Fall 2009 Blood Lead Results

Participation Rates

Results

Environmental Conditions

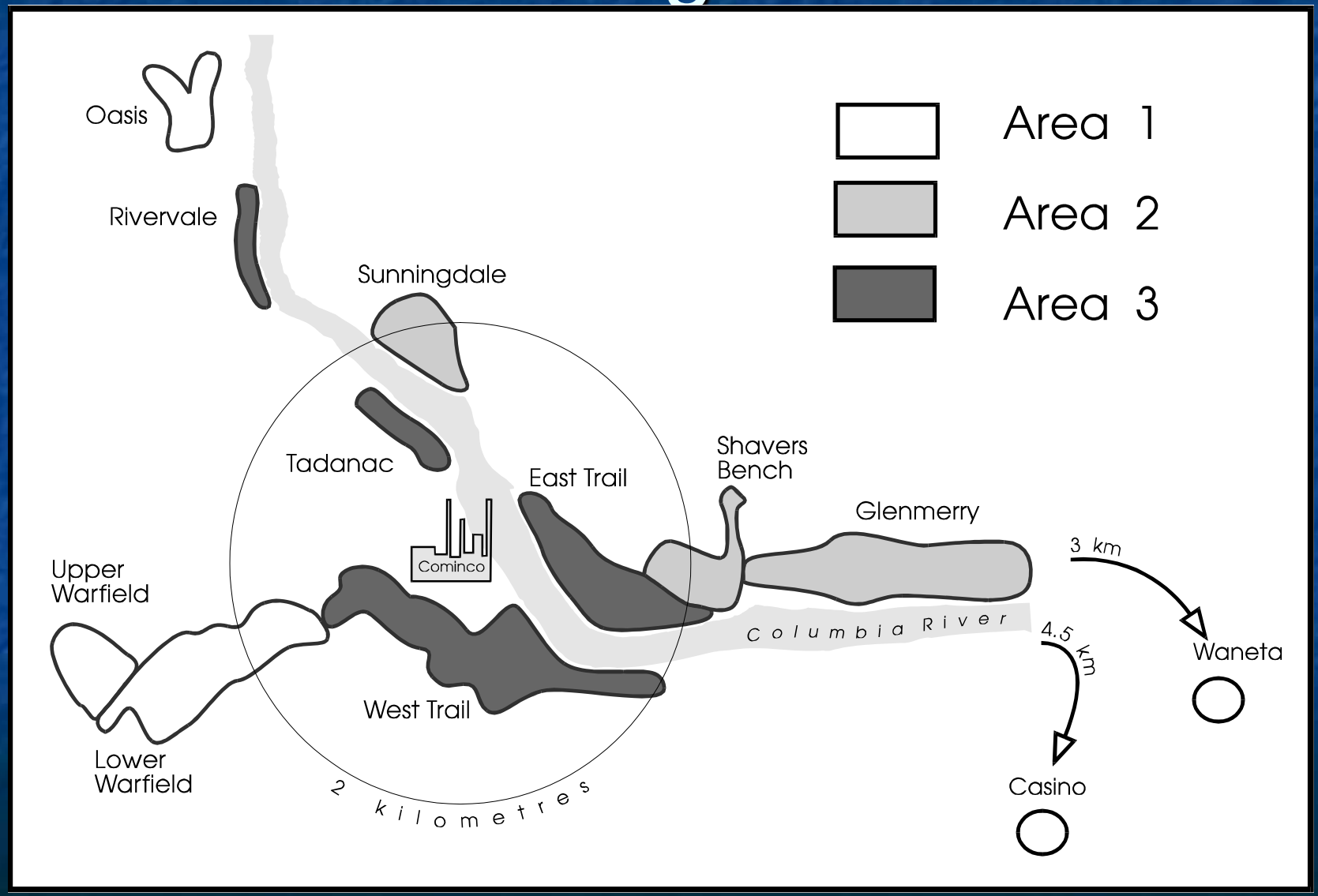
Age Groups Targeted

- 1991-2000: age 6-60 months
- 2001-2005: age 6-36 months
- 2006-2008: age 6-60 months
- 2009: age 6-36 months

Who Was Tested in 2009?

- Target group:
  - Children aged 6-36 months, living in City of Trail or Rivervale (Area 2/3)
- Also:
  - New to area, up to age 5 yrs (60 mos)
  - Previous case management for follow-up

“Areas” & Neighbourhoods



The Clinics

Fall 2009
Participation By Neighbourhood

Participation for 2009 (Children under 3 years)				2008
Breakdown by Neighborhoods	# Children Contacted	# Children Participating	% Children Participating	% (No.) Participating
AREA 3 (Children <3 years)				*(<3 years)*
East Trail	31	26	84%	83% (20)
West Trail	47	39	83%	75% (27)
Tadanac	2	1	50%	75% (3)
Rivervale	1	1	100%	0% (0)
AREA 3 TOTAL	81	67	83%	77% (50)
AREA 2 (Children < 3 years)				*(< 3 years)*
Glenmerry	32	19	59%	63% (10)
Shavers Bench	11	8	73%	45% (5)
Sunningdale	16	9	56%	40% (4)
AREA 2 TOTAL	59	36	61%	51% (19)
AREA 2 & 3	140	103	74%	68% (69)

Note: Number participating includes 3 children who attended clinic, but no sample was obtained.

Changes since 2001:

Where do Kids Live and Who Participates? (6-36 months)

	2001	2009
Overall	**90 of 119 (76%)**	**103 of 140 (74%)**
Area 2 (further out)	**48 of 62 (77%)**	**36 of 59 (61%)**
Area 3 (closer to smelter)	**42 of 57 (74%)**	**67 of 81 (83%)**

Participation Rates Fall 2009

(cont'd)

