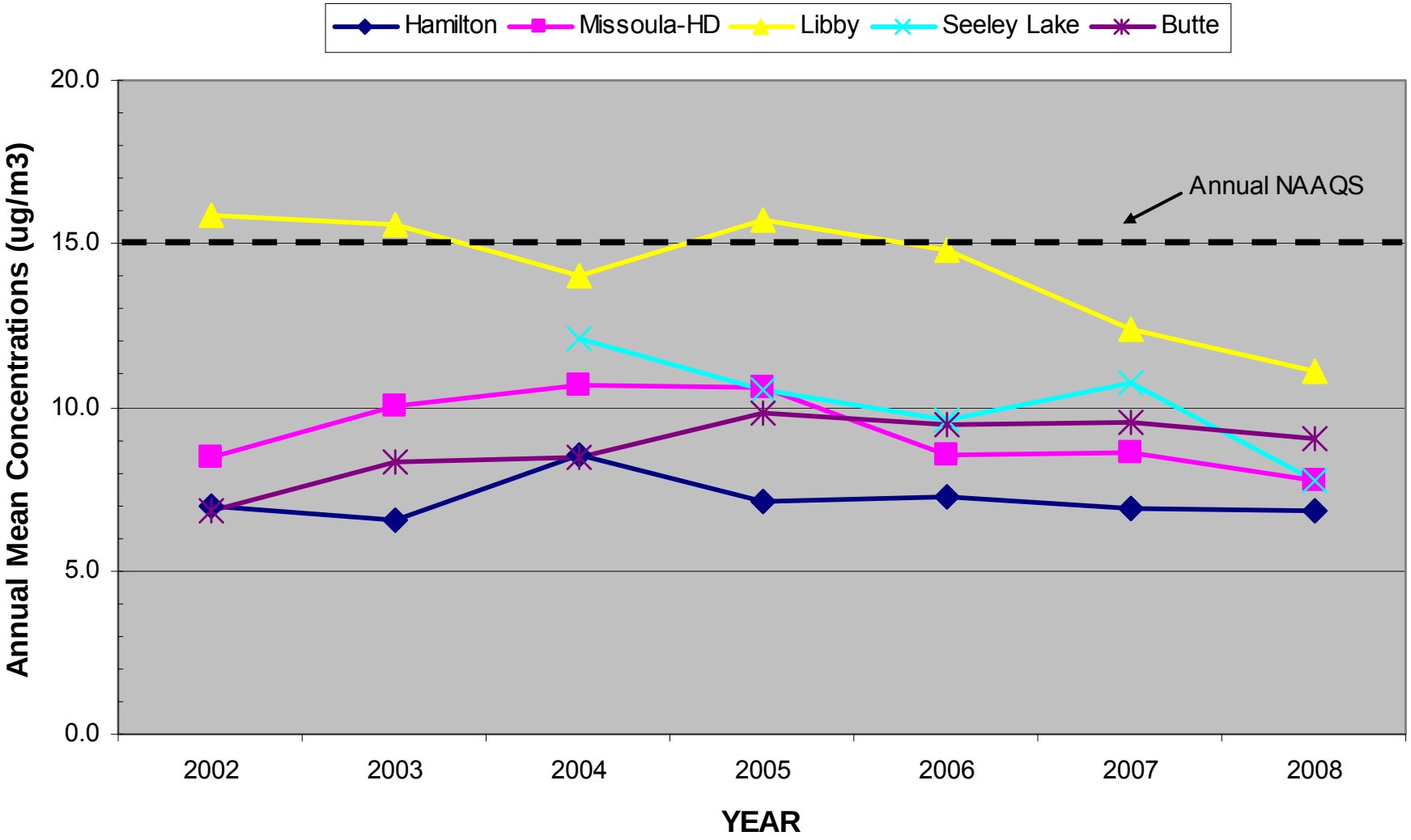
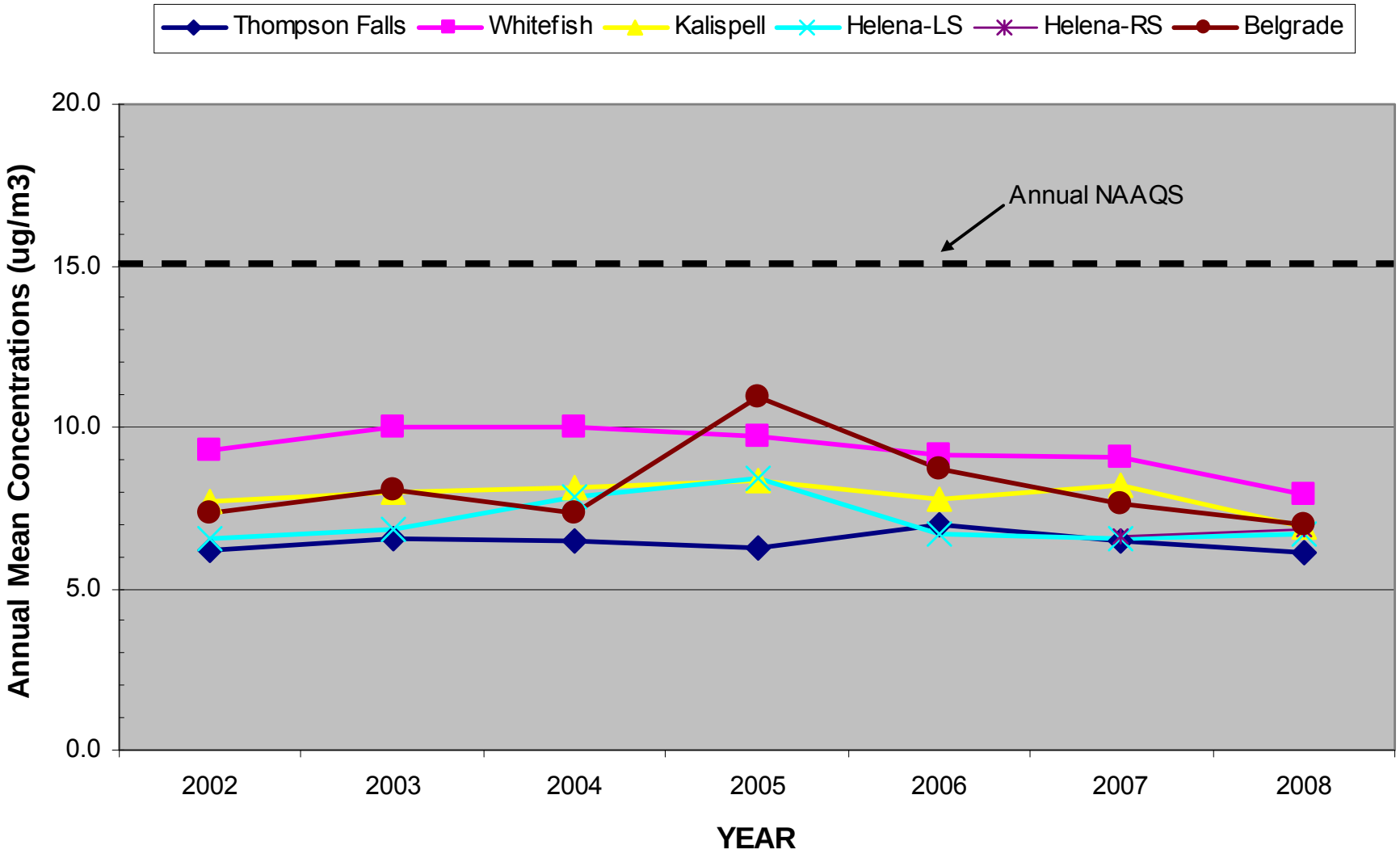
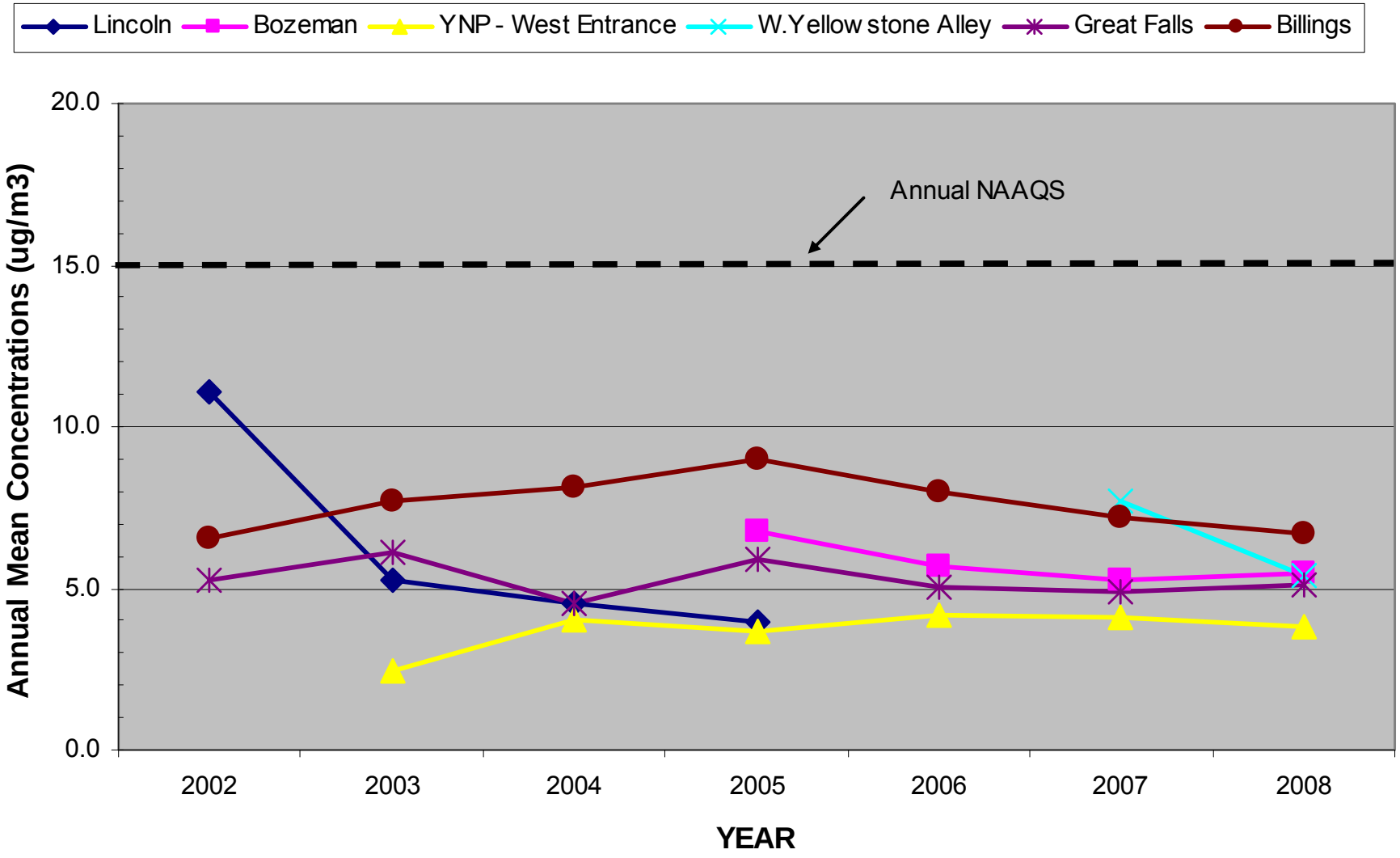
2002-08 PM2.5 Review Annual Means, No EE's Hi 5



