Trail Area Health & Environment Committee

Summary

HYBRID Meeting: September 27, 2023, 7:00 p.m.

Location: City of Trail Committee Room #2 (Spokane St entrance) & https://us02web.zoom.us/j/84282413448

Committee Members in attendance:

Thea Hanson, Alternate Chair, City of Trail Clare North, Teck Trail Operations Jane Power, Interior Health Trevor Allegretto, USW Local 480 Rep Adriana Almeida-Rodriguez, BC Ministry of Env Steve Hilts, Community Member (History) Julia Stockhausen, Community Member (FAN)

Others in attendance:

Meghan Morris, Interior Health Jayne Garry, Teck Trail Operations Keith Klimchuk, Teck Trail Operations Dave Bell, Teck Trail Operations Nelson Ames, Former MHO Frances Boreland, Broken Hill, Australia Fran Noon, Village of Warfield Jasen Nelson, BC Ministry of Env Dr. Karin Goodison, Interior Health MHO Erika Krest, Community Member (Chamber) Annick de Goede, Community Member (Parent) Ron Joseph, Community Member (Resident)

Christina Yamada, Interior Health Cindy Hall, Community Program Office (CPO) Justin Zeibart, Community Member Morgan Sternberg, Community Program Office (CPO) Michelle Laurie, THEC Lead Facilitator

WELCOME and INTRODUCTIONS

Councillor Thea Hanson, Alternate THEC Chair, opened the meeting with a Land Acknowledgement, followed by welcoming everyone online and in-person. Mayor Colleen Jones, THEC Chair, sent her regrets.

MEETING MINUTES

The THEC meeting summary from June 15, 2023 was approved. \cap

PRESENTATIONS, REPORTS, DISCUSSIONS & RECOMMENDATIONS

Air Quality Update: Fugitive Dust Reduction and Sulphur Dioxide Improvement Co-Presenters: Keith Klimchuk and Danny Rioux, Teck Trail Operations

See presentation attached.

Discussion and questions that arose included:

- Could the truck-mounted dust monitoring tool used on roads at Teck, also measure dust in town?
 - Yes, and it was used as part of a review of alleyways in Trail in 2019. See the FAQ under General (3rd • one in the list).
 - The purpose and utility of in-town road-dust monitoring could be discussed further as part of work • being conducted related to the Wide Area Remediation Plan.
 - While not discussed at the meeting, as relevant contextual background information, street dust • sampling was performed historically. In 2012, THEC decided to stop doing this because the data collected no longer provided utility, and there were too many factors that influenced the data that could not be controlled.
- Is there any concentration of lead coming about of the stacks? 0
 - Yes; however, stack emissions now represent only a small proportion of total Pb emissions and Teck.



focuses on fugitive emissions to continue to reduce Pb in the community.

- Pb in air FAQ is available <u>here</u>.
- Pb in air Fact Sheet is available here.
- Frances Boreland from Broken Hill suggested an air quality presentation from Teck to the Broken Hill Lead Reference Group which includes industry representatives. She felt it would inspire others to learn about progress being made elsewhere.
 - Michelle will follow up on this opportunity. It aligns with THEP's strategic direction focused on developing and fostering an international knowledge sharing & learning group.
- How much more can Teck reduce SO₂ emissions given the geographic setting? What are the opportunities?
 - There are potential opportunities that are being studied. The challenges will be to maintain process stability and operability.
- Regarding twinning of the feed dryer, how do the SO₂ reduction benefits balance against energy use, greenhouse gases, reliability, etc.
 - Twinning the dryers gives the operation more flexibility and reliability. For example, if there is a mechanical issue, one line can remain open.
- Several years ago, there was a Provincial air quality report showing Trail exceeded the federal standards for SO₂. Has there been an update to this chart?
 - THEC's Air Quality Working Group spent more than one year contextualizing the SO₂ levels in Trail. They produced a fact sheet, FAQs and have been doing outreach to seniors, and families with young children.
 - FAQ on SO2 in Trail are <u>here</u>.
 - Fact Sheet on SO2 in Trail is <u>here</u>.
- How are the air quality objectives developed and how protective are they for protection of public health?
 - This <u>document</u> briefly outlines the Canadian Ambient Air Quality Standards (CAAQS) for sulphur dioxide (SO₂).
- o Does the water used for dust suppressant at Teck Trail Operations come from the Columbia River?
 - Yes, Teck uses treated water from the Columbia River (potable water).

Wide Area Remediation Plan (WARP) Update

Presenter: Clare North, Teck Trail Operations

See presentation attached.

Clare provided answers to questions that had been asked about the WARP during the June 15th, 2023 THEC meeting.

Additional questions that came up after the presentation included:

- For the WARP community consultation process, should the alternate risk-based standard recommendation for lead be consulted on at the same time?
 - The Medical Health Officer recommendation related to a risk-based standard will be incorporated into the WARP, and therefore it is recommended the consultation be combined. For clarification, a riskbased standard for Pb, which will define an acceptable level protective of people, is being considered as part of the WARP. The Human Health Risk Assessment for Pb to support this is currently in progress and the group is hoping to present to THEC in December 2023.
- Are the areas outside of the "Environmental Management Area NOT impacted by aerial dispersion?
 o Correct.
- What is being done about non-residential lands? For example, slopes below Teck leading into town?
- Have the properties on the site registry map for Trail (see attached WARP presentation) all received some level of remediation?
 - No. Dots on the map represent sites that have interacted with the Contaminated Sites Regulation in any way including investigation or remediation activities, and could be associated with a variety of uses other than historical aerial emissions such as dry cleaners, gas stations.

Program Reports & Updates

Q&A and Comments on Reports/Community Round Table (Air, Health, Community Program Office) Round table comments and stories were shared related to the various reports.

