



Air Quality Report

April 26, 2022

1. Lead in Air:

Averages for lead in air continue to be at historical lows; first quarter 2022 average for lead in air at Butler Park and Birchbank stations were 0.045 $\mu\text{g}/\text{m}^3$ and 0.065 $\mu\text{g}/\text{m}^3$, respectively. As seen in Figure 1, it is unusual for Birchbank to report higher levels than Butler Park, and this occurs when winds are dominantly from the south and southeast rather than the north and northwest, as was the case in Q1 2022.

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.

Figure 3 presents the 3-month rolling average 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 meet the US EPA standard of 0.15 $\mu\text{g}/\text{m}^3$ on a 3-month average.

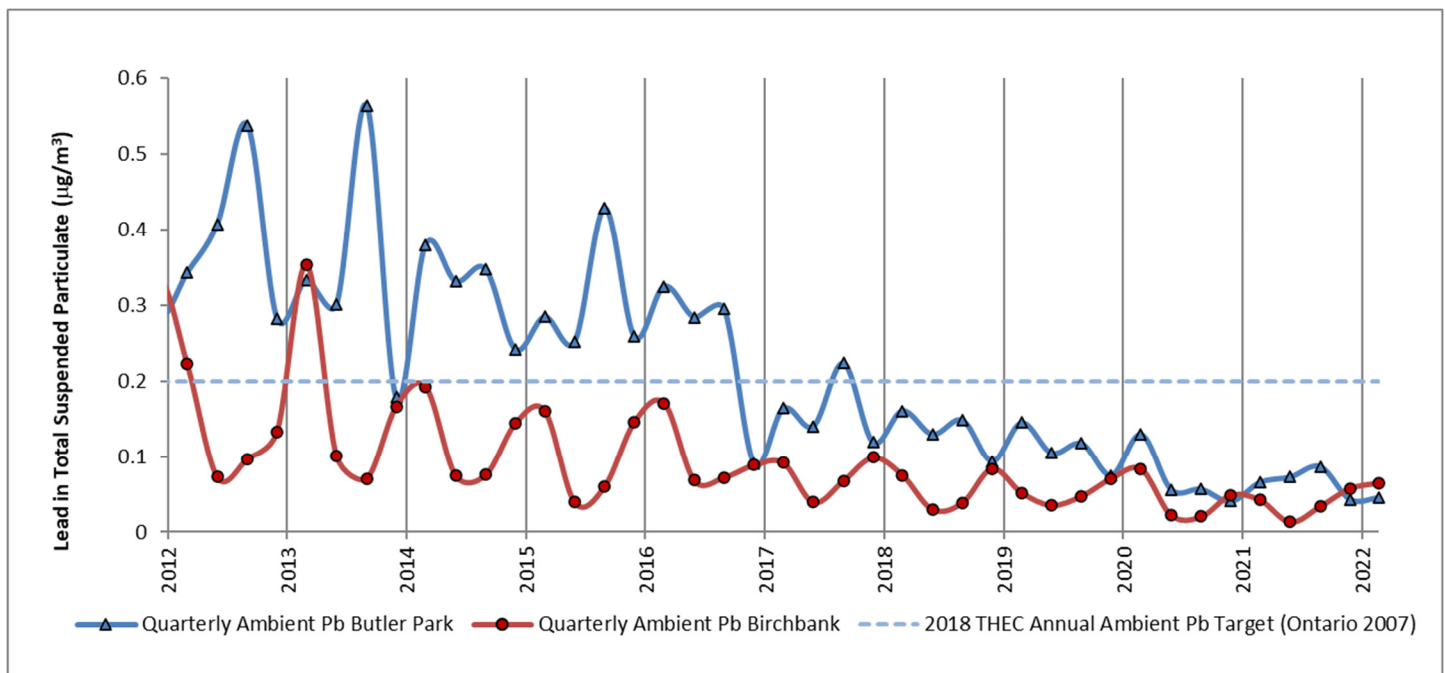


Figure 1: Quarterly monthly average lead at Butler Park and Birchbank stations (as total suspended particulate measured bi-daily)

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).

