

# Teck Trail Operations

## Air Quality Improvement Programs 2023 Update

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The Teck logo is displayed in a bold, blue, sans-serif font. It is positioned in the bottom right corner of the slide, which has a white background. The logo consists of the word "Teck" in a single line.

# Overview

## Fugitive Dust Reduction Program

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

## SO<sub>2</sub> Reduction Program

- Background
- 2023 SO<sub>2</sub> Emissions Reductions
- Towards CAAQS for SO<sub>2</sub>

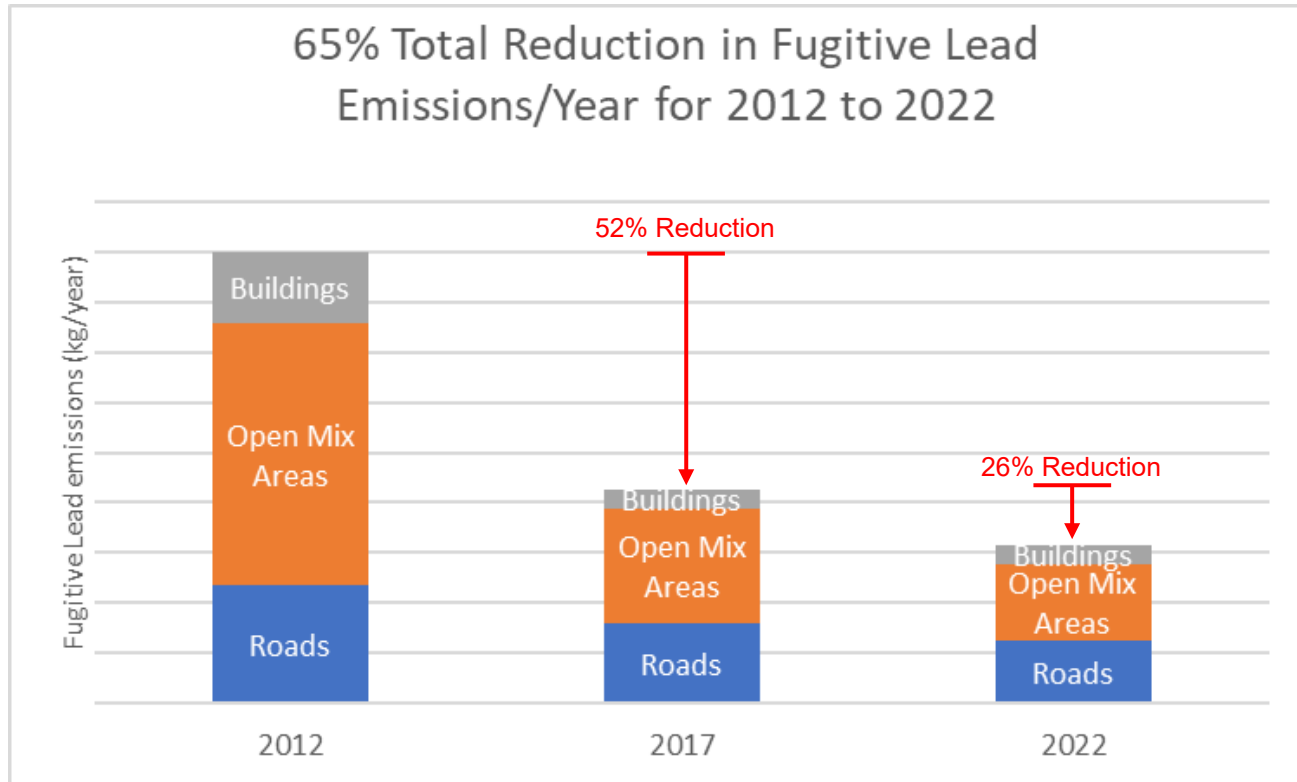
## Questions

# 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.



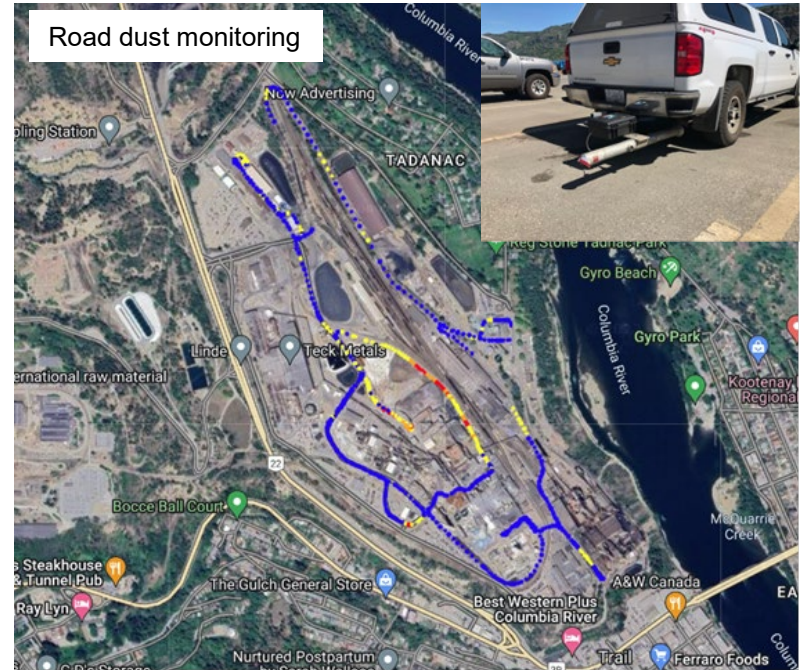
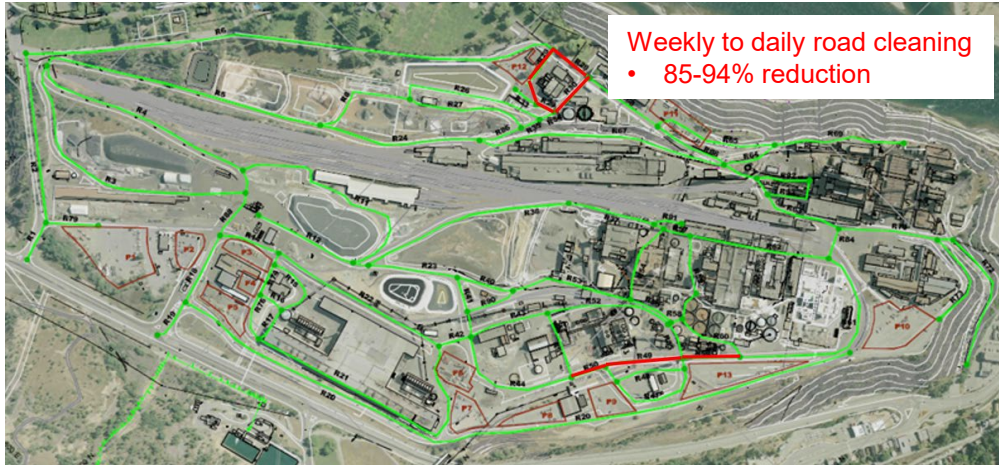
# 2022 Fugitive Lead-in-Dust Inventory



