

Trail Area Health & Environment Committee



MINUTES

Meeting:

**Waneta Room – Best Western Plus Columbia River Hotel
November 18, 2014 - 7:00 pm**

Committee Members in Attendance:

Dieter Bogs, Chair, City of Trail
Gord DeRosa, Alternate Chair, City of Trail
Mark Tinholt, Teck Trail Operations
Cheryl Whittleton, Interior Health
Dawn Tomlin, Interior Health
Marylynn Rakuson, Community Rep.

Brad McCandlish, MoE
John Crozier, Councillor, Village of Warfield
Graham Kenyon, Community Rep.
Jeannine Stefani, Interior Health
Ron Joseph, Community Rep.
Linda Worley, RDKB Area B

Others in Attendance:

Bruce Enns, SNC-Lavalin Inc.
Cindy Hall, SNC-Lavalin Inc.
Ruth Beck, Program Manager
Dr. Nelson Ames, MHO, Retired
Ruth Hull, Intrinsic
Jacquie Johnson, Interior Health
Dale Webb, Manager of Operations, Teck Trail Ops

Richard Deane, Teck Trail Operations
Andrea McCormick, SNC-Lavalin Inc.
Liz Anderson, SNC-Lavalin Inc.
Greg Belland, Teck Trail Operations
Angelique Rosenthal, Teck Trail Ops
Mike Martin, Mayor Elect, City of Trail

MEETING MINUTES: Approve minutes from Sept 9. Moved: Marylynn; Seconded: Mark. Carried.

REPORTS & RECOMMENDATIONS:

Family Health: Fall 2014 Children's Blood Lead Testing Clinic results.

Jeannine showed a PowerPoint presentation and spoke to each slide.

Jeannine pointed out that this year there was only one capillary sample. There were 162 samples in total, 1 capillary, and 2 unsuccessful tries. She pointed out the success of the turn-around in the number and rate of venous samples.

Dieter commented on the incredible accomplishment. Moved: by Mark. To send a letter of thanks to Interior Health to the IH personnel responsible for this achievement. Seconded: Ron. Carried.

ACTION: Ruth to draft a thank you letter for Dieter to review, finalize and sign.

Jeannine continued with the presentation: The geometric mean for children's blood lead levels (BLLs), aged 6-36 months, living in Trail and Rivervale in 2014: 4.3 µg/dL (last year 4.9 µg/dL). 11.2% of kids tested above 10 µg/dL this year (as compared with 7% last year). Gord asked for clarification as to whether there are specific geographic areas and/or clusters of high BLL results. Jeannine replied that the samples aren't big enough to make that kind of judgment. Mark suggested looking at longitudinal data. Jeannine responded that IH doesn't track addresses. Dawn pointed out that due to the small sample sizes, there would be confidentiality issues in doing so.

Regarding progress to the THEC goal of 95% of children's BLLs under 10 µg/dL: this year 89% of children tested below 10 µg/dL, while last year 93% were below 10 µg/dL. Jeannine pointed out that, due to the small number of samples, a small number of higher results can strongly affect the percentage: it doesn't take much to change the statistic.

Jeannine pointed out a slight improvement trend in blood lead levels over the past 13 years.

Mark presented comparisons of BLL testing results in other smelter communities. Of particular note is Pt. Pirie, Australia, though they test a different subset of the population, children 0-5 years and pregnant women. Their geomean for children aged 24 months is 4.4 µg/dL. Mount Isa, Australia, reported a geomean of 2.6 µg/dL with no children (aged 1-5 years) over 5 µg/dL. Teck is very interested in this result and is investigating further with people at Mount Isa.

The air lead/blood lead relationship typically correlates nicely, but in the last 4 years, BLLs are lower than one might predict based on air lead alone. Mark speculated that, while we can't say for certain, perhaps the home visiting program might be having a positive impact.

Jeannine presented the concluding messages including the importance of the Fugitive Dust Reduction Program, the fact that the lower the BLL the better, that we/THEC continue to move toward our target of a geomean of 4µg/dL by 2015, and the need for continued exposure reduction efforts. She noted that some variation in BLLs is to be expected when dealing with small sample sizes. Families that have children with BLLs above 10µg/dL (7µg/dL for children under 12 months of age) are receiving case management.

Jeannine reviewed the IH Family Health Program Report. (attached)

FAN Update.

Ruth presented the update (attached), noting the cooperative relationship between THEP and FAN. Dieter asked for clarification on the "consultants" at the Ages and Stages Screening Day and the 19 service providers who attended the November 5th Success by 6/FAN Interagency Meeting. Why such different attendance numbers? Several people responded that these are two different types of groups. Dawn suggested that the term "clinical consultant" is more appropriate for the IH audiologist, dental hygienist and others who provide the screening at Ages and Stages Day.

John Crozier pointed out that there is a comfort station in Warfield, in the new Hall, that is accessible from the outside.

FAN will be having an AGM for board members on Dec 12.

Air Quality:

Mark presented the Air Quality Report (attached). The third Quarter result for air lead at Butler Park is the lowest in the last 6 years at 0.34ug/m³. Gord asked for clarification on the wind measurement. Mark noted that the wind direction noted on the graph is the predominant wind for the whole Quarter. The Butler Park real-time monitor needed servicing, so it was replaced with the newer model from Duncan Flats. Duncan Flats will get a new model in the near future.

A question was raised about why we mention the Alberta objective for arsenic. The Alberta objective is the lowest standard for arsenic in Canada, so we use it. Gord wondered why we don't test for arsenic as much as lead. Dr. Ames noted that arsenic is not well measured in individuals (it's a population measure) and that arsenic levels tend to mirror lead levels. The same can be said for thallium.

Gord mentioned that he has some historical files that he will hand over to the Program Office for the THEC archives.

Mark mentioned that, regarding the new acid plant startup that took place last week after the shutdown, there was some visible steam with sulphur trioxide until the acid plant was running at full capacity (about 20 minutes).

Mark also noted that the levels of lead in air during the shutdown this year were lower than last time there was a shutdown (0.2ug/m³ as opposed to 0.4ug/m³).

Home & Garden:

Report attached. Cindy presented year-to-date numbers for the Healthy Homes Program. Andrea pointed out that SNC completed soil sampling for all properties on the wait list from prior to this fall. The only properties outstanding for assessment are 1 multifamily complex for Health Homes and around 20 community assessment properties from this fall. With regards to remediation of properties, Bruce explained that the new Upper Cap Concentration was changed to 4,000 ppm in early 2014. This is 1,000 ppm lower than the previous remediation action level and that this has contributed to the number of properties on the remediation list.

Andrea highlighted that November is Radon Awareness Month.

Dawn requested clarification of who gets prioritized for remediation, specifically wondering if Case Management families are the top priority. Bruce/Andrea noted that, yes, the top priority is case management, then Healthy Families Healthy Homes (HFHH) Program families, then community requests.

Gord asked what year the first yard was remediated. Andrea replied that, in 2008, the H&G Program remediated 4 yards and 7 gardens. Gord asked if there is any benefit in looking at recontamination? Bruce/Mark replied, noting that this is being looked at as part of the Long Term Soil Study (LTS). The LTS report will be presented to the THEC at a future meeting.

Cindy presented the community outreach and engagement section of the H&G Report. She highlighted a comment from a HFHH family that “this year’s BLL clinic ran especially smoothly”.

