

Trail Area Health & Environment Committee



MINUTES

Meeting:

Tuesday, September 5, 2017

City of Trail – Committee Room #2

7:00 pm

Committee Members in Attendance:

Mike Martin, Chair, City of Trail
Lisa Pasin, Alternate Chair, City of Trail
Brad McCandlish, BC Ministry of Environment
Jeannine Stefani, Interior Health
Tiffany Armstrong, Community Member

Ron Joseph, Community Member
Gord DeRosa, Community Member
Dan Bouillon, Teck Trail Operations
Dawn Tomlin, Interior Health

Others in Attendance:

Bruce Enns, SNC-Lavalin Inc.
Pete Golden, Teck Trail Operations
Cindy Hall, SNC-Lavalin Inc.
Ruth Beck, Program Manager
Thompson Hickey, Teck Trail Operations
Catherine Adair, Teck Trail Operations

Clare North, Teck Trail Operations
Moss Giasson, Teck Trail Operations
Andrea McCormick, SNC-Lavalin Inc.
Liz Anderson, SNC-Lavalin Inc.
Steven Hilts, Teck

Round of introductions

MEETING MINUTES: Dated June 27, 2017

Gord sought clarification regarding some of Dr. Golmohammadi's comments regarding blood lead levels in Trail being brought down to 1 µg/dL as he found it an alarming comment. After review, the statement documented on Page 3 of the minutes will stay as is; "He continued by saying that new evidence indicates that 1µg of lead in the blood is detrimental to neurodevelopmental health. We've seen great success in Trail but want to see even more improvements".

Ruth followed up on an action item from the last meeting regarding the question of the timing of blood lead level testing. The action was to check with Steve Hilts regarding the reasoning behind testing in the Fall and Winter and not in the Spring. Steve commented that the original study in 1989 only looked at data from the summer and didn't address seasonality at all. This was because other data has shown that the hot dry months of summer create a lot of dust; this combined with having the windows and doors open creates the biggest opportunity for exposure to dust in children. Subsequently, there was the regular annual blood lead monitoring and follow up to the fall testing (in 1991 there were 115 kids with blood lead levels greater than 15 µg/dL, so it took a lot of time to get through each family to follow up; they re-tested at end of November and at the end of February) found blood leads were lower, especially in February). After that, they decided to stick with one February follow up. The Sentinel Homes study (1996-99) tested every quarter in 32 homes; outdoor and indoor dust measurements and saw seasonality (higher lead levels in the summer than winter).

Jeannine added that she found a slide from 1993 "Spring" follow up clinic (she thinks it was April). The attached chart showed 105 kids that were case management in 1992 had a geometric mean of 18.1 µg/dL and 13.7 µg/dL in the spring.

Discussion took place about testing in the fall and whether smelter shutdowns would skew the results. Thompson pointed out that maintenance shutdowns at Teck happen throughout the year in small portions of the plant; the smelter aims to operate year round.

Gord pointed out that he has observed dust levels that are higher in the home in winter and sees kids inside all day and being exposed to that indoor dust. Jeannine pointed out that at blood lead clinics, we test all kids 6-36 months of age in September, and kids that have reached 6 months and case management in February. Jeannine added that Gord's concern is regarding what happens to kids in the spring, after the winter clinic, and before testing in the fall. Gord agreed; how do you track the continual exposure during the winter months. Jeannine reiterated that we do see numbers go down in the February clinic.

Dan spoke about the daily data showing dust levels as well as the indoor dust levels from the Sentinel study that showed the loadings in Summer have higher lead deposition. In Winter, there are more closed windows and air going through a forced air filter. All over the world studies have shown lead loading is higher in the summer months.

Mike suggested that the Blood Lead Reduction Working Group could dig into this topic in more detail. Gord commented that he is not comfortable with the September snapshot and would appreciate more in depth information.

Jeannine added that kids that have a higher blood lead level get tested more frequently than February. Ron confirmed that it is important to keep the Fall clinic for consistency of data. It was clarified that Gord is not suggesting a reduction in testing but an increase.

Motion to approve the minutes from, June 27, 2017. Gord motioned for the minutes of June 27, 2017 to be approved; none opposed.

Minutes adopted.

PRESENTATIONS, REPORTS, DISCUSSIONS & RECOMMENDATIONS:

Presentations:

Update on Home & Garden Summer Work; attached

Andrea presented the H&G Update and answered questions as they arose. Yard conditioning has an approximately 50% success rate; there's a better chance of success when yards have in-ground sprinklers. Yard conditioning is significantly cheaper, so if we can get it to work, we can afford to get to more properties in a year; we will continue to monitor the success rate.