# 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





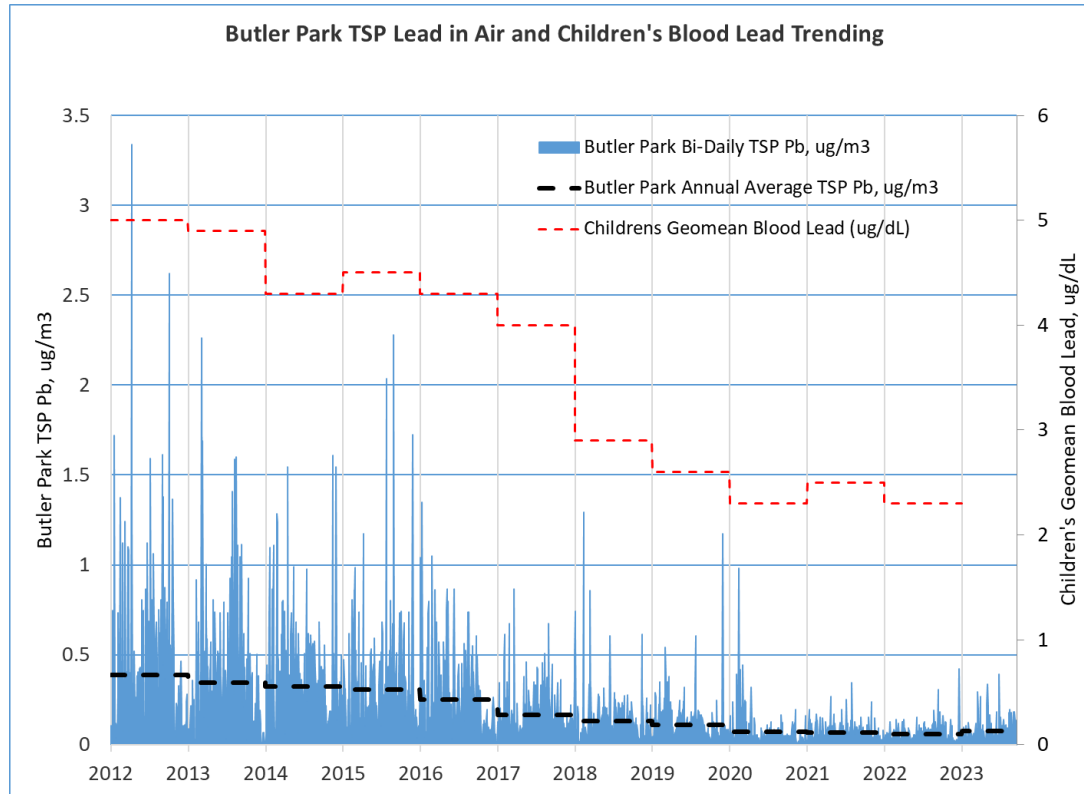
# Lead-in-Open Mix Area Dust Emissions, 33% reduction from 2017 to 2022