Program Planning & Operations:

Executive Committee Report:

- 1) The Executive brings forward a recommendation that the THEC strike a Working Group to set the new draft BLL goals for public consultation. Some people have volunteered to sit on the Working Group: Mike Martin, Mark, Jeannine, Dr. Parker, Brad, and Ruth Beck. Ruth asked if anyone else would be interested in participating. No responses. **Motion:** to establish the Working Group. Moved: Gord, Seconded: Brad. Carried.
- 2) Regarding standard agenda items for THEC meetings, the Executive recommends adding a new item: Community Check-In. The intent is to provide an opportunity for Community Representatives on the THEC to raise any points, questions, etc. Dieter added that any THEC member can raise a question/point to the Chair ahead of time if they’re uncomfortable. Moved: to add Community Check-In to the THEC standard agenda. **Motion:** Gord. Seconded: Mark. Carried.
- 3) As a reminder to all THEC members, you can make a request for an in camera item, or if you’d like staff to leave the room prior to discussion of an agenda item, please advise the Chair before the meeting.
- 4) Regarding the Presentation on Health Risks from Other Metals (HHRA), Mark would like to schedule a date for the presentation. He’d like it to coincide with the AQTWG update. Ruth asked if we could have the HHRA presentation coincide with the next THEC meeting. Dieter asked if there is an update on Indian Eddy. Mark replied that there is still ongoing monitoring, but no definitive update. Gord asked whether, during our in-home visits to families, we ask them what kind of furnace they have? Cindy replied, noting that there is a lot to cover during a Healthy Home visit and it’s tough to prioritize that question. However, if the THEC gives her the direction to track this more closely then she’ll carefully find a way to incorporate it. Mark said that there is going to be a presentation on furnace filters at the next AQTWG meeting and that we can discuss it further at that time.
ACTION: Mark/Ruth to advise THEC of a proposed date for the HHRA Presentation.
- 5) The media release with the community BLL results will be released by THEC (by the City of Trail) tomorrow morning. Ruth read the draft release out to the group. Ruth pointed out that Karl Hardt (IH) is the point person for media questions; Mayor Bogs, and Richard Deane are also contacts. Gord noted that we say our goal is 4µg/dL, but our ultimate goal is really 0! A discussion took place about whether and how to amend the media release, noting that the goal isn’t actually 0 because background levels are higher than that. Ruth proposed that we add a sentence restating the THEC’s overall goal to reduce exposure to lead and other smelter metals on a continual improvement basis. It was agreed to add to the media release that statement as it is written in the THEP Document.

Program Manager Report:

Ruth summed up the Program Manager’s report (attached). She presented the Moving to Trail brochure. There were many comments from the Committee on how good the brochure looks.

ACTION: Ruth to present her workplan for 2015 at the next meeting. This is to consist of a two point elaboration on the projects listed in the 2105 program management budget - basically, details on what each project entails and the expected timeline.

NEXT MEETING: Tuesday, February 10 (*note: being rescheduled to another date TBD*)

Dieter had the last word: “It’s been a pleasure to work with you.”

Meeting adjourned 8:56

Fall 2014 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
- 2009-2014: age 6-36 months

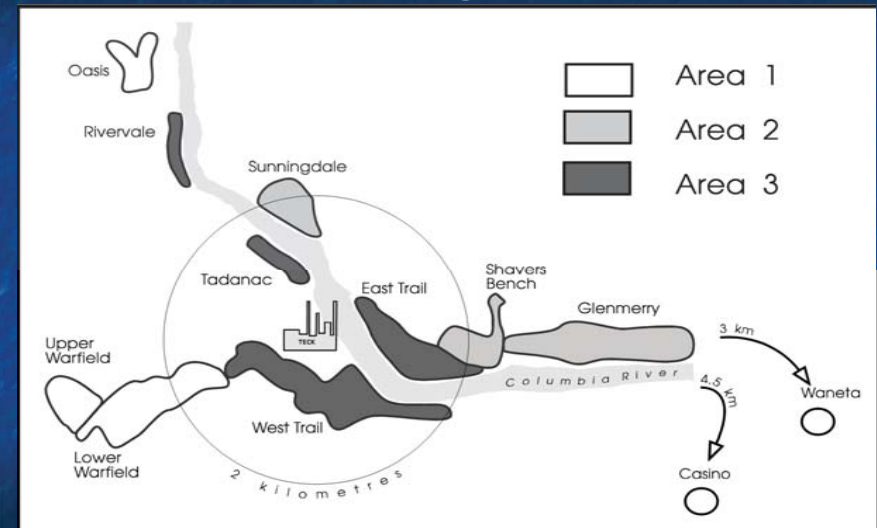


Who Was Tested in 2014?

- 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



"Areas" & Neighbourhoods

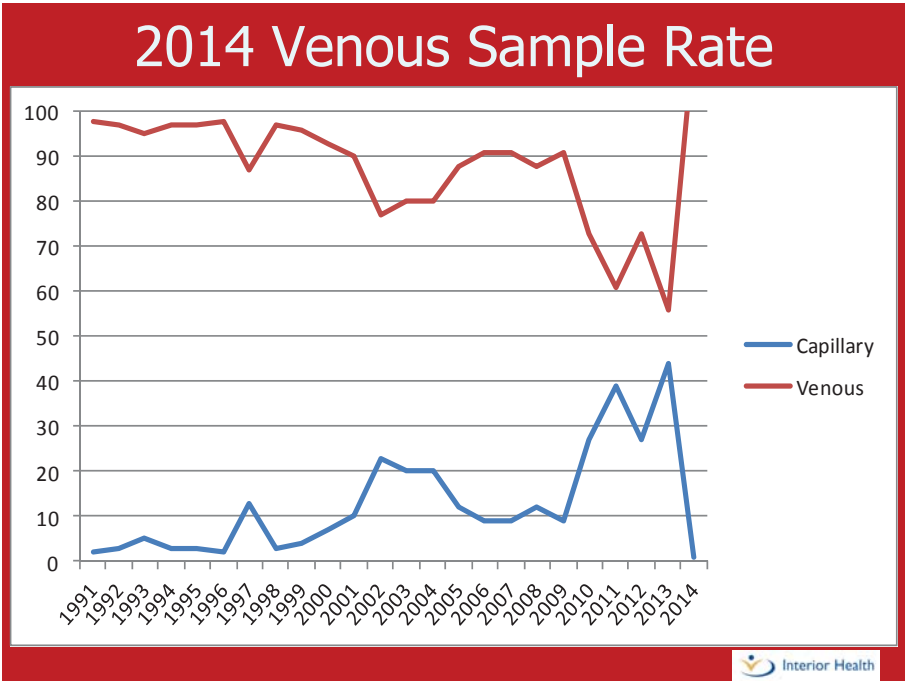
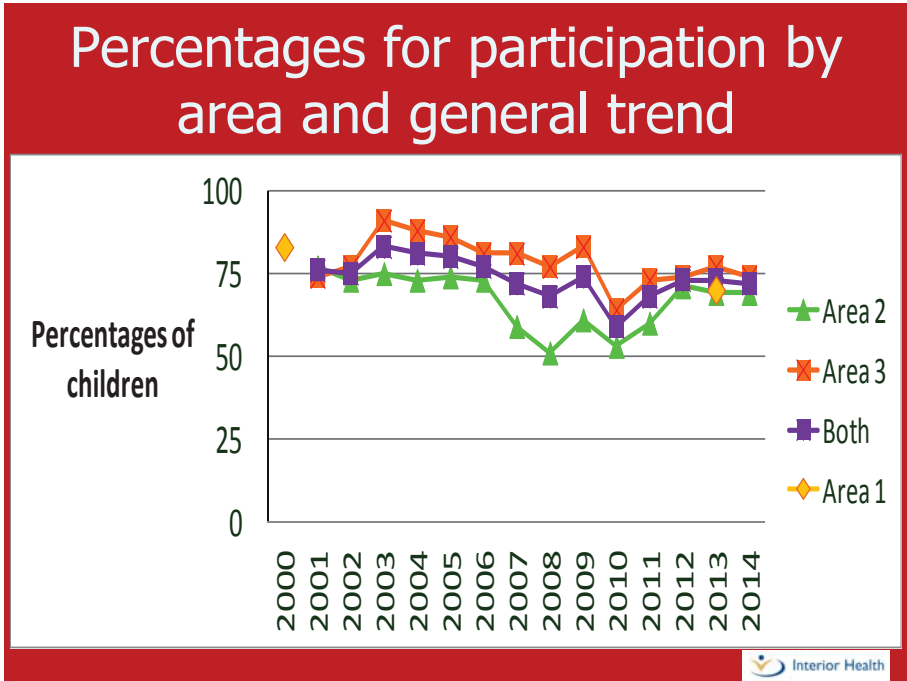