- Health:
 - The number of blood lead samples drawn at the September clinic was 131 which is more than in 2022.
 - The clinic team went to a family's home where they had no transportation to make it to the clinic.
 - Analysis will take a few weeks.
 - The team is grateful for full time Public Health Nurse position that is allowing Interior Health to reach more families and at a quicker pace.
 - There have been more Healthy Families Healthy Homes visits this year than in all of 2022.
 - THEP's Public Health Nurse and MHO have completed three presentations with Kootenay Boundary Regional Hospital staff. They are promoting maternal health and the Aspen Clinic is planning to start providing routine lead testing during pregnancy as well as share THEP information.
 - Blood lead testing during pregnancy was noted as important as early exposures to lead can be released from bones during pregnancy.
- Community Program Office:
 - Paint testing with families is leading to action on the ground and people are taking steps to remove or cover chipping/peeling lead-based paint. There is also an increase in requests from families to have interior paint tested.
 - The block pilot soil management initiative is intended to reduce neighbourhood levels of Pb in soil. To date, there have been no significant efficiencies (or cost savings) associated with remediating entire blocks.
 - The soil management team met with contractors to conduct After Action Reviews focusing on what went well, challenges and potential solutions.
 - There will be a community-wide perception survey in the fall to understand how the community experienced soil management activity this season.
- City of Trail
 - The comment was made that unpaved alleys in Trail should be put on the City's infrastructure improvements list.

Program Planning Update - Michelle Laurie, THEC Lead Facilitator

Knowledge Sharing & Learning Meetings June and September

 The City of Trail and Teck Trail Operations co-hosted two meetings bringing together those interested in learning more about smelter emissions in Trail and Human Health. Participants came from the Ministry of Environment and Climate Change Strategy, Ministry of Health, Interior Health, Teck, the City of Trail and community members including Nelson Ames and Steve Hilts who support the City voluntarily.

Communications

- THEP's Fall Newsletter was released the first week of September. You can find it <u>online</u>.
- Website updates continue despite challenges blending back end and front facing technology.
- The communications plan includes key messages (see attachment) as well as an online knowledge base for THEP team members and a joint activity tracker for outreach and communications activities.

Fall Planning

- Supporting the Air Quality Working Group meeting scheduled for October 31st.
- Supporting design and facilitation of an annual Partners meeting to take stock and reflect.

• Supporting the annual Enhanced Healthy Families Healthy Homes Support conference.

Partner Meeting Report – Thea Hanson, Alternate Chair

- We are planning for a meeting in December to discuss with THEP partners what we are learning as we action the strategic plan approved in September 2022.
- The Knowledge Sharing and Learning meetings mentioned in the program planning update were a great
 opportunity for the Ministries to see Trail as a community. There was a high level of engagement and
 increased understanding of the work taking place.

2023 THEC MEETING DATES

- Final meeting of 2023 is December 6th.
- THEC meetings are held from 7:00-9:00pm.

Trail Area Health & Environment Committee

AGENDA

HYBRID Meeting: September 27, 2023, 7:00 p.m.

Location: City of Trail Committee Room #2 (Spokane St entrance) & https://us02web.zoom.us/j/84282413448

Committee Members:

Colleen Jones, Chair, City of Trail Thea Hanson, Alternate Chair, City of Trail Dr. Karin Goodison, Interior Health MHO Jane Power, Interior Health Trevor Allegretto, USW Local 480 Rep Ron Joseph, Community Member (Resident) Dan Bouillon, Teck Trail Operations -away. Clare North, Teck Trail Operations Annick de Goede, Community Member (Parent)



Linda Worley, RDKB Area B Carolyn Amantea, Village of Warfield Ali Grieve, RDKB Area A Julie Orban, BC Ministry of Environment Jasen Nelson, BC Ministry of Environment Erika Krest, Community Member (Chamber) Steve Hilts, Community Member (History) Julia Stockhausen, Community Member (FAN) Ashley Melenchuk, Community (Parent)

The Trail Area Health & Environment Committee (THEC) meets five times per year online or in-person. Members, designates and community members are welcome.

WELCOME and INTRODUCTIONS

• Opening remarks from Colleen Jones, THEC Chair

MEETING MINUTES

• Approve minutes from THEC meeting, June 15, 2023 (as attached)

PRESENTATIONS, REPORTS, DISCUSSIONS & RECOMMENDATIONS

Air Quality Update: Fugitive Dust Reduction and Sulphur Dioxide Improvement (30 mins)

- Presenter: Teck Trail Operations
- Discussion and Questions

Wide Area Remediation Plan Update (30 mins)

- Presenter: Clare North, Teck Trail Operations
- Follow-up on questions from June THEC meeting & status of current studies
- Discussion and Questions

Program Reports & Updates

Air, Health, and Community Program Office reports are provided in the agenda package for your review prior to the meeting. Please bring your questions and comments for discussion.

Q&A and Comments on Reports All (10 mins)

- Q&A on all reports (Air, Health, Community Program Office)
 - o Open questions and highlights (AII)

Community & Round Table Check-In - All (15 mins)

• Round table contributions & questions

Program Planning Update - Michelle Laurie, THEC Lead Facilitator (10 min)

- Knowledge Sharing & Learning Meetings June and September
- Communications:
 - Fall Newsletter & Website updates
 - Communications plan (see attachment)
- Fall Planning
 - o Partners meeting
 - Air Quality Working Group meeting

Partner Meeting Report – Colleen Jones, Chair

2023 THEC MEETING DATES

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Teck Trail Operations

Air Quality Improvement Programs 2023 Update

Keith Klimchuk and Danny Rioux September 27, 2023



Overview

Fugitive Dust Reduction Program

- Background
- 2022 Fugitive Emissions Inventory
- Current Fugitive Dust Reduction Initiatives

SO₂ Reduction Program

- Background
- 2023 SO₂ Emissions Reductions
- Towards CAAQS for SO₂

Questions

What is fugitive dust?

Fugitive dust is dust that escapes from stockpiles, open handling of materials, buildings and vehicle traffic on and offsite. Fugitive dust is not stack emissions.