Area 2/3

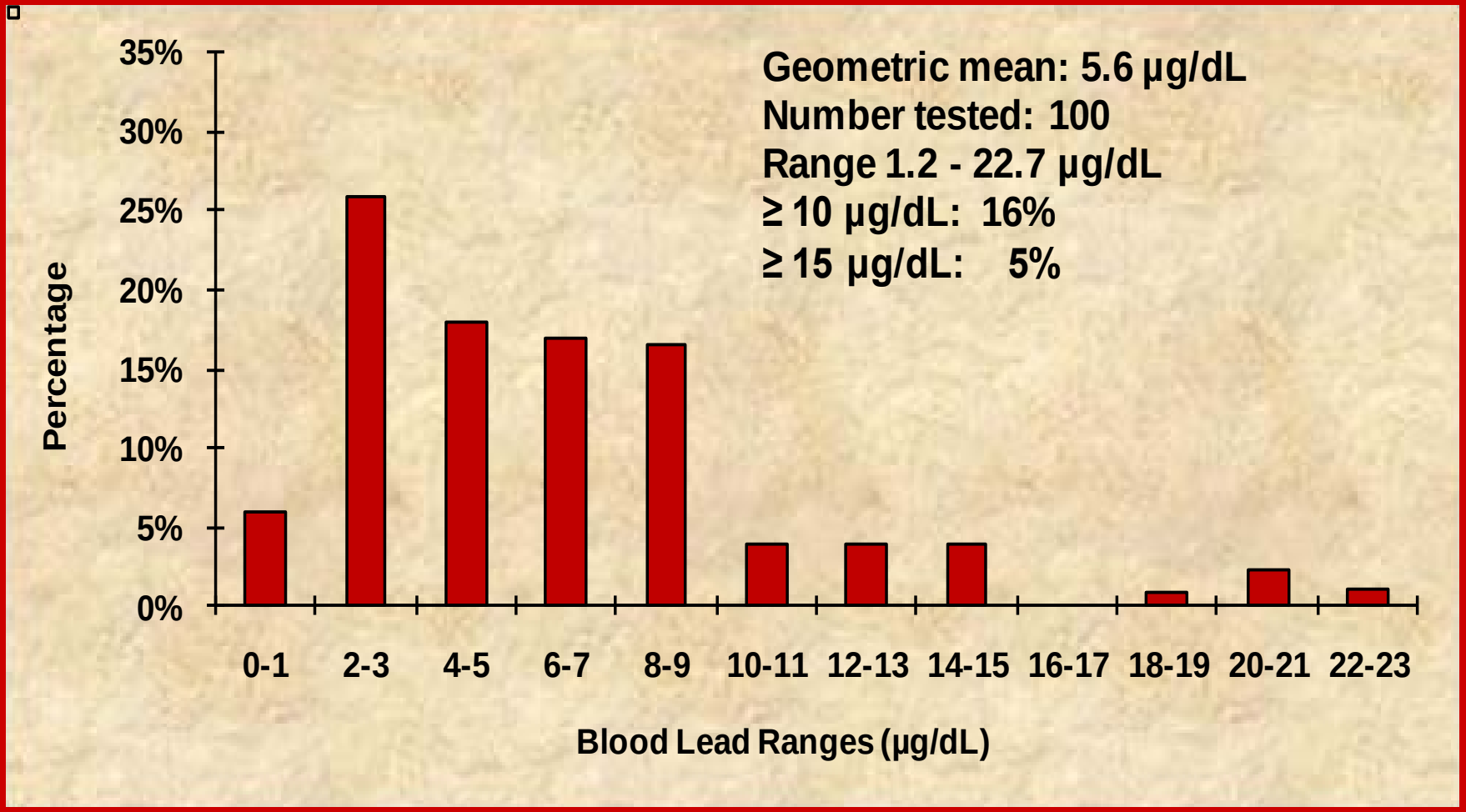
Group	Participation Rate (2009)	Participation Rate (2008)
Infants 6-12 months not tested before	**76% (28 of 37)**	**60% (12 of 20)**
Case Management **(identified in previous clinics and eligible to come back)**	**100% (19 of 19)**	**86% (12 of 14)**

Home Renovation Support Program Survey Fall 2009

Question	"Yes" Respondents
Are you aware of the HRSP?	**45%** **(54 of 120)**
Did you renovate in the past year?	**28%** **(34 of 120)**
Did you use the HRSP?	
Of those who renovated:	**50%** (17 of 34)
Of those who knew of HRSP and reno:	**74%** (17 of 23)

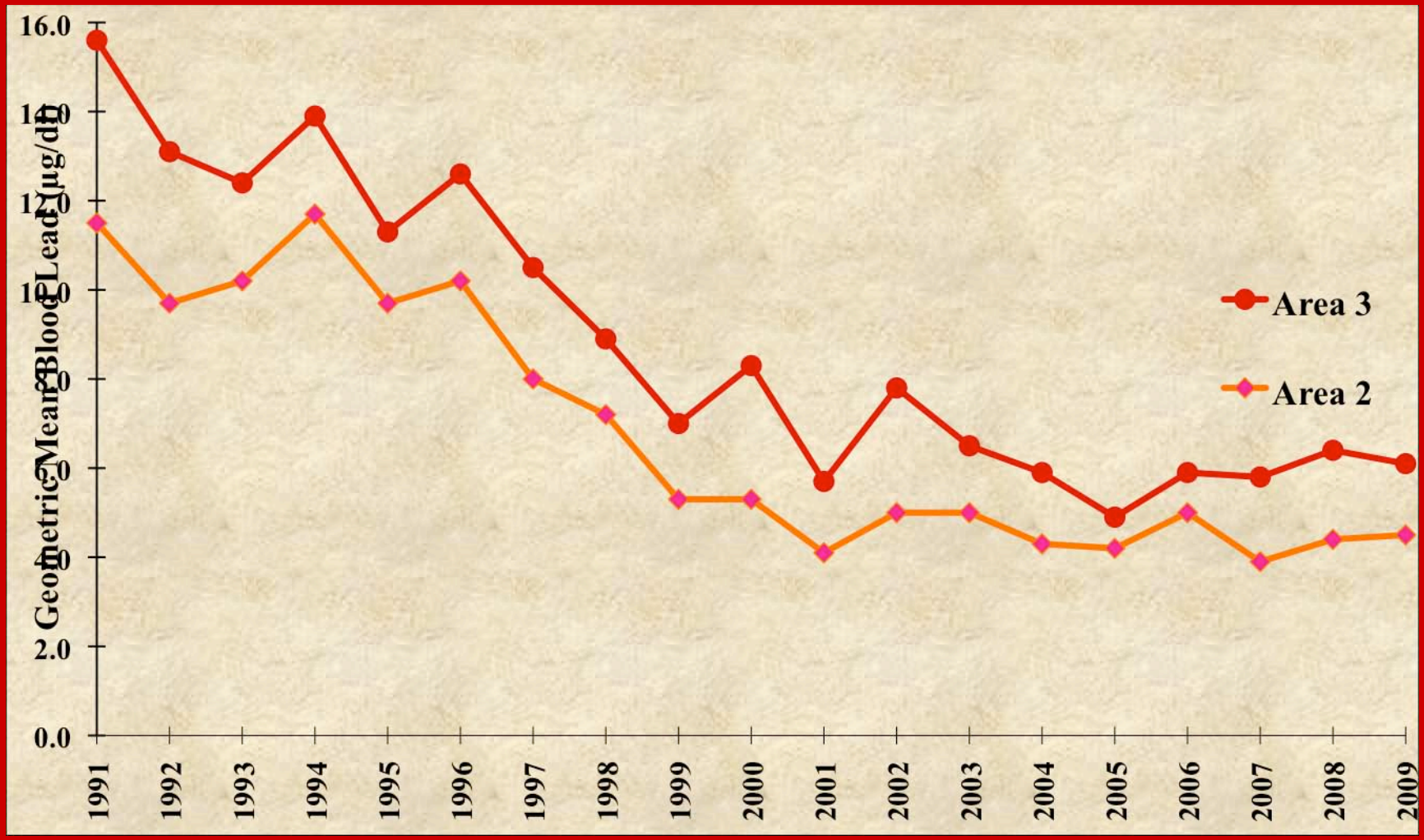
2009 Blood Lead Histogram: Area 2/3

(Age 6 mos. - 36 mos.)