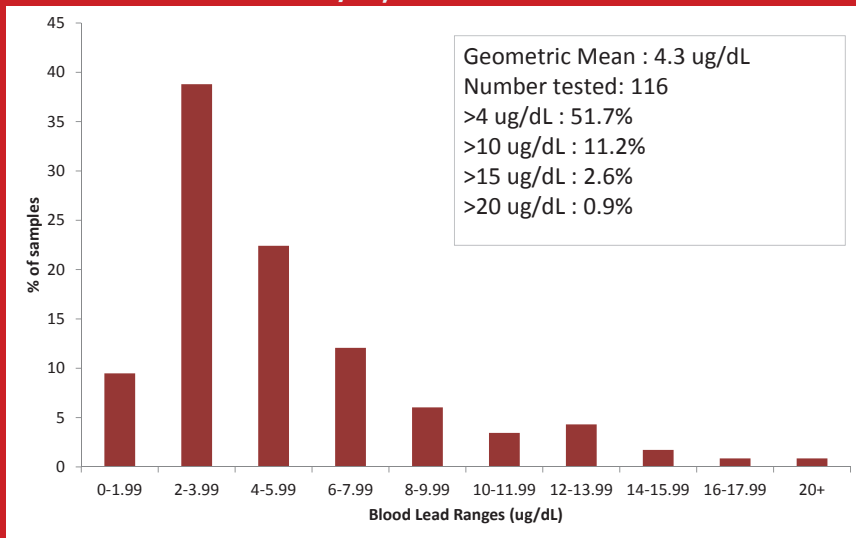
Fall 2014 Total Participation By Areas

Participation for 2014 (Children under 3 years)

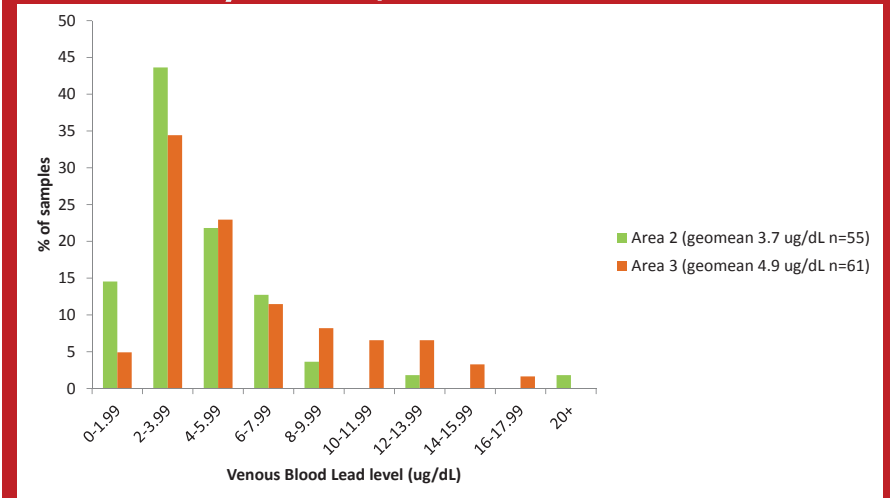
Breakdown by Areas	# Children Contacted	# Children Participating	% Children Participating	2013
AREA 2 TOTAL	81	56	69%	69% (54)
AREA 3 TOTAL	85	63	74%	77% (77)
AREA 2 & 3	166	119	72%	74% (131)



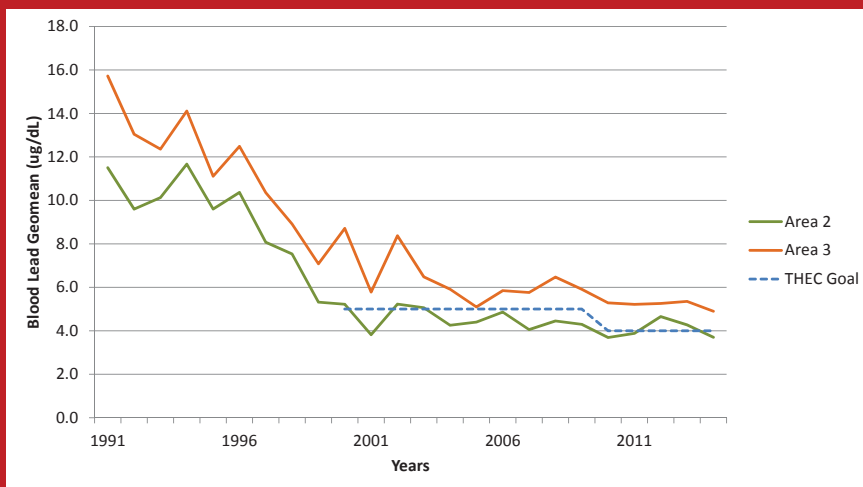
2014 Venous Blood Lead Ranges Area 2/3, 6-36 months



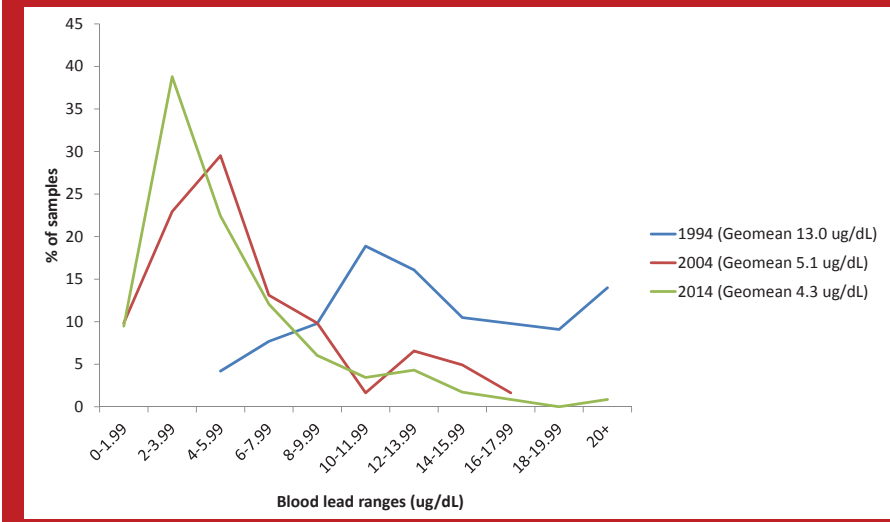
2014 Venous Blood Lead levels by Area, 6-36 months



