Fall 2014 Blood Lead Results

Participation Rates

Results

Environmental Conditions

Interior Health

Age Groups Targeted

- 1991-2000: age 6-60 months
- 2001-2005: age 6-36 months
- 2006-2008: age 6-60 months
- 2009-2014: age 6-36 months

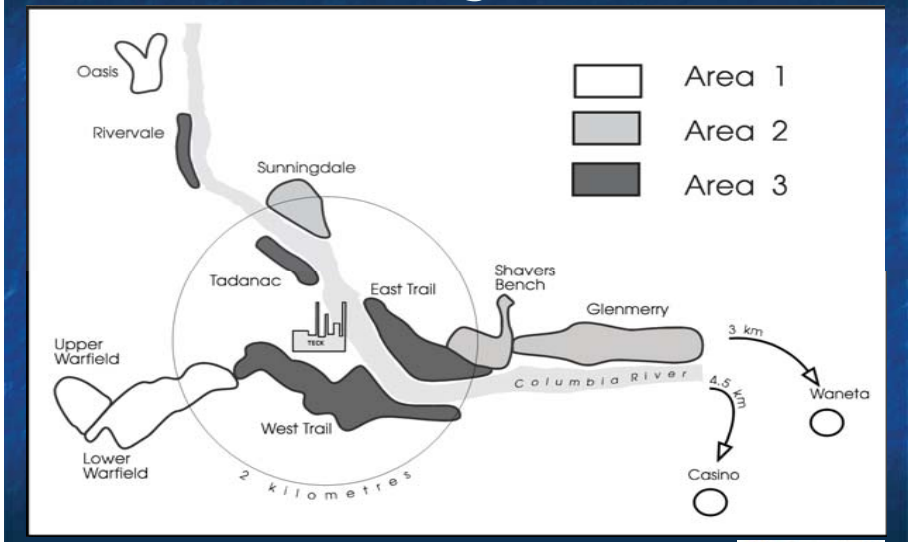
Interior Health

Who Was Tested in 2014?

- Target group:
  - Children aged 6-36 months, living in City of Trail or Rivervale (Area 2/3)
  - This is the group our results reflect
- Also:
  - New to area, up to age 5 years old
  - Previous case management for follow-up
  - Parents who requested testing for their child from any area

Interior Health

"Areas" & Neighbourhoods



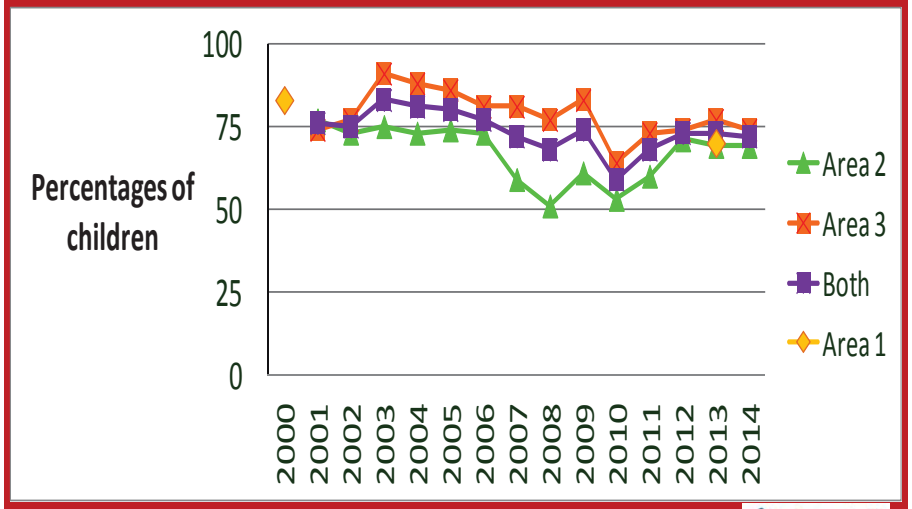
Interior Health

Fall 2014
Total Participation By Areas

Participation for 2014 (Children under 3 years)				
Breakdown by Areas	# Children Contacted	# Children Participating	% Children Participating	2013
AREA 2 TOTAL	81	56	69%	69% (54)
AREA 3 TOTAL	85	63	74%	77% (77)
AREA 2 & 3	166	119	72%	74% (131)

