



Air Quality Report

February 10, 2022

1. Lead in Air:

Fourth quarter 2021 average for lead in air at Butler Park was $0.043 \mu\text{g}/\text{m}^3$, and the year-to-date average of $0.068 \mu\text{g}/\text{m}^3$ is similar to last year. As seen in the monthly averages in Figure 2, month to month variability in ambient levels remains relatively low, but the influence of abnormal weather, including temperature extremes, very low precipitation, and high frequency of winds gusts, can be seen in the data.

Further to the discussion at the November 25, 2021 THEC meeting, a new chart (Figure 3 below) presents the 3-month rolling average of the data for lead in air measured at the Butler Park station compared to the US EPA standard of $0.15 \mu\text{g}/\text{m}^3$ (Federal and BC Provincial governments do not have ambient air quality objectives or standards for lead; however, it is reasonable to rely on standards from other jurisdictions when this is the case). Lead in air levels measured at Butler Park and Birchbank met the US EPA standard of $0.15 \mu\text{g}/\text{m}^3$ on a 3-month average throughout 2021.

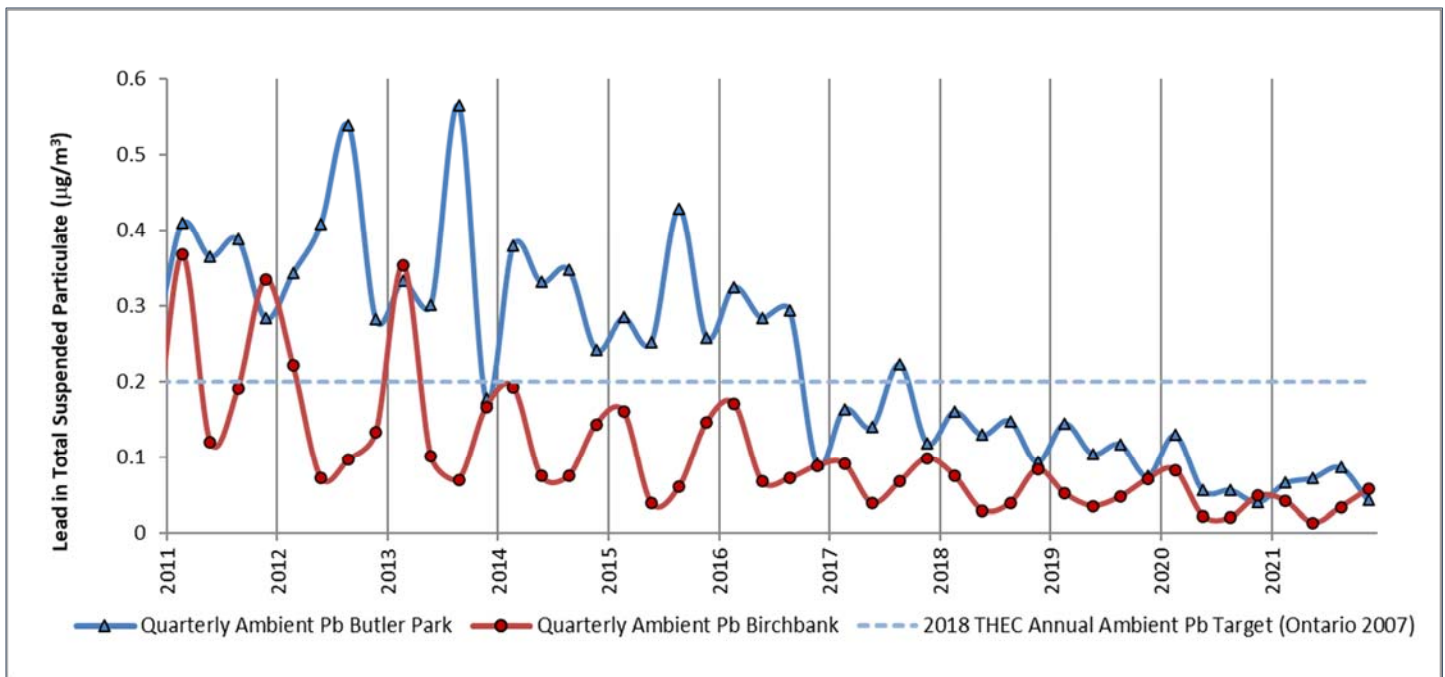


Figure 1: Quarterly monthly average lead at Butler Park and Birchbank stations (as total suspended particulate measured bi-daily)

The chart in Figure 1 shows quarterly averages for Lead in air for Butler Park (dark blue) and Birchbank (red), in comparison to the 2018 THEC Annual Ambient Lead in Air Objective (dashed line).