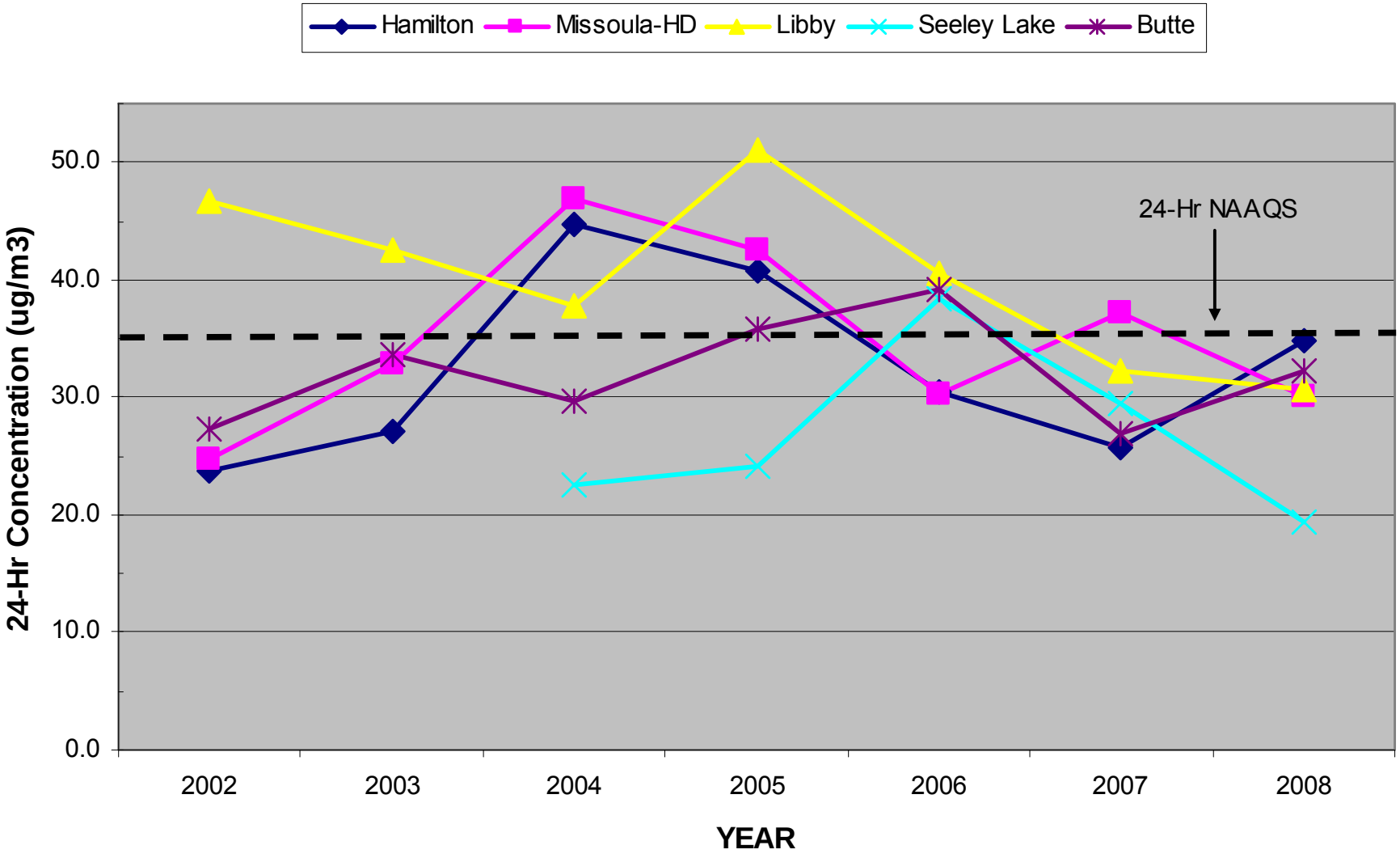
2002-08 PM2.5 Annual Means No EE's Mid 6



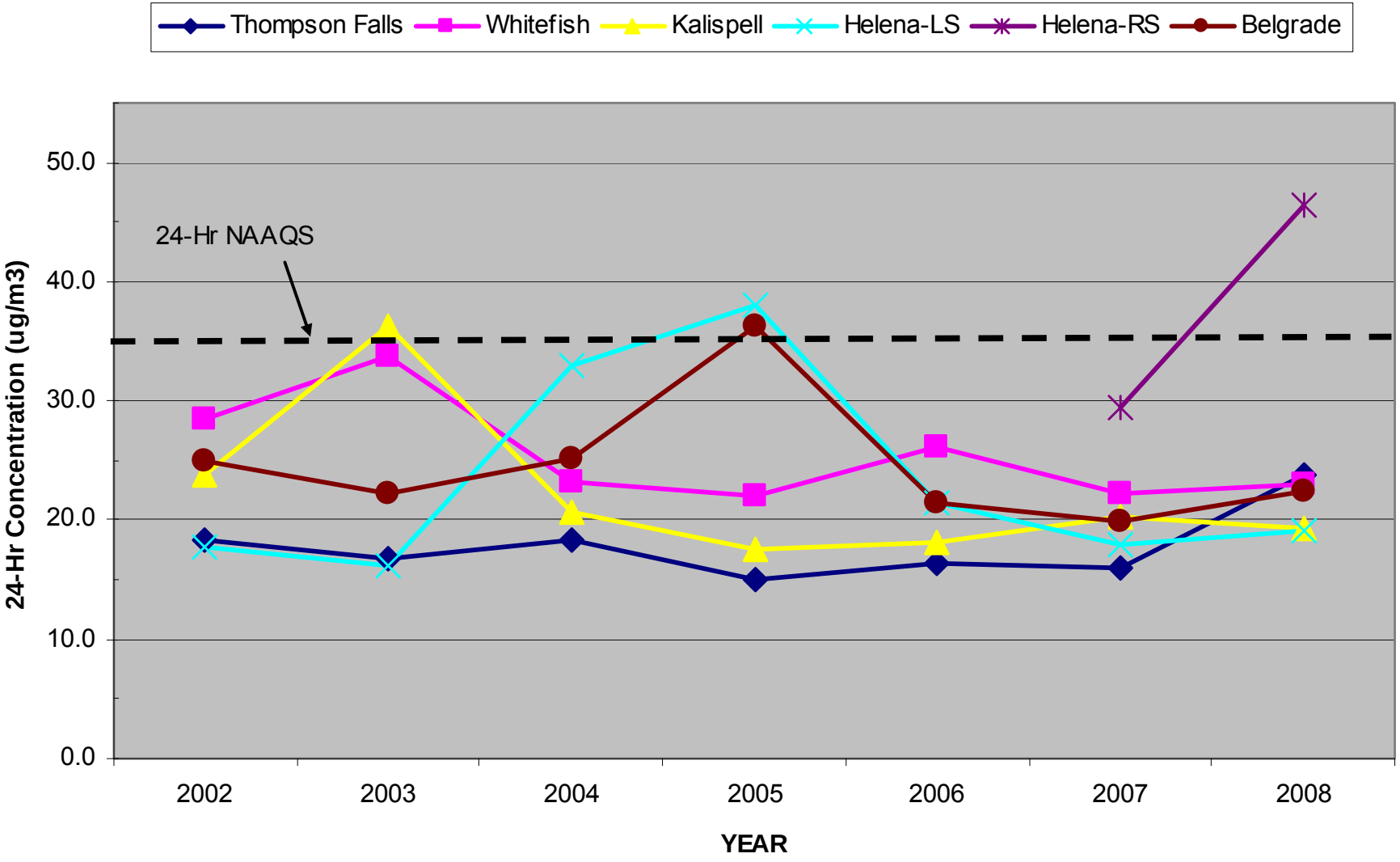
2002-08 PM2.5 Review Annual Means, No EE's Bot 6