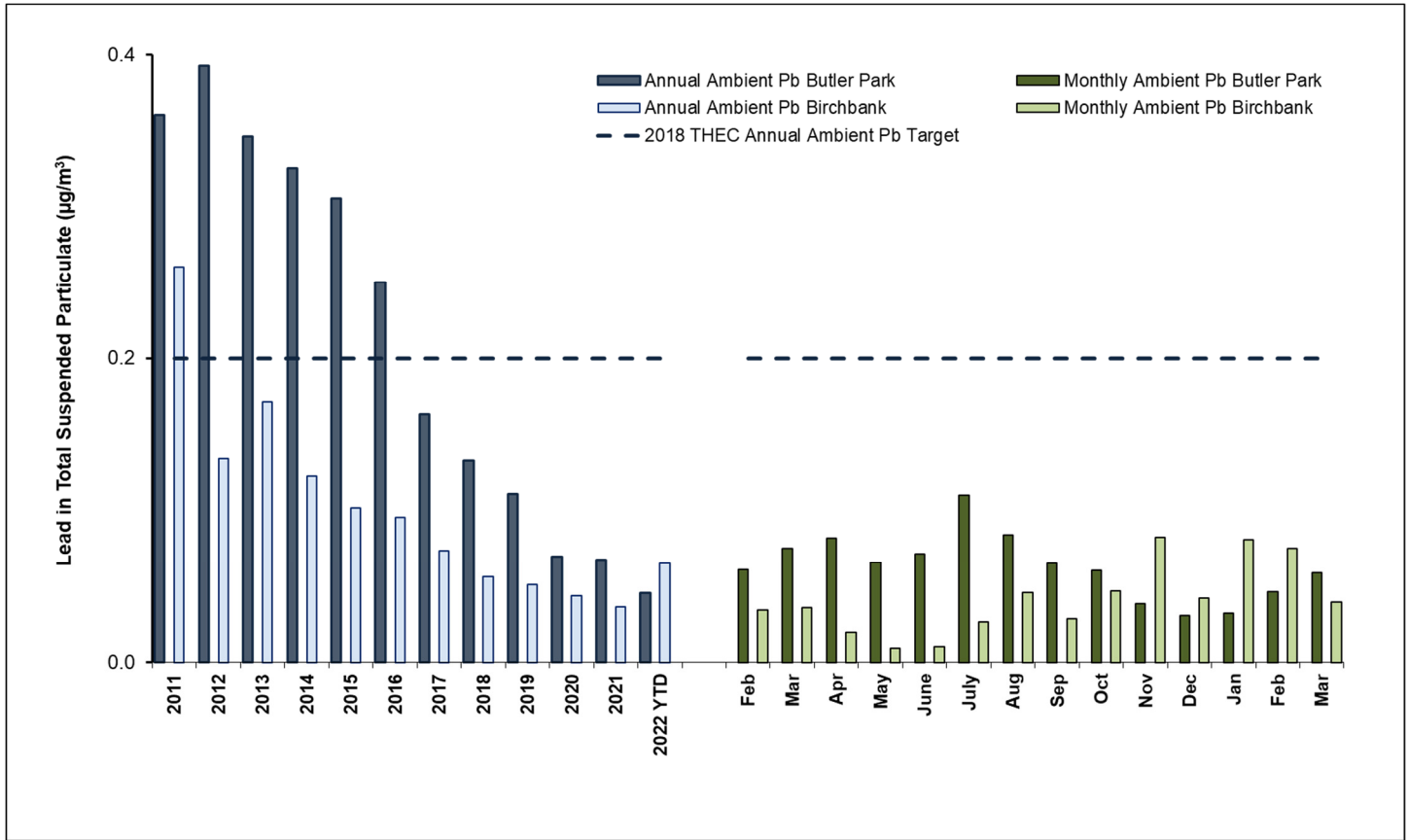


Figure 2: Annual and monthly average lead at Butler Park and Birchbank stations (as total suspended particulate measured bi-daily)

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.