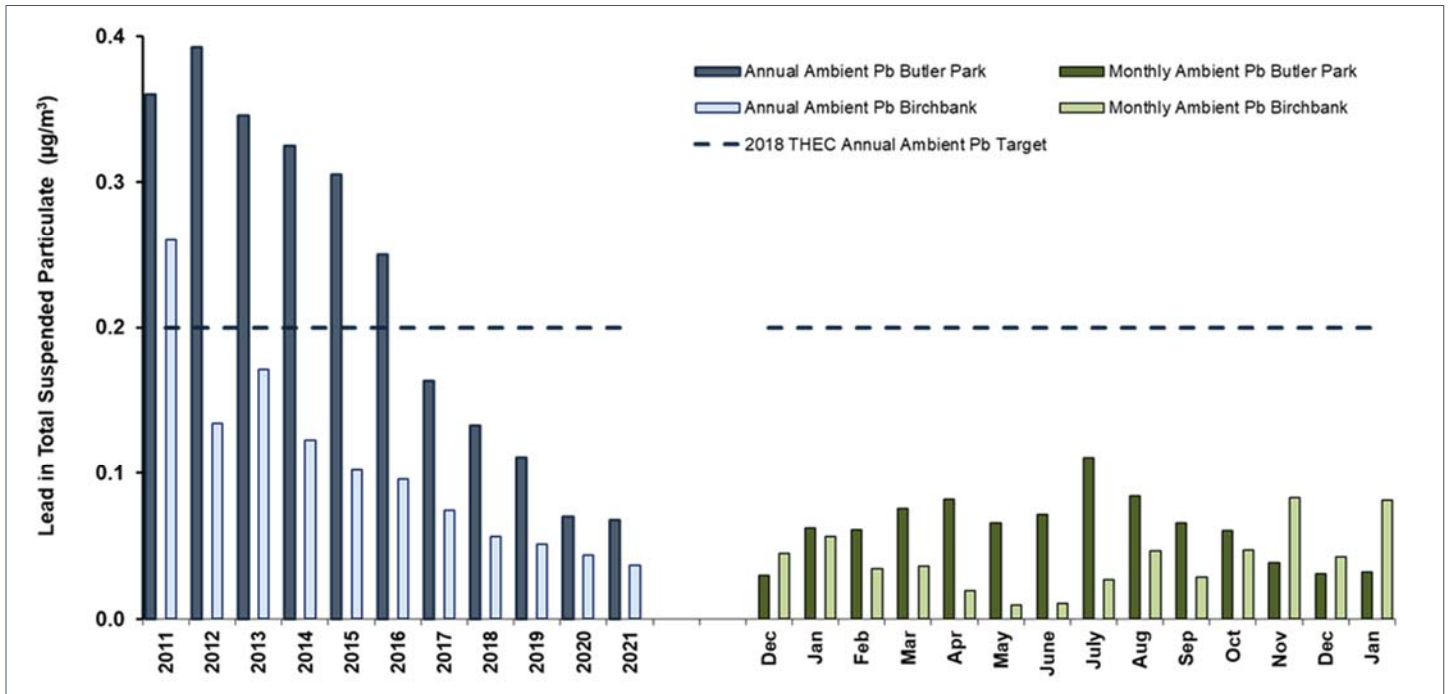


Figure 2: Annual and monthly average lead at Butler Park and Birchbank stations (as total suspended particulate measured bi-daily)

The chart in Figure 2 shows annual and monthly averages for Lead in air for Butler Park. Annual averages are shown on the left for Butler Park (dark blue) and Birchbank (light blue). Monthly averages for the past year are shown on the right for Butler Park (dark green) and Birchbank (light green). The 2018 THEC Annual Ambient Lead in Air Objective is shown as a dashed line. Monthly averages for Lead in ambient air are expected to have some variability due to season, weather, predominant wind direction and operational variance.