2022 Fugitive Lead-in-Dust Inventory



Lead-in-Road Dust Emissions, 23% reduction from 2017 to 2022

Key improvements

- Weekly to daily road cleaning
- Wind warning alerts
- Road dust monitoring
- Update to sweeping fleet
 - Improved equipment reliability





Lead-in-Open Mix Area Dust Emissions, 33% reduction from 2017 to 2022

Key improvements

- Roaster pad wind fence
- Wind warning alerts
- Improved application of dust suppressant





Fugitive Lead-in-Dust Emissions, Community Monitoring



Current fugitive dust reduction initiatives Smelter wheel wash; construction underway





New Smelter wheel wash

- Effective material removal
- Water re-use
- Solids recovery



Current fugitive dust reduction initiatives Material movement mapping



SO₂ Reduction Program Update



Situation Overview: Trail and SO₂



- Trail Operations captures > 99% sulphur; meets requirements for a new plant
- Location, weather and topography constrain dispersion of emissions
- Trail Operations meeting current Permit requirements for emissions and ambient levels
- New Permit limits in May 2024 have lower Ambient Targets
 - New KIVCET Feed Dryer project combined with adjusted operational control being installed



SO₂ Emissions Reductions 2023 Update

#3 Slag Fuming Furnace - Improved Control

• ~5 kg/h SO₂ reduction

Absorption Plant – Advanced Control

• ~10 kg/h SO₂ reduction

KIVCET Feed Dryer Project

Teck

• ~140 kg/h SO₂ reduction

2021 – Overall Emission Target \rightarrow 440 kg/h Post 2023 - Overall Emission Target \rightarrow 285 kg/h



SO₂ Emissions Reductions in Progress KIVCET Feed Dryer Project

- SO_2 Emission Reduction of ~ 33%
 - ~ 140 kg/h SO₂ reduction
- ~ \$ 68M Investment
- Hot commissioning started September 20th
- Fully Operational Mid-October



KIVCET feed mix being split between old and new dryers



SO₂ Ambient Performance



* Data are for ambient station with highest results which was Butler Park in 2017 and Warfield/Haley Park in 2021 and 2022

Towards CAAQS for SO₂

Projection for 2024

Annual Average

• All stations will meet CAAQS 2020; < 5.0 ppb

1-hr Metric:

- Columbia Gardens and Birchbank will be at, or close to, CAAQS 2025; <65 ppb
- Butler Park and Haley Park are estimated to be above CAAQS

We are evaluating the opportunity for further SO_2 emissions reductions in parallel with CO_2 reduction planning.



Questions



Wide Area Remediation Plan Questions Answered

September 2023 Clare North, P.Geo Superintendent, Environmental Remediation & Biodiversity



Environmental Management Area (EM Area)

- Historical aerial emissions from Teck Trail Operations have resulted in elevated Lead (Pb), Arsenic (As), Cadmium (Cd), and Zinc (Zn) in soil
- EM Area defined using soil data collected across the lower Columbia valley and compared with background levels and Contaminated Sites Regulation (CSR) standards, as follows:
 - Pb CSR regional background 120 ppm

Teck

- As geogenic (naturally occurring) background 19.7 ppm
- Cd CSR standard to protect groundwater \rightarrow surface water 3 ppm
- Zn CSR standard to protect plants and soil invertebrates 450 ppm
- Metals levels in soil are higher closer to Trail Operations and decline towards the outer edges to reflect background concentrations



Is remediation required everywhere in EM Area? What will the Wide Area Remediation Plan include?

- Soil metals in EM Area evaluated through risk assessments to identify risks to human health or environment
- Risk management actions developed to address where risk from soil metals predicted:
 - Pb in soil where children spend time
 - \rightarrow Trail Area Health & Environment Program
 - As, Cd, Pb and Zn in soil greater than risk-based concentrations for plants
 - \rightarrow Lower Columbia Ecosystem Management Program
- WARP builds on THEP and Lower Columbia Ecosystem Management Program to create an approved remediation plan that:
 - Identifies soil levels where risk management actions are recommended
 - Identifies Teck as the responsible party for any required risk management actions
 - Undergoes public consultation



Yard Remediation



Path to a WARP



Site Registry in BC



- The Site Registry is independent of the Land Title Registry
- The Site Registry is a database retained by the Provincial Government on the environmental condition of land
- Not all sites listed on the Site Registry are contaminated



Air Quality Report – September 2023

1. Lead in Air:

Figure 1 presents the 3-month rolling average for lead in air measured at the Butler Park station compared to the US EPA standard of $0.15 \,\mu\text{g/m}^3$. Federal and BC Provincial governments do not have ambient air quality objectives or standards for lead; however, it is reasonable to rely on standards from other jurisdictions when this is the case.

Lead in air levels measured at Butler Park and Birchbank meet the US EPA standard of 0.15 μ g/m³ on a 3-month average. The intra-annual variability in the data reflects the influence of weather including dominant wind direction and precipitation. Read THEP's Lead (Pb) <u>Fact Sheet</u> to learn more.



Figure 1: 3-month rolling average lead in air at Butler Park station (as total suspended particulate measured bi-daily)

The chart in Figure 1 shows the 3-month rolling average for lead in air for Butler Park (blue line), in comparison to the US EPA standard (green dashed line).

Questions or concerns about Air Quality? Call Teck's Community and Environment Feedback line at (250) 364-4817

2. <u>Sulphur Dioxide (SO₂):</u>

SO₂ is emitted by Teck Trail Operations as a by-product of processing mine concentrates, which contain sulphur, into metal and chemical products. Teck Trail Operations currently captures more than 99% of the sulphur and converts it to products, such as fertilizer and sulphuric acid. About 1% leaves the operation through emissions to air. With environmental improvements, SO₂ emissions continue to decline. However, the dispersion of air emissions from the smelter is constrained due to the location of the smelter, weather and the surrounding topography.

SO₂ is monitored by Teck at four locations throughout Trail and the surrounding areas – Birchbank, Butler Park, Columbia Gardens and Warfield. These stations operate continuously, with near real-time data publicly available at <u>https://www.env.gov.bc.ca/epd/bcairquality/readings/find-stations-map-SO2.html.</u> SO₂ levels fluctuate throughout the day, month and year.

THEP's SO₂ <u>Fact Sheet</u> provides guidance for actions to take when SO₂ levels are elevated. The chart below provides SO₂ hourly data from Butler Park and Birchbank stations for the last 10 years categorized by the health guidance levels. As Teck Trail Operations continues to implement emissions reductions measures, the percentage of hours within the yellow (35-185 ppb) and red (>185 ppb) categories is decreasing. In 2022 and 2023 year-to-date, there were no hours in the red (>185 ppb) category at Butler Park or Birchbank stations.