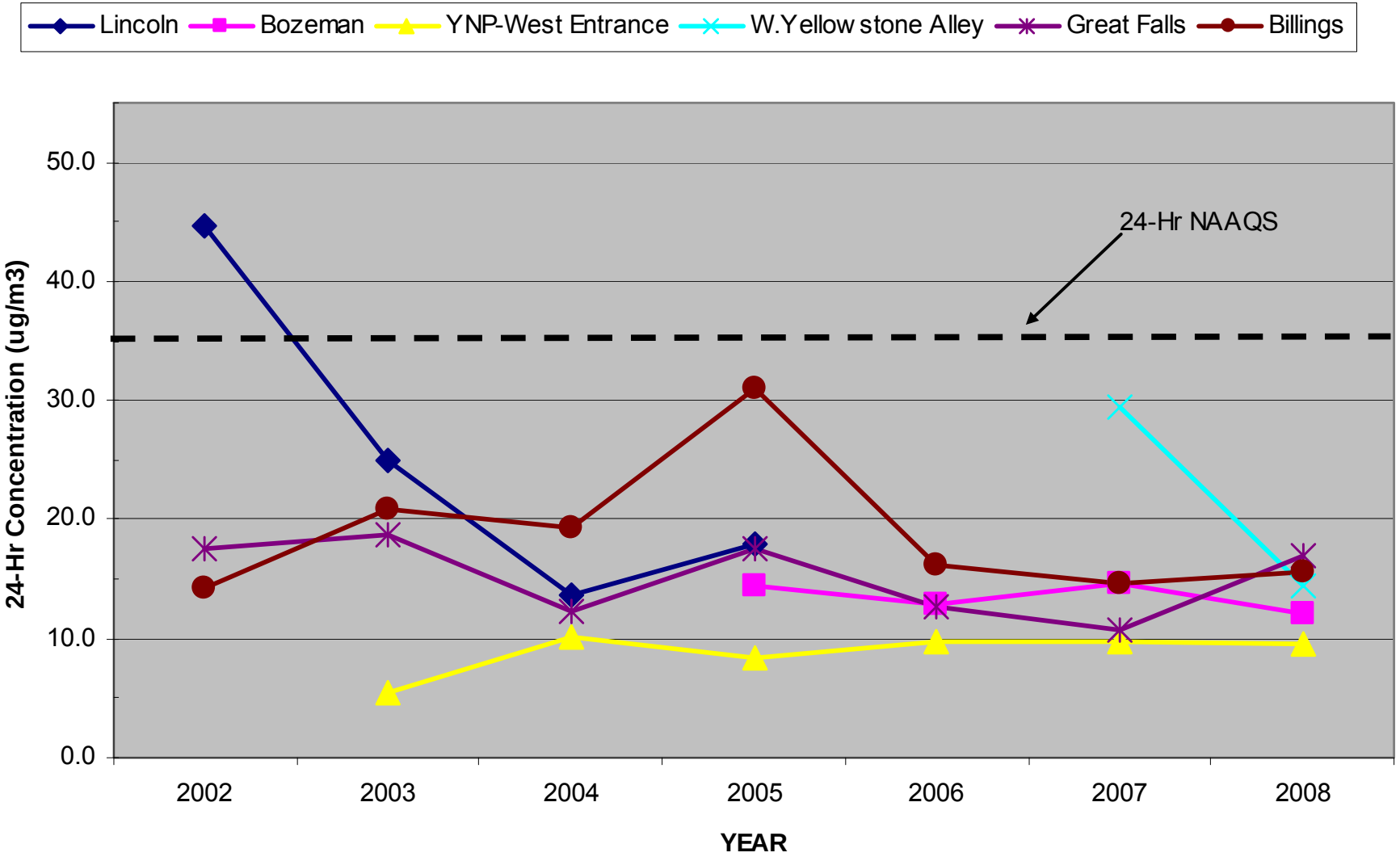
2002-08 PM2.5 FRM 24Hr 98th%, EE's Excluded, HI 5