Update on the Wide Area Remediation Plan (WARP); attached

Dan presented the update. Mike commented that the outline Dan provided is a great outline for the BLRWG – finding the biggest bang for the dollar. The WARP focuses primarily on soil while the THEP document encompasses the entire program.

Bruce clarified the sampling noted (1211 properties) is in Trail specifically; further sampling has occurred in the past outside of Trail as a part of the ERA.

Dan highlighted next steps and a timeline for submitting the WARP. Soil Action levels will be discussed at the BLRWG meeting in October. Teck will present more WARP details at the November THEC meeting. There will be a public consultation as a requirement of the WARP approval – discussion is ongoing as to whether THEC or Teck will take the lead.

Clare commented that the WARP is essentially what we are already doing and approval formalizes it in the eyes of the Ministry of Environment. Ruth added that having the WARP provides guidance and clarifies what we are doing going forward.

We do have to have some kind of formal acknowledgement of the area we are addressing in the WARP. Mike requested that Dan add a line above public consultation in the proposed timeline: final approval on the WAS (Wide Area Site) area.

Mike provided an update on the WAS: our main concern has been the potential stigma regarding the WAS designation in the community and the implications on property values and lending. Mike has been

working with the Ministry of Environment and now the MoE has recommended legislative regulatory changes that would allow an alternate geographic designation apart from a WAS designation.

Mike shared that he is encouraged by the discussions with MoE and is waiting on political will after the recent election and cabinet change. Currently it looks like Spring 2018 for it to be addressed in the legislature. In the meantime, the MoE asked for indication of the potential financial impacts of a WAS designation on the community, so a small committee of financial experts/stakeholders in the community have drafted a 2 page summary of the potential impacts. Ruth added that cabinet has to approve the amendments, and so we are supporting the Cabinet Operations by providing the 2-pager. Stakeholders have identified that the name "Wide Area Contaminated Site" was one of the biggest issues and the MoE is working toward finding an acceptable name to all parties.

Steve emphasized that it is important to remember that Teck is in agreement with the requirement for Teck to step forward and deal with the issues; this change is ONLY changing the name of the area that addresses the boundary to which the WARP applies, but the action and requirements are not changing. All the standards, approvals, review, and documentation will be the same or better as it will be specific to Trail. Mike added that it also means the director will not put this on the contaminated sites registry, but it will be recognized through other avenues (perhaps the THEC website).

Thompson sought clarification on who has duty to consult. Brad replied that it is the proponent; it's well laid out in the guidelines. He added that the MoE is happy with past, fulsome, THEC consultations.

ACTION: Clare will provide the flowchart from Dan's presentation to lay the groundwork for a more in depth timeline.

Discussion took place regarding the lack of upkeep of Teck peripheral property such as the entrance and exit to Castlegar (at Trail), and Bengay road, which is looking rough. Ron commented that there doesn't seem to be ongoing maintenance of remediated banks and he would like to hear about what is being done to improve them. The same question applies about dusty unpaved alleys throughout Trail. Ron wondered when was the last time the gravel was replaced and if the alleys been sampled. It would be good to know the dust coming off the alleys doesn't have a high level of lead.

Andrea commented that it is difficult to test for metals in gravel because they don't hold metals like finer mediums such as topsoil, but we can test the alleys and do a preliminary screening.

Mike agreed that it would be good to know if the work the THEP does is impacted by another factor (dust from roads). Bruce commented that the Home & Garden program can perform the sampling; we just need permission from the City (for access) and Teck (for the budget).

ACTION: Teck to look into maintenance and upkeep of remediated banks throughout Teck property.

ACTION: Add to the list for future discussion at the Blood Lead Reduction Working Group: sampling of unpaved alleys throughout Trail.

Andrea commented that during the indoor dust study we did note if the dustfall jars were placed near unpaved alleys or roads, but there was too much variation in the data to find any meaningful information. Steve added that there may be some data on alleys from 25 years ago for a starting point. Ruth commented that the timing is good for data gathering; any question that needs further digging into (other than fugitive emissions) is the purview of the BLRWG; more information is always welcome. The BLRWG will be looking at these issues going forward.

ACTION: add to the list for BLRWG: testing the corridors from the reload station at Waneta.

Steve pointed out that the reload station was tested, though a long time ago.

Gord commented that he remembers the beginning of blood lead testing and the sensitivity of the results. People worried that the stigma from testing and announcing the results would be harmful to Trail. Nowadays, it's embraced. Now we're looking at the WAS designation with a similar worry and there's an oversensitivity about it. Mike pointed out that the roadblocks to a WAS designation are coming down and Steve added that the program work continues and doesn't have to wait for legislative approval.

Lower Columbia Ecosystem Management Program (LCEMP) Update

Moss presented the update and clarified that the Hanna Creek restoration test plots will be monitored for 5-10 years.

