

## Fall 2007 Blood Lead Results

# Presentation Overview

**Participation Rates**

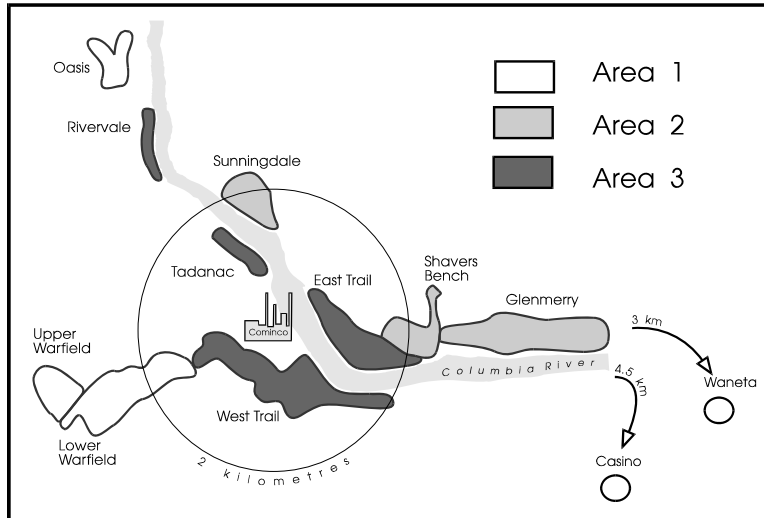
**Results**

**Environmental Conditions**

## Different Age Groups

- When showing data, the following colour coding will be used in the tables and graphs:
  - 2006-2007: age 6-36 months **RED**
  - 2006-2007: age 37-60 months **BLUE**
  - 2001-2005: age 6-36 months **RED**
  - 1991-2000: age 6-60 months **BLUE**

## “Areas” & Neighbourhoods



## Fall 2007 Participation By Neighbourhood

Participation for 2007 (Children 6 mo- 3 yr)				2006
Breakdown by Neighborhoods	# Children Contacted	# Children Participating	% Children Participating	% (No.) Participating
<b>AREA 3 (Children &lt;3 years)</b>				<b>(&lt;3 years)</b>
East Trail	25	23	92%	83% (15)
West Trail	48	35	73%	83% (25)
Tadanac	3	3	100%	100% (1)
Rivervale	1	1	100%	33% (1)
<b>AREA 3 TOTAL</b>	<b>77</b>	<b>62</b>	<b>81%</b>	<b>81% (42)</b>
<b>AREA 2 (Children &lt;3 years)</b>				<b>(&lt;3 years)</b>
Glenmerry	20	13	65%	78% (14)
Shavers Bench	16	9	56%	75% (12)
Sunningdale	10	5	50%	64% (7)
<b>AREA 2 TOTAL</b>	<b>46</b>	<b>27</b>	<b>59%</b>	<b>73% (33)</b>
<b>AREA 2 &amp; 3</b>	<b>123</b>	<b>89</b>	<b>72%</b>	<b>77% (75)</b>

## Fall 2007 Participation By Neighbourhood

Participation for 2007 (Children 3-5 years)				2006
Breakdown by Neighborhoods	# Children Contacted	# Children Participating	% Children Participating	% (No.) Participating
<b>AREA 3 (Children &gt; 3 years)</b>				
East Trail	12	9	75%	83% (10)
West Trail	25	14	56%	86% (19)
Tadanac	3	3	100%	50% (1)
Rivervale	1	1	100%	0% (0)
<b>AREA 3 TOTAL</b>	<b>41</b>	<b>27</b>	<b>66%</b>	<b>83% (30)</b>
<b>AREA 2 (Children &gt; 3 years)</b>				
Glenmerry	11	7	64%	50% (6)
Shavers Bench	12	8	67%	70% (7)
Sunningdale	5	1	20%	75% (3)
<b>AREA 2 TOTAL</b>	<b>28</b>	<b>16</b>	<b>57%</b>	<b>62% (16)</b>
<b>AREA 2 &amp; 3</b>	<b>69</b>	<b>43</b>	<b>62%</b>	<b>74% (46)</b>