Figure 2: Distribution of Hourly SO₂ Levels at Butler Park



Figure 3: Distribution of Hourly SO₂ Levels at Birchbank



Figure 4: Teck Community Air Monitoring Stations

Questions or concerns about Air Quality? Call Teck's Community and Environment Feedback line at (250) 364-4817



HEALTH REPORT

September 27, 2023 RECENT HIGHLIGHTS

- 1. Healthy Family Visits
- 2. Community Outreach
- 3. Blood Lead Clinic Updates

ADDITIONAL DETAILS

- 1. Healthy Family Visits
 - 65 Healthy Family visits completed so far 2023
 - Three visits declined, all had received previous visits with older children. One family did engage with CPO for refresh of Healthy Home supports.
 - Increased PHN capacity has enabled us to catch up.
- 2. Community Outreach
 - Meghan attending Building Beautiful Babies monthly.
 - Cecilee will begin attending Muffins and Munchkins monthly.
 - Meghan and Dr. Goodison presented at KB Regional Rounds on September 14th.
- 3. Fall Blood Lead Clinic
 - Fall clinics completed today. 6 clinic days held over past 3 weeks.
 - Total of ____ children tested this Fall.
 - Will now work to process results and prioritize follow up in coming weeks



COMMUNITY PROGRAM OFFICE REPORT

September 25, 2023

The Community Program Office (CPO) team had a busy summer with normal THEP activities in addition to new efforts to reduce lead (Pb) exposure in the community through paint testing¹ and the Pilot Block Initiative. Although the height of the field work season is over, staff are still working hard to complete soil management projects, attend fall outreach events, and ensure exterior paint gets tested at all properties that received soil management this year. Our team's fall focus includes seeking feedback from residents who participated in Soil Management and Healthy Families Healthy Homes programs. Through this feedback process, we will continue to learn and improve the ways in which THEP serves the community.

1 Soil Management Program:

- > Yard Improvement
 - Ground Cover Improvements: 5 deliveries of ground cover materials have been completed to support qualifying DIY projects.
 - Soil Pick-ups: 3 soil pick-ups have been completed to support qualifying DIY projects; 2 soil pick-ups remain on the list.
 - Lawn Care:17 Healthy Homes properties were on the lawn care list this year. All properties received two rounds of fertilizer and a final round is scheduled for the fall.
 - 56 post-soil management (pilot) properties were also on the lawncare list. All received two rounds of fertilizer.
 - o 12 post-soil management properties remain on the list for weed control.
- > Soil Assessment:
 - Soil testing: 78 properties and 2 gardens have been completed; 58 properties and 2 gardens remain on the list.
 - Ground Cover Evaluations: 71 properties have been completed; 5 properties remain on the list.
- > Soil Replacement:
 - Full soil replacement has been completed at 68 properties.
 - Paint testing at remaining properties will be completed in September.
 - 3 vegetable garden replacements have been completed.

¹ Paint testing is a term used in lieu of paint screening for public communications purposes. Paint testing requires sending paint chips to a laboratory and results are more precise. For the purpose of THEP, paint testing means THEP screened viable paint in a home using XRF technology on-site. The XRF provides an immediate reading for lead levels in a painted surface.



- Completing soil replacement at some tough access properties has successfully occurred over the summer and will continue in the fall. Some challenges related to the need for additional innovative equipment for access and contractor staffing remain.
- The Pilot Block Initiative is well underway. We have completed three full blocks and are working on the fourth.
 - Contractor feedback sessions are occurring in September to better understand how the Initiative went from their perspectives.
- > Paint Testing:
 - Exterior paint testing has been completed at 141 properties that received full soil management or soil assessments this year.
 - Data collection procedures will be re-evaluated this fall to improve efficiencies.
 - Interior paint testing will be offered to families participating in the Healthy Homes program this winter.

2 Healthy Homes:

- > Healthy Homes:
 - o It's been a busy year! A total of 51 home visits completed in 2023, so far.
 - For comparison, 54 home visits were completed in 2022 over the course of the year.
- > Enhanced Support:
 - Residential Lead Inspection reports have been sent to all participating residents.
 - The CPO team continues to offer support to families as needed/requested.

3 Lead (Pb) Safe Renovation:

> A total of 44 residents have accessed free supplies in 2023.

4 Outreach and Engagement:

- > Teddy Bear Picnic (June 14) provided event coordination support and hosted a booth at Gyro Park.
- > June Tour (21-23) supported THEP knowledge sharing and expertise to the government delegation that toured Trail.
- Worker carry-home (August) provided onsite visits with construction and soil management contractors to promote dust management best practices.
- > Waneta Primary Care (Aug 29) Wendy Goodrich and Megan Morris (IH) presented to clinicians and staff.
- > Continued participation with the Navigator meetings, Early Years committee, and involved on the Family Action Network board.
- > The CPO has been present at all 6 days of the Children's Lead Testing Clinics this September as an opportunity to reconnect with families, answer questions and reinforce messaging.

Trail Area Health & Environment Program (THEP) Communications Plan

Updated September 21, 2023

Prepared by: Michelle Laurie (THEC Lead Facilitator) & Sally MacDonald (Communications Associate)



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1.0 INTRODUCTION

The Trail Area Health & Environment Program (THEP) supports the community of Trail and surrounding areas to live, work and play in an area influenced by smelter air emissions for more than 125 years.

THEP (the 'Program') is a partnership between the City of Trail, Teck Trail Operations, Interior Health, and the B.C. Ministry of Environment and Climate Change Strategy (referred to as BC Ministry of Environment or ENV depending on the context). The Program aims to be an accessible entry point for the community to understand and navigate ways to reduce exposure to lead (Pb) and sulphur dioxide (SO₂). Community connections help ensure support reaches those who need it. A culture of sharing and learning helps to ensure programming and resources have maximum impact.

THEP focuses on air, soil, health, built environments (homes and other structures), community connection, and understanding the interrelationships between these focus areas. The Program addresses the inherent overlap of different ways people are exposed to lead and maximizes opportunities for improving health and the environment through an integrated approach.

Background on how the Program was established and its partners can be found at <u>thep.ca</u>. Completed in 2022, the **Strategic Plan** is a guide the partners can use to work together toward their shared ambitions. It sets out the broad areas of work, ambitions, and milestones to achieve.

1.1 About This Plan

Aligned with the 2022 Strategic Plan, this Communications Plan sets out the main facets of the Program and explains how Program partners will continue to reach residents of Trail and the surrounding area.