Mike commented that this presentation would be an excellent one for the presentation to the RDKB.

Groundwater Update

Clare presented the update on the groundwater plume and treatment. Clare commented that Teck is running tests over the next year and will evaluate the results and have a better picture by this time next year of how the treatment facility is working. They estimate it will be 50-80 years before the groundwater is fully treated, but Teck will have a better idea by next year.

With regard to how they know the depth of the groundwater; the water table is at 5 meters, but the aquifer is much deeper. Teck is not concerned about the aquifer damming up and water welling up into east Trail as they have a good picture of the water through sampling where the groundwater exits on the lower end.

Program Updates and Business Arising:

Air Quality:

Pete presented the air quality update and shared that Teck is on track for the lowest ever TSP (total suspended particulate) lead at Butler Park. They believe the commissioning of the smelter recycle building and further dust controls on site are to be given credit. Arsenic also remains below the 2018 annual objective.

Gord asked why the arsenic level was so high in 2008 and it turns out there was an issue with the silver refinery, so it was an anomaly year. The trend for arsenic in air, post-kicet, was around 0.02 µg/m³.

Pete commented that credit for the excellent air quality results should go to Bill Jankola's work on fugitive dust reduction and the smelter recycle building.

Family Health:

Jeannine highlighted the Fall 2017 blood lead clinics coming up and recent outreach activities. She added that training for the new Trail Blood Lead Database is ongoing.

Jeannine welcomed members to pop down to Kiro and watch how clinic runs during testing.

Program Planning & Operations:

No written report; Ruth shared news of the Fall THEP newsletter; she is hoping it will come out around Sept 18th as the front page is regarding blood lead clinic.

ACTION: Liz to get mailing addresses of THEC attendees that don't live within the delivery area. Liz to mail the newsletter to them.

ACTION: Ruth to send web ready version to Catherine Adair for Teck distribution.

Mike provided an update from the Executive Committee meeting:

- WAS update (provided earlier in the meeting during the WARP update)
- Reaffirming our relationship with IH: Mike met with IH senior administrators to reaffirm a commitment from IH to the THEC. A misunderstanding happened earlier in 2017, but Mike is delighted with the re-affirmation. We have learned that IH is built to react to public health situations, unlike the THEC which is built around the idea of being pro-active. IH has made it clear that their commitment is reaffirmed to continue to work pro-actively with THEC.
- BLRWG: Ruth shared that the inaugural meeting of the Blood Lead Reduction Working Group is Oct 25th in the afternoon. The primary focus of this meeting is soil action levels and remediation plans for the WARP. Out of that meeting, we'll look a proposing what soil action levels should be going forward (currently it's 4000 ppm for yards, and 1000 ppm for gardens). We'll present a summary at the November THEC meeting. Ruth added that the BLRWG is a forum for discussion for any potential activity to further reduce children's blood lead levels (aside from the

fugitive dust reduction program). The October agenda is loaded, but ultimately we will address all questions brought forward. Any member of the THEC is welcome to join this group. Ruth then listed the current members of the working group.

- Establishing a working relationship with Pt. Pirie, Australia. Ruth shared that Greg Belland (formally of Teck Trail) has had contact with Pt. Pirie, Australia, and it came to THEC's attention that they would like to re-establish a good relationship with them. This is exciting news as we can benchmark with them regarding what has been done to reduce exposure to historic metal contaminants and what is working and not working. The plan is to set up a conference call to identify some key questions and how to move forward. Greg took a package from THEC to Pt. Pirie and we're waiting on a response. Ruth added that the logical connection to be made is committee to committee (as opposed from smelter to smelter) and added that anyone from THEC who is interested can participate.

ACTION: add Ron to the invite list for any meetings regarding working with Pt. Pirie.

Ruth added that there is still a challenge to get the Pt. Pirie community involved; there appears to be a reluctance to publicly address the legacy issues of a smelter town.

ACTION: Mid October, Ruth and Mayor Martin to check in regarding any contact from the Pt. Pirie city/mayor and follow up.

- Timing of upcoming meetings:
 - WAS Property Issues Working Group meets October 25
 - Blood Lead Reduction Working Group meets October 25
 - AQTWG has not met recently and no meeting is scheduled; we're still working on establishing a good working relationship with IH and thus are looking at mid October to schedule a meeting. Ron commented that there were other topics the group was working on than SO₂; community concerns, prioritization of actions, etc. Ron suggested a mid-October meeting that doesn't involve SO₂, as it has taken over the meetings and other items have dropped off.
ACTION: will set up an AQTWG meeting for mid October. Ruth can speak with Clare and review previous minutes to draft an agenda.
 - CFWG: this working group is currently on the back burner; we do want to convene the group over the winter to review radio ads and a few other items.