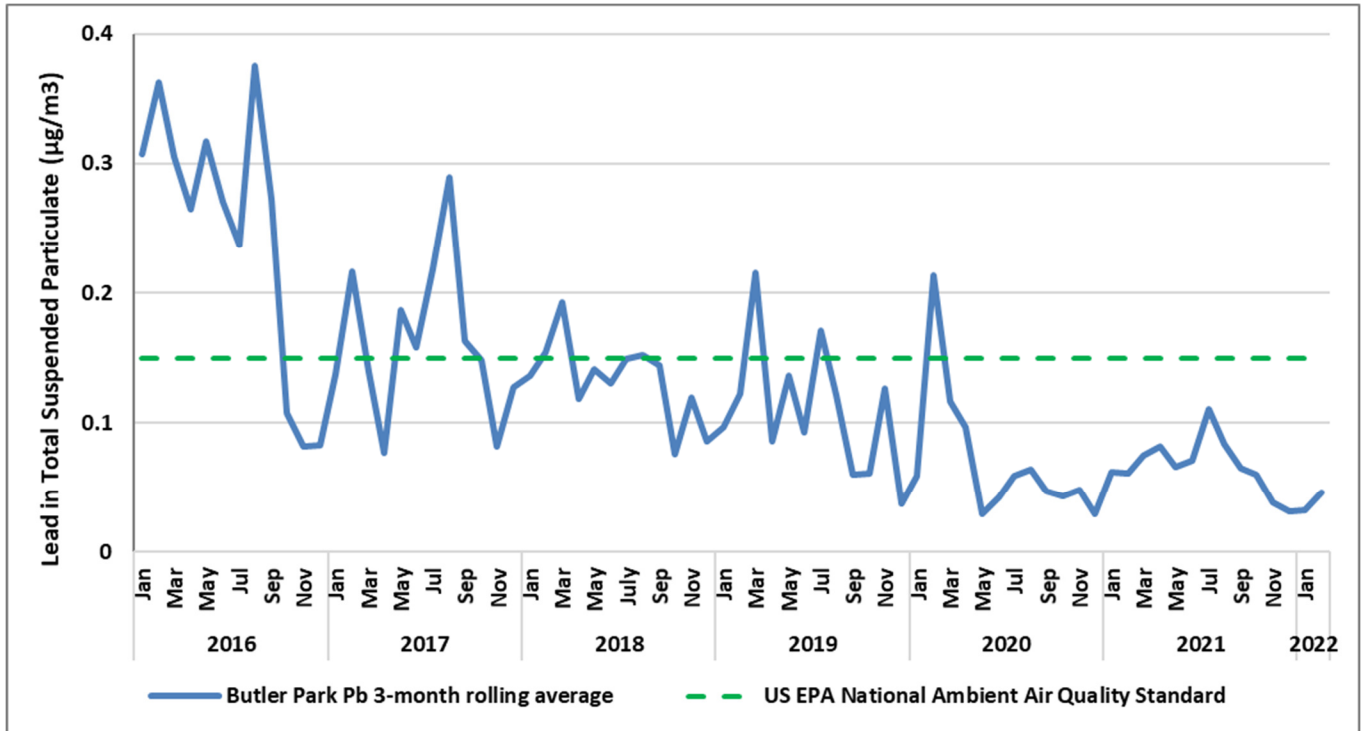


Figure 3: 3-month rolling average lead in air at Butler Park station (as total suspended particulate measured bi-daily)

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:

Averages for arsenic in air continue to be at historical lows. Similar to the first quarter 2022 lead in air, first quarter 2022 arsenic in air was higher at Birchbank ($0.0035 \mu\text{g}/\text{m}^3$) than at Butler Park ($0.0022 \mu\text{g}/\text{m}^3$), attributed to predominance of winds from the south and southeast.