Blood Lead Geo Mean by Area

(age 6 – 36 months throughout)

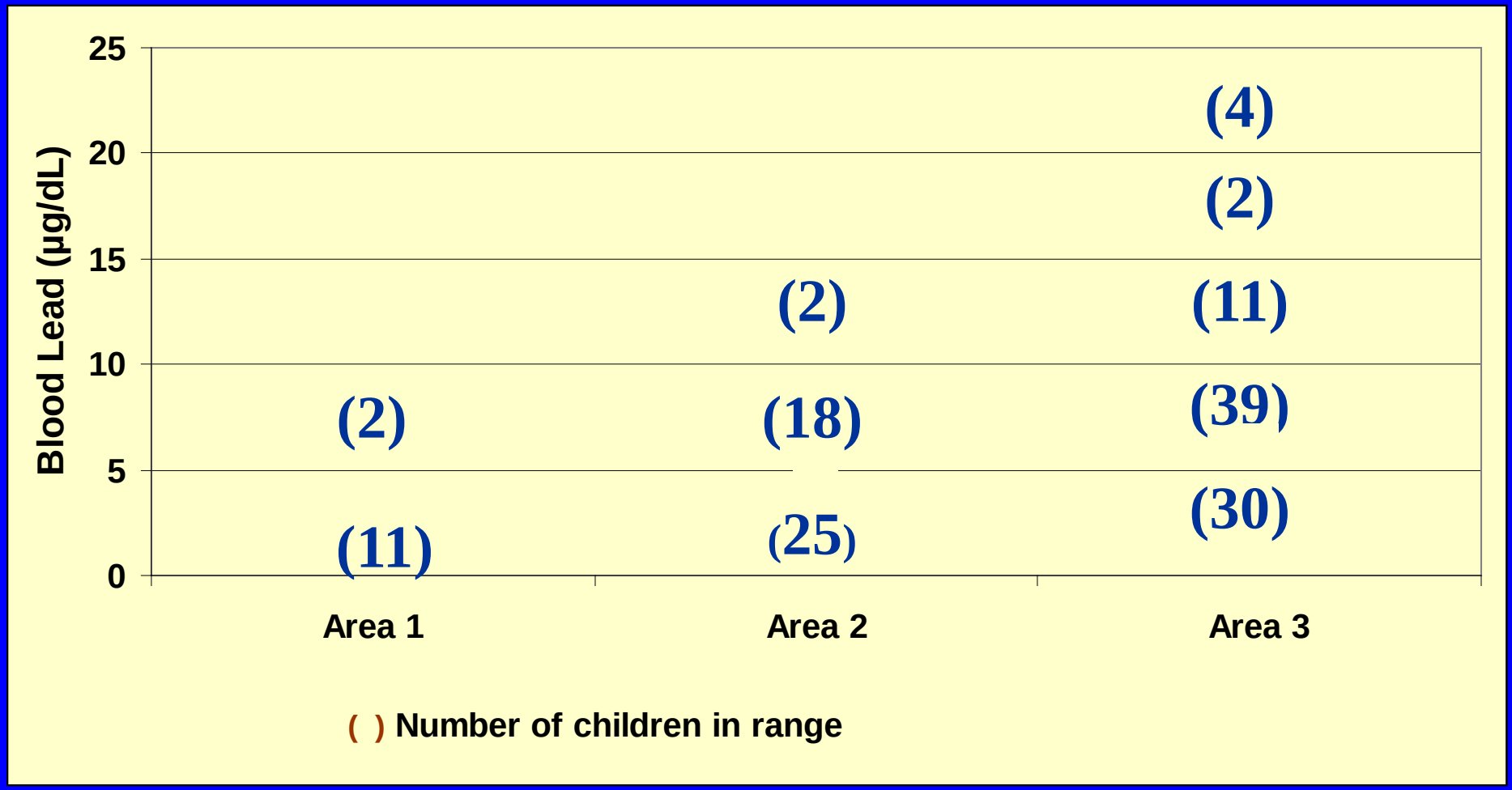


Area 2 & 3 Children under 3 yrs

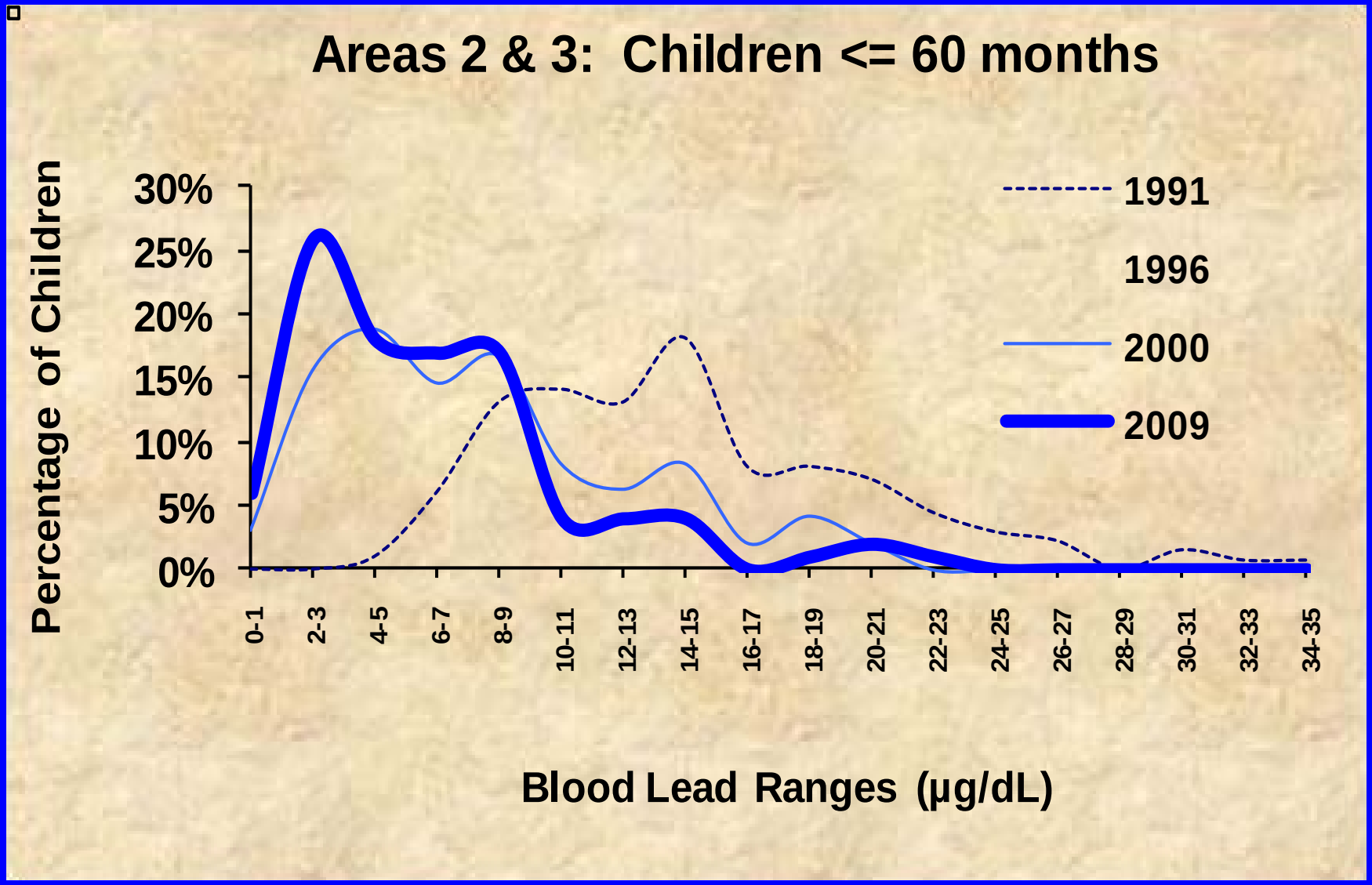
Statistic	2009	2008
Geometric Means		
Overall	5.6	5.9
Area 2	4.5	4.7
Area 3	6.3	6.4
Percentages Above:		
10 µg/dL	16%	20.3%
15 µg/dL	5%	4.3%
20 µg/dL	3%	1.4%