Community Check-In:

Ron raised the issue of more stringent dump fees at the landfill; there is a tipping fee for plaster and they now require a certificate regarding asbestos (verification that the plaster does not contain asbestos). Ron's concern is that every load of plaster has lead, arsenic, and cadmium in it and he sees the new regulations as an obstacle for citizens of Trail. Mayor Martin commented that he wasn't aware of the changes and will follow up.

Jeannine commented that this is workers compensation related; landfill workers are concerned about breathing in contaminated air, especially asbestos fibres. Andrea added that the requirement for testing for asbestos is a WorkSafeBC regulation.

Ron pointed out that the RDKB landfill accepts all the contaminated soil from THEP remediations (aside from the soil that goes to the Teck landfill) and questioned how this affects Trail on dusty days.

ACTION: add investigation of fugitive dust off of the McKelvey Creek landfill to list for the BLRWG.

NEXT MEETING: Tuesday, November 28, 2017

Ruth commented that the November meeting will be a full meeting with a lot of updates provided.



SNC-LAVALIN

Home & Garden 2017 Summer Update to the THEC

September 5, 2017





Home & Garden Highlights

- Community Program Office
- Lead Safe Renovation
- Healthy Homes
- Soil Assessment
- Soil Remediation

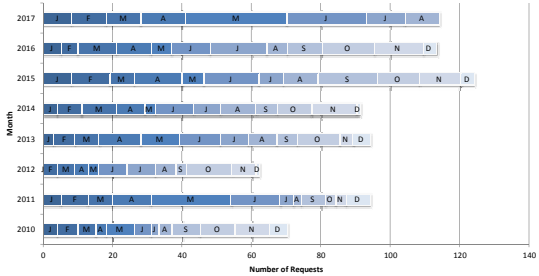



Community Program Office


- **INTERACTIONS**
 - Continued to be busy throughout summer
- **PROGRAMS**
 - 42 Radon kits handed out so far in 2017
 - Accessing shop vacs (11) and HEPA filters + bags (18) and HEPA tools (3)
 - Renovation supplies very busy prior to the summer

Lead Safe Renovation



Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	0	0	0	0	0	0	0	0	0	0	0	0
2016	10	10	10	10	10	10	10	10	10	10	10	10
2015	10	10	10	10	10	10	10	10	10	10	10	10
2014	10	10	10	10	10	10	10	10	10	10	10	10
2013	10	10	10	10	10	10	10	10	10	10	10	10
2012	10	10	10	10	10	10	10	10	10	10	10	10
2011	10	10	10	10	10	10	10	10	10	10	10	10
2010	10	10	10	10	10	10	10	10	10	10	10	10



Healthy Homes

- **VISITS AND INTERACTIONS**
 - Steady through the summer
 - 56 visits completed this year
 - 102 interactions (follow-up, referrals, questions, etc.)
- **SUPPORTS**
 - Dust buster and garden kits
 - Vacuums
 - Sandboxes
- **OUTREACH**
 - Trail Market & Teddy Bear Picnic

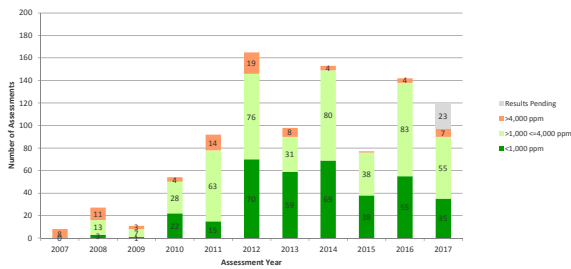


Soil Assessment

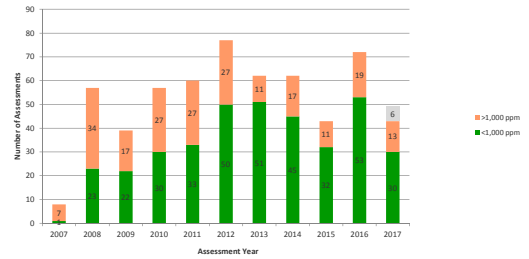
- **NO OUTSTANDING REQUESTS FOR SOIL TESTING!**
 - Thanks to our newest staff member Alexa Matthes we have responded to all requests for soil testing (both Healthy Homes and Community Requests)
- **HAVE OFFERED TESTING TO ~100 PROPERTIES IN EAST TRAIL**
 - Following a request from the Ministry of Environment
- **TO DATE:**
 - 120 Soil Assessments completed (33 Healthy Homes and 87 Community Program)
 - 71 yards, 47 yard and gardens, 2 garden only