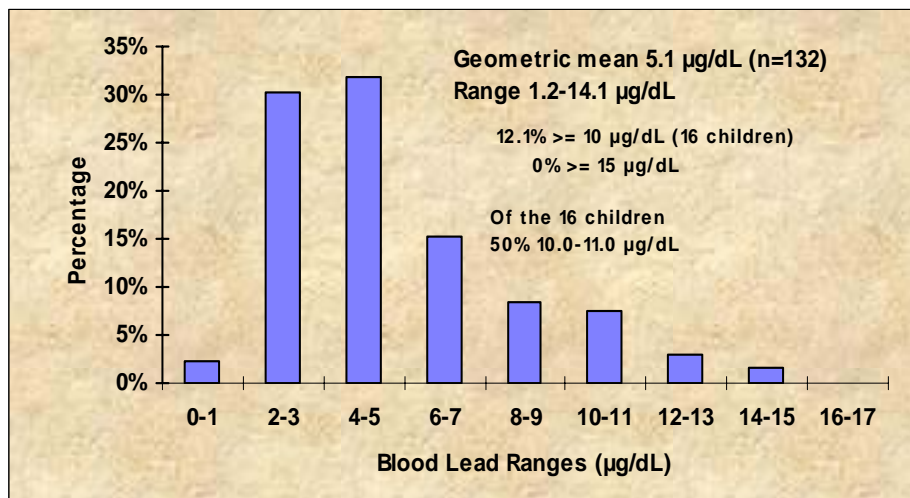
## Participation Rates Fall 2007 *(cont'd)*

### Area 2/3

<i>Group</i>	<i>Participation Rate (2007)</i>	<i>Participation Rate (2006)</i>
<i>Infants not tested before</i>	<b>81%</b> (22 of 27)	<b>77%</b> (23 of 30)
<i>Case Management (identified in previous clinics)</i>	<b>80%</b> (16 of 20) (1 unable to contact) (3 no shows at blood clinic)	<b>88%</b> (7 of 8) (2 unable to contact)

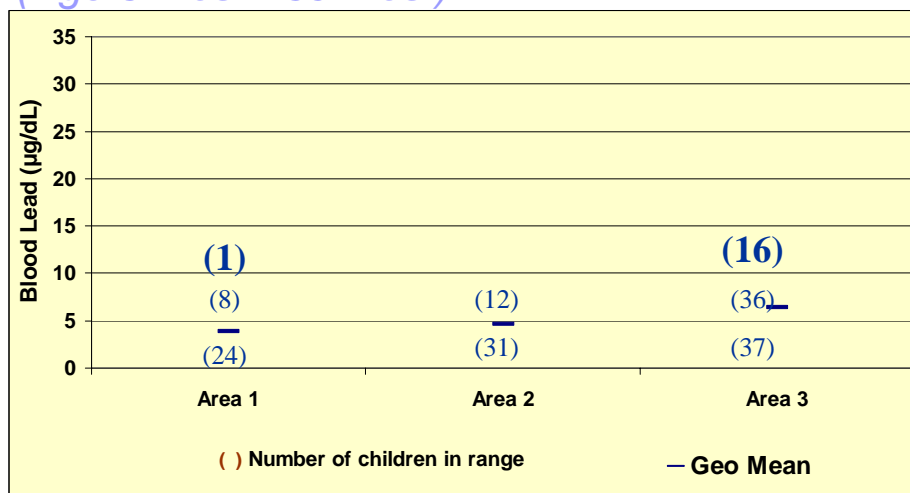
## 2007 Blood Lead Histogram: Area 2/3

(Age 6 mos. - 60 mos.)



