

Air Quality Program: **Lead (Pb)**

About the THEP Air Quality Program (Lead, Pb)

The Air Quality Program works to improve air quality in the community through emissions reductions, air quality monitoring, and community dust control. The Air Quality Program activities work together to get the best results – lower exposure, lower health risks, and a healthier environment.

Young children are mainly exposed to lead through hand-to-mouth activity (ingestion) rather than breathing. In Trail, much of the lead in dust comes from ongoing smelter emissions.

What is Lead (Pb) and why is it in Trail?

Lead is a naturally occurring element found in small amounts in the earth's crust. One of the world's largest lead and zinc smelting facilities, which refines mine concentrates into metals, has been operating in Trail for over a hundred years. The goal is always to recover as much metal as possible from concentrates but due to the limits of technology, lead and other metals have been emitted into the air. Both stack and fugitive emissions (dust that escapes from buildings, stockpiles, roadways and other activities on site) have caused metals to be deposited in the dust in the Trail area.

Reducing health risks to children associated with Lead (Pb)

Lead exposure can have detrimental effects on early childhood development and children's future outcomes. Lead is most harmful to children younger than age 6 and especially those younger than age 3. A pregnant woman who is exposed to lead can pass it to her baby. Lead can also be passed to a baby through the mother's breast milk. There is no known safe level of lead exposure. Visit thep.ca to learn about actions you can take to help reduce your family's exposure to lead.

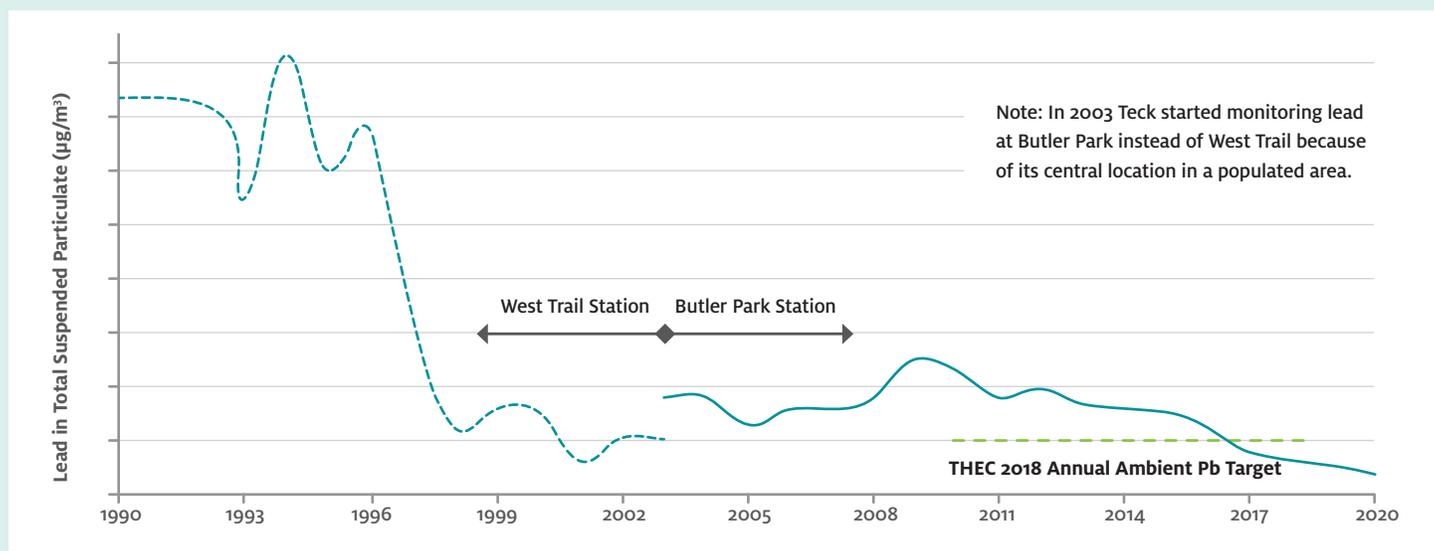
Lead (Pb) in air has been significantly reduced in Trail

Plant modernization and operational improvements at Teck Trail Operations, including installation of the KIVCET lead smelter in 1997, reduced emissions of lead and other metals from the smelter stacks by over 99% since the 1990s. Children's blood lead levels have decreased significantly over the same time period.