Yard Assessment Results



Garden Assessment Results



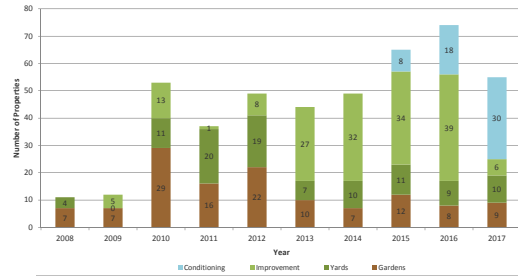
Soil Remediation

- More yard conditioning instead of yard improvement in 2017
- Focus on full remediation of Community Program (CP) and Healthy Homes (HH) properties
- Hot, dry and dusty this year
- Still to come:
 - 7 Healthy Homes properties

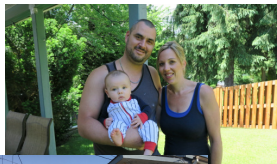


Remediation Progress

Summary of Remediation and Improvement Work by Year



THANK YOU!





Wide Area Remediation Plan Update

September 5, 2017
Trail Health & Environment Committee meeting



WARP/THEP relationship



Soil Assessment and Property Remediation to date



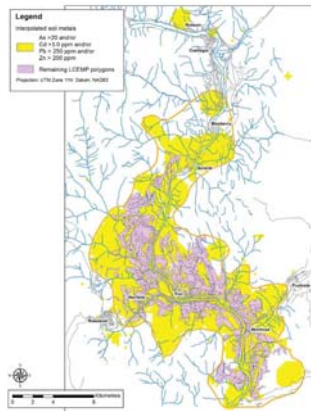
Soil Assessment (since 2007):

- 1211 properties sampled for metal concentration

Remediation and Other Soil Improvements (since 2013):

- 101 yards remediated
- 165 yards improved
- 56 yards conditioned
- 127 gardens remediated
- Soil improvements made to a total of 449 properties

Commercial Properties: E.g. Walmart, Shell gas station, Library +



WARP – next steps and timeline

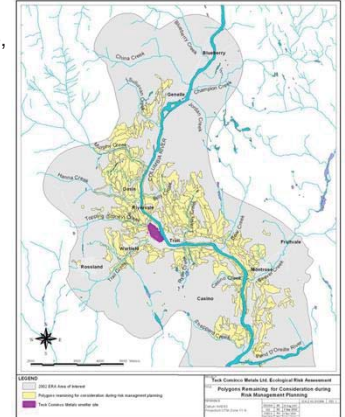


Teck completes draft WARP document including proposal for development of new Priority Action Levels for soils in yards and vegetable gardens	Sept
THEC's Blood Lead Level Reduction Working Group review Teck's proposed Priority Action Levels for soil	Oct 25
Meet with regulators (MOE, MHO) to review draft WARP and to align with requirements for acceptance	Late Oct
Teck presents draft WARP to THEC	Nov 28
Teck submits proposed WARP to MOE for review	Dec
MOE approval of WARP; MHO approval of Priority Action Level Plan	2017-2018
Public consultation on WARP	2018
Implementation of WARP after regulatory approvals & public consultation completed	2018



Background

- LCEMP is a collaborative approach to assess, rehabilitate, conserve and enhance land-based wildland ecosystems affected by historical smelter emissions.
- A Steering Committee made up of local residents and interest groups oversees and provides technical assistance and recommendations.



2

Examples of Past Accomplishments

- Administrative items, such as: development of Terms of Reference, development of Mission, Vision, Values, identification of stakeholders
- Updated LCEMP area habitat map to new provincial standards
- Land Management Plans completed for all Teck-owned land in the LCEMP area
- Development and documentation of approach to using biodiversity offsets
- Protection of endangered yellow-breasted chat critical habitat on Teck land, and restoration treatments in areas of critical chat habitat



3

2017 Activities

- Development and documentation of sampling methods, and approach to evaluating overall ecological condition
- Initiation of field trials of restoration methods
- Ecological risk assessment of wetlands
- Development of LCEMP database



Polygon 1566 – Hanna Creek



Polygon 1361 – Fort Shepherd

Hanna Creek (Polygon 1566) Treatment Trials

Teck

Trials to test: liming, addition of organic matter, irrigation.



5

Ecological Risk Assessment of Amphibians in Wetlands

Teck

- Found negligible to low risk.
- Wetlands in or near areas undergoing remediation/restoration may be monitored.



6

Next Steps

Teck

- October 2017 LCEMP Steering Committee meeting.
- October 2017 workshop to define restoration success.