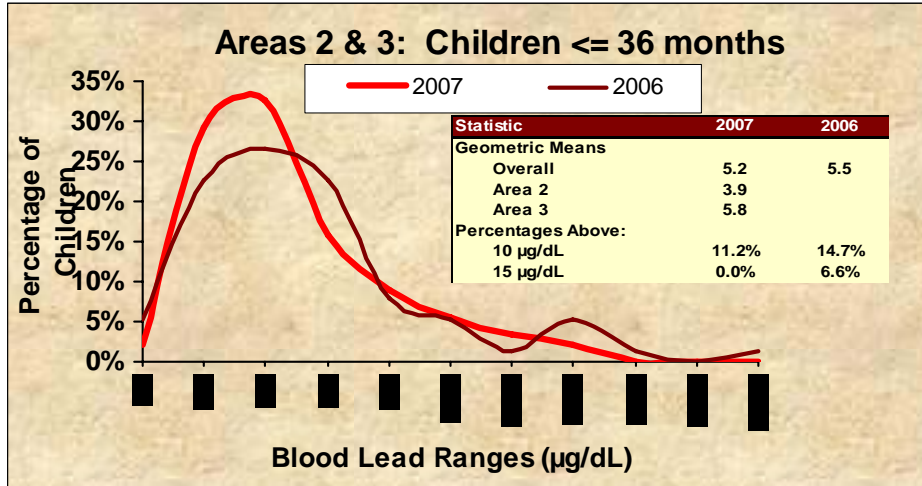
## 2007 Blood Leads by Area

(Age 6 mos. - 60 mos.)

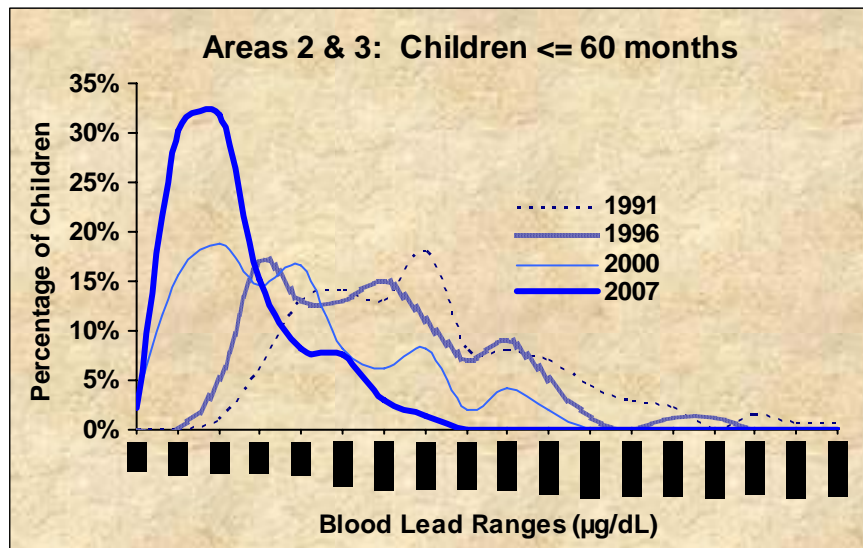


Note: Child from Area 1 with blood lead > 10 µg/dL spends most waking hours in Area 3