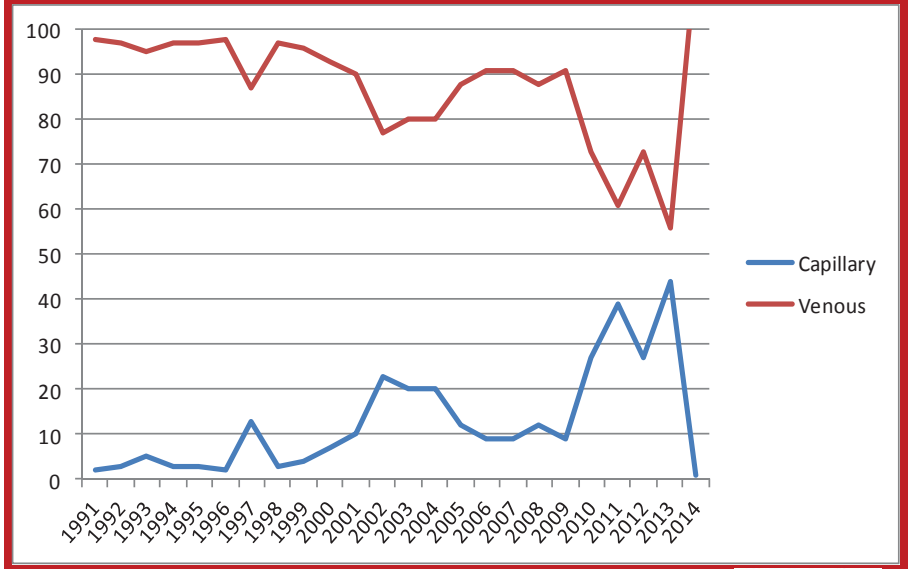
Interior Health

Percentages for participation by area and general trend



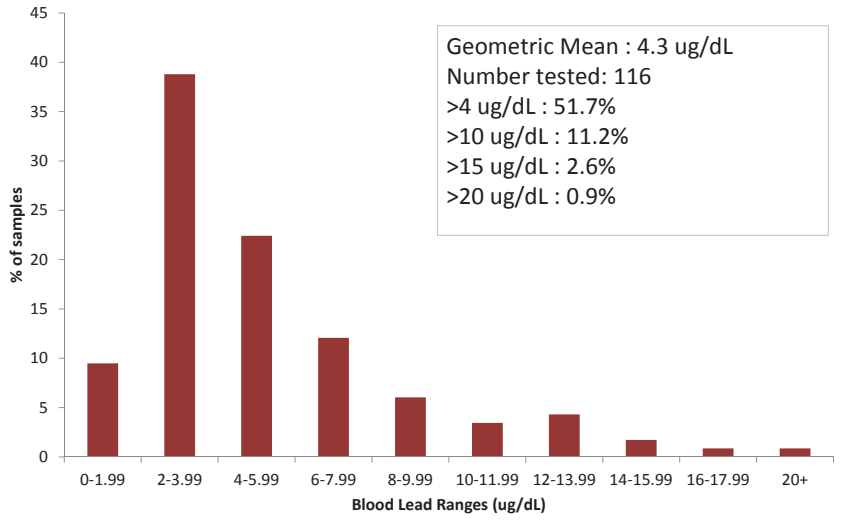
Interior Health

2014 Venous Sample Rate



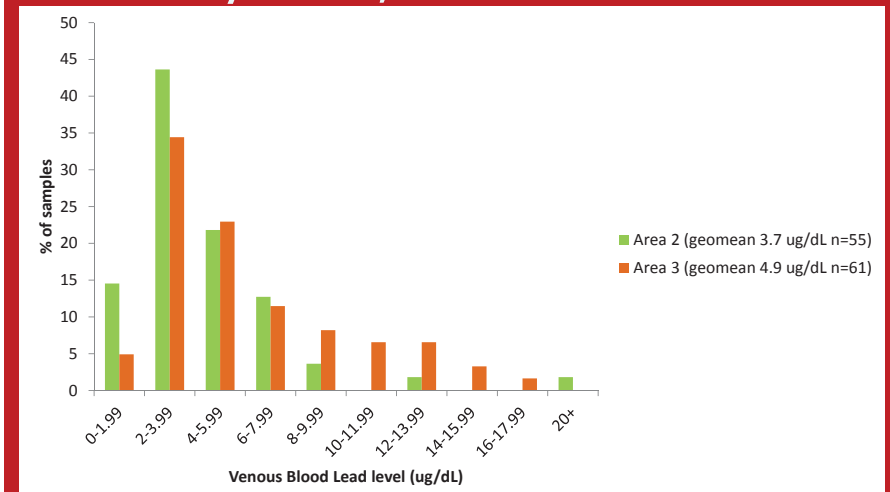
Interior Health