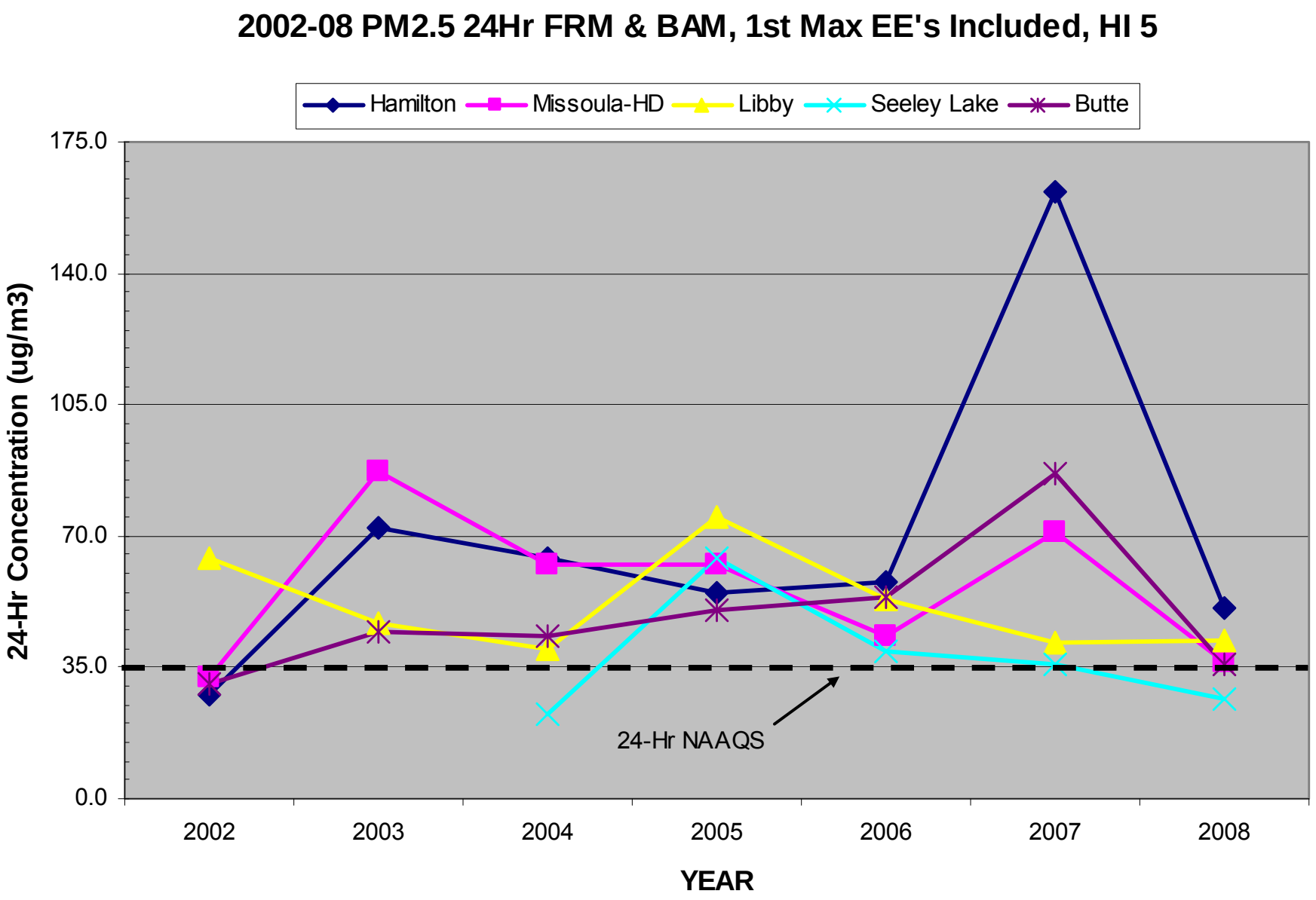


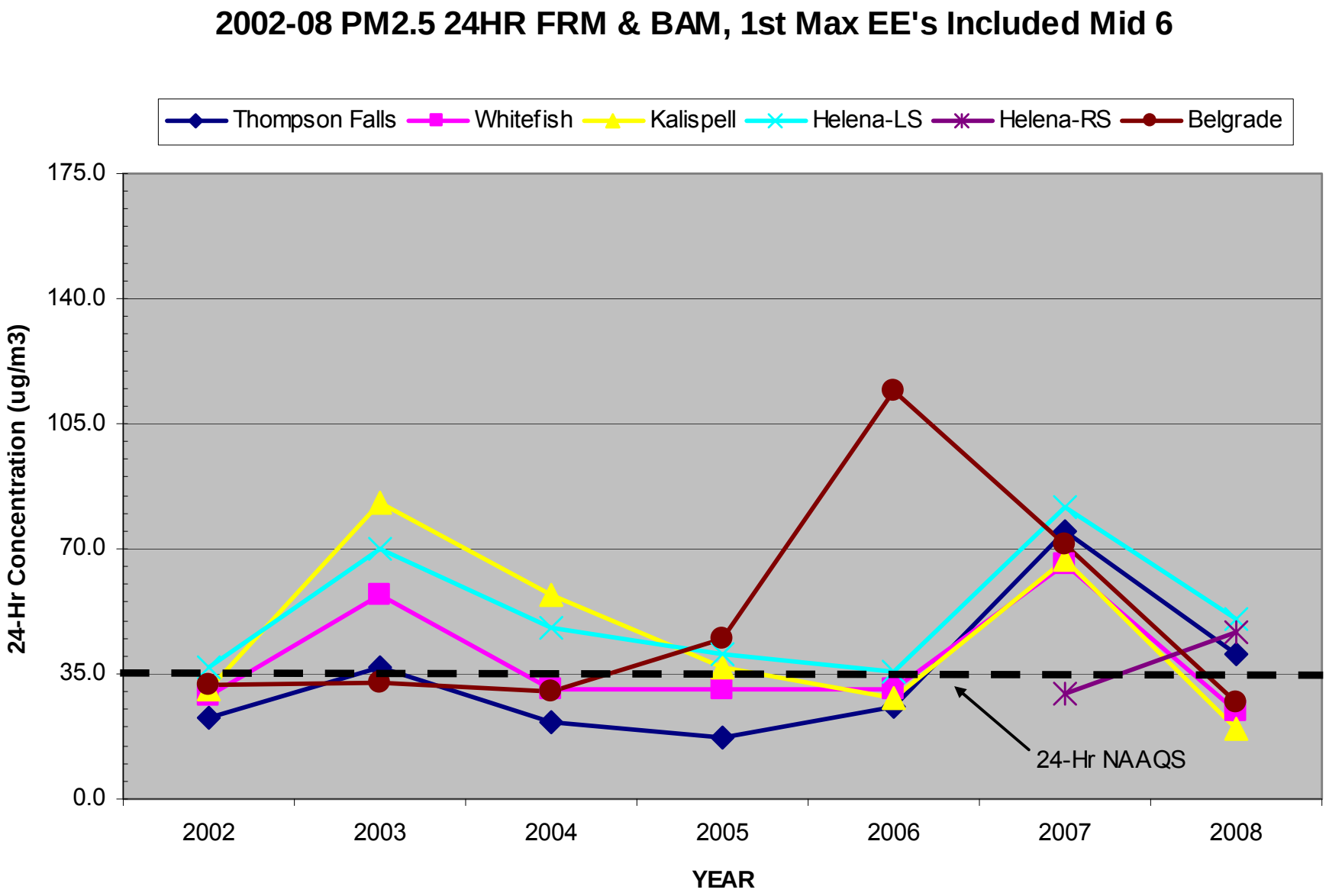
2002-08 PM2.5 FRM 24Hr 98th%, EE's Excluded, Mid 6