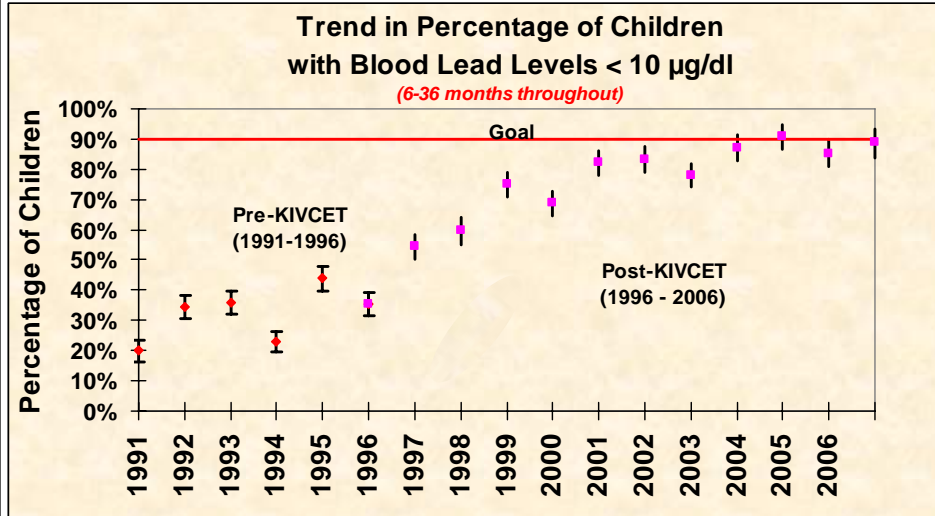
## 2007/2006 Comparison



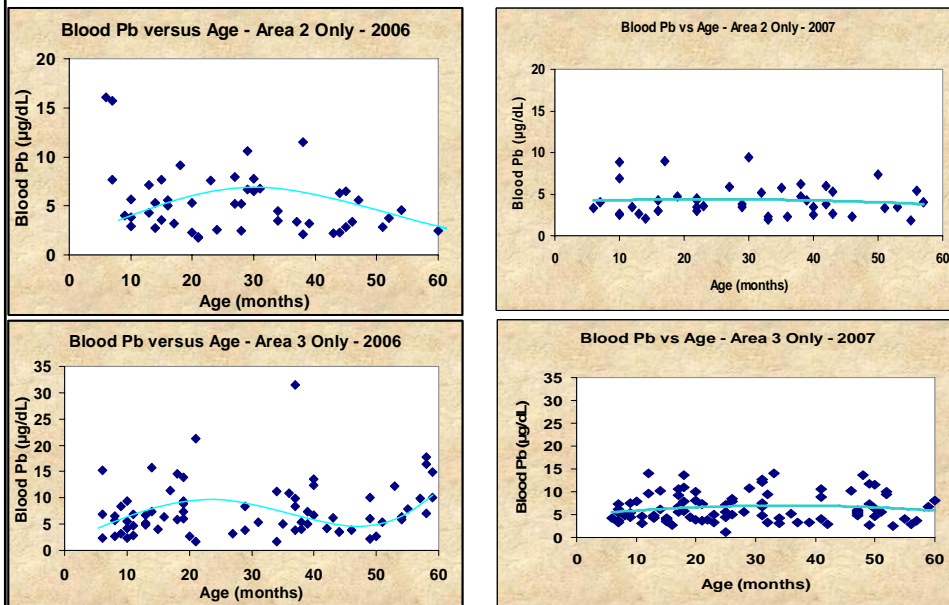
## 1991-2007 shift



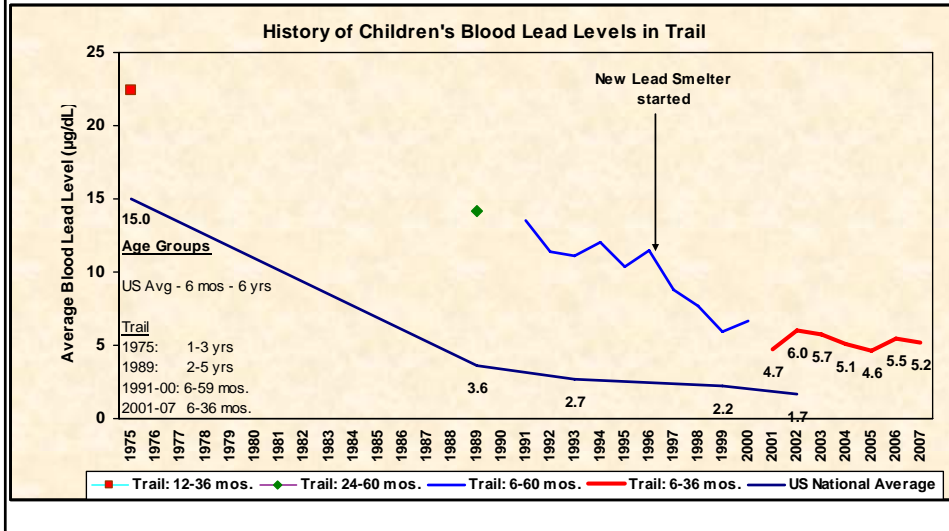
## Goal set by TCLTF for 2005



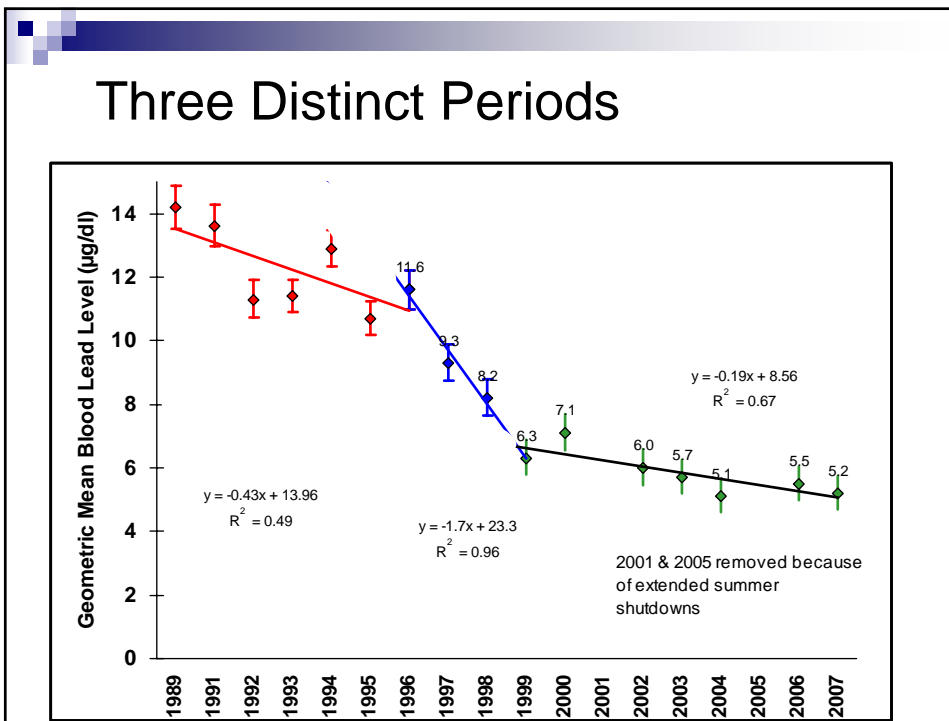