Each section includes a summary, communications goals, objectives, and key messages. The summary introduces the topic, the communications goal describes what Program partners hope to achieve by communicating about the topic, and the communication objectives describe how partners will achieve that goal. Key messages are plain language talking points that partners and their staff can use to talk about the topic at an introductory level.

The plan also contains a summary of the Program's target audiences and how they are reached. Finally, an activities chart demonstrates the practical tasks that will allow partners to reach the target audiences, and the timing each year for carrying out these tasks.

The plan is intended for use by THEP team members and partners. It is not a public facing document.

Accompanying the Communications Plan are two supplementary documents:

- 1. Located at <u>thep.ca</u>, the internal THEP **Knowledge Base** includes the key messages from this plan, as well as other information for more detail about each topic. It also contains an FAQ to help THEP's team respond consistently to a wide variety of questions.
- 2. An **Activities Tracker** allows THEP team members, who work in partnership yet span different organizations, to keep note of when each carries out the practical communications and outreach work of the Program. This will help demonstrate how target audiences have been reached in support of the goals of the Strategic Plan.

This collection of documents will help to clarify Program objectives, activities, and public messages. It will allow THEP to show how it's working towards its goals and provide markers for success.



Figure 1 The communications plan includes a Knowledge Base, Key Messages and Activity Tracker.

1.2 Overall Communications Goal

Help people in Trail and surrounding areas better understand:

- potential human health risks related to historical and ongoing smelter air emissions,
- additional sources of lead in the community, and
- communicate actions to reduce human exposure.

1.3 Overall Communications Objectives

- Share current Program information with all expectant parents, families, and caregivers in Trail and area.
- Be a go-to source for information on science and research related to community lead/sulphur dioxide exposure, health impacts, and early child development programs, locally and beyond.
- Ensure all committee members and partners know about the work the Program is doing in the community.

1.4 General Key Messages

Core Message: THEP supports the community of Trail and nearby areas to live, work and play in an area influenced by smelter air emissions.

Since the 1890's Trail has been home to one of the world's largest lead and zinc smelting and refining facilities. The smelter continues to be a major employer and economic driver for people living in Trail and the surrounding areas.

Over the past 30 years, operational environmental improvements have greatly reduced smelter emissions. As a result of historical emissions, lead and other metals remain in dust and soil in the Trail area.

Lead is a naturally occurring element found in small amounts in the earth's crust, and was commonly used in products such as paint and gasoline. Traces of lead can be found everywhere.

For more than 30 years, a group of partners—the City of Trail, Teck, B.C. Ministry of Environment, and Interior Health—in collaboration with the community, has worked together to continually improve the health and wellbeing of people living near the smelter. The program these partners deliver is called the Trail Area Health & Environment Program (THEP).

Each partner, guided by the strategic plan, works on their area of expertise, and they collaborate to support the community.

The Trail Area Health & Environment Committee (Chaired by the City of Trail and including community members) meets regularly to support the program.

There has been good progress. Since the 1990s, there has been a 99% reduction in emissions of lead and other metals from the smelter stacks. Children's blood lead levels have dropped from an average of 13.5 micrograms per decilitre (μ g/dL) in 1989, to 2.5 μ g/dL or less since 2018.

There are several important actions that THEP carries out in the community.

- Expectant families and those with children aged three and under can get in-home visits to learn how to reduce exposure for young children, and receive supplies to reduce in-home dust.
- Homeowners can receive soil testing and, where needed, soil management for their yard, exterior paint testing for lead, and access free supplies for lead-safe home renovations.
- THEP team members actively participate in community events, sharing information about reducing exposure to lead and other metals as well as communicating on sulphur dioxide.
- Twice a year, THEP offers a voluntary children's blood lead testing clinic, following up with ways to reduce exposure if a child has an elevated blood lead level (defined as >5 ug/dL).

All THEP community programs are free, and residents can sign up easily online.

Each year, THEP supports hundreds of people in the community with outreach, activities and supplies.

2.0 <u>AIR</u>

Core Message: Air quality has improved dramatically in Trail. THEP continues its work to reduce emissions and control dust in the community.

2.1 Summary

Significant operational improvements have been made to reduce emissions from Teck's facility in Trail. Still, lead and sulphur dioxide levels in air have the potential to impact community health.

2.2 Communications Goal

Increase community awareness around aerial emissions, monitoring, the potential health effects, and actions community members can take to mitigate.

2.3 Objectives

- Communicate programs to identify and support actions residents can take to improve air quality and reduce lead in dust in the community.
- > Communicate improvements in lead (and sulphur dioxide) in ambient air.
- Provide resources to allow community members to act when sulphur dioxide emissions are elevated.

2.4 Air Key Messages

Over the past 30 years, there have been significant reductions to levels of lead and other metals in air.

- Since 1997, there has been a 99.5% reduction in emissions of lead and other metals from the smelter stacks.
- Since 2012, major reductions to lead in the environment are being made through the comprehensive Fugitive Dust Reduction Program
- Air measurements for lead in Trail are lower than the U.S. EPA standard of 0.15 micrograms per cubic metre (μ g/m³). In 2020, lead in ambient air had fallen to an average of 0.07 μ g/m³. Canada doesn't have an applicable standard.

Air quality in the Trail area is consistently monitored, and Teck works closely with ENV to adjust operations and take corrective actions.

Sulphur dioxide is a colourless, reactive gas created by industrial operations, such as the metal processing that occurs at Teck's Trail smelter.

In 2020, the Canadian government introduced a short-term benchmark for sulphur dioxide in air. Concentrations in Trail fluctuate but peak levels can be higher than the benchmark for a short period of time.

There are only a few hours each year when sulphur dioxide emissions in Trail are higher than the amount recommended for outdoor physical exertion.

- More than 99 percent of sulphur is captured by the smelter before it comes out of the stacks.
- Because the smelter is in the heart of Trail, and in a deep valley, sometimes weather conditions prevent sulphur dioxide from dispersing before it reaches the community.

When sulphur dioxide levels are elevated, consider staying indoors. You can see real-time data <u>online</u>.

- It's a good idea to also reduce other sources of sulphur dioxide emissions in your environment, such as tobacco smoke and unvented gas stoves.
- If you have trouble breathing, have chest pain or discomfort, or a severe cough, seek medical attention.