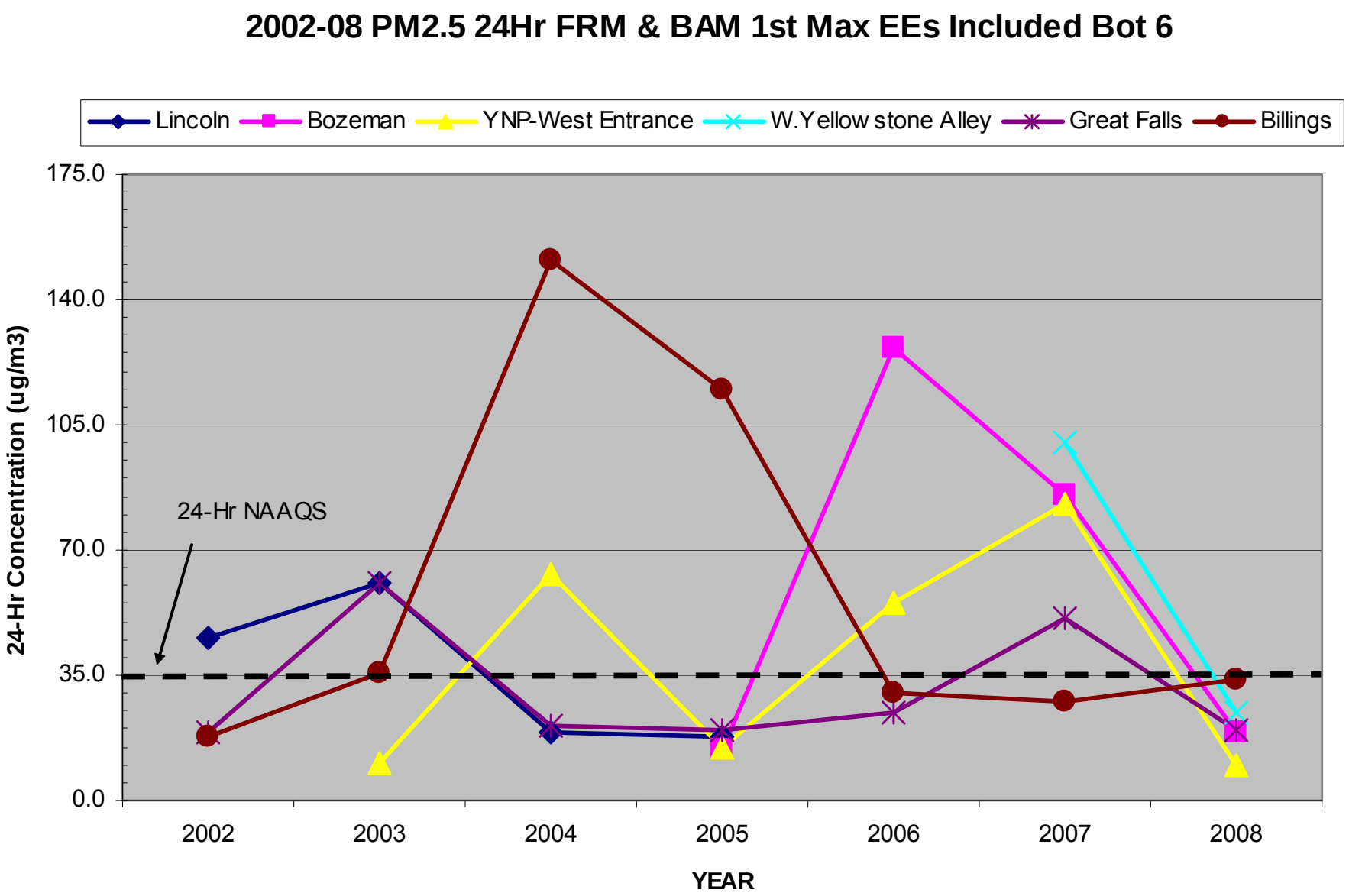


2002-08 PM2.5 FRM 24Hr 98th%, EE's Excluded, Bot 6



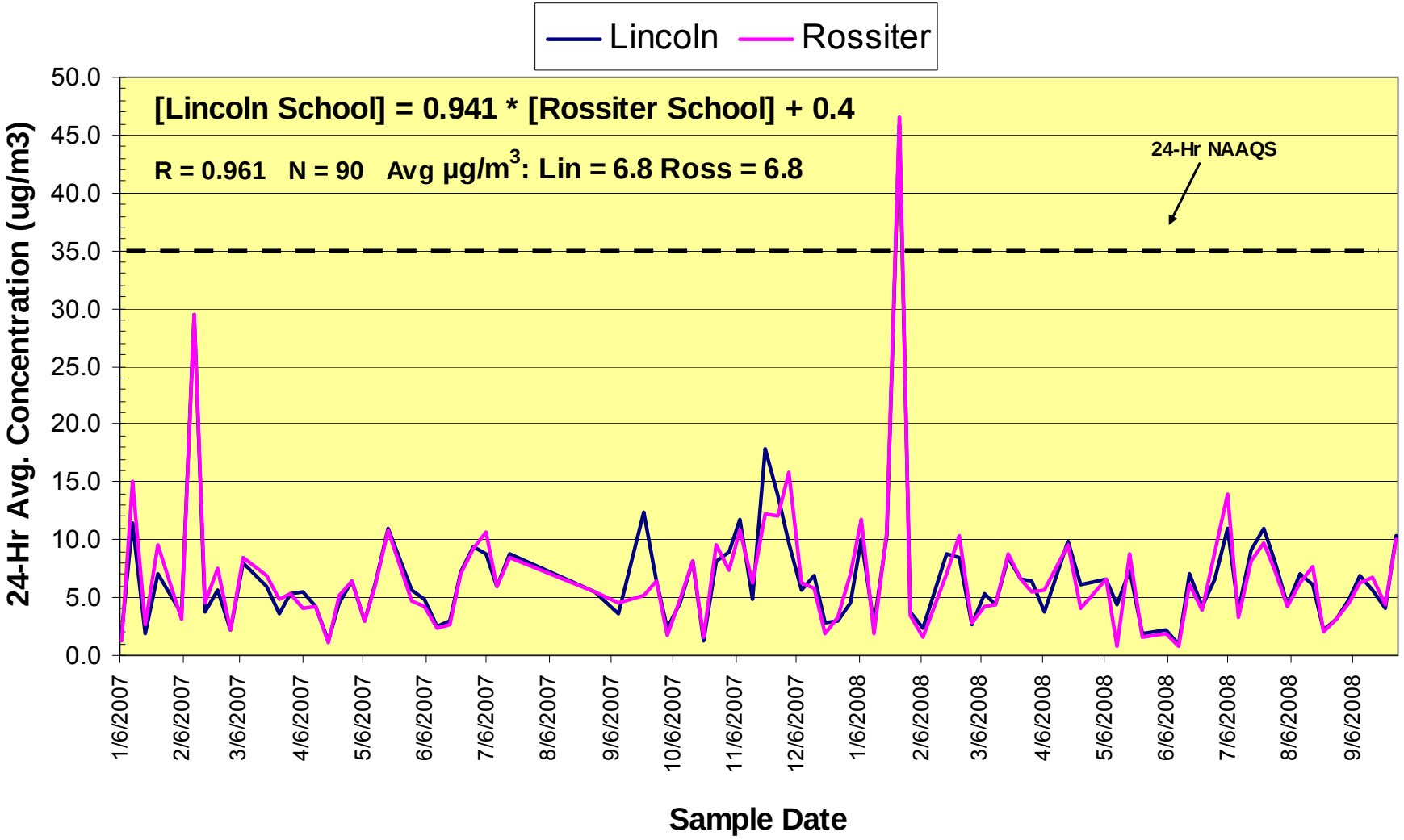

2002-08 PM2.5 24Hr FRM & BAM, 1st Max EE's Included, HI 5
Hamilton
Missoula-HD
Libby
Seeley Lake
Butte
175.0
140.0
105.0
70.0
35.0
0.0
24-Hr Concentration (ug/m3)
24-Hr NAAQS
2002
2003
2004
2005
2006
2007
2008
YEAR


2002-08 PM2.5 24HR FRM & BAM, 1st Max EE's Included Mid 6
Thompson Falls
Whitefish
Kalispell
Helena-LS
Helena-RS
Belgrade
175.0
140.0
105.0
70.0
35.0
0.0
24-Hr Concentration (ug/m3)
24-Hr NAAQS
2002
2003
2004
2005
2006
2007
2008
YEAR

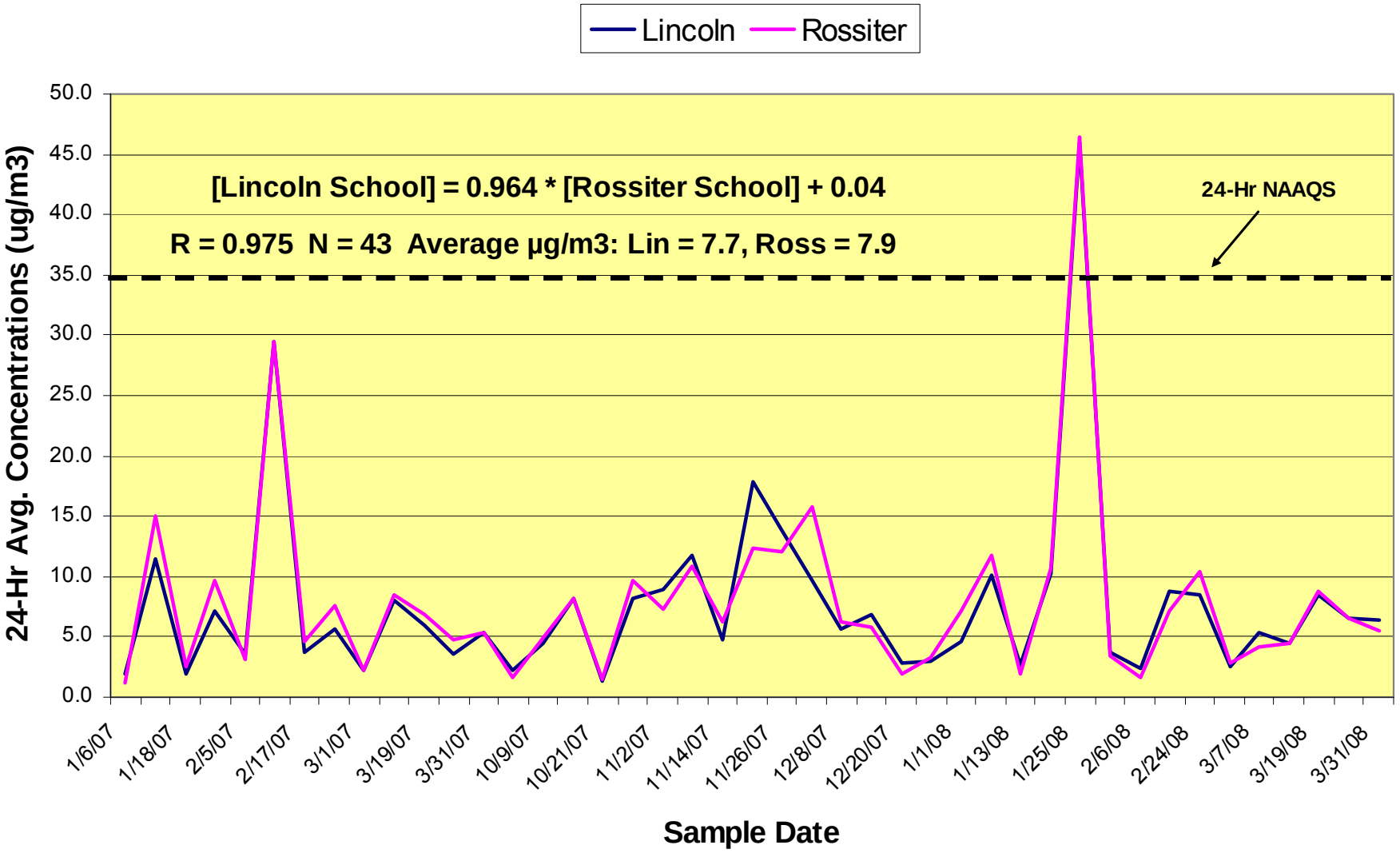

2002-08 PM2.5 24Hr FRM & BAM 1st Max EEs Included Bot 6
Lincoln
Bozeman
YNP-West Entrance
W.Yellow stone Alley
Great Falls
Billings
175.0
140.0
105.0
70.0
35.0
0.0
24-Hr Concentration (ug/m3)
24-Hr NAAQS
2002
2003
2004
2005
2006
2007
2008
YEAR

Lincoln vs. Rossiter PM2.5 FRM 24-Hr Avg.