2009 Blood Leads by Area

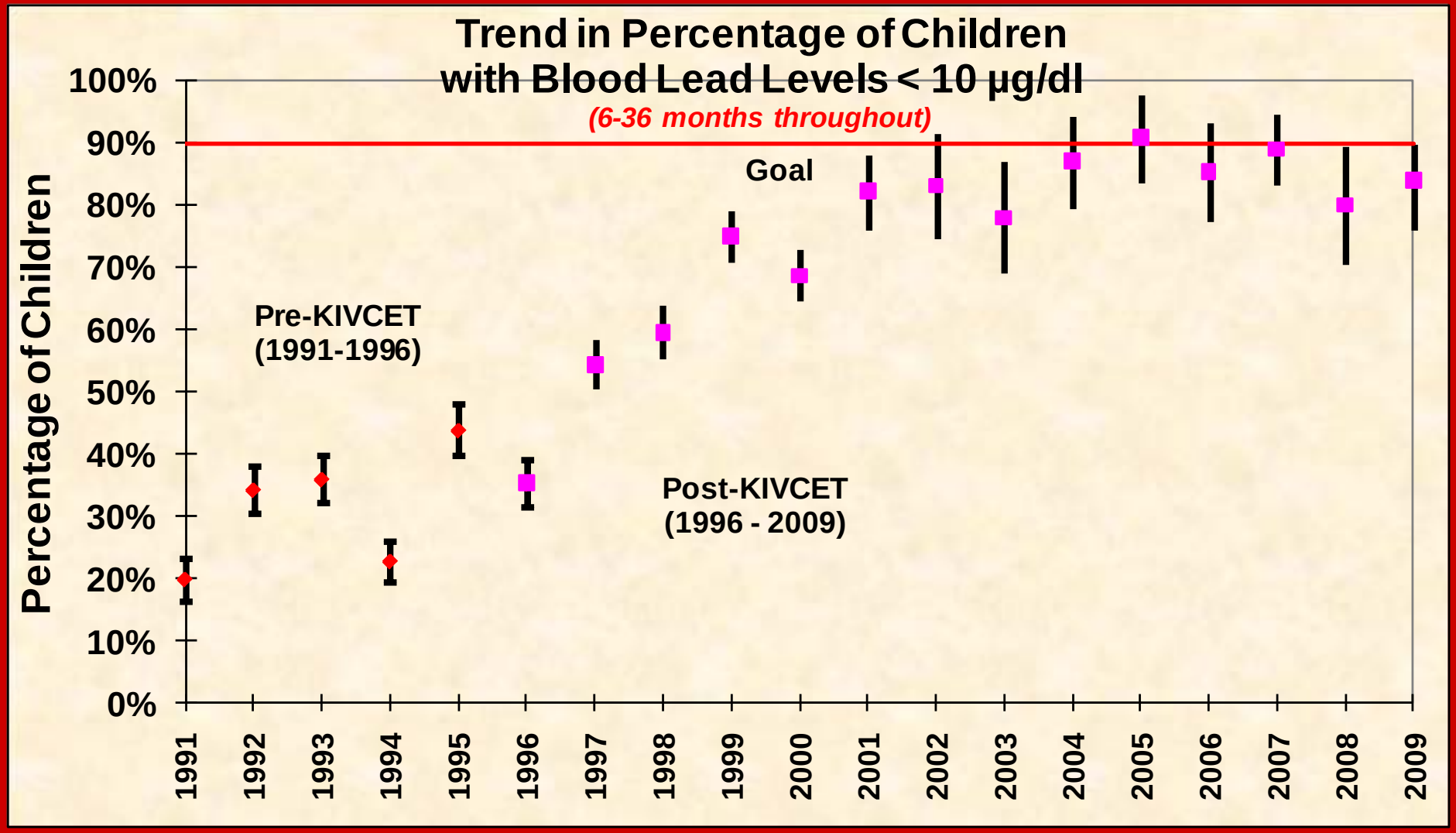
(Age 6 mos. - 60 mos.)