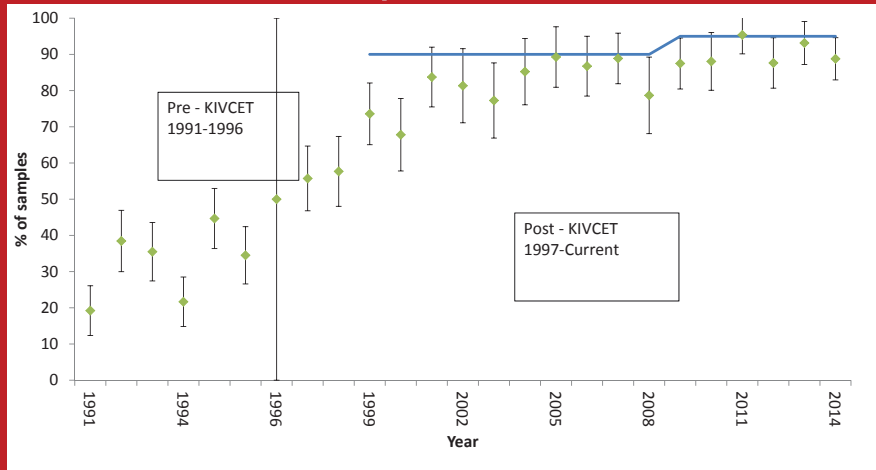
Venous blood Lead Geomean by Area, 6-36 months



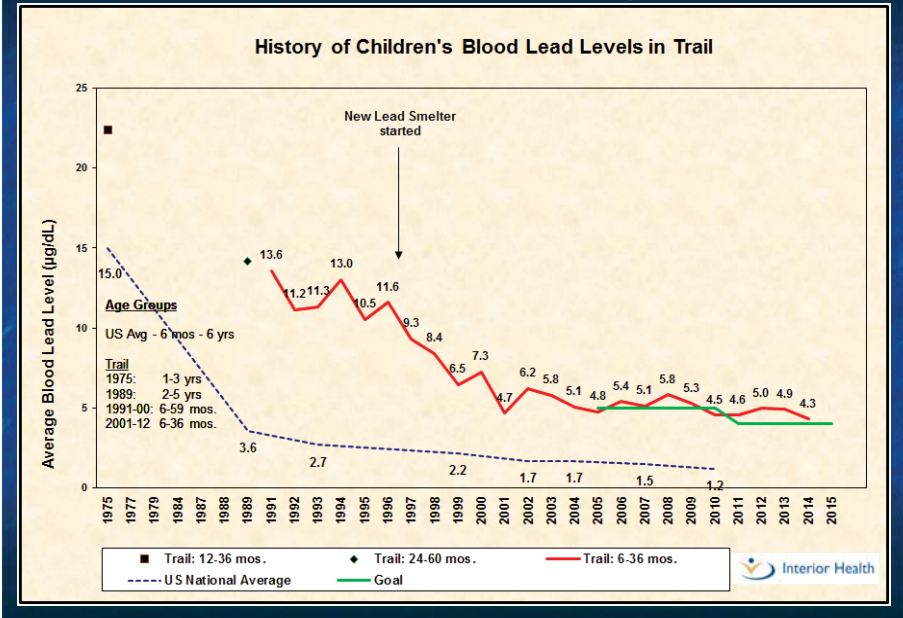
1994,2004,2014 Venous Blood Lead Ranges Area 2/3, 6-36 months



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



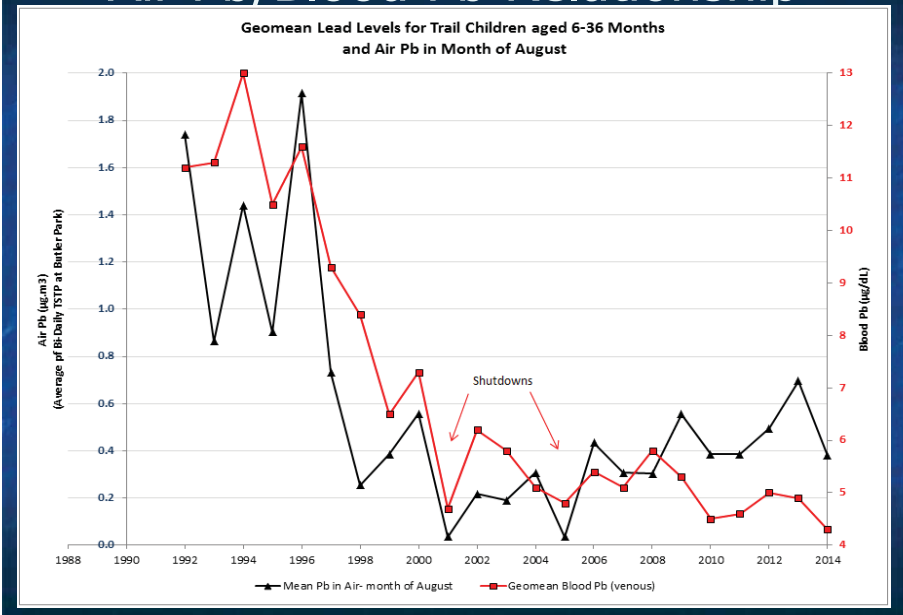
Comparison with "background"



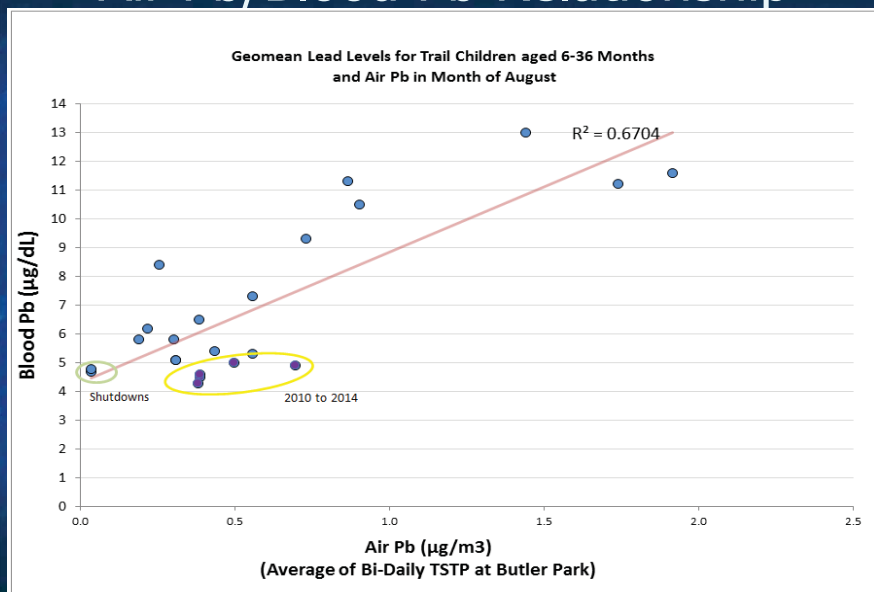
Comparison with Other Smelter Communities

City/Region	Country	Nature of site	Age of kids tested	Year	Geomean Blood Lead Level (ug/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.