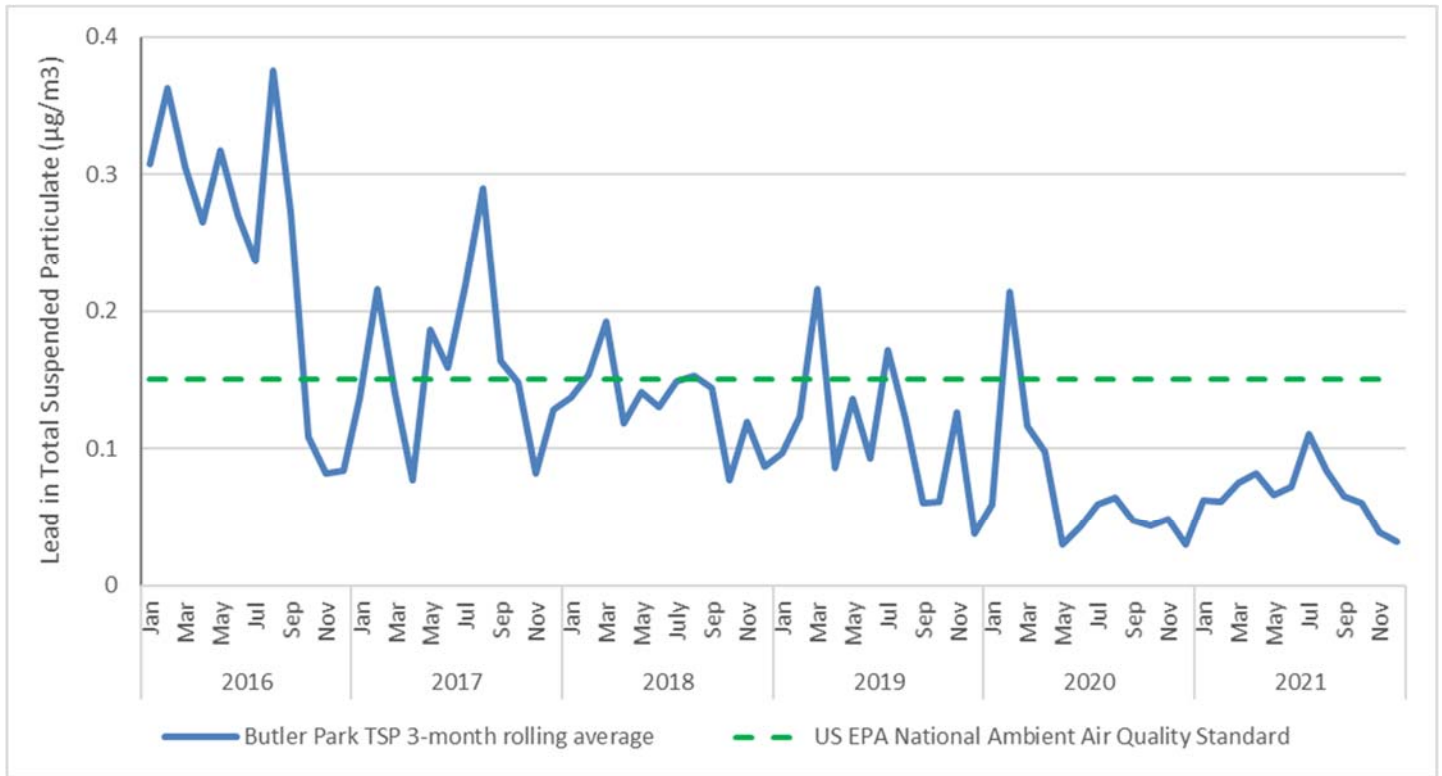


Figure 3: 3-month rolling average lead in air at Butler Park station (as total suspended particulate measured bi-daily)

The chart in Figure 3 shows the 3-month rolling average for lead in air for Butler Park (blue line), in comparison to the US EPA standard (green dashed line).