7

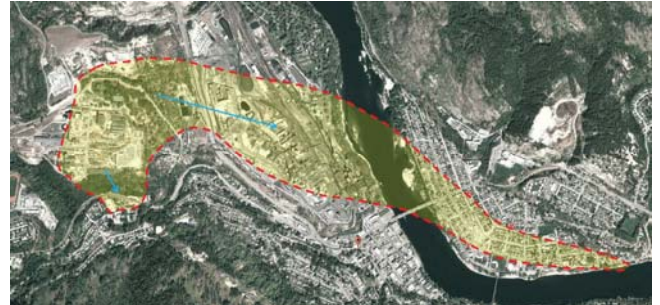


Trail Operations Groundwater Update

September 5, 2017
Trail Health & Environment Committee meeting



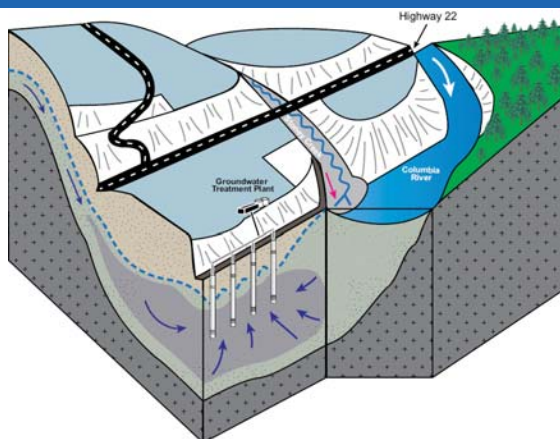
Groundwater Affected Zone: Overview



- Elevated ammonia, sulphate and some metals, related to historical operations
- Present under Trail Operations with flow toward Columbia River and East Trail
- Also smaller amount of flow toward Annable (Silver Street area)
- Fish populations not affected, little risk to human health

2

Groundwater Affected Zone: Remediation Plan



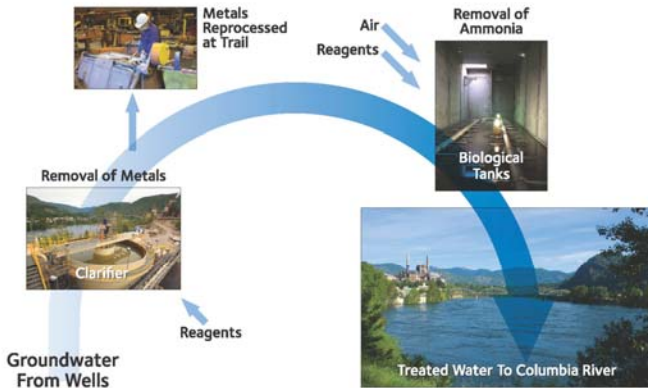
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Groundwater Treatment Plant



Groundwater Treatment process

Teck



5

Notification of Likely or Actual Migration - East Trail

Teck

- Ministry of Environment requirement to provide Notification to landowners where affected groundwater may be present beneath their property.
- This includes about 460 properties in East Trail.
- The groundwater would not be encountered during typical activity (yardworks, digging foundations, etc.) as it is at least 5 metres below the surface, in many cases deeper.



6

Summary

Teck

- All notifications distributed week of March 13, 2017
- Remediation system to address migration of groundwater in place and operating (Wells and Groundwater Treatment Plant)
- No human health concerns as the affected groundwater is not a source of drinking water, and not a source of the City of Trail municipal water supply
- Studies conducted to date have found that the fish populations in the river are not affected by the groundwater and the water quality of the river meets drinking water standards

