

Teck Trail Operations

Ambient SO₂ Reduction and Control Update

June 21, 2022

Danny Rioux, SO₂ Reduction Program Lead

The Teck logo is displayed in a bold, blue, sans-serif font.

Situation Overview: Trail and SO₂

Trail Operations captures > 99% of the sulphur released in smelting operations

- Would meet requirements for a new plant

Trail Operations is capable of meeting 2021 Permit Amendment with current process and operational controls implemented

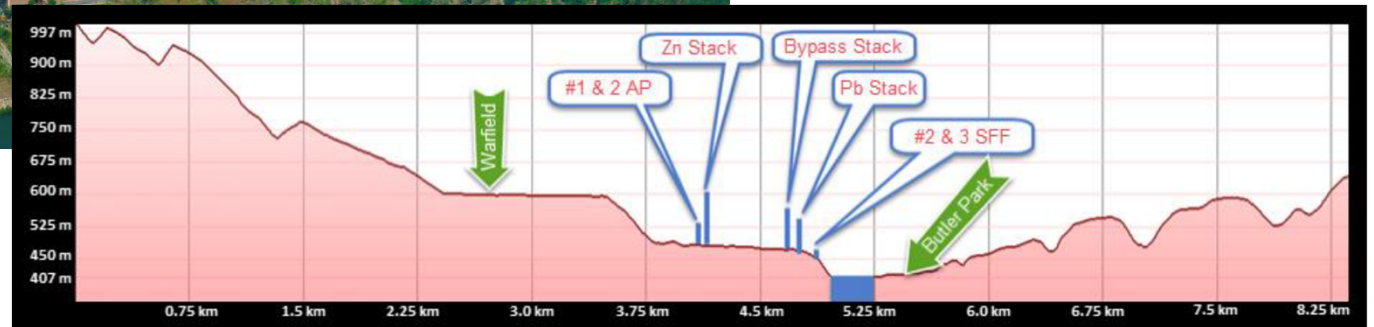
Permit Amendment in 2023 with lower Ambient Targets

- New emission reduction project combined with adjusted operational control to meet requirement is being installed