Teck is continuing to invest in technology which will reduce sulphur dioxide emissions, and further improvements in community air are expected as these changes are implemented.

More detailed messaging and frequently asked questions about the Air focus area can be found online <u>here</u>.

3.0 <u>SOIL</u>

Core Message: Because of historical emissions from the smelter, soil in the Trail area may contain elevated levels of lead and other metals. This is one way a child can be exposed to lead. THEP works with the community to reduce exposure to lead in soil and dust.

3.1 Summary

Emissions from over 125 years of metallurgical operations in Trail have resulted in elevated levels of lead and other metals¹ in soil in the surrounding area. These levels are above natural background levels and regulatory standards.

Annual soil management plans are developed by Teck, submitted to the Ministry of Environment, and shared with the Committee. Soil management aims to address potential health risks associated with

¹ Other metals include arsenic, cadmium and zinc.

metal-contaminated soil. The plan includes soil testing and, in qualifying yards, improvements to ground cover or replacement of soil on a prioritized basis.

3.2 Communications Goal

Support the community to have an increased awareness and understanding around metal-contaminated soil, potential risks, soil management activities, and priorities.

3.3 Communications Objectives

- Improve communications on the potential risk from metals in soil, who may be at risk, exposure prevention methods, and the supports available to the community residential, public spaces, and property developments.
- Ensure soil is contextualized as one exposure pathway, and that people understand soil management may not be the only (or the most impactful) action to reduce lead exposure and lower blood lead levels.

3.4 Soil Key Messages

Because of historical emissions from the smelter, there may be lead and other metals in soil in the Trail area.

For most people, there is little risk from exposure to metals in soil, especially when soil is covered by grass or mulch.

For children, bare soil can increase exposure to metals, and contribute to elevated lead levels in blood.

To reduce the risk of exposure to lead in soils, THEP carries out soil management activities on prioritized properties in Trail and nearby areas.

THEP soil management began in 2007 and thousands of yards have since been tested and hundreds have received soil management.

Parks, playgrounds, child-care facilities, and schools in Trail have also been assessed. Ground cover is very good in our schools, parks, and playgrounds, but if you notice poor ground cover in these places, please contact us.

THEP works with property developers to assess and, if required, manage soil during construction. This includes the safe excavation, handling and disposal of soil.

• If construction involves any soil excavation or movement of soil, please fill out a property development application found <u>here</u>.

Soil testing is helpful if you are planning yard work, planting a vegetable garden, or have young children who play in your yard.

Soil testing is the first step and it's free for all residents in the Soil Management Area. <u>See the map</u> and <u>sign up online</u>.

For qualifying properties, soil management is one way to reduce exposure to metals in your home and yard environment. There are a few ways THEP manages soil in yards:

- improving lawns to fill in bare spots
- o covering soil with mulch, rocks, or landscape fabric
- replacing contaminated soil with clean fill

Each of these options reduces exposure to lead and other metals in soil.

We manage soil according to a prioritization framework accepted by the B.C. Government. We focus on properties with bare soil and the highest levels of lead, and where children live because of their increased risk of lead ingestion.

THEP prioritizes properties where children live because children ingest more soil than adults, absorb lead more easily, and are more vulnerable to health impacts from lead exposure while their brains are developing.

Vegetable gardens are also prioritized for soil testing and soil management, regardless of the presence of children.

Plan ahead if you're removing soil from your yard. All soil in <u>Trail and surrounding areas</u> requires testing, analysis, and approval before it can be taken to the landfill.

Teck funds soil management in Trail, under the direction of the B.C. Ministry of Environment and Climate Change Strategy. It's regulated by the Contaminated Sites Regulation of the Environmental Management Act.

The B.C. Government is working with Teck to develop a Wide Area Remediation Plan, under the Contaminated Sites Regulation of the Environmental Management Act. This long-term plan will build on THEP's current work to address soil contamination in Trail and nearby areas.

We're here to help. Call the Program office at 250.368.3256 or visit <u>thep.ca</u> to get started.

More detailed messaging and frequently asked questions about the Soil focus area can be found online <u>here</u>.

4.0 BUILT ENVIRONMENTS

Core message: Homes built before 1990 may contain lead-based paint. Lead-based paint is a hazard when it's chipping, peeling or disturbed during renovations. Keeping dust down in the home and yard reduces the chances of children accidentally ingesting lead.

4.1 Summary

Lead in indoor dust is a significant pathway for children's lead exposure and continues to be an important focus of the Program's in-home visits to families with children under three years old.

4.2 Communications Goal

Provide education about various potential sources of lead and supports that help to reduce potential lead exposure in the built environment.

4.3 Communications Objectives

- Further family, caregiver and community understanding of the relative influence of smelter and nonsmelter sources of lead in the built environment and ways to reduce potential exposure for young children.
- Educate renovators on how to identify lead risks during renovation projects and protect themselves, their families, workers, and others in the household.

4.4 Built Environments Key Messages

To reduce dust in your home:

- Use a damp mop on bare floors and a damp cloth on windowsills, furniture, baseboards, and other surfaces kids touch, such as toys.
- Use a vacuum with a High Efficiency Particulate Air (HEPA) filter on carpets (including area rugs) and bare floors.
- Avoid sweeping with a broom because it stirs up dust without removing it.
- Wipe kitchen counters and eating surfaces often.

There are some other steps you can take to limit the amount of dust you ingest.

• Always wash hands before eating and after being outdoors.

- Eat regular, nutritious meals that are high in calcium, vitamin C and iron.
- When renovating, be careful to contain dust to the work area and clean up thoroughly.

Expectant families and families with children under three years old can sign up <u>online</u> for a free Healthy Families Healthy Homes visit to identify potential sources of lead in your home.

Homes built before 1990 may contain lead-based paint.

Renovations stir up dust, and in homes built before 1990, can expose people to lead.

- THEP now offers free paint testing as part of its Healthy Families Healthy Homes visits for expectant families and families with children under three years old.
- THEP soil testing and soil management now includes exterior paint testing.
- All homeowners can access tips on how to limit your exposure to lead in paint. Contact us for an information package or visit thep.ca for resources.
- Sometimes it's safest to leave lead-based paint undisturbed, as long as it's not chipping, creating dust, or within reach of young children.
- Children and pregnant women are more at risk from lead exposure, and it's important to keep them clear of renovation dust.