7



September 5, 2017

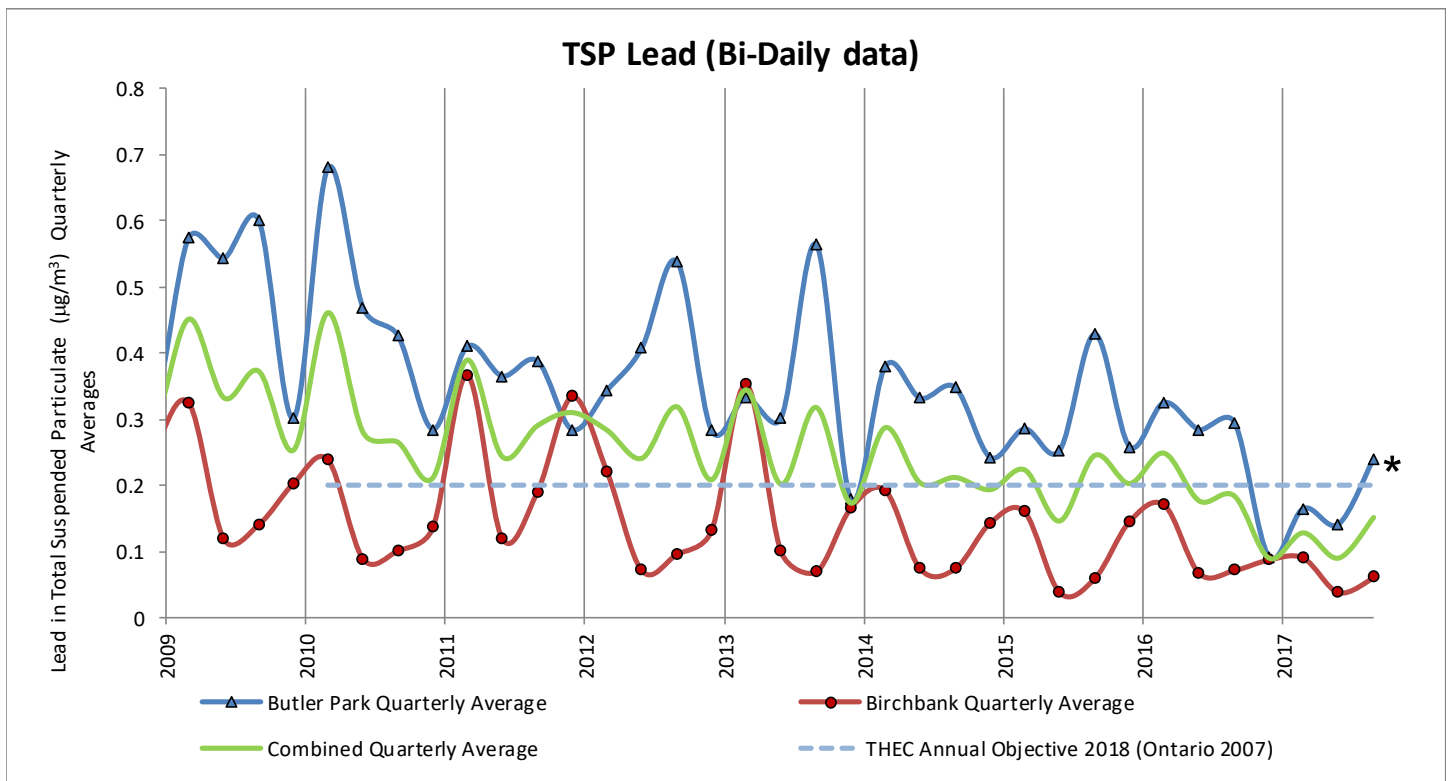
RECENT HIGHLIGHTS

1. Lead in Air:

- The second and partial third quarter average data for 2017 are the lowest quarterly averages for the second and third quarters for lead in air at the Butler Park station. The year to date average shows we are on track to be below the THEC 2018 Annual Objective, lower than the 2016 annual average, which was the lowest ever annual average for lead in community air while in operation using the current monitoring locations.

Details:

The chart shows quarterly averages for Lead in air (measured in Total Suspended Particulate) for Butler Park (dark blue), Birchbank (red), in comparison to the 2018 THEC Air Quality Objective (dashed line). The green line is the average of the two. Quarterly averages for Lead in ambient air are expected to have some variability due to season, weather, predominant wind direction and operational variance. The averages at Butler Park for the second quarter ($0.14 \mu\text{g}/\text{m}^3$) and partial third quarter of 2017 ($0.24 \mu\text{g}/\text{m}^3$) are low compared to second and third quarters in previous years. The year to date average for lead in air at Butler Park ($0.17 \mu\text{g}/\text{m}^3$) is below the 2018 THEC Annual Objective and may reflect ongoing fugitive dust reduction efforts such as the Smelter Recycle Building, however other factors such as wet weather earlier this year may have also played a role.



