

Teck Trail Operations Engaging with Our Community Fall 2019

Discussion Guide and
Feedback Form

September –
October 2019

teck.com/engagetrail

Teck

We Want to Hear from You

We're embarking on a process of engaging with our community to inform strategic planning at Trail Operations.

This fall, we're sharing information about Trail Operations, and finding out what topics you would be interested in learning more about and providing feedback on in the future.

If you have any thoughts about Trail Operations you want to share, we look forward to hearing from you.

How to Participate

- Submit a feedback form by October 31, 2019 at teck.com/engagetrail
- Attend a small group community meeting
- Send an email to engagetrail@teck.com with your feedback

How Input Will be Used

We'll take the input that you provide and incorporate it into our strategic planning at Trail Operations. It will also inform our community engagement plans in 2020 and beyond.

Small Group Community Meeting

Please email engagetrail@teck.com to RSVP for a meeting, as space is limited.

Tuesday, October 1, 2019
1:00 pm – 3:00 pm

Tuesday, October 1, 2019
6:00 pm – 8:00 pm

Wednesday, October 2, 2019
10:00 am – 12:00 pm

Wednesday, October 2, 2019
6:00 pm – 8:00 pm

About Teck and Trail Operations

Teck is a diversified resource company committed to responsible mining and mineral development with business units focused on copper, zinc, steelmaking coal and energy.

The history of the smelter in Trail dates back to 1896, when a small copper-gold smelter was built to support mines in Rossland. Today, Trail Operations is one of the world's largest fully integrated zinc and lead smelting and refining complexes. We source mine concentrates from all over the world and convert them into products that support modern day life. Our operation is an integrated part of Teck's broader zinc business, and the primary refiner for concentrates from our Red Dog mine in northwest Alaska.

Trail Operations processes over one million tonnes of metal concentrate and raw materials every year. More than 99 percent of these materials are processed into saleable products, leaving essentially no waste.

All the electricity used to power Trail Operations is from the BC Hydro-owned Waneta Dam; a clean, renewable resource.

Examples of How our Products are Used

Trail's integrated metallurgical processes produce such products as:



Zinc

Coating to prevent rust in cars and other steel products



Lead

Vehicle batteries



Fertilizer and Sulphur Products

Agriculture and industrial applications



Copper sulphate

Animal feeds

These products are integral to the homes we live in, the cars we drive, and the electronics that power our lives.

Keeping Urban Ore out of the Landfill

In addition to processing traditional ores, Trail Operations also processes 'urban ore' – extracting metals from recycled materials and preventing them from reaching the landfill. This includes:



Lead Batteries

Our smelter developed the first lead battery recycling program in Canada over 30 years ago. Today, recycled lead from throughout North America provides up to 20 percent of our total refined lead.



Cathode-Ray Tube (CRT) glass

Computer and television monitors with CRT glass contain high levels of lead. Teck recovers the lead within the monitors and adds it to our product stream.



Zinc Alkaline Batteries

AA, AAA and D cell batteries contain zinc and other metals that can be safely recycled back into high-grade zinc metal.



Health and Safety

At Teck, safety is a core value and we are committed to everyone going home safe and healthy every day. All employees and contractors are expected to be leaders in health and safety, and we are working together to continuously improve our safety metrics. Two areas of focus are hazard identification and hygiene management.

Hazard Identification

Incomplete hazard identification and risk management has been a common contributing factor to safety incidents on site. This can include a lack of understanding of all the hazards present at a worksite or not identifying new risks that arise when a job changes.



Teck is introducing new methods such as Take 5 workbooks to better identify hazards and incorporate risk controls both in advance of jobs and while work is underway.

Hygiene Management

Ensuring proper hygiene management is a priority for the long-term health of our employees. The priority is reducing lead exposure to workers, but we are also focused on other particulates as well as noise.

Using industry best practices, we are implementing actions such as improved ventilation, housekeeping, respirator communication, and education and training to support continually improved lead reduction goals. One example is the 'Bat Booth,' an enclosed unit that uses compressed air to remove dust picked up within the plants and removes it from clothing, ensuring lead and other particulates aren't transported out of the worksite.

Transportation of Materials

Materials received and produced by Trail Operations require transportation to and from our site, sometimes up to halfway around the globe. Products are transported by train or truck to port, and then by ship. Approximately one million tonnes of material is received at Trail Operations each year, with nearly all of it processed into products that are sold to customers worldwide.