## Blood Lead vs. Age



# Comparison with "background"

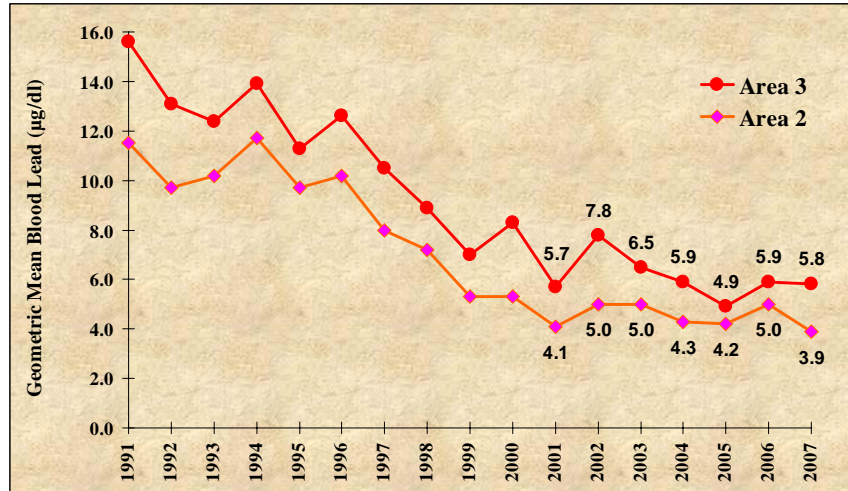


# Three Distinct Periods



# Blood Lead Geo Mean by Area

(age 6 – 36 months throughout)