In the Program area, if your home was built before 1990, THEP offers advice and support to residents carrying out renovations.

- THEP provides safety supplies and equipment for free.
- Visit <u>thep.ca</u> for a lead-safe renovation checklist and instructional videos.

More detailed messaging and frequently asked questions about the Built Environments focus area can be found online here.

5.0 <u>HEALTH</u>

Core message: Because of historical emissions from the smelter, there may be lead in soil and dust in the Trail area. Exposure to lead can affect healthy development in children. THEP works with families to limit children's exposure to lead.

5.1 Summary

THEP includes a collaborative Healthy Families Healthy Homes Program to raise community awareness about ways to reduce lead exposure, particularly in young children.

The Healthy Families Healthy Homes Program promotes health through in-home visitations for expectant families and those with children under three years old in Trail, Casino, Oasis, Rivervale, Waneta, and Warfield. During these early years, children are more at risk of oral exposure to lead in their home as they are beginning to crawl, explore their world, and put objects and hands in their mouths.

5.2 Communications Goal

Communicate publicly (and one-to-one) on healthy child development education and support to positively influence children's future outcomes.

5.3 Communications Objectives

- Ensure messaging on reducing exposure to lead, as well opportunities for improving child development/health outcomes, reaches families, baby groups, daycares, and family service providers.
- Support participation in Interior Health's blood lead testing clinics to maintain high participation rates.
- > Communicate with families that have children with elevated blood lead levels.
- > Communicate how to manage potential effects from elevated levels of sulphur dioxide.

5.4 Health Key Messages

For most people, the risk from metals in soil and dust is low. For children, particularly those under three years old, the risk is higher because of the fast rate of development and the way they interact with their environment.

- Babies and toddlers are more likely to transfer dust to their mouths when teething and playing.
- Young children are more likely to play in soil and ingest it.
- Young children absorb lead at a higher rate.
- Pregnant women can pass lead to their baby through their blood stream, and transfer it to newborns through breast milk.

Expectant families and those with children under three years old are eligible for two in-home visits. Request an in-home visit from a Program staff as soon as possible and one from the Public Health Nurse when your baby is about six-months old. Sign up for your Healthy Families Healthy Homes visit online (thep.ca).

- These experts will look more closely at nutrition, diet, and the home and yard environment.
- They will connect families with community resources and groups that support early childhood development.
- They can provide useful supplies to keep dust down in the home environment, such as a vacuum, dust buster kits, hand soap, and lead-safe renovation resources and supplies.

Preventing ingestion is the most effective way to limit lead exposure.

- Wash hands after playing outside and before eating.
- Take off shoes at the door and use door mats.

- Vacuum, mop and dust often, focusing on entryways, window ledges and countertops.
- Cover bare soil in your yard with lawn, mulch, or landscape fabric.
- Hose off outdoor furniture and toys often.
- Wash fruits and vegetables, especially if they're locally grown.
- Renovate safely by sealing off the work area and cleaning well when the job's done.
- Ensure you don't bring lead dust home from work on clothing, shoes and lunch kits.

THEP provides free voluntary blood tests for children under three years old to check levels of lead in the blood. Annual blood lead testing is recommended by the Medical Health Officer. If levels are elevated, we follow up with support. Contact Interior Health for details.

Increasing the iron in your diet is another way to limit how much lead your body absorbs. This is particularly important for pregnant women and children.

Make sure your diet includes healthy foods that are high in iron, vitamin C and calcium.

More detailed messaging and frequently asked questions about the Health focus area can be found online <u>here</u>.

6.0 COMMUNITY CONNECTEDNESS AND LEADERSHIP

Core message: Working alongside the Trail community is important for THEP.

- Our partnerships in the community help us reach families we can support.
- Keeping up a positive reputation in the community means residents will refer THEP to other community members.

6.1 Summary

Community partnerships and visibility are important to ensuring:

- messaging gets to those who need it,
- sustaining high participation rates in programs, and
- maintaining a positive reputation in the community.

6.2 Communications Goal

THEP is known, visible and accessible in the community of Trail and surrounding areas.

6.3 Communications Objectives

> Ensure THEP is communicating, engaging and participating in events related to THEP's goals.

Ensure THEP is sharing its learning with the wider community of practitioners facing similar challenges.

6.4 Community Connectedness and Leadership Key Messages

It's important that community members have a seat on the Trail Area Health & Environment Committee because it provides accountability, builds trust and goodwill, and helps keep the program focused on what is needed in the community.

If you're interested in representing community on THEC, please get in touch. There are five meetings a year and anyone can attend.

Around the world, there are other communities like ours, with an operating smelter or mine nearby. Together we exchange knowledge, share ideas, and discuss questions in an effort to learn and continually improve THEP.

For more than 30 years, we've exchanged ideas with Port Pirie, Australia, and other similar communities. We've learned from each other's experiences.

At a global level, THEP will continue to share what we know with other communities.

More detailed messaging and frequently asked questions about the Community Connectedness and Leadership focus area can be found online <u>here</u>.

7.0 INTEGRATION, UNDERSTANDING AND CREATING VALUE TOGETHER

Core message: THEP has made great progress over the past 30 years, and it wouldn't have happened without government, industry, and the community working together towards the same goal.

7.1 Summary

The complex challenges THEP addresses cannot be solved by one organization or government alone. Understanding dominant exposure pathways for lead ensures resources and programming are designed for maximum impact.

7.2 Communications Goal

Communications between partners, with new staff and with Committee members contributes to a better understanding of the complex system the Program operates in.

7.3 Communications Objectives

- > Improve communication and documentation with partners, new staff and committee members.
- > Utilize communications to help build understanding of a complex topic.
- > Ensure communications are locally contextualized.

7.4 Integration, understanding and creating value together Key Messages

THEP works on a set of complex challenges, and no single organization could solve the challenges alone – each of THEP's partners brings unique expertise to the work.

Collaboration between the groups has helped improve air quality and blood lead levels.

We continue working together to understand and share information about the multiple ways children can be exposed to lead, from smelter emissions as well as non-smelter sources in the community and peoples' homes.

More on THEP's unique governance and collaboration can be found <u>here</u>.