Topography of the Columbia Valley limits dispersion of the emissions

- Proportionately higher impact than in more open terrain

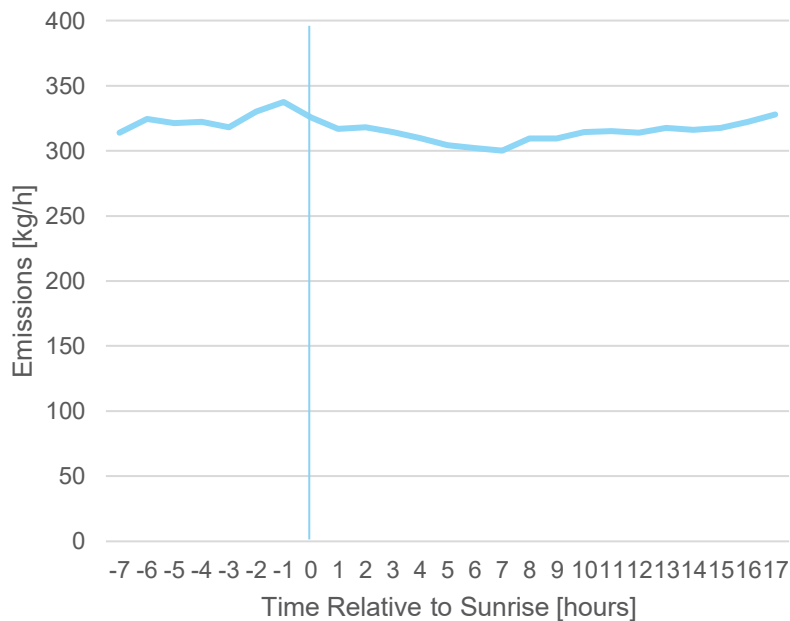
Sources of SO₂ at Trail



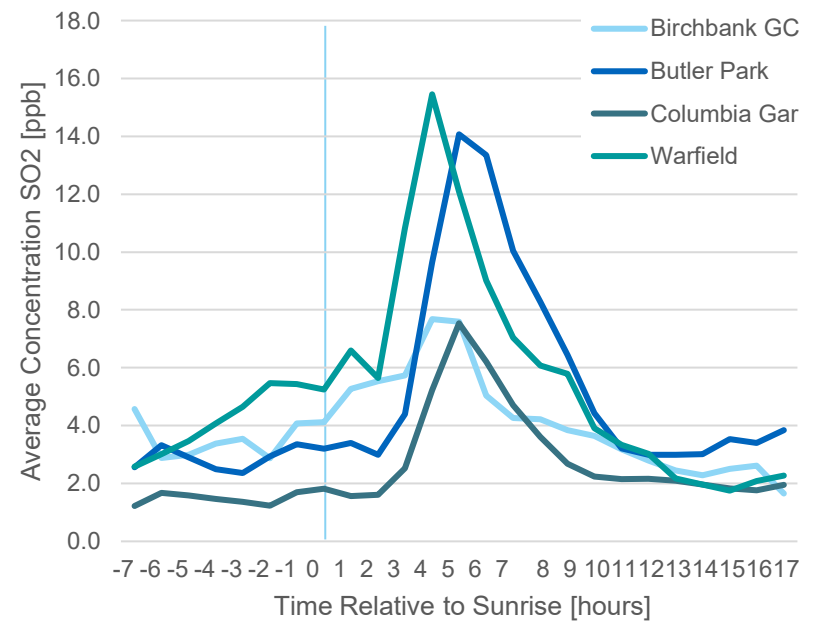
Impact of Diurnal Cycle on Ambient Levels

Mid-morning Peak Levels

Average Emissions



Average Ambient Levels



SO₂ Emissions Reductions

2014 & 2019 - Two New Acid Plants

- ~100 kg/h SO₂ reduction

2018 & 2020 - Continuous Dry Sorbent Injection for #2 and #3 Slag Furnace

- ~165 kg/h SO₂ reduction

2023 – KIVCET Feed Dryer Project

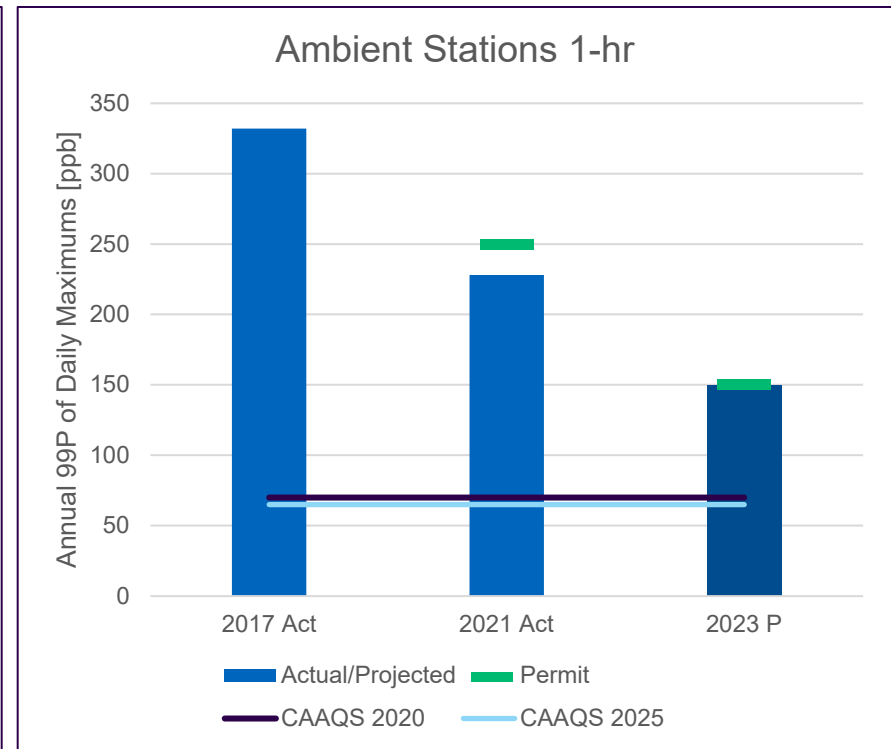
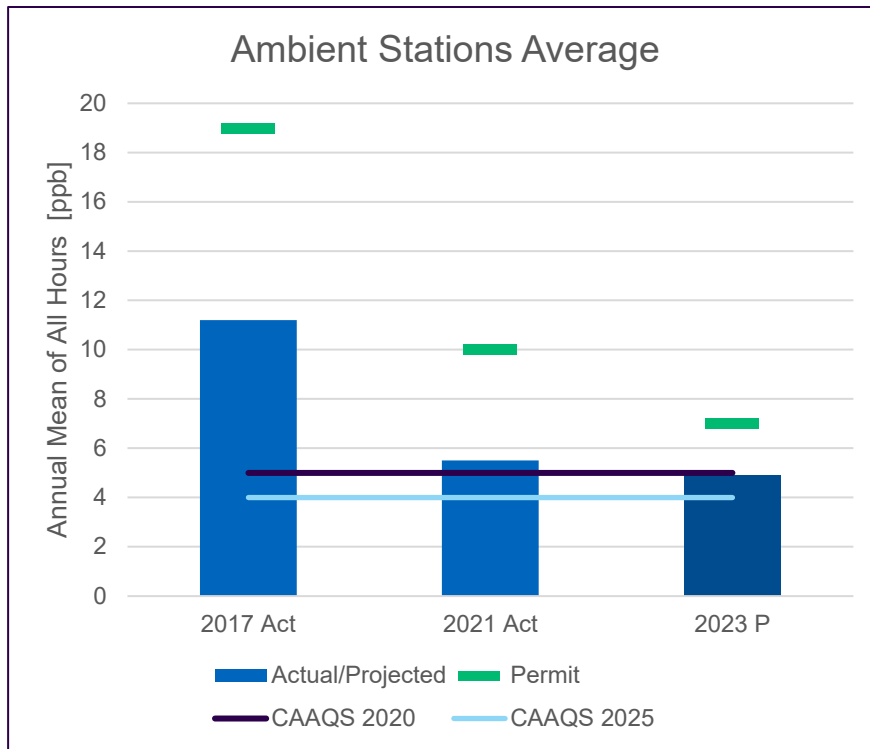
- ~145 kg/h SO₂ reduction

