

# Air Quality Fact Sheet



## What is the Air Quality Program?

The Air Quality Program focusses on reducing lead and other metals in our community through:

- stack and dust emissions reductions from Teck Trail Operations;
- dust control in the community; and
- ongoing monitoring of air quality and reporting on air conditions.

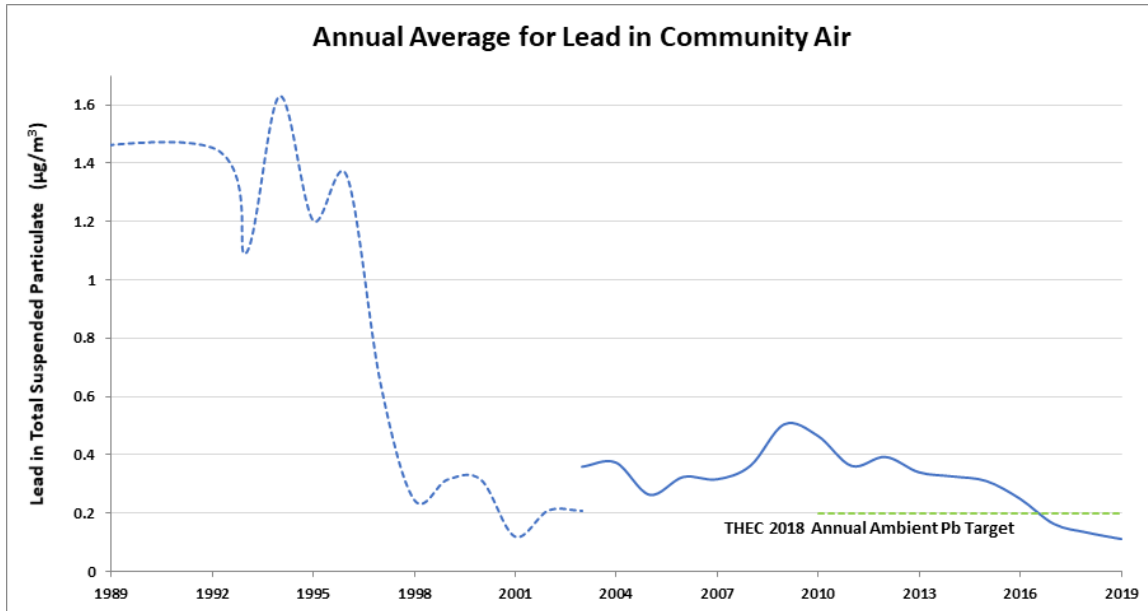
## Why is the Air Quality Program important?

The program aim is to prevent children's exposure to lead and reduce children's blood lead levels on a continuous improvement basis. Although young children are mainly exposed to lead through hand-to-mouth activity rather than breathing, much of the lead in dust where they live and play comes from ongoing smelter emissions. Reducing emissions makes the biggest contribution to improving air quality and reducing people's exposure to lead in the community.

## What has been achieved with air quality?

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 2013, 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 declined to around 0.11 µg/m<sup>3</sup> (micrograms per cubic meter of air), a 68% reduction since 2013. The aim is continuous improvement of these levels.



The Trail Area Health & Environment Committee is always aiming to improve air quality in Trail. In the past, THEC developed air quality goals and consulted the community to make sure there was support for the goals. In 2010, following public consultation, THEC set continuous improvement goals for lead and arsenic in the air based on Ontarian and Albertan standards which at the time were the lowest levels regulated in Canada. The goals were as follows:

- To have an annual average of lead in community air of 0.20 µg/m<sup>3</sup> or lower by 2018, with continuous improvement to 2020.
- To have an annual average of arsenic in community air of 0.010 µg/m<sup>3</sup> or lower by 2018, with continuous improvement to 2020.

With these goals, the THEC aimed to meet the leading air quality standards in Canada, and these goals were achieved in 2016 (for arsenic) and 2017 (for lead).

### How are metals in air monitored?

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

- 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.
- Near real time analyzers measure metals concentrations at Butler Park and Duncan Flats (every hour) and transmit readings to Trail Operations to directly and immediately respond 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.

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 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.

### **How is dust controlled in the community?**

While most towns only clean streets in the spring and fall, the City of Trail performs at least two 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. During the regular spring sweepings, it is difficult not to stir up dust but the sand applied in the winter does not contain lead, so lead levels on the street are relatively low.

### **What about other air quality considerations?**

The THEC partners are working toward a review of the full picture of air quality in Trail, including sulphur dioxide.

Air quality fluctuates with weather conditions including wind strength and direction as well as temperature inversions during high pressure systems. During temperature inversions, ambient sulphur dioxide levels may rise. Some people, particularly those with respiratory conditions, may be more sensitive to sulphur dioxide exposure. This could result in irritation of the eyes and respiratory symptoms such as coughing, wheezing and shortness of breath.

Sulphur dioxide is monitored at four locations throughout the valley – Birchbank, Butler Park, Columbia Gardens and Warfield. These stations operate continuously, with near [real-time data](#) transmitted back to the operation's process control systems. If the sulphur dioxide levels begin to climb (such as during a temperature inversion), the plants are automatically notified so that actions can be taken to reduce sulphur dioxide emissions.

Teck is developing projects to further reduce ambient sulphur dioxide concentrations over the next few years.

### **How can I get more information?**

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 <http://www.teck.com/contact/>, noting that it is for Teck Trail Operations.