2014 Venous Blood Lead Ranges Area 2/3, 6-36 months



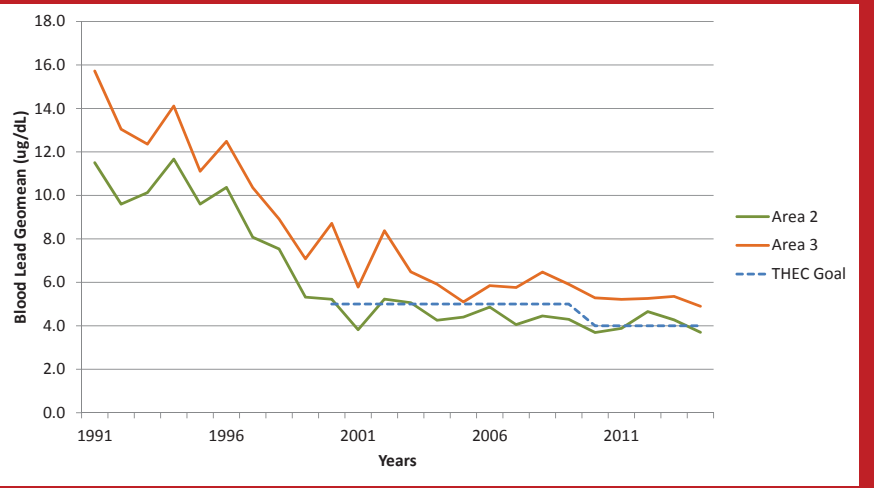
Interior Health

2014 Venous Blood Lead levels by Area, 6-36 months



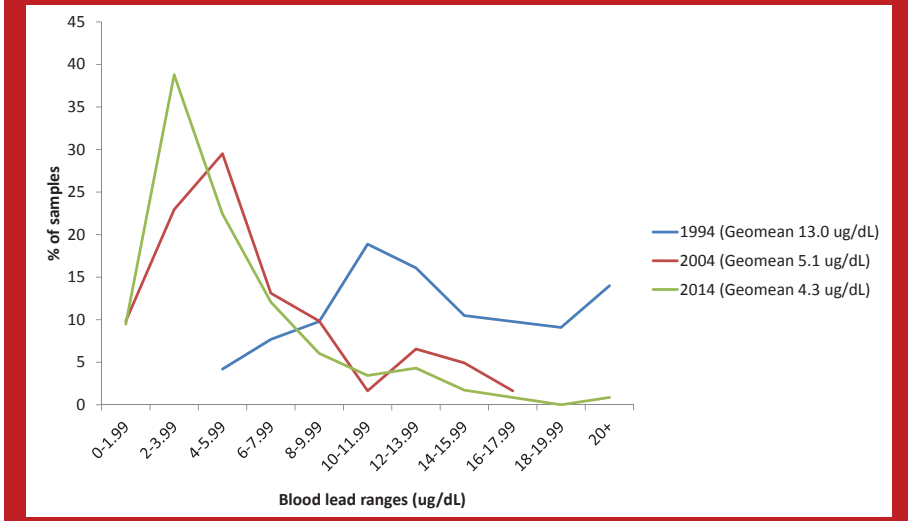
Interior Health

Venous blood Lead Geomean by Area, 6-36 months



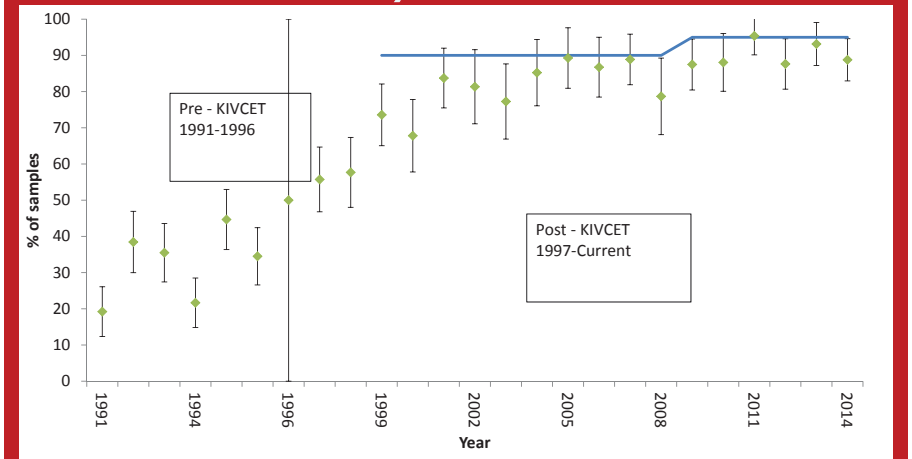