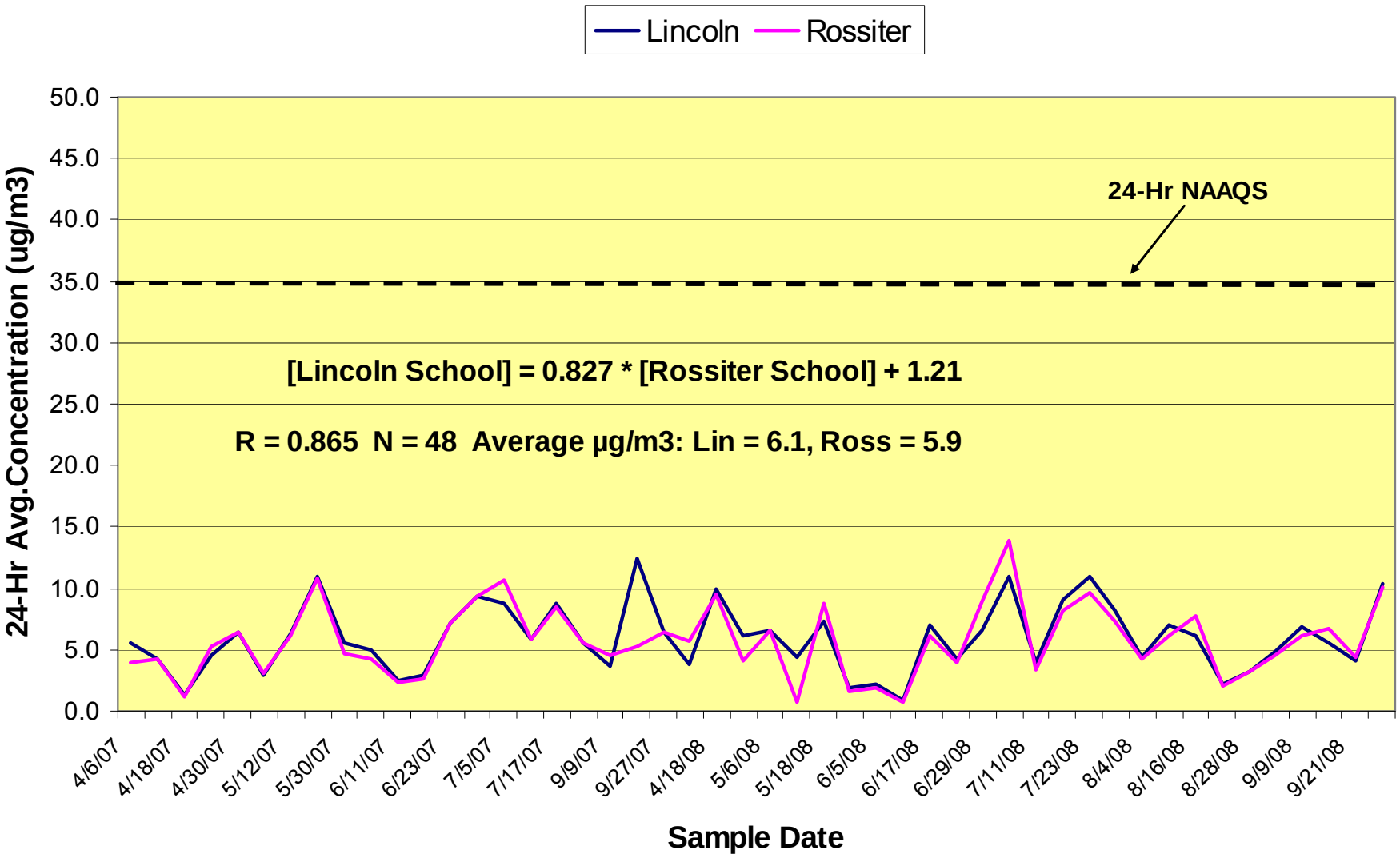
2007 Exceptional Event Data Excluded



Lincoln vs.Rossiter PM2.5 FRM 4th & 1st Quarters

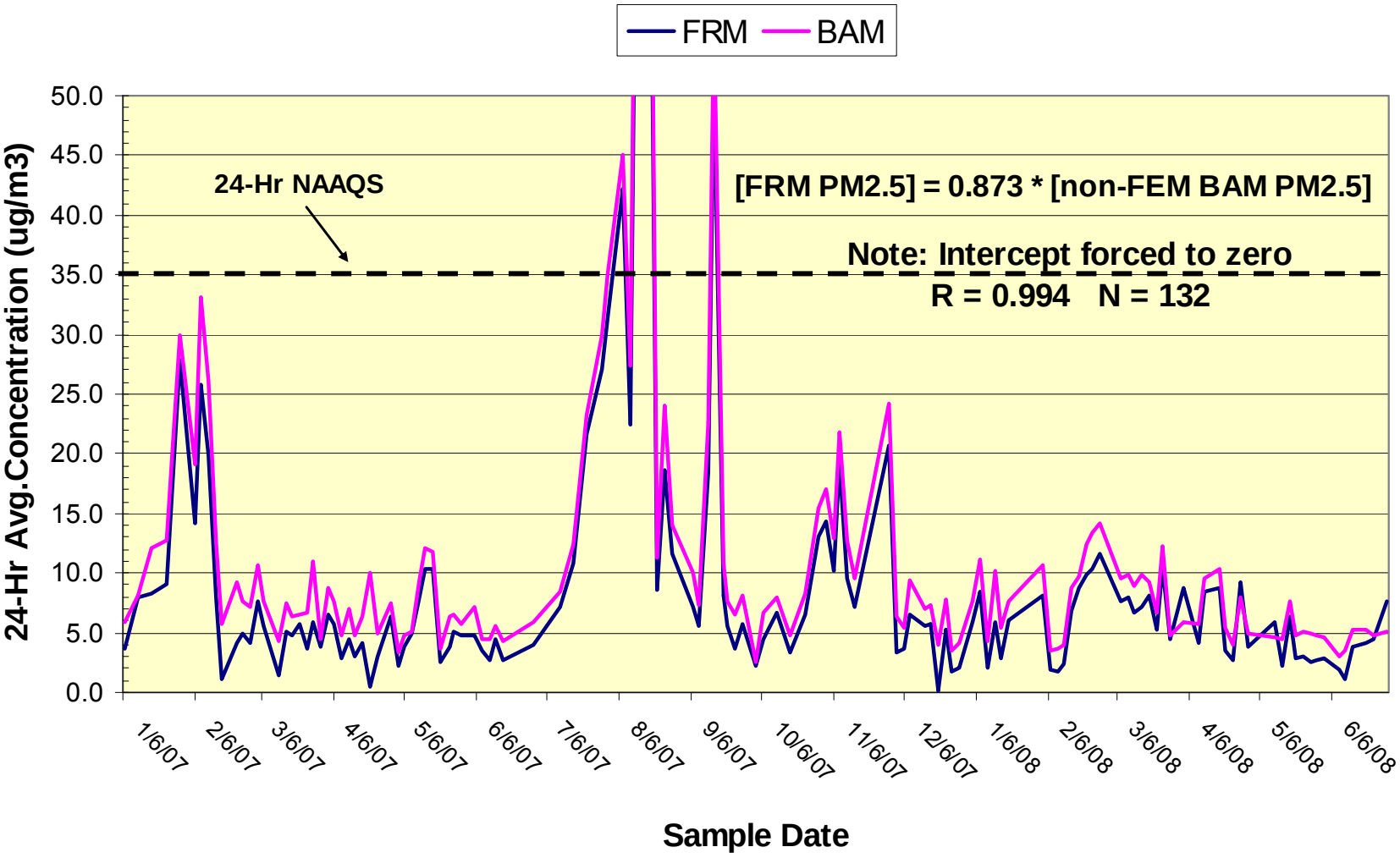


Lincoln vs. Rossiter PM2.5 FRM 2nd & 3rd Quarters

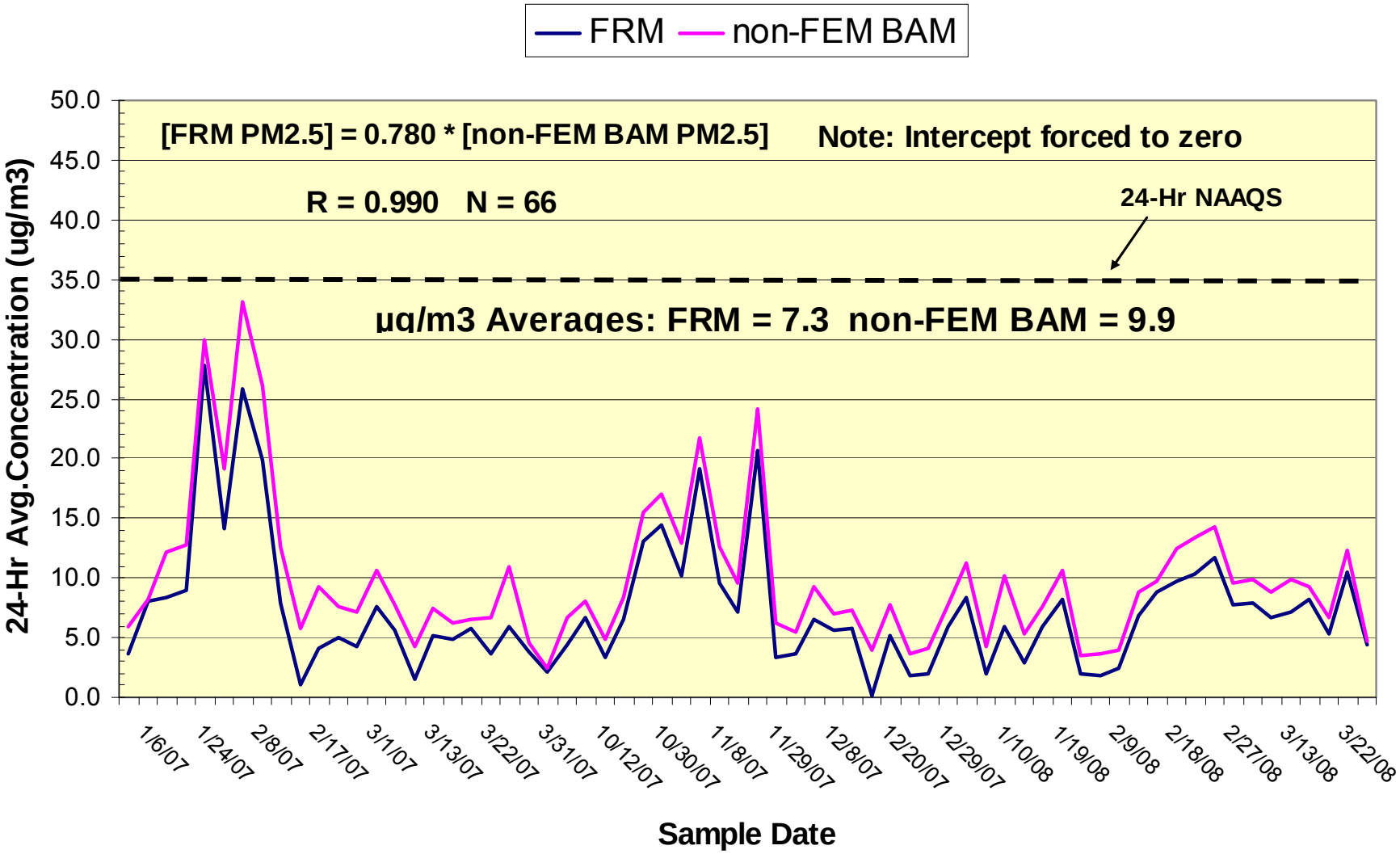


Hamilton PM2.5 FRM vs. Non-FEM BAM

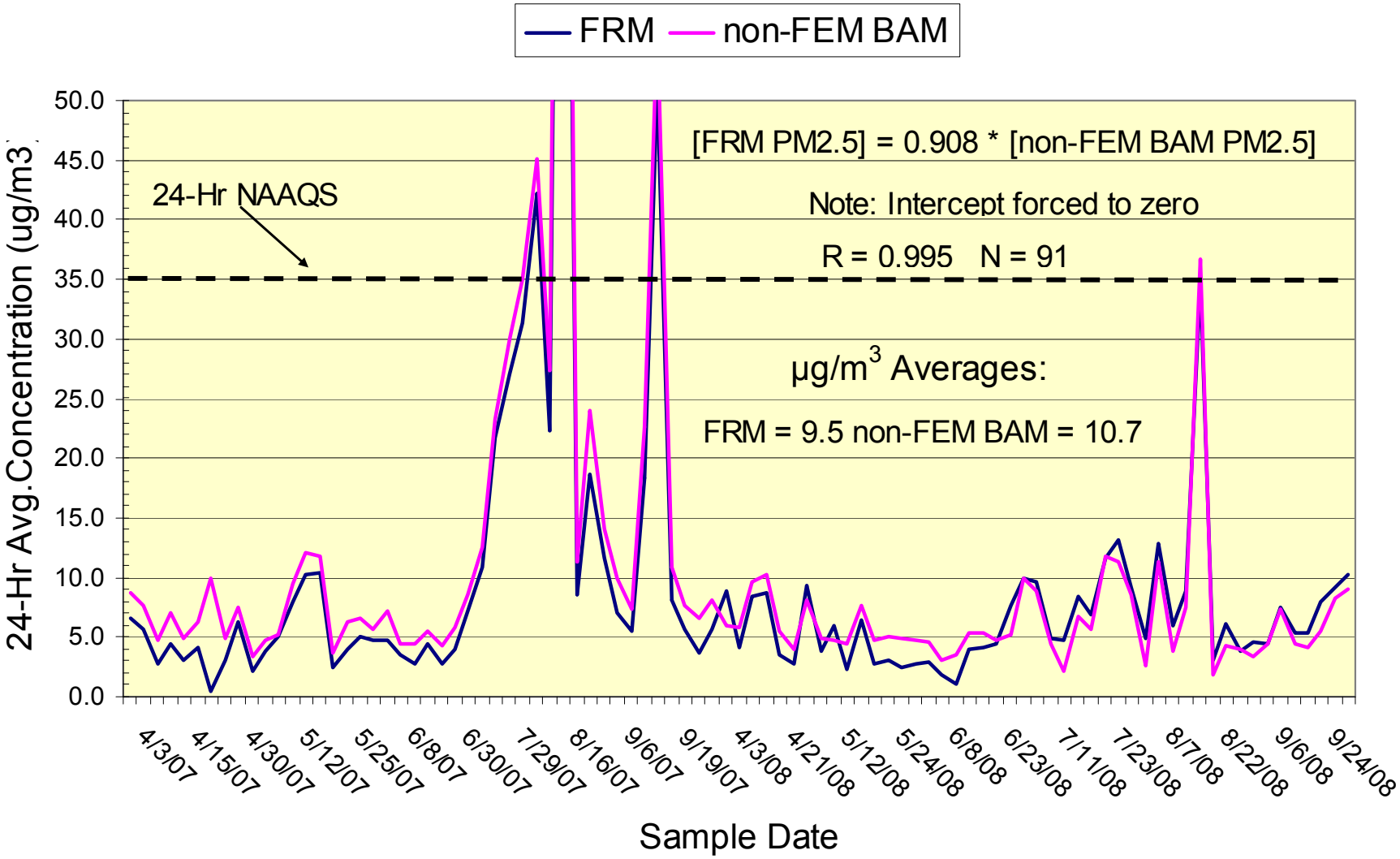
All Quarters, Exceptional Event Data Included