8.0 TARGET AUDIENCES

The Program prioritizes several groups in the community who can most benefit from reducing their exposure to lead and other metals, and sulphur dioxide (SO₂). Activities are focused on reaching and providing support for these target audiences.

There are also key audiences within the Program's partner organizations who can help spread information about resources and supports available to community members.

8.1 Community Audiences

Families expecting babies or with young children, and family caregivers (e.g., grandparents)

- Research shows that children absorb lead more easily than teens and adults, making this a key target audience for the Program.
- This audience is reached in person through in-home visits for expecting families and those with young children and at outreach events.
- The audience is also reached through materials distributed by public health programs and other health-care providers.

Child-care providers

- Research shows that children absorb lead more easily than teens and adults. Child-care facilities are a focus of health and the built environment focus areas.
- Program representatives visit known child-care facilities, and outreach to child-care providers through distribution of newsletters and brochures in the community, media (paid such as radio ads and earned such as news releases), and community event attendance by program representatives.

Health-care workers

- This audience has greater access to key community members such as families with young children and those with respiratory illness. Health-care workers can share information about Program resources and supports to these community members.
- Newsletters and brochures will be shared with health-care workers. The Medical Health Officer, in collaboration with the Program team, will outreach to family doctors with presentations and one-to-one meetings.

Community navigators and connectors

- Those who work and volunteer for social support, community and education groups can help us reach children and families, and vulnerable populations, to share information about Program resources and supports. Groups include CBAL, FAIR, Family Action Network, Success by 6.
- We will participate in board meetings of aforementioned groups, as well as community events planned by these groups when possible. As well, we will ask groups to share information on their own social media accounts.
- > The Program will reach out directly to the School District, principals and PACs.

DIY renovators

- Dust stirred up by renovations can expose people to lead and other hazards. The Program offers free lead-safe renovation safety supplies and equipment for renovations in homes built before 1990.
- A brochure at key locations includes information about lead-safe renovation and directs people to the Program's website for more information. Information is shared with Trail's building services department (RDKB) to pass to renovators. Advertising and social media is also used to share information.

Contractors

- Contractors' work can require soil management, and contractors can benefit from information about lead-safe renovations.
- Information about lead-safe renovations and the soil management program is displayed prominently on the THEP website. The Program connects with the regional district building inspectors to share information that can be passed to contractors.

Local businesses

- Workers at businesses with potential exposure to lead could carry dust into homes with young children and pregnant women.
- The Program outreaches to workplaces that may have lead exposure, communicates to contractors via the Chamber of Commerce, and provides brochures on reducing lead exposure in the home to workplaces for distribution. The THEP website is promoted as a source of information.

Elderly residents

Elderly people are shown to be more susceptible to short-term effects from sulphur dioxide exposure.

This audience is reached through targeted information sharing with seniors' groups and residences (and their leadership), distribution of newsletters and brochures in the community, and community event attendance by program representatives.

New residents

- People who are moving into Trail and the surrounding area may have lower awareness of the risks of exposure to lead and other metals, and sulphur dioxide (SO₂).
- Materials such as brochures and newsletters are displayed at key locations such as the City, realtor offices, and the Regional District office. A link to the Program's website is posted on local and regional government and Chamber websites.

Realtors and property managers

- Realtors are connected to people moving to Trail who may not be aware of the Program and can direct families with young children to the website for information about supports and resources. Property managers can share information with tenants with young children.
- The Program presents to realtors annually as well as connects one-on-one to keep them informed on supports and resources.

Other community residents

- There are steps that Trail residents can take to reduce the risk of lead exposure in their homes and yards—for their own benefit and for neighbours and potential visiting children.
- Materials such as brochures and newsletters are displayed at key locations. Newsletters are mailed to every household and business twice yearly. A news release is shared with local media once a year, and radio advertising shares Program information. Program staff attend community events to explain resources and supports. Signage in the community (e.g., on air-monitoring and hand-washing stations) promotes the website for information. Community consultation also happens every few years via events and surveys.

8.2 Partner and Committee Audiences

Partner organizations and their staff

- Partner organizations work collaboratively to ensure coordination of activities and share knowledge. The partners can ensure that activities are meeting the needs of the community and identify and manage risks.
- There are five meetings of the Committee each year with Program reports. Between meetings, partner organizations communicate through email, focused meetings and working groups. Members of partner organizations are invited to subscribe to materials such as newsletters.

Local and regional government staff (e.g., public works)

- Municipal and Regional District staff such as building inspectors and public works employees can share information about the Program with community members and take steps to reduce lead exposure in public and private spaces.
- > Program staff hold one-to-one conversations on relevant topics with local government staff.

Elected officials

- Community leaders such as mayors, councillors, and regional district directors require updates on the Program to stay informed of any changes that could impact their constituents and have information to share with constituents who may benefit from it.
- Program consultants present to elected officials regularly to provide updates and offer opportunities to review public materials.

Trail Area Health & Environment Committee (THEC)

- THEC is formally established as a select committee of the City of Trail. Membership is largely mentioned above.
- Committee members are champions of the Program and THEC facilitates information sharing and communication with the public.

9.0 ACTIVITIES

The table below lists activities undertaken by Program partners to achieve the communications objectives in alignment with the Strategic Plan. It is not an exhaustive list and activities change as opportunities arise, however it provides a basis for outreach methods.

Activity	Target Audience	Carried out by	Timing
In-home and child-care facility visits	Expectant families and those with young children	HFHH	Ongoing
Pregnancy Outreach Program attendance	Expectant families and those with young children	НҒНН	Monthly
Community events	All	CPO/IH	As requested
Presentations	Elderly residents; childcare providers; elected officials; realtors; healthcare providers	CPO/IH/City	As requested
Printed materials (newsletters and brochures)	All	СРО	As needed
Website	All	City	Ongoing
Social media	All	City	Ongoing
Advertising (i.e., radio, print)	All	City/CPO	May-Sept
Earned media (i.e., news release, article in Trail Times)	All	City	Aug and Nov
Signage (i.e., parks, air monitoring stations, storefront)	All	Teck	As needed
One-to-one outreach	All		
Bimonthly meetings (i.e. THEC meetings) with Committee/partners	Committee members; partner organizations	City	Feb, April, June, Sept and Nov