In almost all circumstances, the incoming materials and outgoing products are owned by our suppliers and customers. They are responsible for safe shipment, following Transport Canada or the local authority's rules and regulations for safe shipping.

Teck is committed to working with our customers, suppliers, and their transport contractors to ensure that they safely transport materials both locally and beyond.



Our Commitment to Environmental Responsibility

As an industry leader, our commitment to environmental performance aligns with provincial, national and global best practices, and we are continually working to enhance our performance.

Since the late 1970s, \$1.5 billion has been invested in a modernization program to improve our operational and environmental performance. We realized our largest improvements in the 1990s through the introduction of the KIVCET smelter. As a result, emissions to air and water have been reduced by over 95 percent.

Today, Trail Operations has an extensive monitoring program related to air emissions and water effluents, regulated by the BC Ministry of Environment and Climate Change and Environment and Climate Change Canada. We conduct more than 90,000 air and water measurements each year to ensure compliance.

Air Quality

Air quality is monitored at a variety of locations throughout the Trail area. Metals and sulphur dioxide are measured at stations at Birchbank, Warfield, Butler Park and Columbia Gardens, 24 hours a day. Dustfall is collected on a monthly basis at 11 locations throughout the area, analyzed and reported to regulators and the Trail Area Health and Environment Committee.

Fugitive Dust Reduction

In addition to the installation of the KIVCET smelter, improvements have included a \$40 million investment in the Smelter Recycle Building, vehicle washes and street cleaning to prevent transport of materials offsite, improved building ventilation and filters, dust suppressants on material and storage piles, and measures to identify sources of fugitive dust. 2018 ambient lead levels were the lowest recorded, and 2019 results are showing further improvement.

SO₂ Emissions Improvement

We are committed to reducing ambient SO₂ measured in our community air monitors. Trail Operations currently has a 98.9 percent SO₂ capture rate, achieved through installing the KIVCET smelter in 1997, adding gas scrubbing to a furnace in 2008, and improving SO₂ controls and updating contingency plans for lower ambient concentrations.



Water sampling at an effluent outfall station onsite.

Water Quality

Aquatic Receiving Environment Monitoring Program

The Aquatic Receiving Environment Monitoring Program (AREMP) is an ongoing program that reviews the aquatic health of the Lower Columbia River downstream of Trail Operations. Further to previous reporting cycles, the 2017 report again confirms that water quality is good, the river is healthy, and fish are safe to eat. The study detected no community-level adverse responses that would be attributable to influence of Trail Operations on the Lower Columbia River area of interest.

This program is part of the work completed under our regulatory permits, designed by the British Columbia Ministry of Environment and Climate Change Strategy to protect aquatic life and ensure water quality is safe for recreation and drinking.

Effluent Treatment Plant

Since 1981, an Effluent Treatment Plant has been treating water involved in our refining processes or on our site to ensure it meets strict environmental regulatory standards prior to release to the Columbia River.

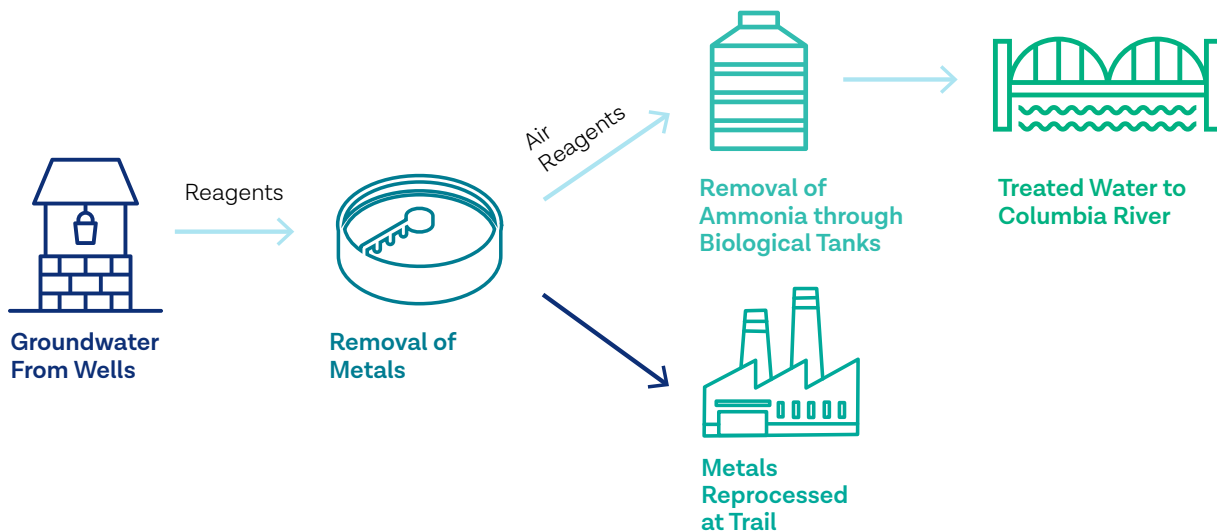
We are focused on reducing the risk of potential effluent incidents to ensure we continue to operate within our permits. Steps we have taken include:

- Identifying and prioritizing effluent management throughout the site, including modification of 250 separate entry points to reduce potential incidents;
- Constructing two reservoirs on the hillside between our Warfield and Tadanac operations, which allow us to monitor water quality from our fertilizer operations, and to hold and treat water as needed; and
- Constructing a rainwater management pond at the southeast corner of our operation, which will allow us to manage rainwater that picks up materials from roads, buildings and walkways during large rain or snowmelt events.

These improvements are all part of our effluent management designed to protect the quality of the water entering the Columbia River.

Groundwater Treatment Plant

We also treat groundwater beneath Trail Operations through a Groundwater Treatment Plant. Groundwater is intercepted via wells and pumped to the Groundwater Treatment Plant. The plant, which began operation in 2017, uses leading technology to remove substances of concern caused by historical discharges and storage of materials prior to the 1980s, and meets all regulatory requirements.



Trail Area Health and Environment Program

Since the early 1990s, the Trail Area Health and Environment Committee has led a collaboration between community representatives, the Ministry of Environment and Climate Change Strategy, Interior Health and Teck, with a mission to promote people's health and a healthy environment—focusing on preventing children's exposure to lead.

The overall aim of all program activities is to reduce exposure to lead and other smelter metals in the community with a goal of continuous improvement. The program is a way for community members to engage with all partners on health and environmental issues.

Soil Management Plan

In addition to efforts to reduce fugitive dust emissions and improve air quality in our community, Trail Operations is also significantly expanding our yard improvement and remediation program through the Trail Area Health and Environment Program. This program includes soil testing and, in qualifying yards, replacement of soil or improvements to ground cover.

The 2019 Soil Management Plan is an interim step focused on addressing highest risk properties while a long-term Wide Area Remediation Plan is developed under direction from the BC Ministry of Environment and Climate Change Strategy.

This year, we expect to provide full yard remediation to 75 properties (compared to 24 in 2018) and yard improvement at up to 100 additional properties.

Learn more at thep.ca



Trail Operations employees in the Zinc Electrolytic and Melting Plant

Proud to be a Part of the Community

Trail Operations is proud to be a part of the local community. We have approximately 1,400 employees living in Trail, Castlegar, Warfield, Fruitvale, Montrose, Rossland and the surrounding areas. We contract and hire local companies, and we support local initiatives that build our community.

Commitment to Safety

Safety is a core value of our company and we believe all incidents that could cause harm to our employees and contractors are avoidable. We are committed to providing leadership and resources for managing safety and health with a goal of Everyone Going Home Safe and Healthy Every Day.

Zinc and Health

As one of the world's largest producers of zinc, Teck is committed to helping solve the global health issue of zinc deficiency through therapeutic zinc, zinc supplementation, food fortification, crop nutrition, awareness and advocacy. To date, we have reached more than 140 million people worldwide.

Diversity and Inclusion

We support an inclusive and diverse workplace that recognizes and values difference. We recognize that our diversity—the many unique things we individually and collectively bring to work each day—contributes to building a stronger workforce and a better company.

Teck promotes and fosters an inclusive and diverse workforce in order to:

- Contribute to innovation and better decision making through exposure to increased perspectives and ideas;
- Attract a broader pool of candidates and improved employee retention;
- Build a strong workforce that is engaged and contributes to Teck's social and economic goals; and
- Better reflect the diversity of the communities in which we operate.

Hiring and Buying Local

Trail Operations has been one of the biggest economic drivers in the West Kootenay region for over a century and is the largest private sector employer in the region. We are proud of our practices, policies and processes in place to support local hiring and procurement.