Hamilton PM2.5 FRM vs. non-FEM BAM 4th & 1st Quarters

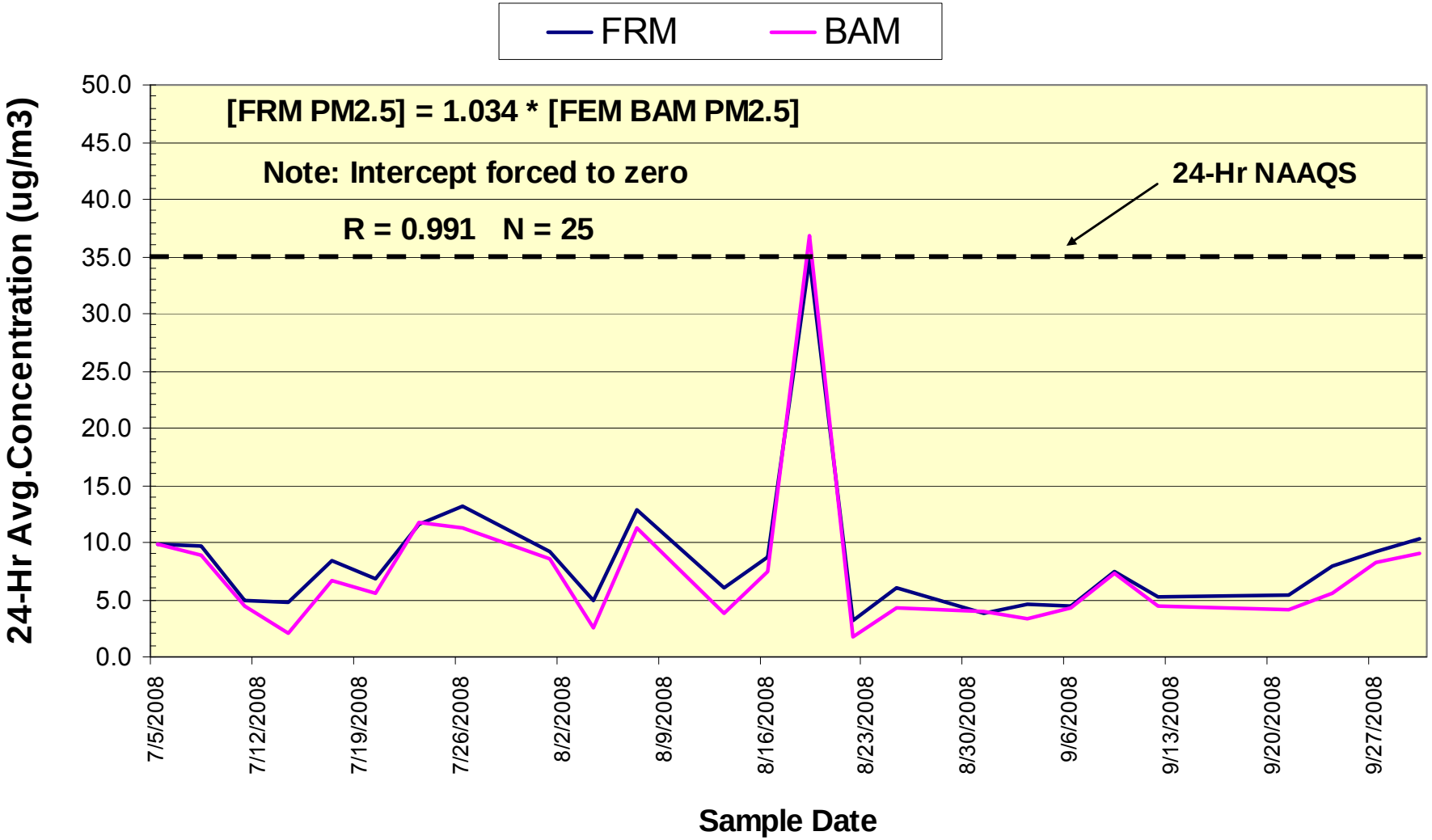


Hamilton PM2.5 FRM vs. non-FEM BAM 2nd & 3rd Quarters



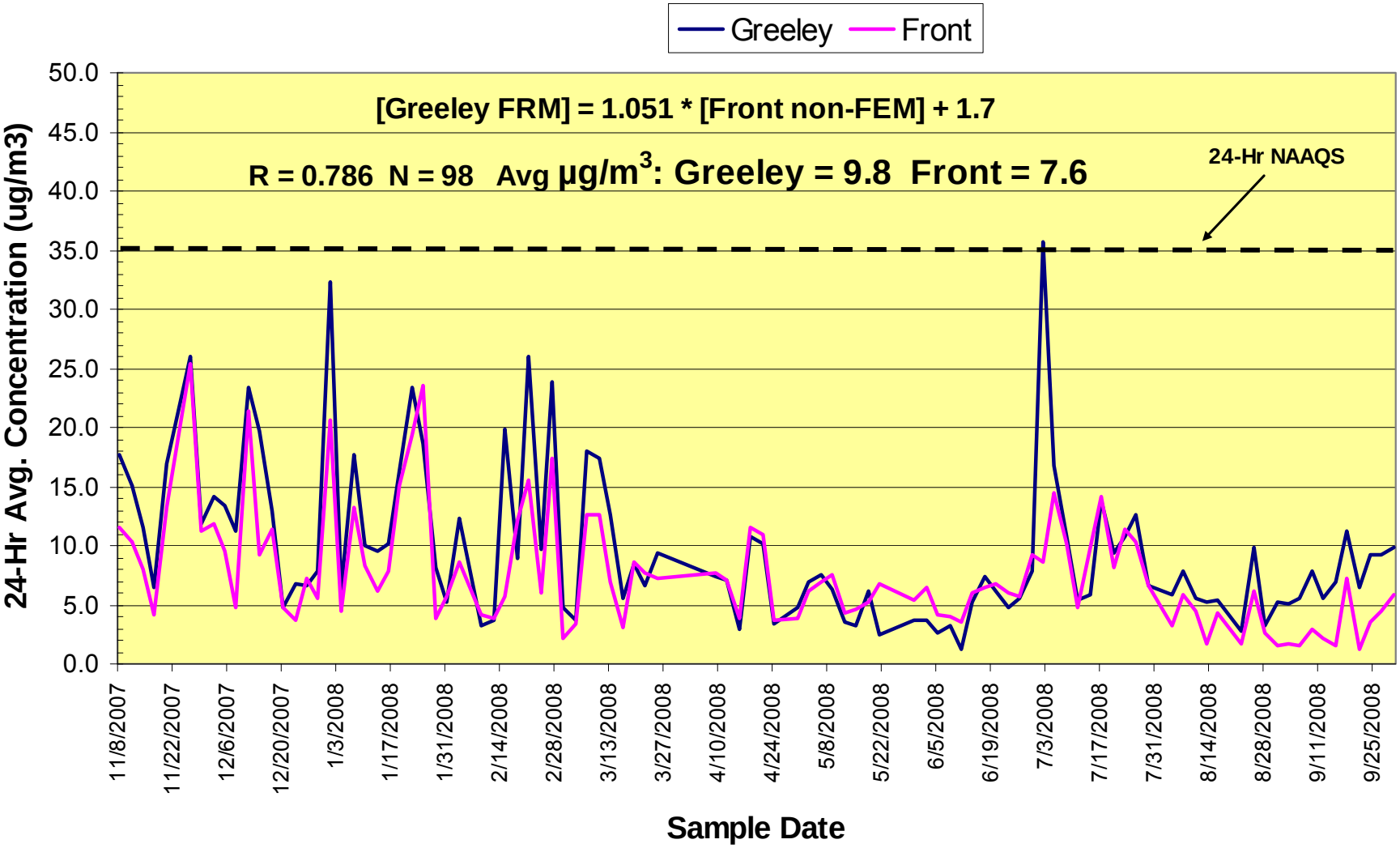
Hamilton PM2.5 FRM vs. FEM BAM

Includes Potential EE Data