2. Arsenic in Air:

Fourth quarter 2021 average for arsenic in air at Butler Park was $0.003 \mu\text{g}/\text{m}^3$, and the year-to-date average of $0.003 \mu\text{g}/\text{m}^3$ is similar to last year.

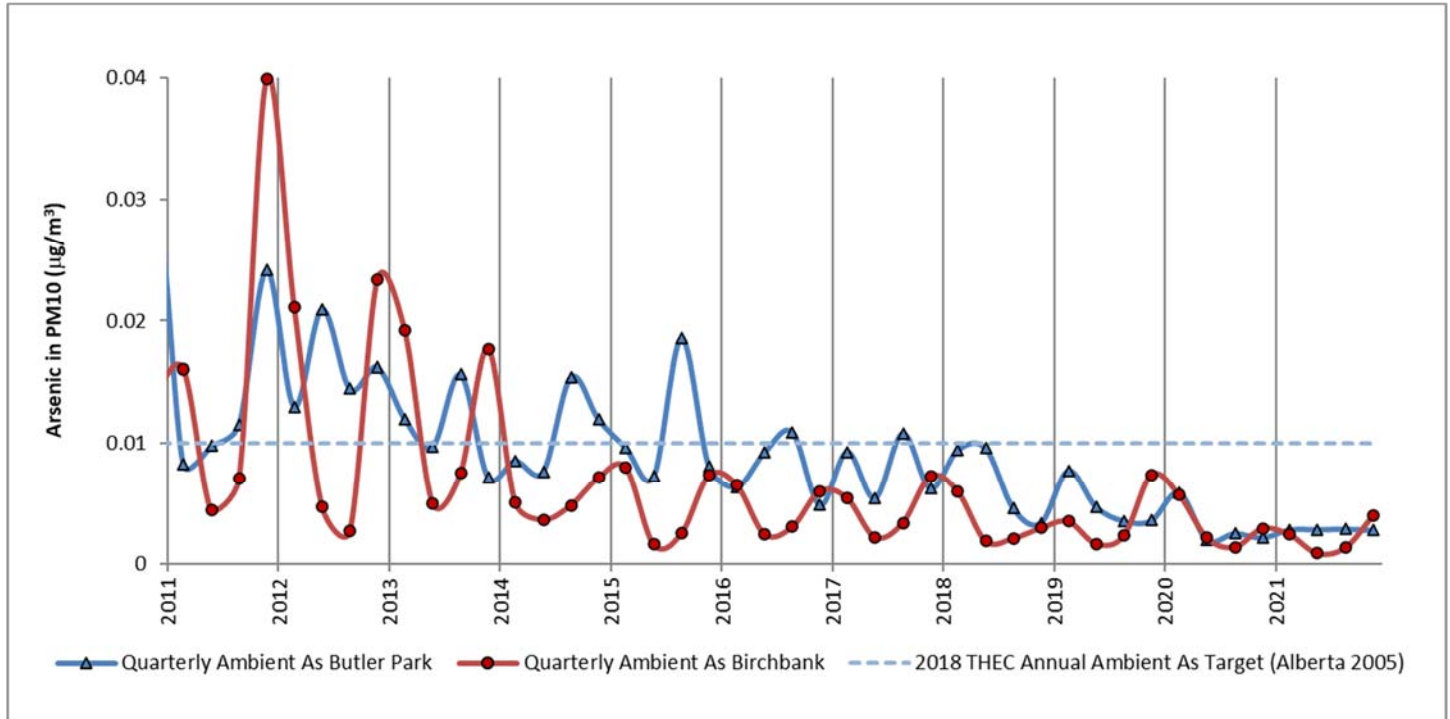


Figure 4: Quarterly average arsenic at Butler Park and Birchbank stations (as inhalable PM₁₀ fraction measured weekly)

The chart in Figure 4 shows the annual average for Arsenic in air (measured as inhalable PM₁₀ fraction) at Butler Park (blue) and Birchbank (red) in comparison to the 2018 THEC Air Quality Objective (blue line).