Our procurement practices ensure that, where it makes business sense to do so, we support local purchasing of goods and services, defined as within a two-hour drive of the operation. The procurement of each new service or good requirement includes research of a potential local option.

Purchasing of local goods and services is reported annually in Teck's Sustainability Report. We purchase about \$150 million in local goods and services in the Trail area each year.

Community Investment

Teck provides support annually to over 140 local organizations, investing \$340,000 in 2018 to support arts and culture, education and scholarships, environmental initiatives, health and wellness, sports and recreation, economic development and community development projects.

In addition, we continue to support local communities with important projects such as the Kootenay Boundary Regional Hospital's Emergency Department Campaign, the Rossland Museum and Discovery Centre Renewal Project, the Trail Riverfront Centre, and the historic Rossland Miners Hall renovation project.

The Teck Community Giving Program provides an opportunity for our employees to request a dollar-for-dollar match for their personal donations.

Economic Impacts of Trail Operations (annual)



1,400
employees



\$191 million
Wages and salaries

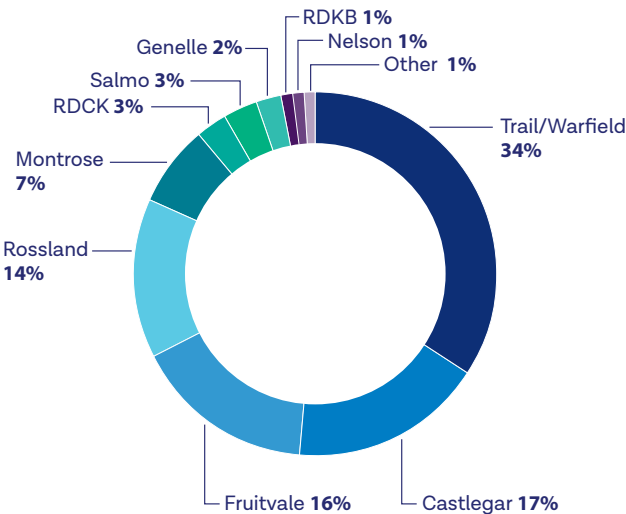


\$150 million
Local goods and services



\$42 million
Taxes and licenses

Where our Employees Reside



Workforce Development

Teck provides many opportunities for employees to improve their skills and build their careers, including:

- Management training opportunities to maintain a trained and competent workforce;
- An apprenticeship training program to develop skilled trades from within our employee base; and
- Building technical skills to better support a more automated workplace.

Want to join our team?

We hire for positions that support finance, human resources, safety, management systems and much more in a wide array of career opportunities. Here are just some roles we regularly recruit for:

Role	Requirements
Power Engineers	1st, 2nd, 3rd, 4th class ticket
Tradespeople	Journeypersons Red Seal
Technicians, Analytical Services	Assayer Certification. Background in Chemistry or Chemical Sciences is an asset
Process Operators	Two years industrial experience. Completing the Process Operator Program is an asset
Mechanical, Process or Electrical Engineers	Professional Engineer License (P. Eng)

Learn about career opportunities at teck.com/careers.



The newly completed No. 2 Acid Plant.



Planning for the Future: Remaining Globally Competitive

Trail Operations is assessing a variety of potential technologies to continue to modernize throughout our site, and we are focused on remaining competitive and viable over the long-term. To achieve this, we are looking at new and innovative ways to improve productivity while also enhancing safety and sustainability for our operations.

Ongoing Investment in Our Operation

We are investing in our assets throughout the site to both maintain and improve the equipment we have today, as well as construct new assets to incorporate new technology.

Acid Plants

Trail Operations has constructed two new acid plants, with the No. 1 Acid Plant coming into operation in 2014 and the No. 2 Acid Plant in 2019. The plants are part of the process that converts sulphur from our feed materials into useful products such as fertilizer.

The new acid plants will provide operating reliability and reduced maintenance costs, and represent an important investment in the ongoing sustainability and long-term future of Trail Operations. Built with the best available modern technology, the plants represent an investment of over \$300 million.

Incorporating Digital Tech

Trail Operations' Electrolytic & Melting plant is undertaking two modernization projects in 2019: the Jumbo Line Upgrade and the Slab Caster Replacement. These projects will improve productivity and workflow, and reduce waste and excessive processing. The projects will automate functions such as skimming, labelling and stacking that are currently done by hand, removing risks and hazards currently faced by employees.