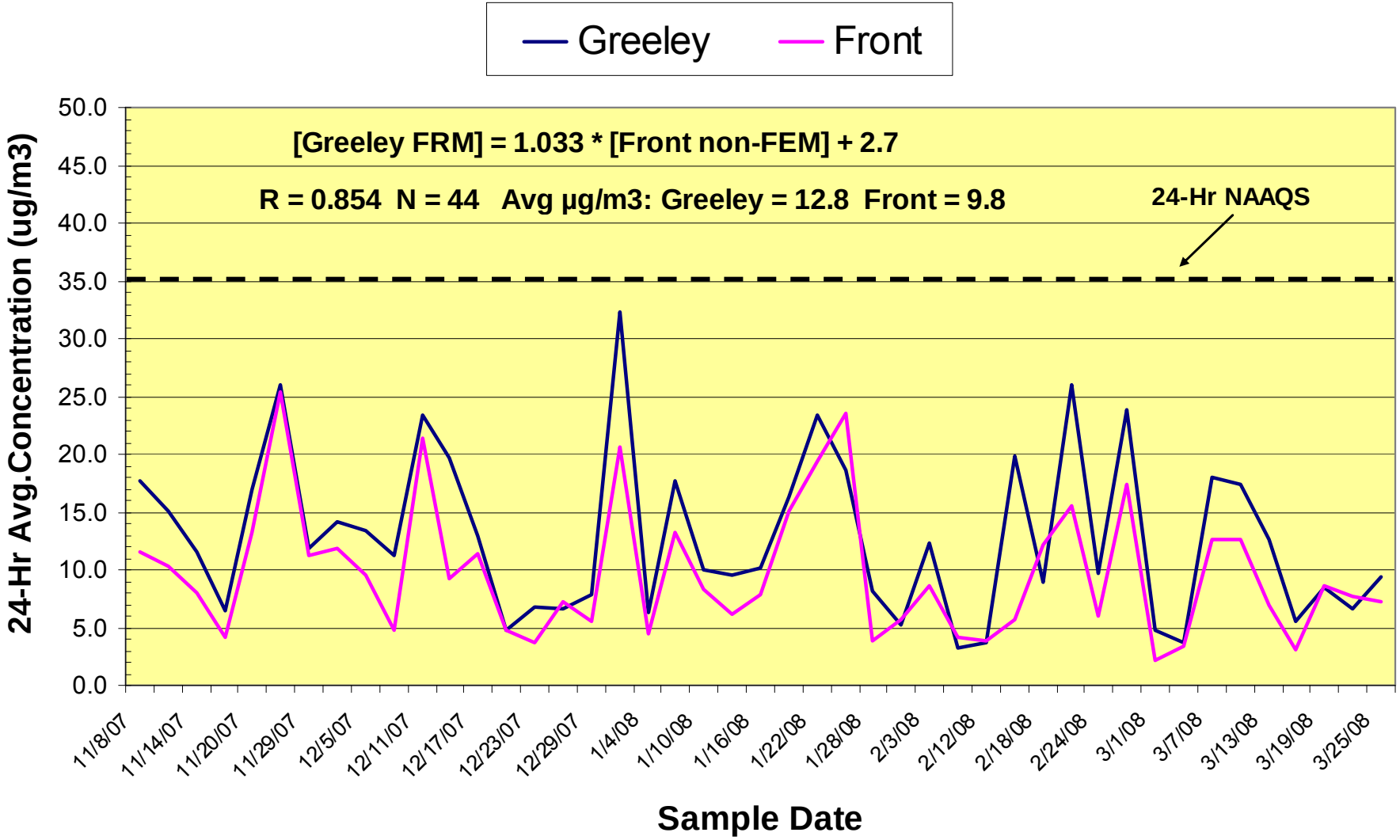
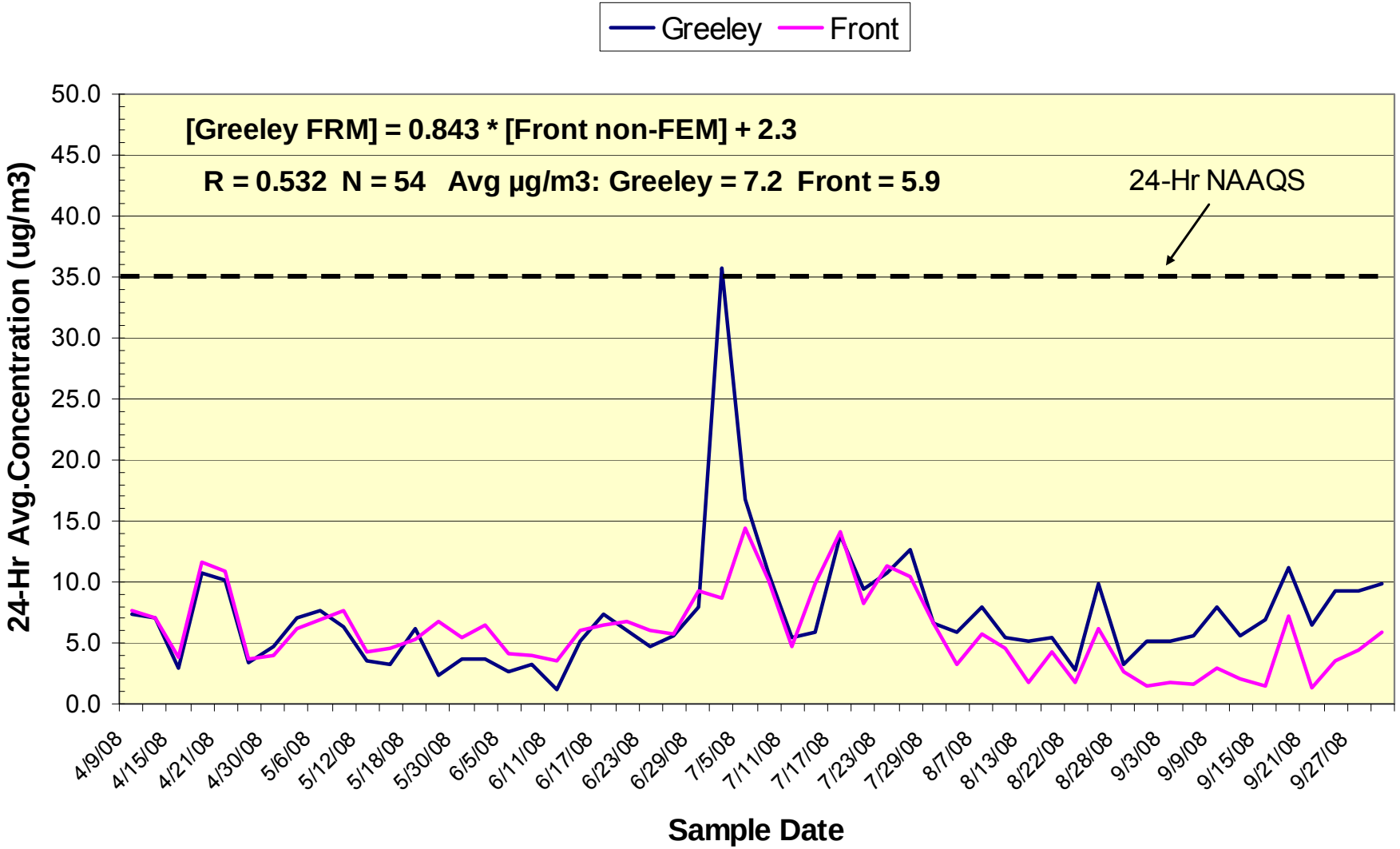


Greeley FRM vs. Front non-FEM BAM PM2.5 24-Hr Avg.

2007 Exceptional Event Data Excluded



Greeley FRM vs. Front non-FEM BAM PM2.5 4th & 1st Quarters



Greeley FRM vs.Front non-FEM BAM PM2.5 2nd & 3rd Quarters