In 2012, Teck initiated a multi-year program to reduce fugitive dust emissions from the Trail Operations site to further improve ambient air quality. Since the inception of fugitive emissions reduction, lead levels in community air have seen a 80% reduction to around 0.07 $\mu\text{g}/\text{m}^3$ (micrograms per cubic meter of air).

The chart below shows the annual average for lead in community air from 1990 – 2020.

The Trail Area Health & Environment Committee (THEC) is always aiming to improve air quality in Trail. Historically, THEC in consultation with the community, reviewed standards from other Canadian jurisdictions and developed air quality goals to drive improvement. Those goals were achieved in 2016 (for arsenic) and 2017 (for lead). Going forward, THEC will seek continuous improvement in ambient air quality through ongoing initiatives at Teck Trail Operations.



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Monitoring metals is key to action in the near and long-term

Regular monitoring helps identify significant emissions sources, track the effectiveness of emissions and dust control efforts, and track progress on air quality goals. Teck conducts the following monitoring in the community:

- Measures of lead, arsenic and other particles in the air are taken at two testing locations in the Lower Columbia: Butler Park and Birchbank. Readings are taken over 24-hour periods.
- Every hour, analyzers measure metals concentrations at Butler Park and Duncan Flats and transmit readings directly to Trail Operations. Trail Operations immediately responds to any unexpected increase.
- Dustfall measurements are collected on a monthly basis at Birchbank, Downtown Trail, Columbia Avenue, Columbia Gardens, Tadanac, Kootenay Boundary Regional Hospital, Glenmerry, Oasis, Stoney Creek, Waneta and Warfield. These measurements help understand changes in dust settling in the community over time.

This information is collected and analyzed by Teck's environment staff and reported to the Ministry of Environment and Climate Change Strategy as well as the Trail Area Health & Environment Committee (THEC). THEC meetings are open to the public, occur five times per year, and include an air quality report with the most current data available.

Dust control in the community

In addition to addressing stack and fugitive dust emissions from Teck Trail Operations, the Air Quality Program includes ongoing dust control in the community. In the summer months, the Trail area can be very dry. Additional street sweeping and dust suppression keeps dust, which may have lead content, down in the dry months. While most towns only clean streets in the spring and fall, the City of Trail performs at least two additional street sweepings of the whole community in summer as well as weekly sweeping and flushing of the downtown core. Dust suppressant is applied to unpaved alleys in Trail each June. One additional summer sweeping is performed in Rivervale. The roads are flushed with water at the time of sweeping so that dust is not stirred up in the process.

About the Trail Area Health & Environment Program

The Trail Area Health & Environment Program (THEP) has five main areas of activity: Family Health, Home & Garden, Air Quality, Parks, and Property Development. THEP promotes a healthy environment through a comprehensive integrated program that successfully improves air quality and children's blood lead levels, and promotes the health of the community. Programs are governed by the Trail Area Health & Environment Committee (THEC), comprised of government, industry, the City of Trail and community. THEC was established in 2001 and was formerly known as the Trail Lead Task Force (1990-2000).

If I have a health or environment concern, who should I contact?

Residents who have questions or concerns about air quality are encouraged to call **Teck's Community and Environment Feedback line at 250-364-4817** or send your request electronically at **teck.com/contact**, noting that it is for Teck Trail Operations.

If you have a health concern specific to lead exposure, please contact **THEP Family Health Services** at the Kiro Wellness Centre **250-364-5945** or text your public health nurse **250-231-5945**.

Visit thep.ca to learn more about THEP's Air Quality Program, find actions to reduce the risk of lead exposure, or to book a home visit.