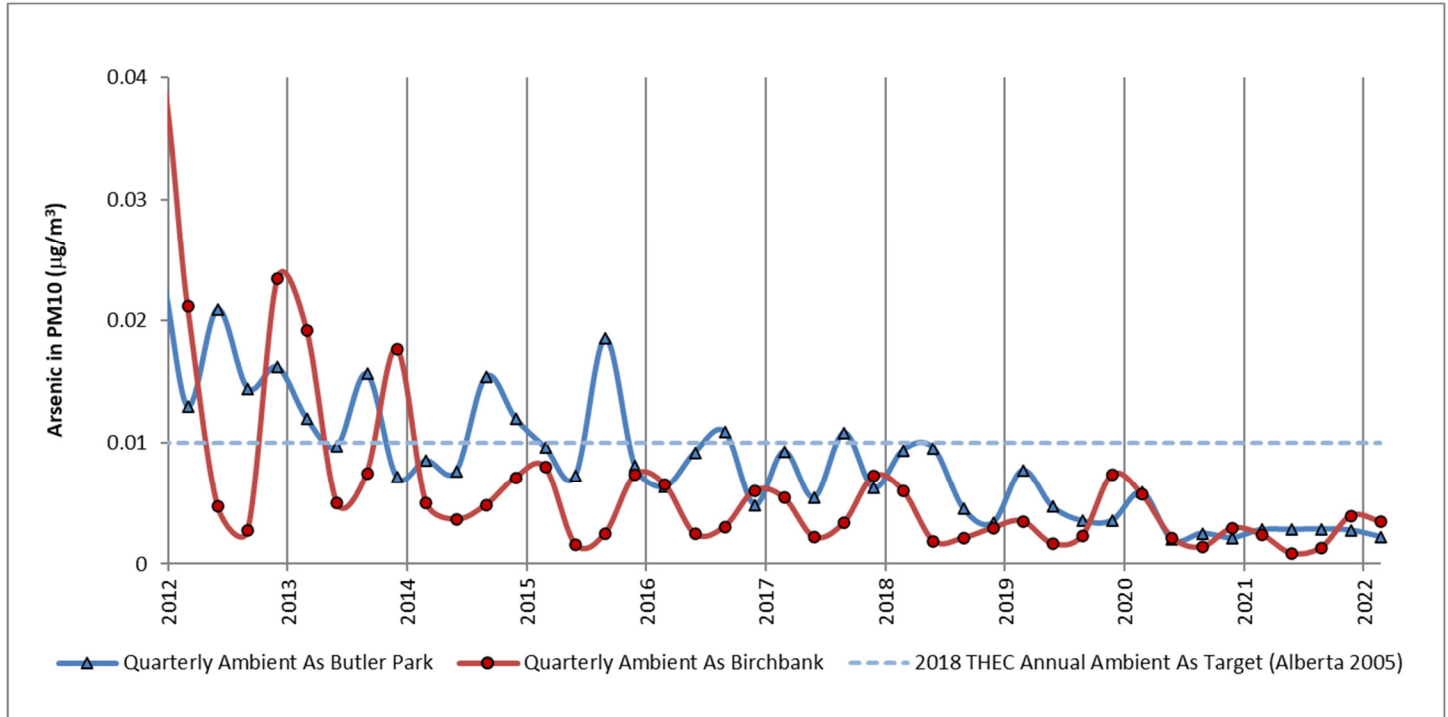


Figure 4: Quarterly average arsenic at Butler Park and Birchbank stations (as inhalable PM₁₀ fraction measured weekly)

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).