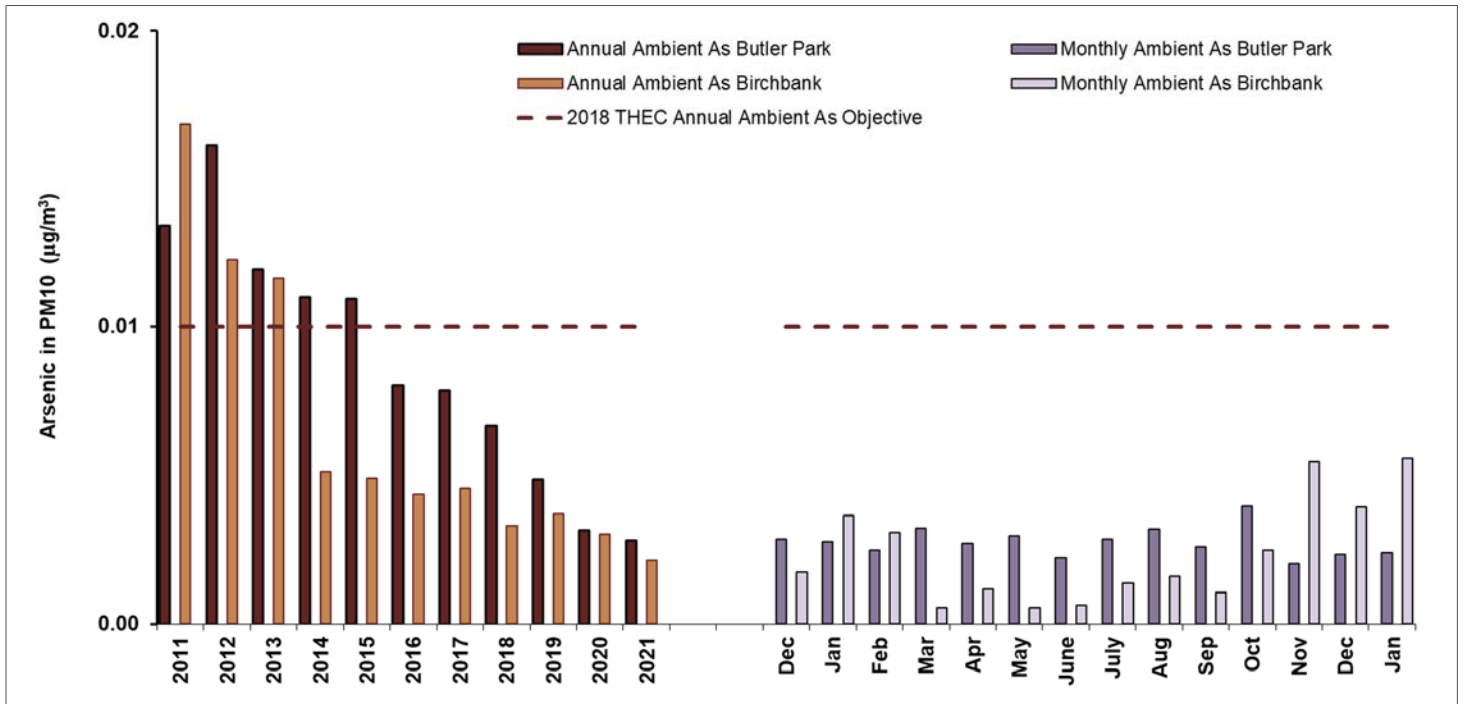


Figure 5: Annual and monthly average arsenic at Butler Park and Birchbank stations (as inhalable PM10 fraction measured weekly)

The chart in Figure 5 shows annual and monthly averages for Arsenic in air at Butler Park and Birchbank. Annual averages are shown on the left for Butler Park (dark brown) and Birchbank (light brown). Monthly averages for the past year are shown on the right for Butler Park (dark purple) and Birchbank (light purple). The 2018 THEC Air Quality Objective is shown as a dashed line. Monthly averages for Arsenic in ambient air are expected to have some variability due to season, weather, predominant wind direction, operational variance and sampling frequency.