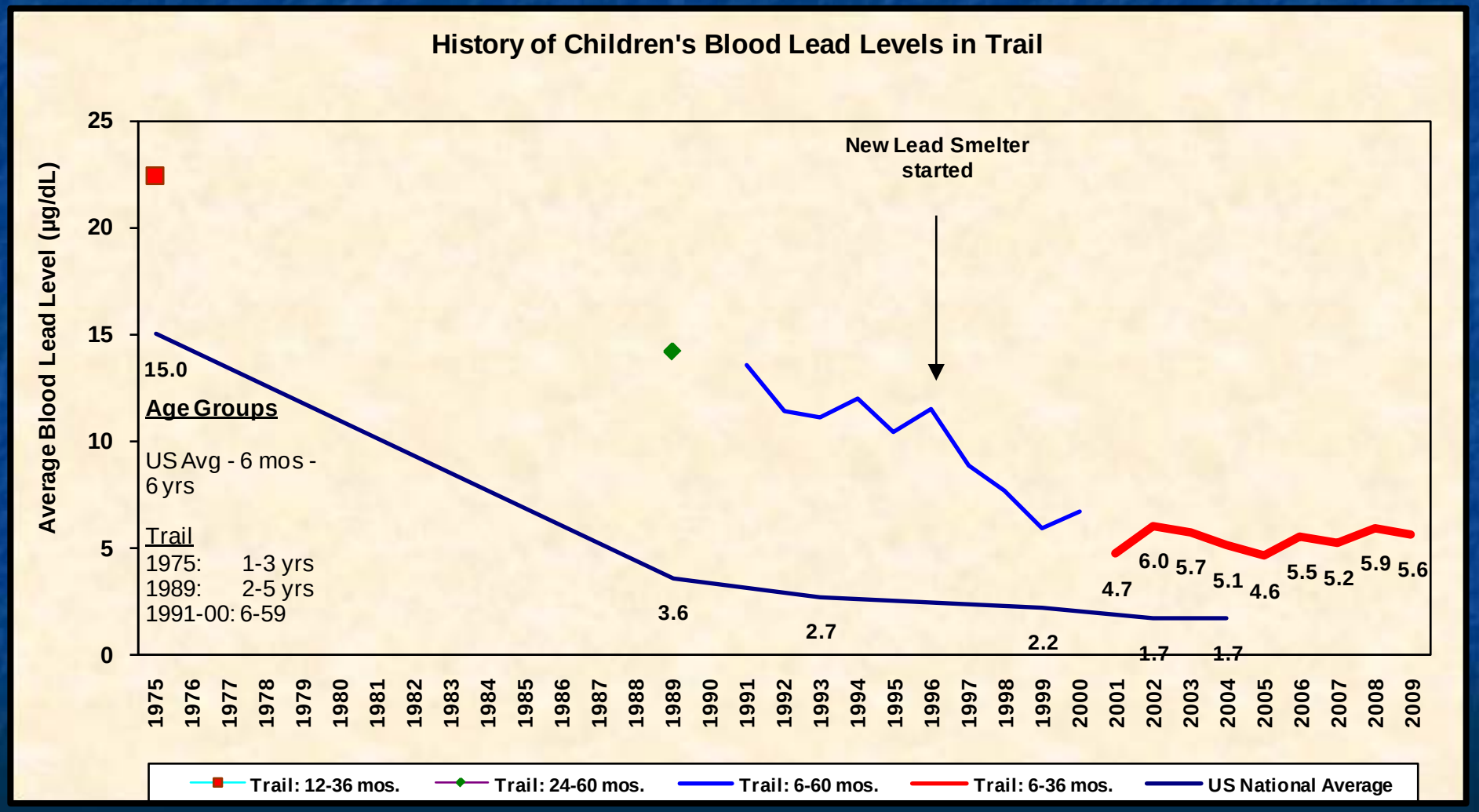
1991-2009 shift



Goal set by TCLTF for 2005

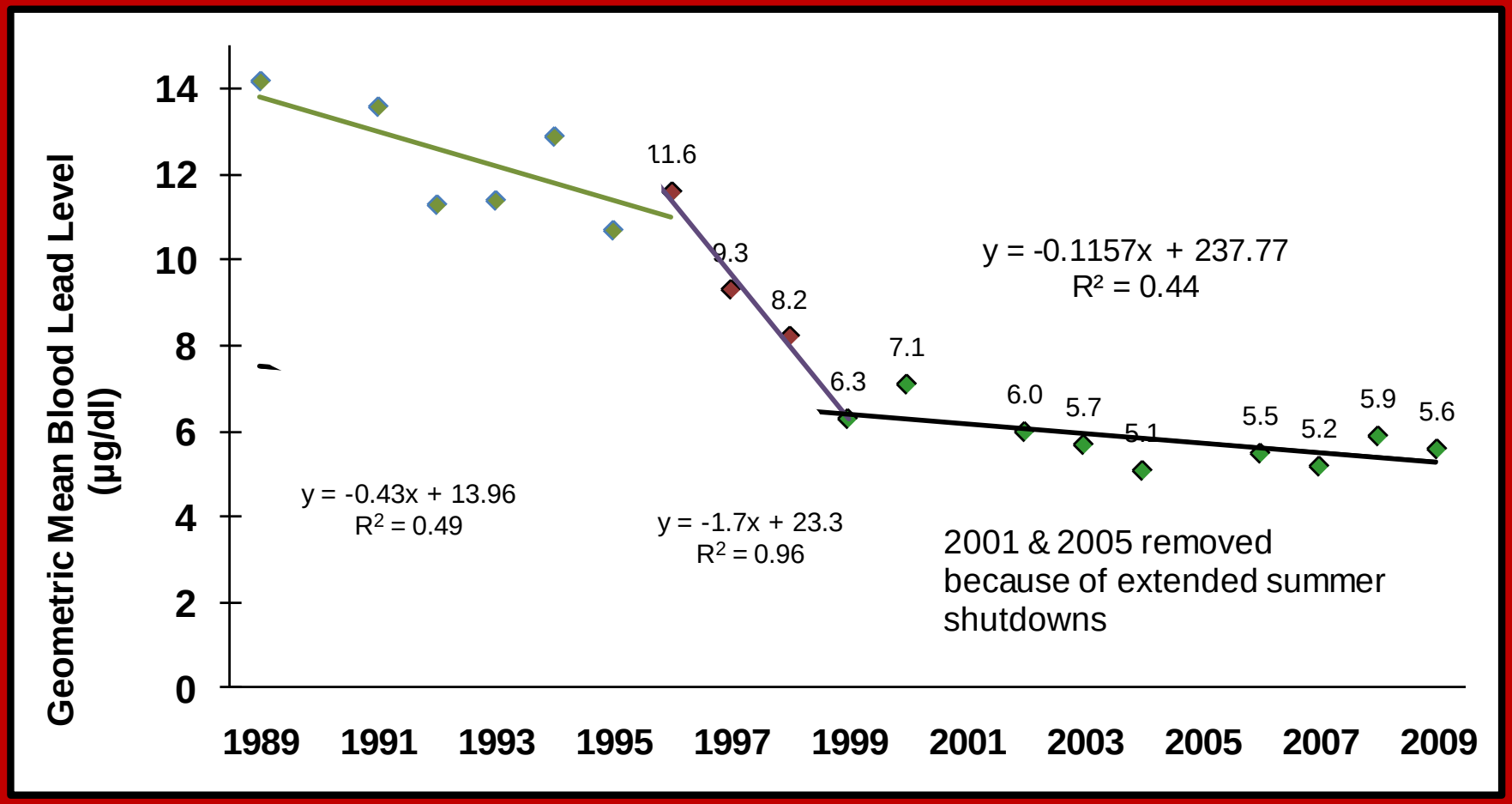


Comparison with “background”