Interior Health

1994,2004,2014 Venous Blood Lead Ranges Area 2/3, 6-36 months



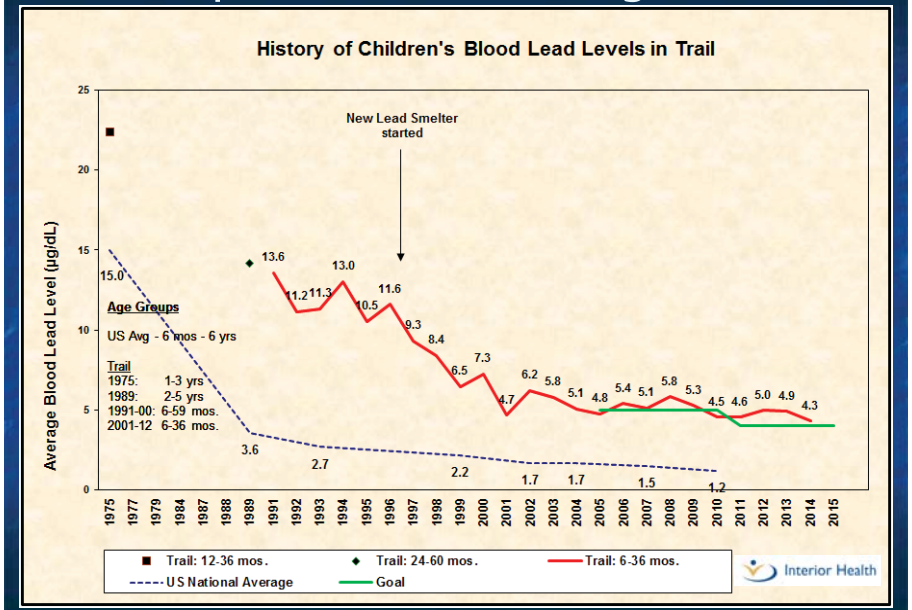
Interior Health

1991-2014 % of venous blood lead samples, <10 ug/dL, area 2/3, 6-36 months



Interior Health

Comparison with "background"