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

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.

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.



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



Questions and Comments



Trail Area Health and Environment Committee

IH Family Health Program Report

November 18th, 2014

1. Fall 2014 Children's Blood Lead Clinic Results
 - see powerpoint

2. Healthy Family visits
 - 2 done with new CM families
 - 1 booked
 - Plan to contact more families over the winter

3. Community Education
 - Attend local Pregnancy Outreach Program (Building Beautiful Babies) monthly
 - Attended Prenatal class with Home and Garden Program October 9th
 - Presenting at KBRH Physician Rounds November 27th about the THEP

FAN update for the THEC – November 18, 2014

Ages and Stages Update

- Successful event hosted Oct 8th at Kiro Wellness Centre in Trail.
- 37 children screened. 9 flagged for further follow up.
- 7 consultants worked collaboratively to provide the screening.
- 6 community family service organizations set up displays for parents to browse while waiting for their appointments
- 6 families on the waiting list for next Ages and Stages event
- Several families indicated they learned of Ages and Stages via the THEP newsletter article
- Regional expansion of Ages and Stages Event planning happening now - targeting Rossland for early 2015

Website

- 100 Lower Columbia parents/caregivers surveyed over Summer 2014 in regard to their vision for a 'Lower Columbia parent-focused web resource
- FAN Advisory Committee also provided input as to web site content/design
- Next steps: Parent Focus Group, Test Site created

Interagency Meeting

Note: This came about as a result of the June 10/11 ECD events. At the Action Planning Session, this was "Idea 2: Re-instate interagency meetings for those serving families with children 0 to 6 in the area"

- Nov 5th Success by Six (Early Childhood Coalition for Greater Trail) Committee meeting held
- 19 local early childhood service providers attended
- Next meeting scheduled for 21 January 2015

Other

Fiona Mooney, FAN Facilitator is back! Her focus is leading a review and updated organization around FAN priorities.

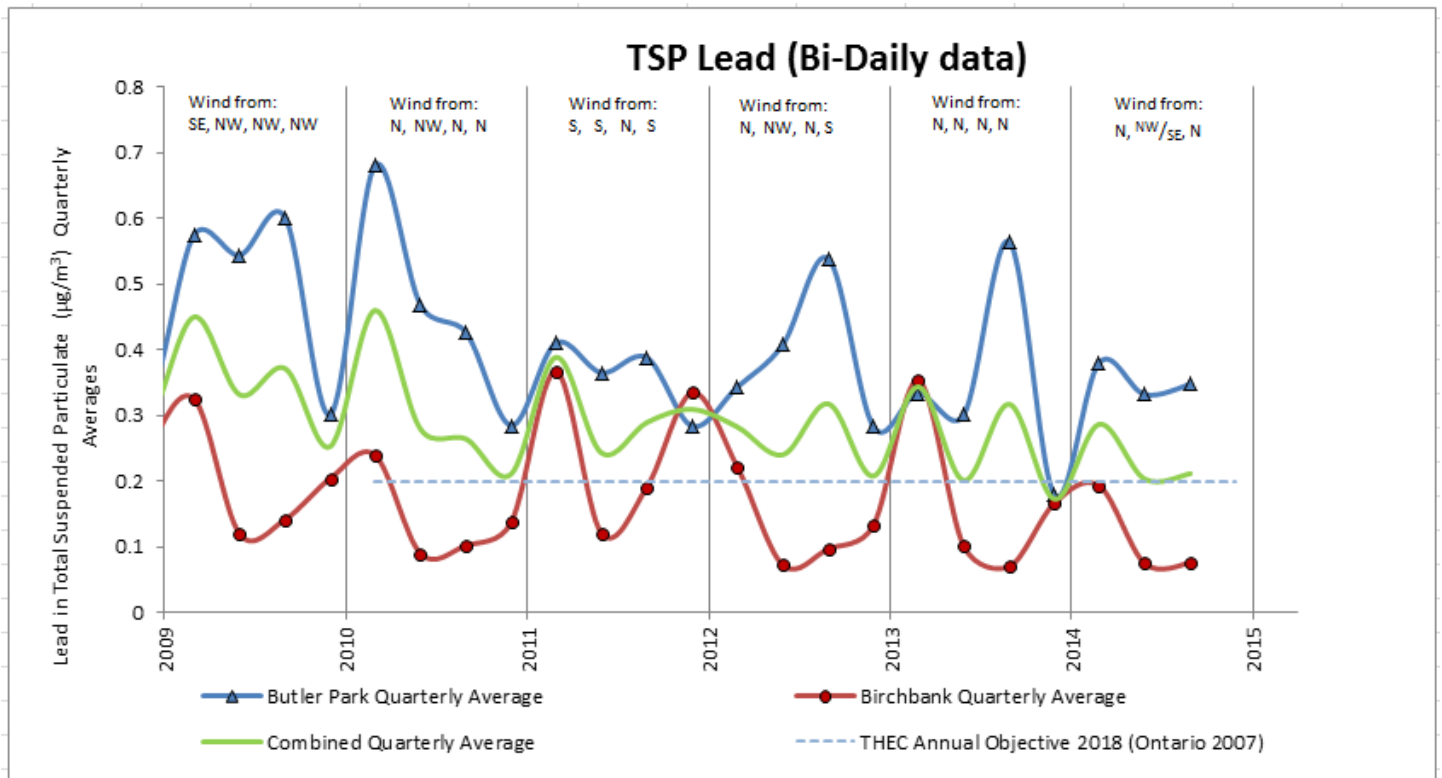
FAN Washrooms/Comfort Stations: Project is moving forward and increasing possibilities opening up in the region.