Three Distinct Periods

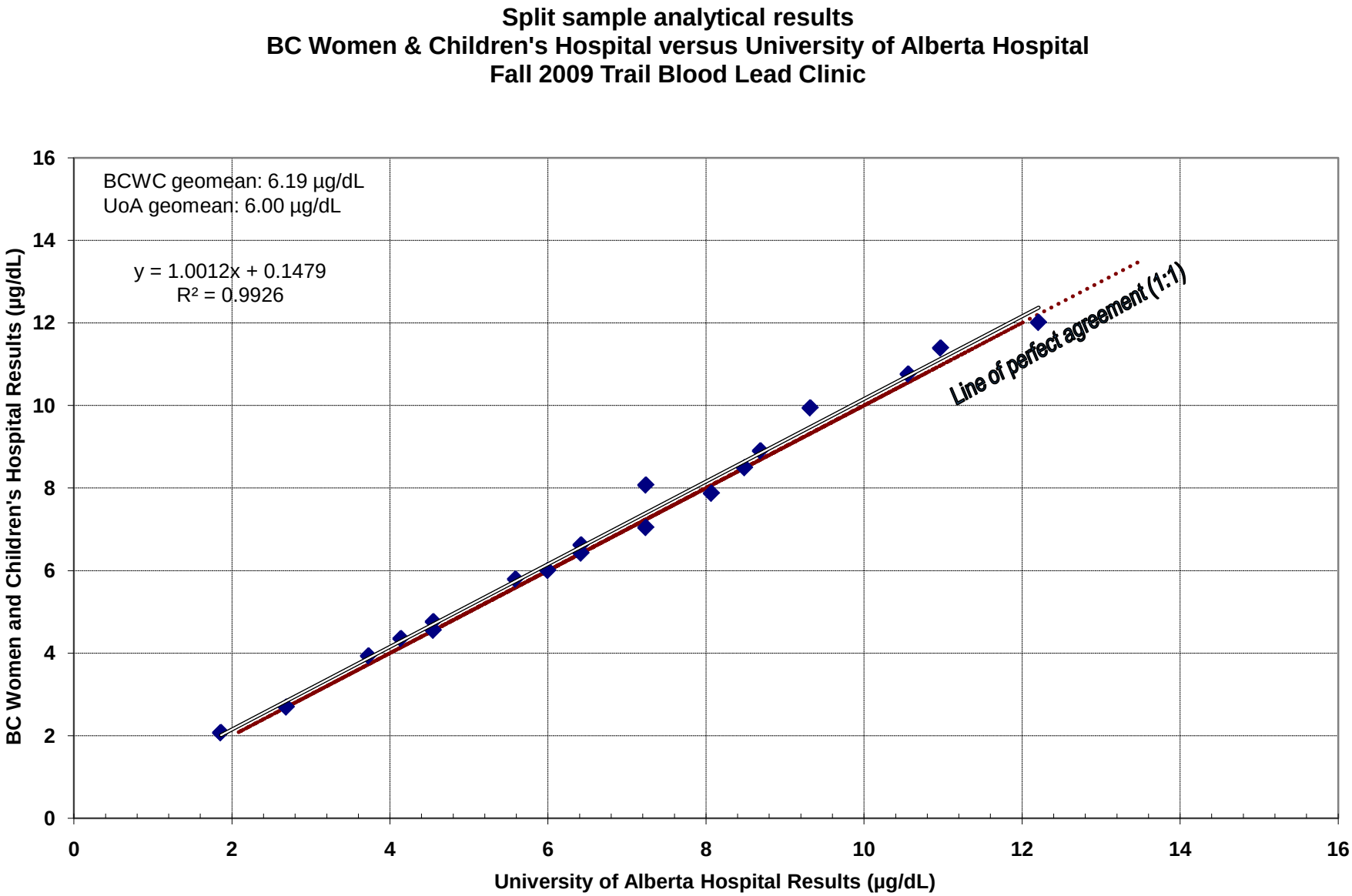
Geometric Mean Blood Pb, 6-36 mos. throughout



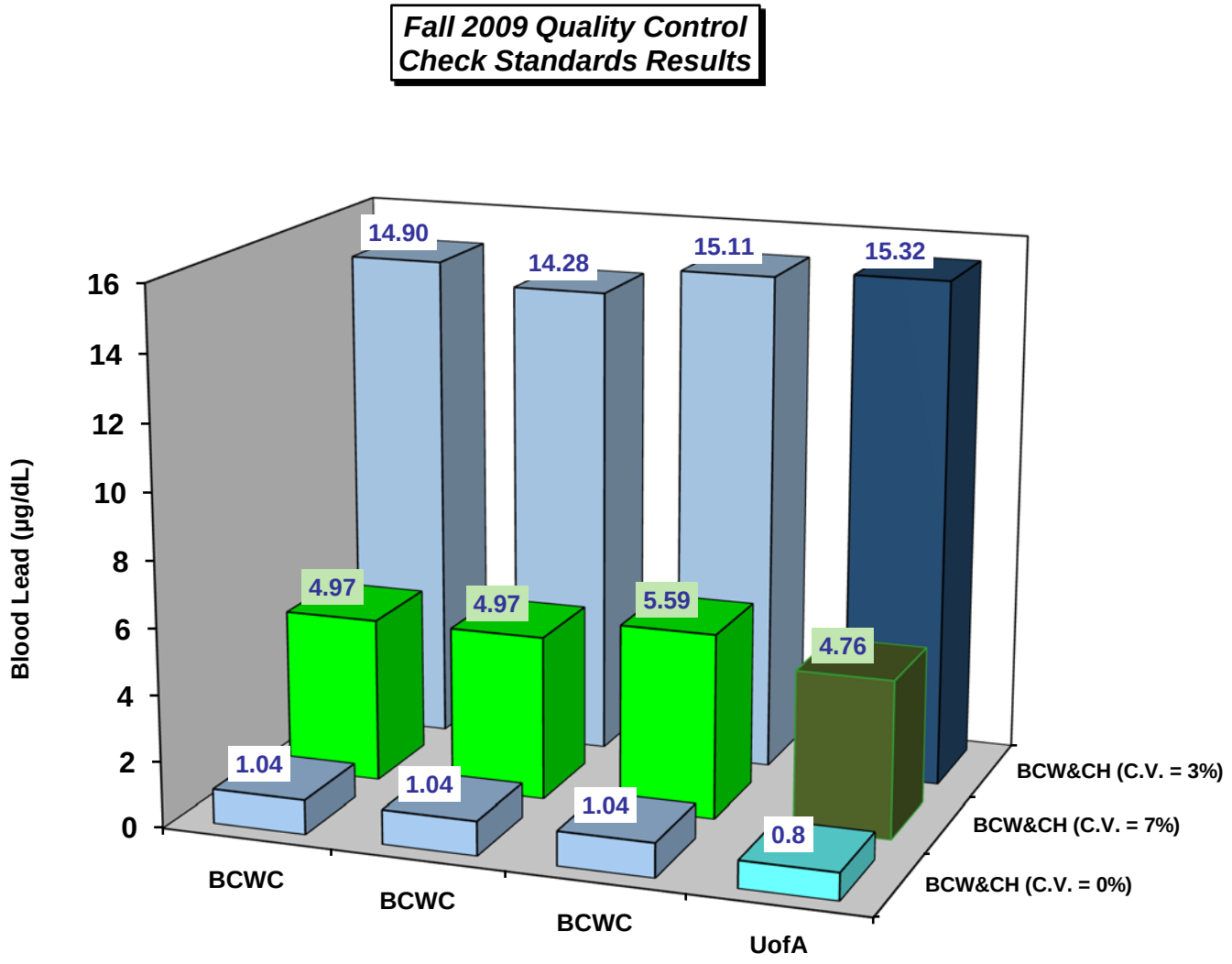
Comparison with Other Sites

City/Region	Country	Nature of site	Age of kids tested	Year	Blood Lead Level (µg/dL)
La Oroya	Peru	Primary Pb smelter	< 6 yrs	2007	20.0
Port Pirie	Australia	Primary Pb smelter	9 mos to 4 yrs	2005	10.6
Torreon	Mexico	Primary Pb smelter	1-6 yrs	2003	8.3
Hoboken	Belgium	Secondary Pb smelter	2.5 yrs to 6 yrs	2009	6.9
Trail	Canada	Primary Pb smelter	6 mos to 3 yrs	2009	5.6
Mount Isa	Australia	Primary Pb smelter/min	1-4 yrs	2007	5.0
Rouyn-Noranda	Canada	Primary Cu smelter	6 mos to 5 yrs	1999	5.2
Hamilton	Canada	Urban/city centre	under 6 yrs	2008	3.0
Nation-wide	U.S.A.	Urban/rural (NHANES)	1 to 5 yrs	2004	1.7