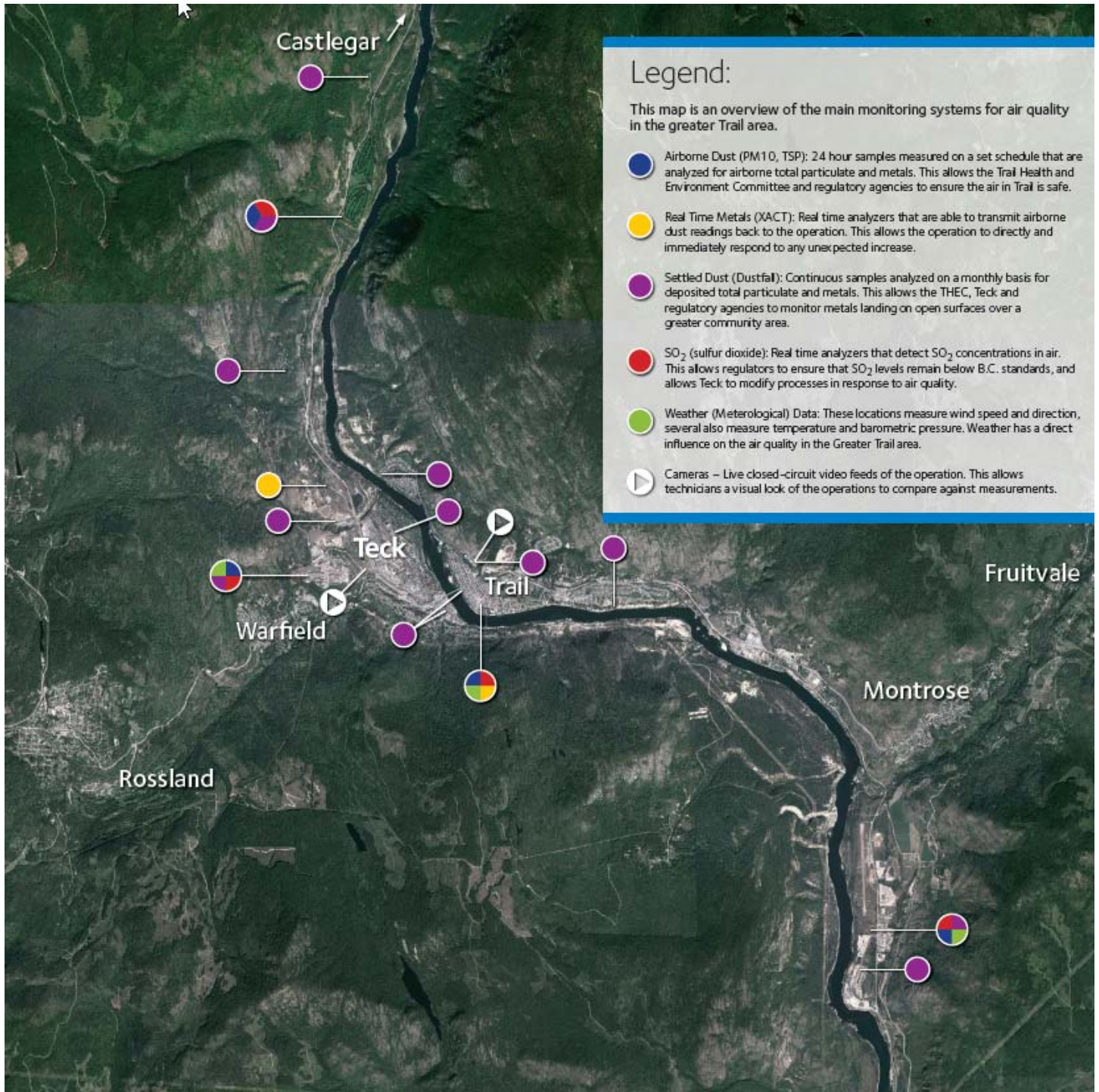


Figure 6: Teck Community Air Monitoring Stations