Trail Health & Environment Committee – Teck Report Nov 18, 2014

Air Quality Program

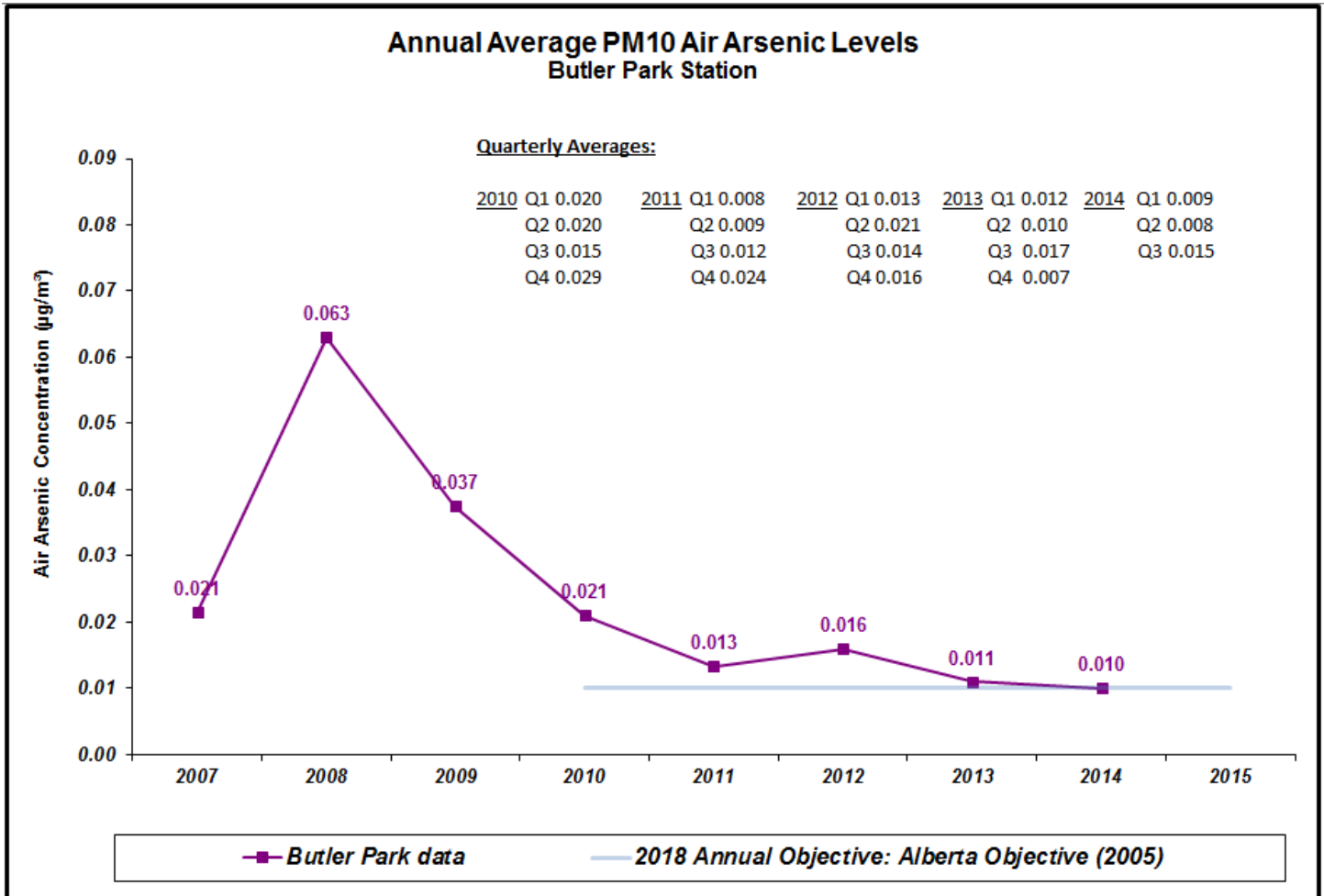
Lead – Total Suspended Particulate:

- The graph shows ambient (community) levels for the Butler Park and Birchbank monitoring stations based on quarterly averages of Bi-Daily data (rather than NAPS -6 day- data), measured stack emissions (annual basis), as well as predominant wind direction (quarterly, as measured at Maintenance Services Building). More detailed data (e.g. box-plots) are reviewed at the Air Quality Technical Working Group meetings.
- The monthly average for August 2014 was $0.38 \mu\text{g}/\text{m}^3$ for Butler Park, much lower than August 2013.
- Quarterly averages for Lead in ambient air at Butler Park are expected to have some variability due to season, weather, predominant wind and operational variance. The most recent Q3 average is the lowest Q3 result of the last five years.
- Real-time XACT monitors: the older XACT at Butler Park malfunctioned in September, so the new one at Duncan (located north of Metallurgical Operations) was moved to Butler Park while the older unit is being upgraded.
- Measured stack emissions have continued to be less than 0.5 tonnes/year. The discrepancy in trends between stack emissions and measured TSP in air is believed to be sourced from fugitive dust.
- Trail smelter's releases of lead to air are still amongst lowest in industry.



Arsenic- PM10:

- Arsenic in ambient (community) air had returned to pre-2004 levels in 2011. Improvements appear to be the results of actions taken at the Continuous Drossing Furnace and Refinery Scrubber Stack.
- The average for 2014 year to date is 0.01 $\mu\text{g}/\text{m}^3$, equal to the 2018 objective.
- Trail smelter's releases of arsenic to air are amongst lowest in industry.



Trail Area Health & Environment Committee
Home & Garden Program Update
November 18, 2014

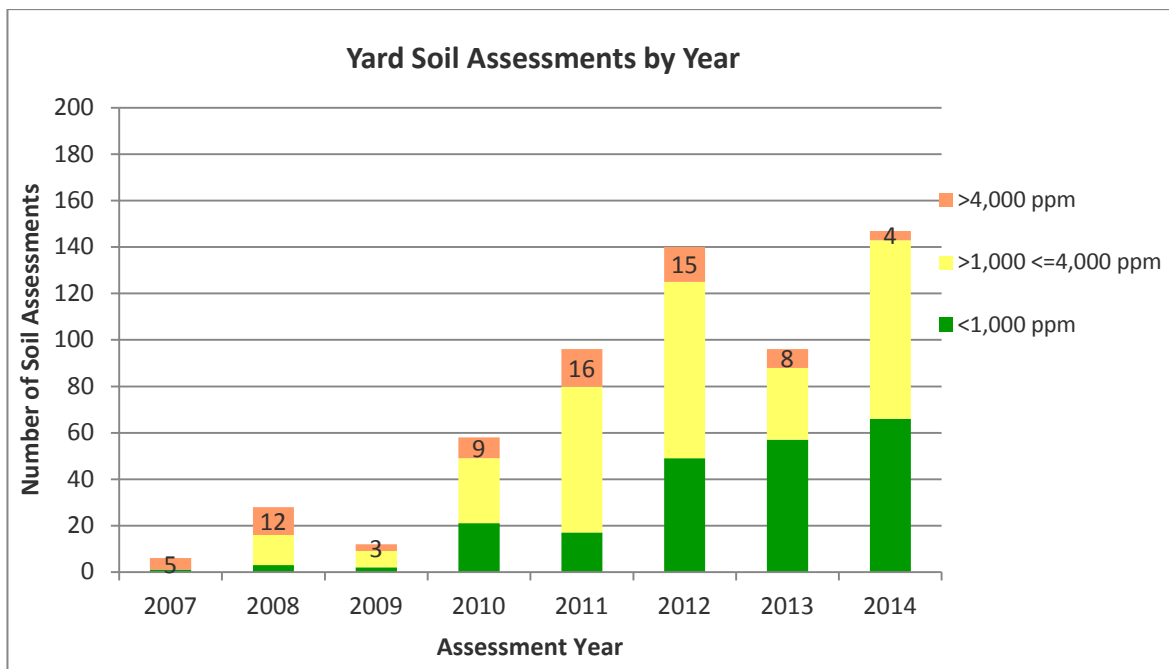
1. Healthy Homes Program

- a. Update on in-home visits (YTD as November 14, 2014):
 - i. **104** families have received a visit and **21** visits since last report
 - ii. **3** families scheduled for a visit in the coming weeks
 - iii. **7** families currently on the Healthy Homes scheduling list
- b. Supports provided to families (YTD as November 14, 2014):
 - i. **100** Dust-buster kits
 - ii. **90** Garden kits
 - iii. **46** Sandboxes
 - iv. **118** Vacuums

Note: 77 of the 118 vacuums went to families who received a 2014 HH visit; the remaining 41 vacuums were purchased for families who received a Healthy Homes visit prior to implementation of the vacuum replacement program and were identified as needing a vacuum replacement.
- c. Case Management
 - i. Providing H&G support to CM families as and when notified by IH (i.e. HH visit, soil assessment of a secondary property, lead-based paint screening, coordinating replacement flooring)
 - ii. Case Conference planned with the Program Team on Dec 4, 2014 to discuss cases and how H&G supports IH with Case Management families.