RACE21™ is Teck's integrated innovation-driven efficiency program introduced in April 2019, that looks across the full value chain from mine to product. RACE21™ leverages existing, proven technology to improve productivity and lower costs with a focus on delivering significant value by 2021. Trail Operations will continue to identify more opportunities to upgrade our technology infrastructure.



Trail Operations environment team at Butler Park air monitoring station.

Reducing our Environmental Footprint

Trail Operations is focused on improving how we operate today, as well as addressing our historical legacies.

Fugitive Dust

In addition to maintaining our improvements to date, we have identified and prioritized areas for improvement around fugitive dust that escapes from stockpiles, open mixing of materials, and vehicle traffic on and offsite. This will further build on our record achievements in 2018 and 2017 of reaching the lowest ambient lead levels records in community ambient air.

Sulphur Dioxide

To continue to reduce sulphur dioxide (SO₂) in our airshed, we're exploring a number of projects throughout our site. We have set the goal of a further 50 percent reduction in ambient SO₂ levels, with an anticipated investment of up to \$50 million.

Sustainability

Teck's sustainability strategy was officially established in 2010 when we created short-term goals for 2015 and long-term goals for 2030 in six focus areas: Biodiversity and Ecosystems, Energy, Community, Water, Materials Stewardship and Our People. By 2015, we achieved all 28 of our short-term goals in all six focus areas. We added additional goals for 2020 and 2030, integrating Air into the strategy and emphasizing climate change as part of our focus on energy.

We are now launching Teck2040, to demonstrate to others—both within and outside our industry—what is possible, and to remain an industry leader. Teck2040 seeks to build upon our existing success and establish new goals that are further integrated throughout the business.



Our onsite machining capabilities allow us to be innovative in developing new opportunities for processing standards.

New Feed and Product Streams

Trail Operations manufactures dozens of different products that are used in our everyday lives. To keep pace with society's changing needs, we are constantly identifying new uses for our products and looking at new product streams.

New Feed Sources

Beyond the recycling we already participate in, we are always looking for new options to recycle metal to divert it from the landfill. One option that we are currently exploring includes recovery of zinc from end-of-life galvanized steel products such as vehicles. Metal can be recycled indefinitely with no quality degradation, unlike other recycled products.

New Product Streams

We are always assessing new opportunities for our products, of which there are many options in the rapidly expanding technology sector. We are well positioned with our suite of products to be competitive on a global scale. One example is lead batteries, which are used in electric vehicles, wind turbines, and storing energy from other clean energy sources. Another example is germanium, which is used in developing solar panels.

Responsible Sourcing

Trail Operations participates in multiple responsible sourcing initiatives such as the London Bullion Market Association's Responsible Silver Guidance. Independent auditors review our processes and global feed sources to ensure that the mines from which we source our materials are adhering to human rights, anti-corruption, health & safety and other standards.



Feedback Form

You can also complete this form online at teck.com/engagetrail.

1. How likely would you be to read information or provide feedback regarding the following topics?

	Very likely	Somewhat likely	Neutral	Somewhat unlikely	Very unlikely
Environmental Programs					
Air quality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Water quality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Addressing historical impacts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Supporting the Local Community					
Local hiring	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Local purchasing/contracting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Donations and sponsorships	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Workforce Planning					
Training programs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Emerging employment opportunities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. How likely would you be to read information or provide feedback through the following methods in subsequent years?

	Very likely	Somewhat likely	Neutral	Somewhat unlikely	Very unlikely
Website	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Updates or newsletters mailed to your home or business	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Email	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Social media (Facebook, Twitter, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Online feedback forms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Open houses (drop-in events)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Small group meetings (two-hour sit-down meetings)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. Are there any comments, interests or issues you would like to provide regarding Trail Operations?

4. Tell us about you (optional)

Where you do live?

- ☐ Trail
- ☐ Warfield
- ☐ Rossland
- ☐ Montrose
- ☐ Fruitvale
- ☐ Castlegar
- ☐ Other: _____

Are you a Teck employee?

- ☐ Yes
- ☐ No

If you would like to receive information about future opportunities to provide feedback about Trail Operations, please provide us with your name and email address:

Name: _____

Email: _____

Contact information will only be used to provide updates about consultation opportunities.