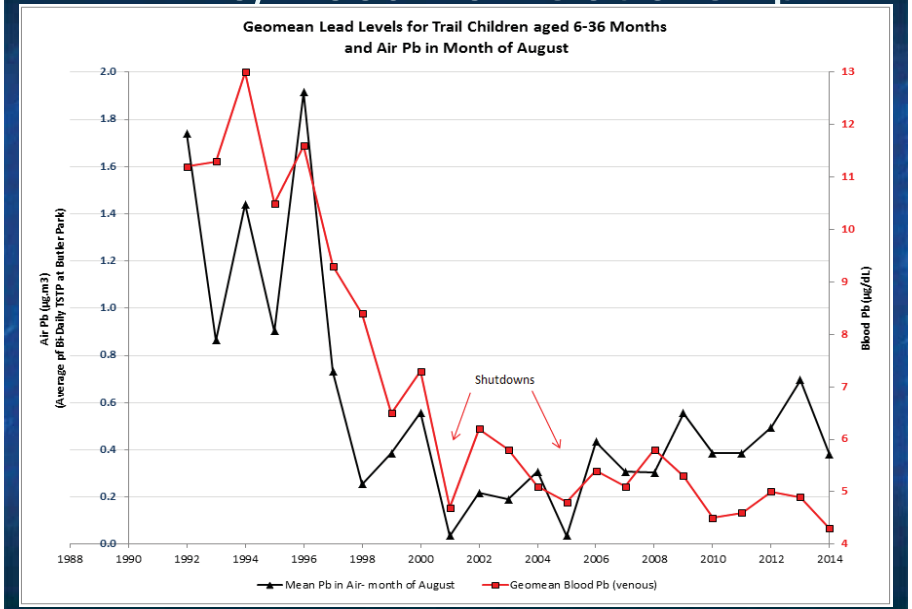


Interior Health

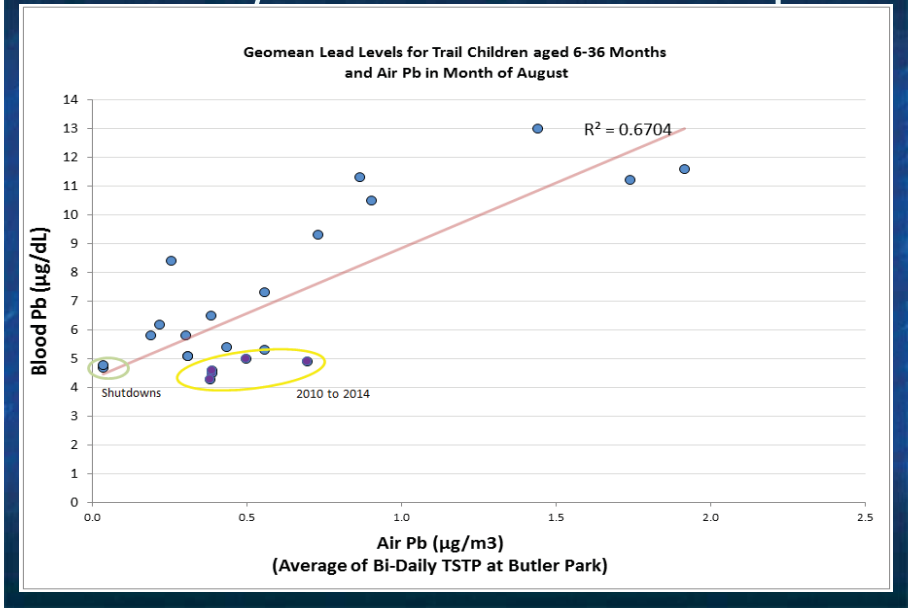
Comparison with Other Smelter Communities