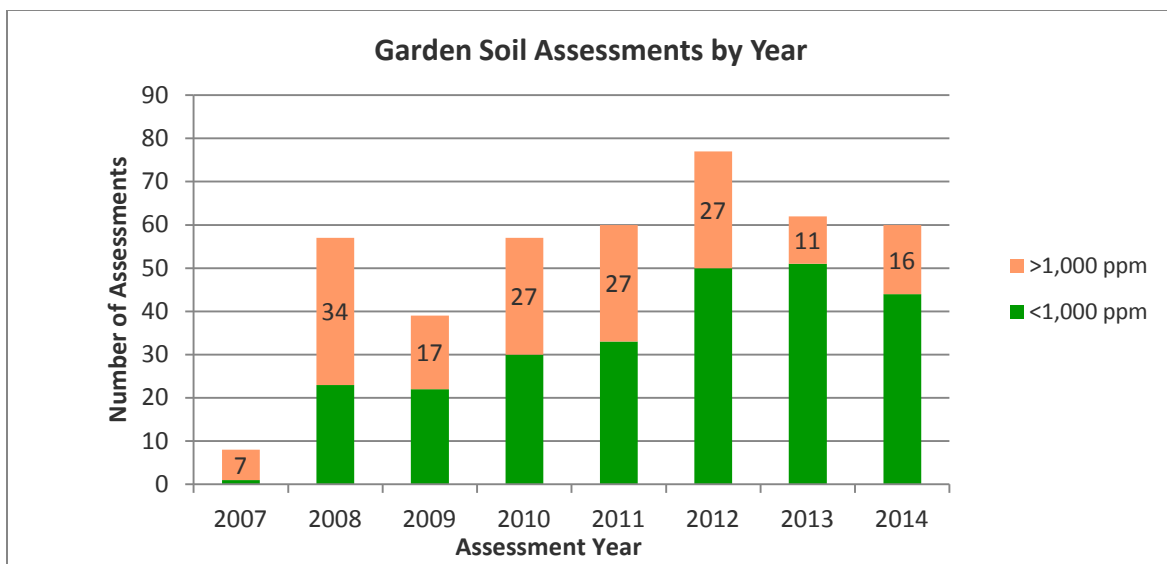
2. Soil Programs – up to November 14, 2014

- a. Yard soil assessment completed at **153** properties
 - i. **80** yard assessments were part of the Healthy Homes Program (HH)
 - 31 HH properties also had gardens tested. Results are provided below.
 - There is 1 outstanding HH soil assessment request at an apartment complex where we would like to assess the entire complex
 - ii. **73** yards were tested as part of “community assessment” (ie. upon request)
 - 14 properties also had gardens tested
 - All properties on the wait list were contacted; all properties were either tested or it was determined that the property owner was no longer interested.
 - There are 26 properties from this fall scheduled to be sampled in the next week or in the spring.
 - iii. Results for **147** properties shown below, with **6** results pending.
 - 1 HH property had > 4,000 ppm lead. The yard was remediated.
 - 3 other properties had > 4,000 ppm lead.



b. **62** Vegetable garden assessments completed

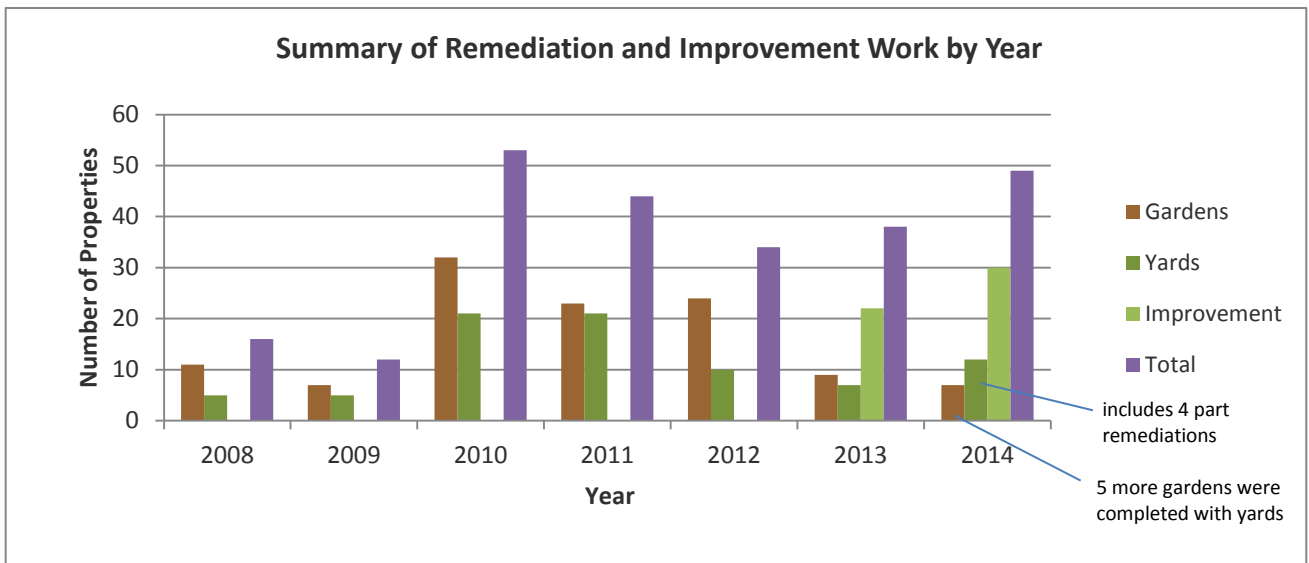
- To date: 16 of 60 are > 1,000 ppm (2 results are pending)
- There is 1 garden assessment request in the queue



c. Remediation and Yard Improvement Work – **49** properties in 2014

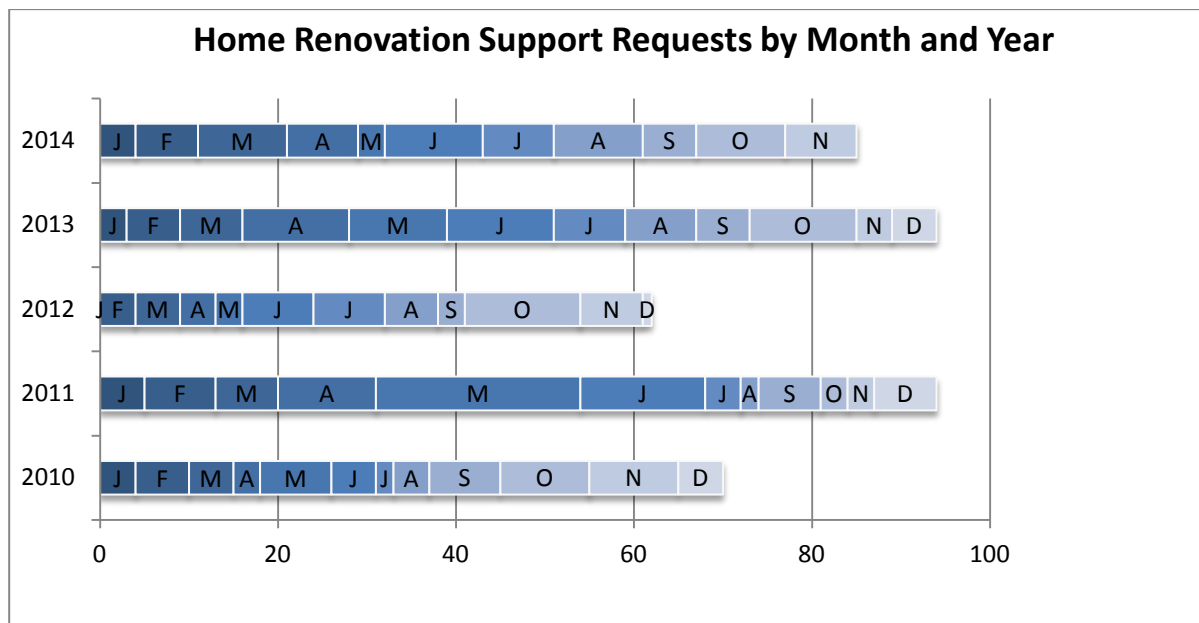
- Yard Improvement Work for Healthy Homes families:
 - a. **30** properties had yard improvement work completed in 2014 (**6** were improvement of the full yard)
 - b. 25 of these properties were assessed in 2013 (12) or 2014 (13). The remaining 5 were from 2010 (1), 2011 (2) and 2012 (2).
 - c. 21 properties are on the list for yard improvement in 2015; all were assessed in 2014.