## 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

Smelter exit ramp

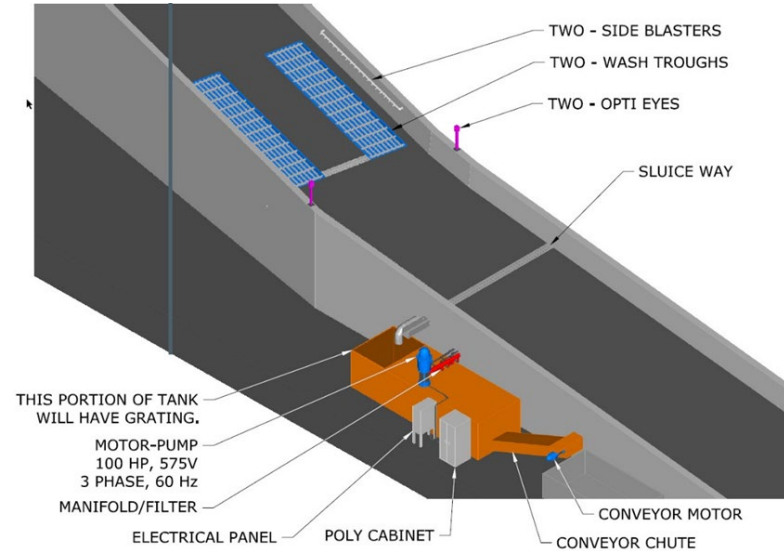


Roaster wheel wash



### New Smelter wheel wash

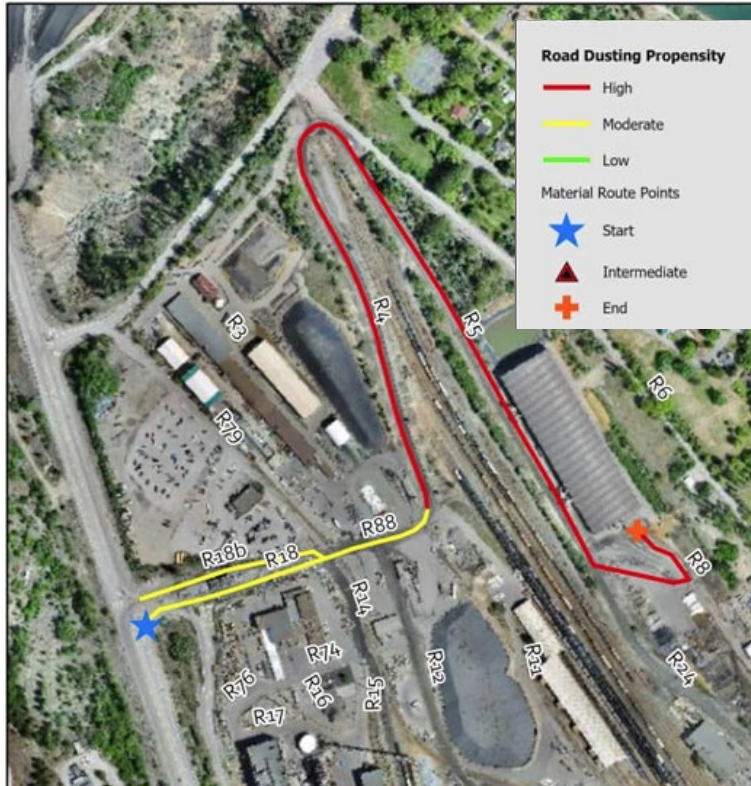
- Effective material removal
- Water re-use
- Solids recovery





# Current fugitive dust reduction initiatives

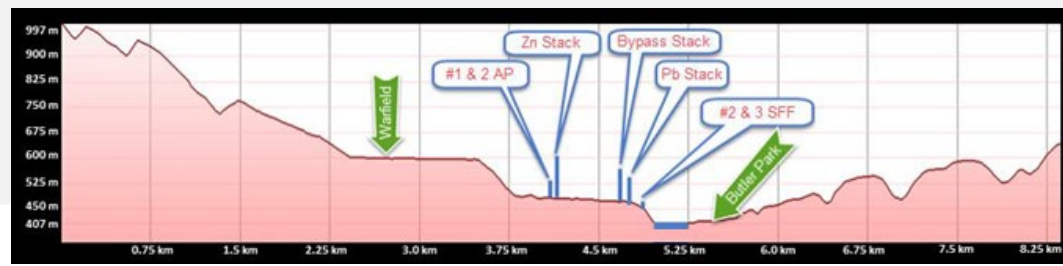
## Material movement mapping



Typical Properties	Value
Material Name	Silver Concentrates
Throughput (tpy)	22,320
Tonnage per trip (t)	12.5
Trips per year (#/y)	1,786
Source Description	Main Gate
Destination Description	SRB
Route	R19-R18-R88-R4-R5-R8
Return Route	R8-R5-R4-R88-R18b
Distance Traveled(Return)	2.9
Lead Content (wt.%)	3
Arsenic Content (wt.%)	1
Moisture content (wt.%)	
Description	Silver concentrates are delivered to the SRB by a 3rd party. The concentrates are then de-bagged via front-end loader and incorporated into the Pb Mix.

# SO<sub>2</sub> Reduction Program Update

# Situation Overview: Trail and SO<sub>2</sub>



- 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



# SO<sub>2</sub> Emissions Reductions 2023 Update

## #3 Slag Fuming Furnace - Improved Control

- ~5 kg/h SO<sub>2</sub> reduction

## Absorption Plant – Advanced Control

- ~10 kg/h SO<sub>2</sub> reduction

## KIVCET Feed Dryer Project

- ~140 kg/h SO<sub>2</sub> reduction

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





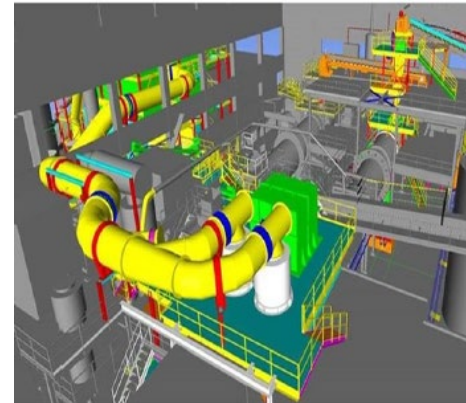
# SO<sub>2</sub> Emissions Reductions in Progress