2021 – Overall Emission Target → 440 kg/h
Post 2023 - Overall Emission Target → 295 kg/h

Teck



SO₂ Ambient Performance

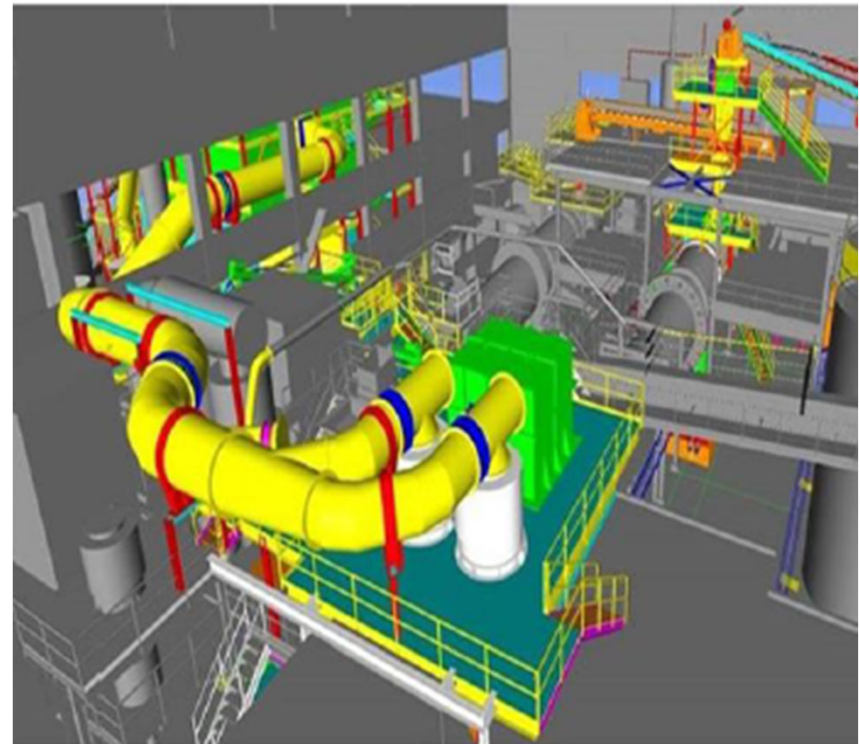


Note : Prior to 2021, Permit was a maximum of 343 ppb

SO₂ Emissions Reductions in Progress

KIVCET Feed Dryer Project

- SO₂ Emission Reduction of ~ 33%
- ~ 145 kg/h SO₂ reduction
- Provide capability to modulate emissions based on mid-morning peak level
- ~ \$ 55M Investment
- Global supply chain issues have delayed startup in early Q2 2023



Towards CAAQS for SO₂

Projection for 2024

Annual Average

- All stations will be at, or close to, the 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 Warfield will depend on:
 - The KIVCET Feed Dryer Project and
 - Modulating Operations

We are evaluating the opportunity for further SO₂ emissions reductions in parallel with CO₂ reduction planning.

Discussion



Teck