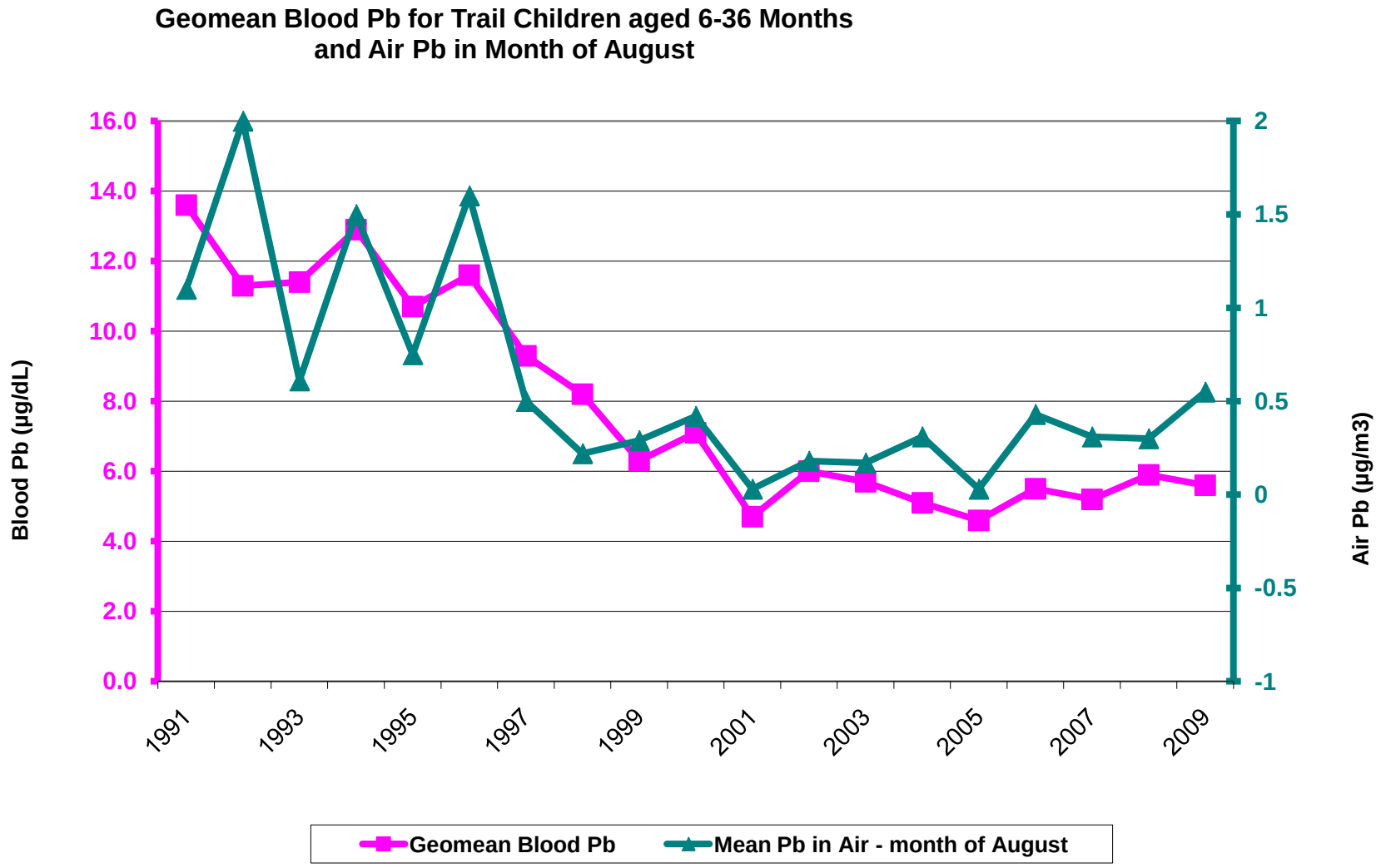
Quality Control Data



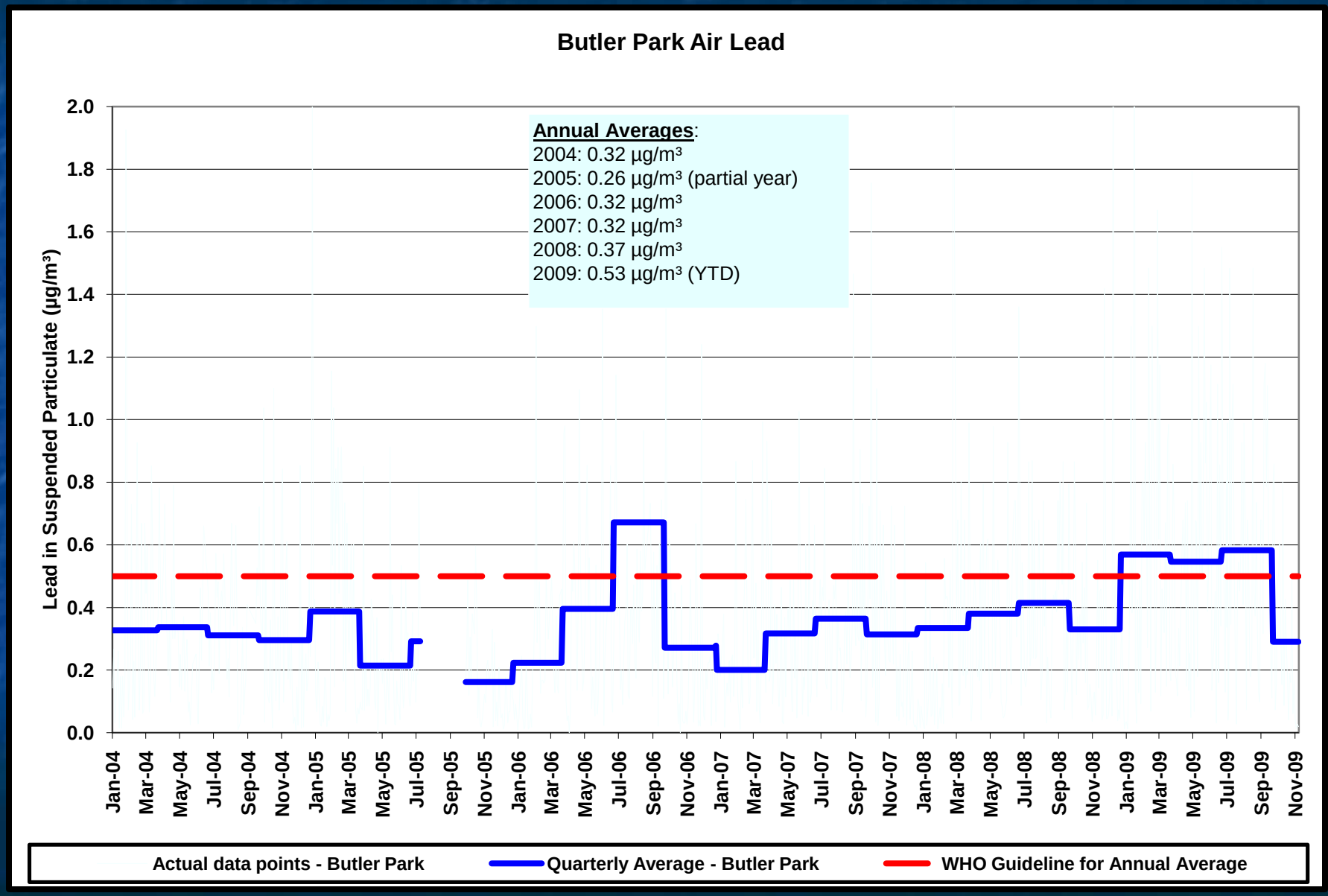
Quality Control Data



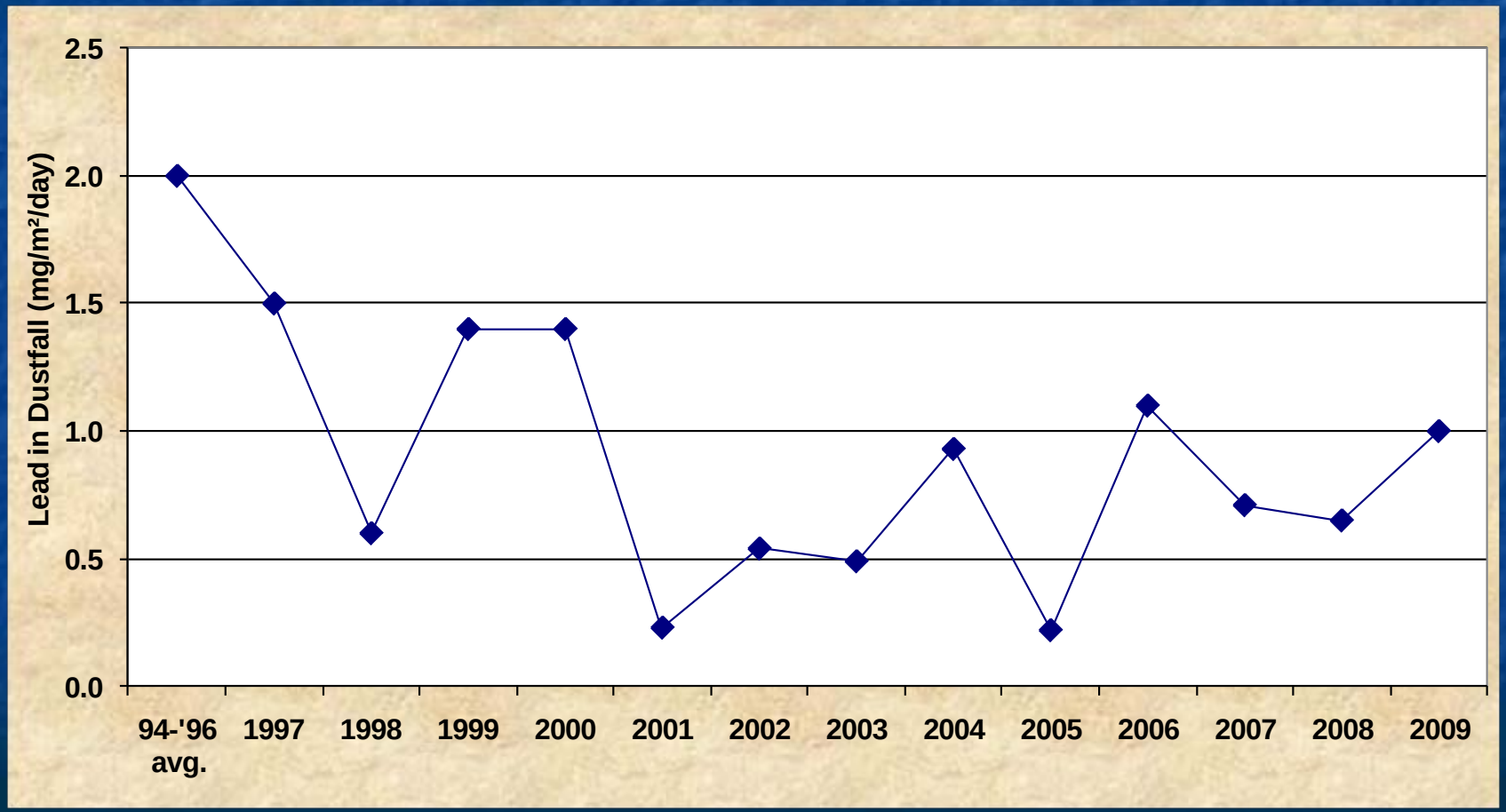
Air Pb/Blood Pb Relationship



Air Lead Levels - Butler Park Stn



Lead in Dustfall: Month of August Only, Area 2/3



Concluding messages

- Compared with last blood lead survey (2008), average blood lead in 2009 is down slightly, although the change is not significant
- Summer 2009 conditions were again warm and dry and the levels of lead in ambient air and dustfall were higher relative to other very recent years.
- TCLTF goals of having 90% of children with BLL of <10 ug/dL and 99% of children with a BLL <15ug/dl were essentially reached again this year, given the margin of error on the sample:

  (84% ± 8% <10ug/dl and 95% ± 3% <15ug/dl)
- There is no trend in blood lead levels in Trail children in over past 6 years – average blood lead level is not changing significantly.

Concluding messages

- Huge improvement in children's blood lead levels over the past 18 years, and Trail is at the forefront of smelter communities in terms of low lead emissions and blood lead levels.
- Studies of large numbers of children have found that those with higher blood lead levels tend, on average, to score slightly lower on developmental tests than children with lower blood lead levels.
- Adverse effects associated with blood lead levels seen in children today are subtle, and an individual child's blood lead level is not a reliable predictor of his/her development.

Concluding messages

- The current “level of concern” for blood lead levels in children is 10 µg/dL. However, there is no known threshold below which there is no effect.
- A significant percentage (more than 5%) of children greater than 10 µg/dL should result in community investigation and intervention.
- Children with elevated blood lead (≥ 10 µg/dL OR < 12 months age and ≥ 7 µg/dL OR increase > 3 µd/dL) will continue to receive home visits and assistance with reducing exposure.
- Blood lead testing objectives and goals are being re-evaluated and THEC will propose new scope and goals for blood lead testing.