## KIVCET Feed Dryer Project

- SO<sub>2</sub> Emission Reduction of ~ 33%
  - ~ 140 kg/h SO<sub>2</sub> reduction
- ~ \$ 68M Investment
- Hot commissioning started September 20<sup>th</sup>
- Fully Operational Mid-October

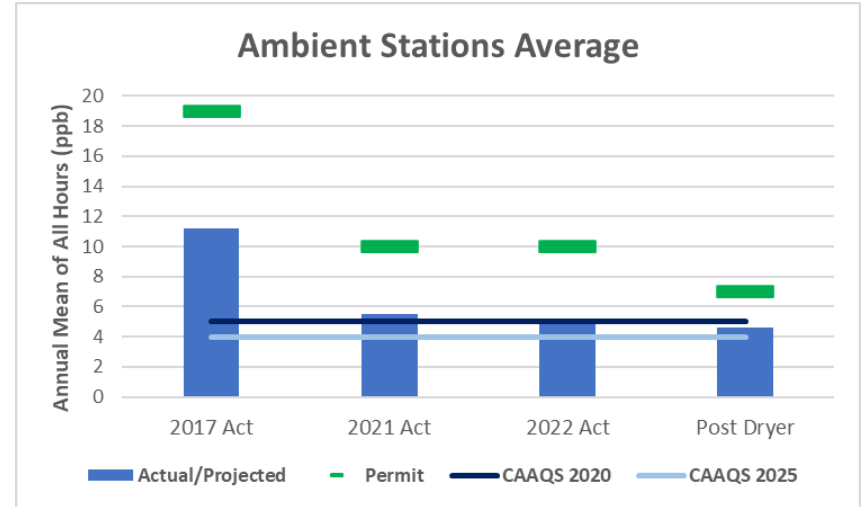
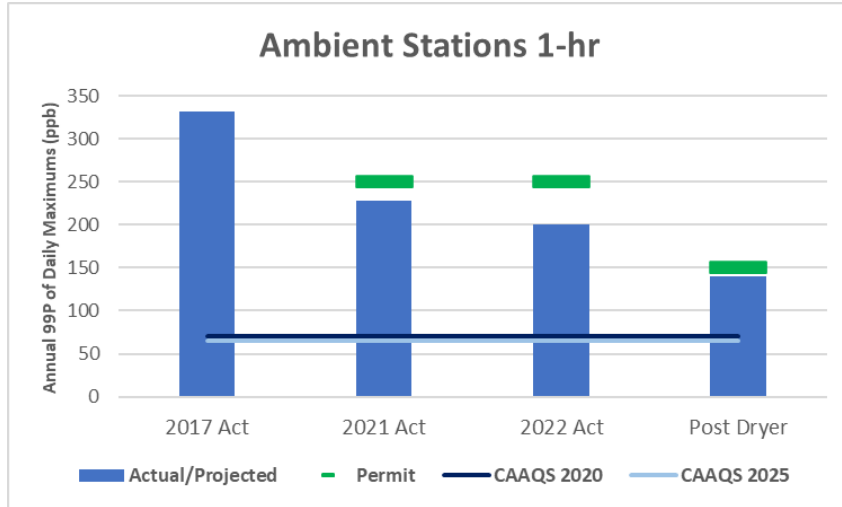


KIVCET feed mix being split between old and new dryers





# SO<sub>2</sub> 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 SO<sub>2</sub>

## 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<sub>2</sub> emissions reductions in parallel with CO<sub>2</sub> reduction planning.

# Questions