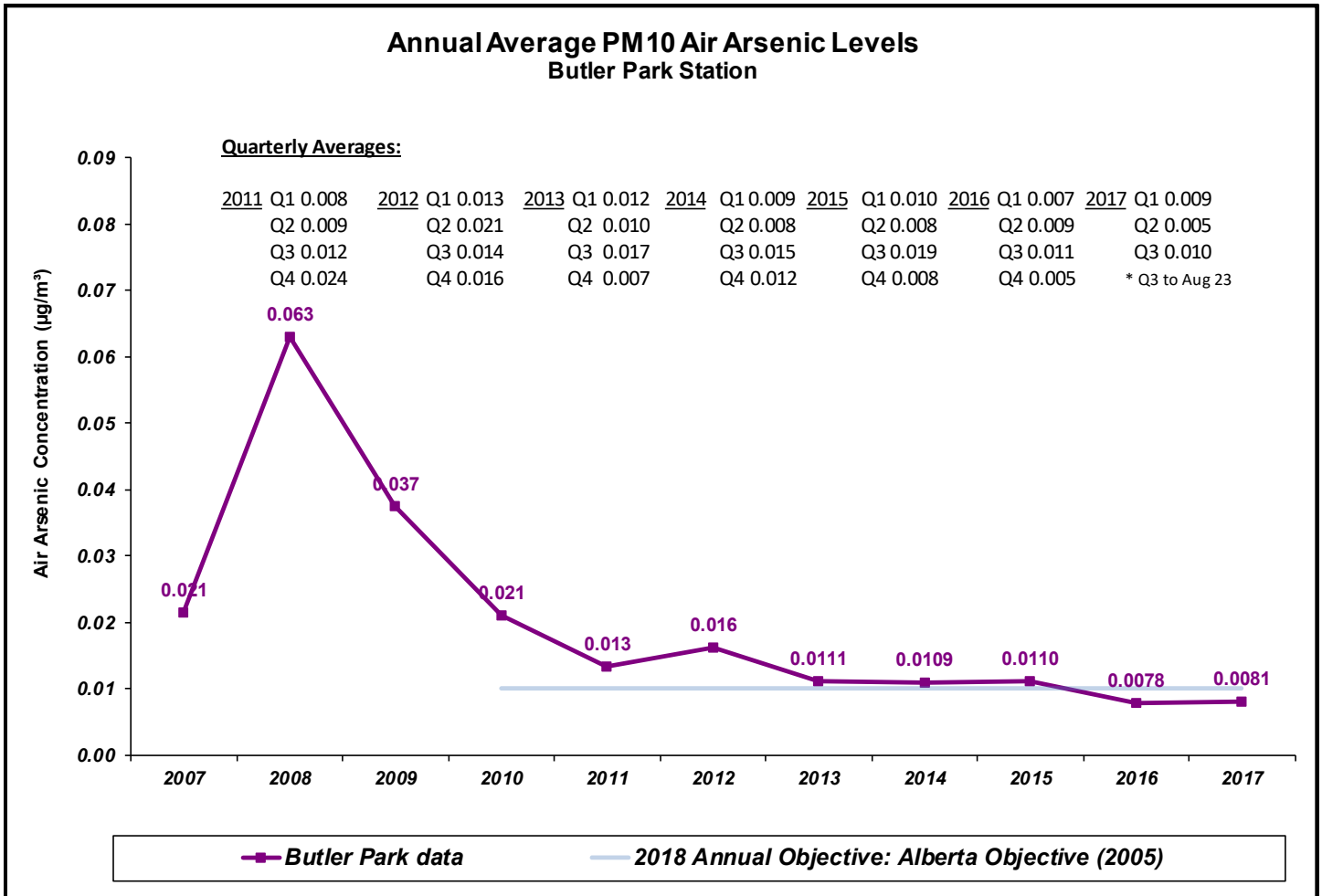
* Partial Q3 2017: July 1 – August 23

2. Arsenic in Air:

- The averages for the second and partial third quarter of 2017 remain lower than the THEC 2018 Annual Objective. The annual average for arsenic in air for 2016 achieved this Objective, and was the lowest ever annual average for arsenic in community air at Butler Park. The year to date average shows we are on track to remain below this Objective.

Details:

The chart shows the annual average for Arsenic in air (measured as inhalable PM₁₀ fraction) for Butler Park (purple) in comparison to the 2018 THEC Air Quality Objective (blue line). The 2016 annual average was 0.0078 µg/m³, and the average year to date for 2017 at Butler Park is 0.0081 µg/m³ which remains lower than the THEC objective of 0.01 µg/m³. Improvements appear to be the result of ongoing fugitive dust reduction efforts.



FAMILY HEALTH REPORT



September 5th, 2017

RECENT HIGHLIGHTS

1. Fall 2017 Blood Lead Clinic Dates
 2. Healthy Family Visits
 3. Community Outreach
 4. New Trail Blood Lead Program Database
-

ADDITIONAL DETAILS

1. Fall 2017 Blood Lead Clinic dates:
 - Monday September 11th from 9:00-4:00
 - Wednesday September 13th from 9:00-4:00
 - Tuesday September 19th from 9:00-4:00
 - Wednesday September 20th from 11:00-6:00
 - Monday September 25th from 9:00-4:00
 - Tuesday September 26th from 11:00-6:00
 - Approximately 222 children on list invited
2. Healthy Family Visits
 - 47 done in 2017
 - 9 done since last Trail Area Health and Environment Committee meeting June 27th
 - 1 visit scheduled
3. Community Outreach
 - Attending local Pregnancy Outreach Program on September 12th and attend monthly
 - Assisted with Family Zone at Trail Markets
 - Family Action Network's Ages and Stages Day at Kiro Wellness Centre on October 3rd. Poster included in lead clinic invite letters to families
4. New Trail Blood Lead Program Database
 - New Trail Blood Lead Program now in use and Phase 1 completed.
 - Training for myself and 3 other Public Health Nurses and 1 administration staff occurring on September 7th.