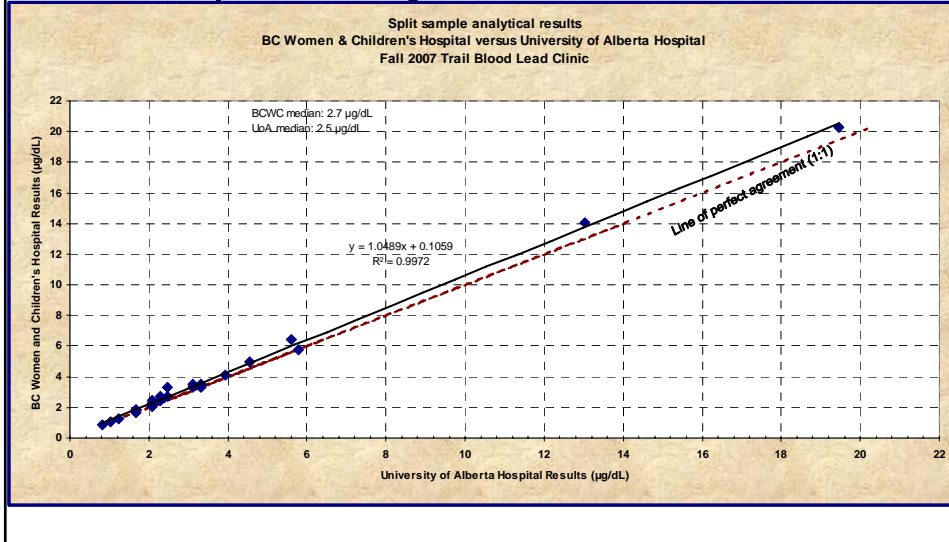


# Comparison with Other Sites

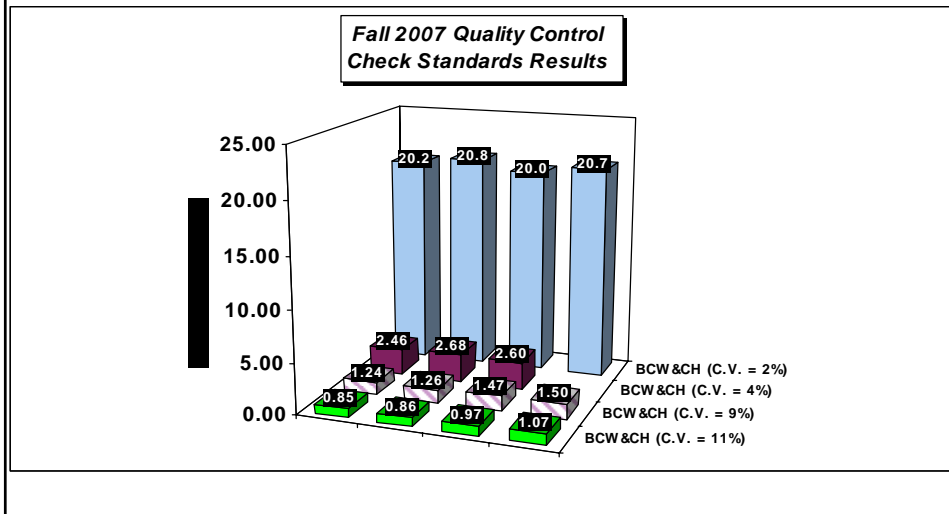
City/Region	Country	Nature of site	Age of kids tested	Year	Blood Lead Level (µg/dL)
Port Pirie	Australia	Primary Pb smelter	9 mos to 4 yrs	2005	10.6
Hoboken	Belgium	Secondary Pb smelter	2.5 yrs to 6 yrs	2006	9.7
Trail Area 3	Canada	Primary Pb smelter	6 mos to 5 yrs	2006	5.8
Trail (Areas 2/3)	Canada	Primary Pb smelter	6 mos to 5 yrs	2006	5.2
Rouyn-Noranda	Canada	Primary Cu smelter	6 mos to 5 yrs	1999	5.2
Nation-wide	U.S.A.	Urban/rural (NHANES)	1 to 5 yrs	2002	1.7