- Yard remediation is offered to properties with soil > 4,000 ppm lead
 - a. **12** properties had yard remediation completed on all or part of the yard (five were HFHH properties)
 - b. Two of these properties were assessed in 2014 and four were assessed in 2013. The remaining were assessed in 2008 (1), 2009 (1), 2011 (2) and 2012 (2) and although remediation was offered it was delayed for a variety of reasons.
 - c. 4 properties currently qualify and will be offered remediation in 2015 (2 assessed in 2014, 1 in 2012 and 1 in 2011). There are 7 other properties that are either commercial or have declined remediation where we could re-offer.
- Garden Remediation
 - a. **12** gardens were remediated in 2014 (7 were independent of yards)
 - b. All gardens remediated in 2014 were assessed in either 2013 or 2014, except for 1 that was assessed in 2011.
 - c. 11 gardens will be offered remediation for 2015 (9 assessed in 2014 and two previously)



3. Home Renovation Support and Radon kits

- a. Total HRSP requests (September, October, up to November 14): 24 requests, 10 enquiries
- b. Radon kits – 21 kits given out in Sept., Oct., and Nov.



4. Community Outreach and Engagement

a. Community Program Office Public Contact Summary

- i. September: Total **70**: 39 walk-ins and 31 phone calls
- ii. October: Total **37**: 30 walk-ins and 7 phone calls
- iii. To November 14: Total **35**: 30 walk-ins and 5 phone calls

b. Community Engagement Activities

i. Hosted

September 11th at Walmart Mall – with FAN

September 26th at the Trail Market – jointly hosted an outreach table with Vallen (HRSP supplier) to promote Safety Week and HRSP

ii. Presented

October 7th – HFHH presentation to Building Beautiful Babies group

October 9th – Jointly presented with IH to local prenatal group

iii. Attended

September (6 days) - 2014 Children's Lead Testing Clinics

November 5th – Success by 6/FAN Interagency Meeting

iv. Upcoming

December 2nd – Presentation to staff at the Ministry of Children & Family Development

December 4th – Case Conference with Program Team

Trail Area Health & Environment Committee
November 18, 2014
Manager Report

1. Moving to Trail brochure – finalized the brochure and oversaw design and printing. 500 copies were made and have been distributed to Trail realtors, the City, the Chamber and Teck. We have some copies at the Program Office.
2. Drafting presentations – Collaborated with Program Team members on two Powerpoint presentations – 1 for presentation to staff of the Ministry of Children and Family Development (December 2); and 1 for presentation to KBRH Physician Rounds on November 27
3. Planning for 2015 – prepared a draft budget for management services in 2015 including potential projects to complete in 2015. This includes developing a Contractor Training Package, drafting a Communications Strategy including updates to the website, and preparation for Public Consultation (tentatively planned for 2016).
4. Healthy Families Healthy Homes Discussion Day – Planning a Program Team meeting to discuss the HFHH Program to date. This meeting is scheduled for Wednesday, December 17.
5. Vacation plans – I expect to be away from January 14-30, 2015.

Trail Area Health & Environment Program
July 9, 2014

FAQ re. health risks from lead exposure for pregnant women and fetuses

Q: What are the health risks from lead exposure for pregnant women and newborn babies in Trail?

A: Pregnant women and newborns are at virtually no risk for adverse health effects from lead exposure in typical every-day community situations. We strongly advise pregnant women and children to avoid being exposed to dust from home renovations as this could result in atypical (higher than typical) lead exposure. This includes exposure to fine particles of lead paint in homes built before 1976 (this applies to any community). Please see our Home Renovation Support Program brochure for details.

A mother's blood lead level affects the blood lead level of the fetus during pregnancy but it is only a concern in a situation of atypical exposure, such as industrial exposure, home renovations etc. If a pregnant woman is in a higher exposure risk situation, she should be tested by her physician or, if the timing is convenient, at one of the THEP's lead clinics. Please contact the THEP Family Health Program at (250) 364-6223.

Workers at Teck Trail Operations receive blood lead testing as part of Teck's health protection program. Woman of child-bearing age are given the opportunity to discuss their results with a physician, and may switch work location if there are concerns about the results.

Additional details:

The Trail Community Lead Task Force did a study of the blood lead levels of pregnant women and newborns born in Trail from November 1993 to December 1995, a time when children's blood lead levels in Trail were more than twice as high as they are today. The study assessed 48 matched blood lead results from mothers giving birth in Trail and their newborns. This was a high percentage of all the mothers giving birth in Trail at that time. 16 of 48 women had grown up in Trail and 32 elsewhere. Key findings from that study were that it appeared that children born in Trail start out with blood leads close to the "normal background" and that mothers who grew up in Trail did not appear to be exposed to any greater extent than those growing up outside Trail. There is no reason for that result to be different today.

For more detail on newborns, the study showed that 92% of newborns in 1994/95 had blood lead levels less than 5µg/dL; at that time the community average BLL for children 6-60 months was between 10 and 12µg/dL. The level of lead in outdoor air

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has reduced significantly since 1995 and the community average BLL for children aged 6-36 months is less than half of what it was in 1995.

The Task Force Final Report (2001, page 50) summarizes the study findings as follows:

'Pregnant women and their fetuses are at low risk for adverse health effects due to lead exposure, based on current knowledge of lead toxicology. It is not known exactly when lead levels rise in infancy, but we suspect it occurs once babies become mobile and have greater access to house dust and exposed soil, which are recognized as the principal environmental determinants of elevated blood lead levels in smelter community children.'

For full details on the study, please see pages 49 and 50 of http://www.thep.ca/upload/resources/38/thep_tfinalreport_2001_original.pdf

Further references on this topic:

Re. maternal BLL and children's IQ <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1665421/>

In extreme blood lead levels (ie >40ug/dL) of a mother that is breastfeeding, there can be a risk to a baby after the birth via the breast milk. A good reference is the US CDC's Guidelines for the Identification and management of lead exposure in pregnant and lactating women <http://www.cdc.gov/nceh/lead/publications/leadandpregnancy2010.pdf>

Another article, entitled "Maternal Blood, Plasma, and Breast Milk Lead: Lactational Transfer and Contribution to Infant Exposure" and published in Environmental Health Perspectives can be found at <http://ehp.niehs.nih.gov/1307187/>