City/Region	Country	Nature of site	Age of kids tested	Year	Geomean Blood Lead Level (µg/dL)
La Oroya	Peru	Pb smelter closed 2009	< 6 yrs	2011	~10
Hoboken (Moretusburg)	Belgium	Secondary Pb smelter	2.5-6 yrs	2012	8.9
Hercalaneum	U.S.A.	Primary Pb smelter	< 6 yrs	2003	8.0
Torreon	Mexico	Primary Pb smelter	<16 yrs	2011	5.7 avg
Rouyn-Noranda QC	Canada	Primary Cu smelter	6 mos to 5 yrs	1999	5.2
Broken Hill	Australia	Pb mining	1-4 yrs	2012	4.9
Port Pirie	Australia	Primary Pb smelter	<5 yrs	2014	4.4
Trail BC	**Canada**	**Primary Pb smelter**	**0.5 to 3 yrs**	**2014**	**4.3**
Belledune, NB	Canada	Pb smelter, industry	3-6 yrs	2005	3.5
Hamilton, ON	Canada	Urban/city centre	< 6 yrs	2008	3.0
Mount Isa	Australia	Primary Pb smelter/mine	1-5 yrs	2014	2.6
Flin Flon, MB	Canada	Closed Cu smelter	0.5 - 6 yrs	2011	1.4
St Johns, Nfld	Canada	Urban	1-5 yrs	2011	1.2
Nation-wide	**U.S.A.**	**Urban/rural (NHANES)**	**1 to 5 yrs**	**2010**	**1.2**
Nation-wide	**Canada**	**Urban/rural (CHM)**	**3-5 yrs**	**2011**	**0.9**
Vancouver	Canada	Urban/city centre	2-3 years	1994	5.4
Eastern Sidney	Australia	Urban/city centre	1 to 4 yrs	1993	7.2

Air Pb/Blood Pb Relationship



Air Pb/Blood Pb Relationship



Concluding Messages

- Late summer 2014 conditions were again warm and dry. The three-month average for lead in air in July, August and September was lower than 2013.
- The level of lead in air still appears to have a significant influence on blood lead levels.
- Teck's Fugitive Dust Reduction Program currently offers the greatest opportunity to further reduce lead emissions to achieve our health and environment goals.

Interior Health

Concluding Messages

- There is no known threshold below which there is no effect from lead exposure. The lower the better.
- There has been huge improvement in children's blood lead levels over the past 20 years, and Trail is among the leading smelter communities in terms of low lead emissions and blood lead levels.
- We are continuing to move toward our blood lead goal to have a geomean ("average") of 4.0 µg/dL by 2015

Interior Health

Concluding Messages

- There is some expected variation in blood lead levels from year to year due to the small population size, variation in weather, air quality etc.
- Overall, since the KIVCET smelter started in 1997, there was a significant decline in blood lead levels until about 2001. This has been followed by a continued, but very slight, improving trend through 2014.

Interior Health

Concluding Messages

- A small percentage of children had blood lead levels above 10 µg/dL. These families are receiving case management so their blood lead levels can be reduced.
- This is a reminder to parents of the importance of getting their children's lead levels tested.
- At the lead levels we typically see in Trail, the health effects would likely be subtle and not measureable or detectable in individual children.

Interior Health

Concluding Messages

- To reach our 2015 goal we require continued exposure reduction efforts from the internationally-recognized model partnership that is the THEC. This includes the Fugitive Dust Reduction Program and Healthy Families/Healthy Homes in-home visiting program.
- For information regarding lead, its effects, and the robust community supports available in the Trail area, please visit www.thep.ca

Interior Health

Questions and Comments

Interior Health