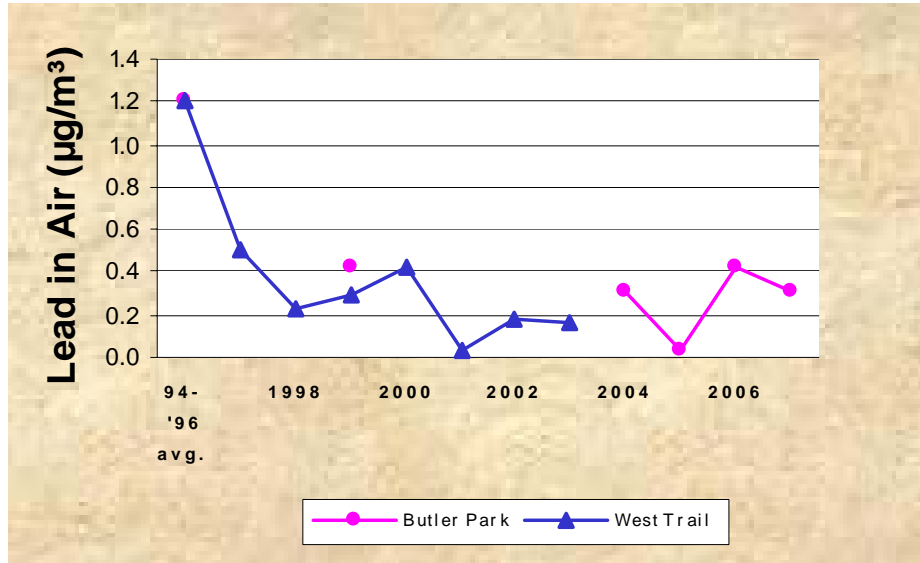
# Quality Control Data – Duplicate Sample Analyses



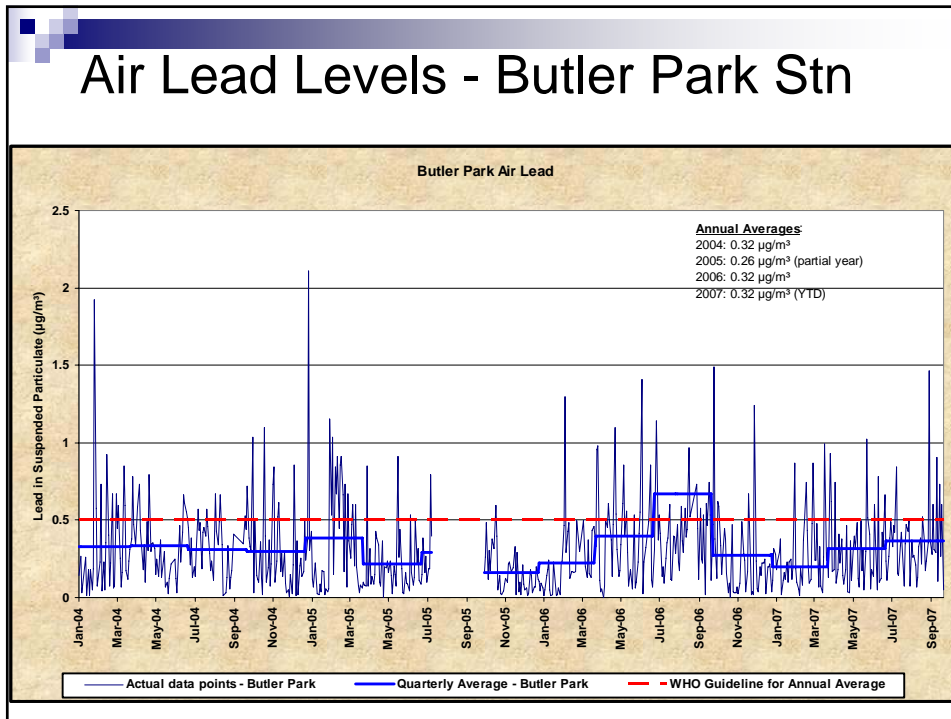
# Quality Control Data – Check Standard Analyses



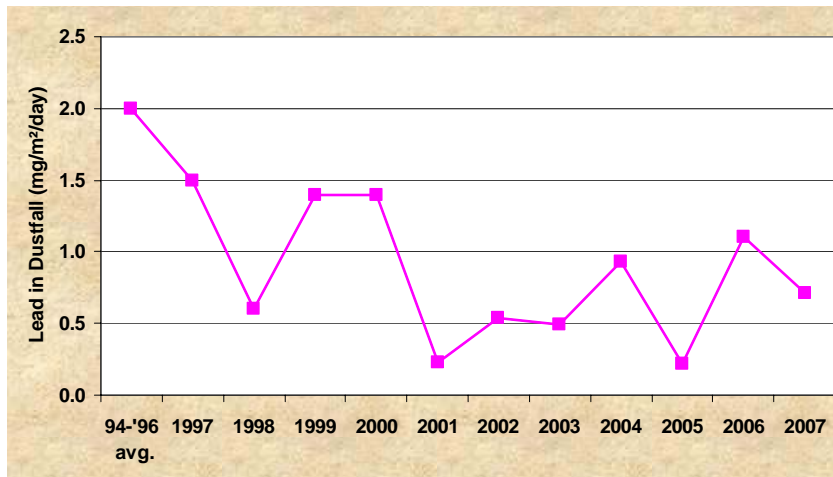
## Lead in Air: August Only



## Air Lead Levels - Butler Park Stn



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



## Concluding messages

- Compared with last blood lead survey (2006), average blood lead in 2007 is down slightly
- Summer 2007 conditions were again warm and dry and the levels of lead in ambient air and dustfall were normal 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 this year (89%<10ug/dl and 100% <15ug/dl).

## Concluding messages

- Huge improvement in children's blood lead levels over the past 15 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. The current level of concern for blood lead levels in children is 10 µg/dL. However, recent studies have found that even lower levels of lead exposure can be associated with lower test scores.

## Concluding messages

- Blood lead testing objectives and goals should be re-evaluated and THEC should propose new scope and goals for blood lead testing.
- Children with elevated blood lead will continue to receive home visits and assistance with reducing exposure.
- The main remaining known source of lead emissions from the Teck Cominco smelter is currently the #2 Slag Fuming Furnace (#2 SFF pre-dates KIVCET and emissions are routed through the Dracco baghouse)

## Concluding messages

- Teck Cominco decided in 2006 that a new baghouse (or possibly a wet scrubber) will be built for the #2SFF, as soon as possible:
  - Pre-feasibility in 2007
  - Construction beginning 2008
  - Commissioning in 2009
  - Rough cost of \$20 million+
  - Reduced emissions of lead, cadmium, arsenic, and particulate
  
- In the meantime, Teck Cominco will continue to be diligent in managing operations (especially the old #2 SFF baghouse) to ensure continued good environmental performance.
  
- Work on other priority Teck Cominco environmental projects will also continue (e.g. completion of riverbank greening, consumption of stockpiles, noise reduction)