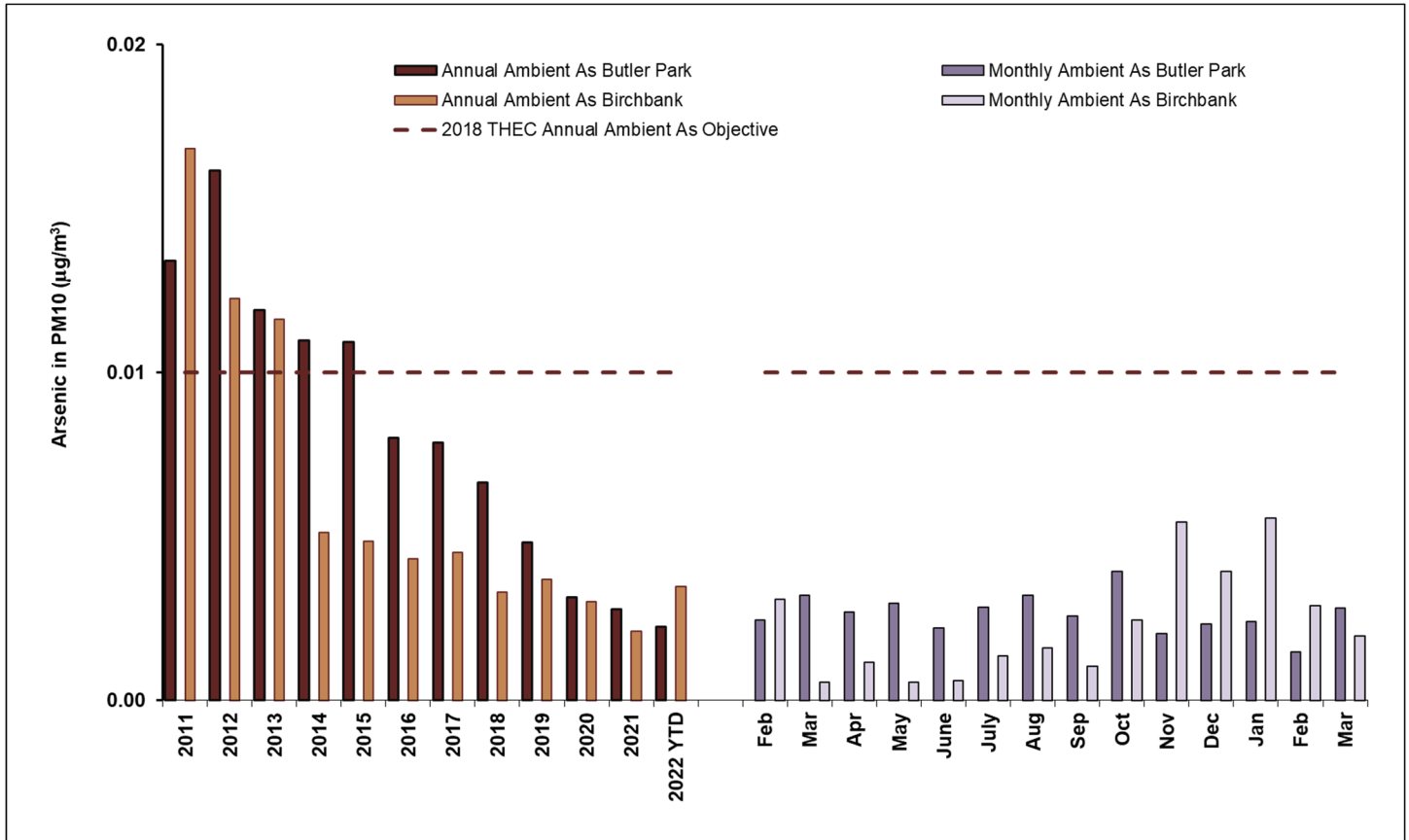


Figure 5: Annual and monthly average arsenic at Butler Park and Birchbank stations (as inhalable PM10 fraction measured weekly)

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.

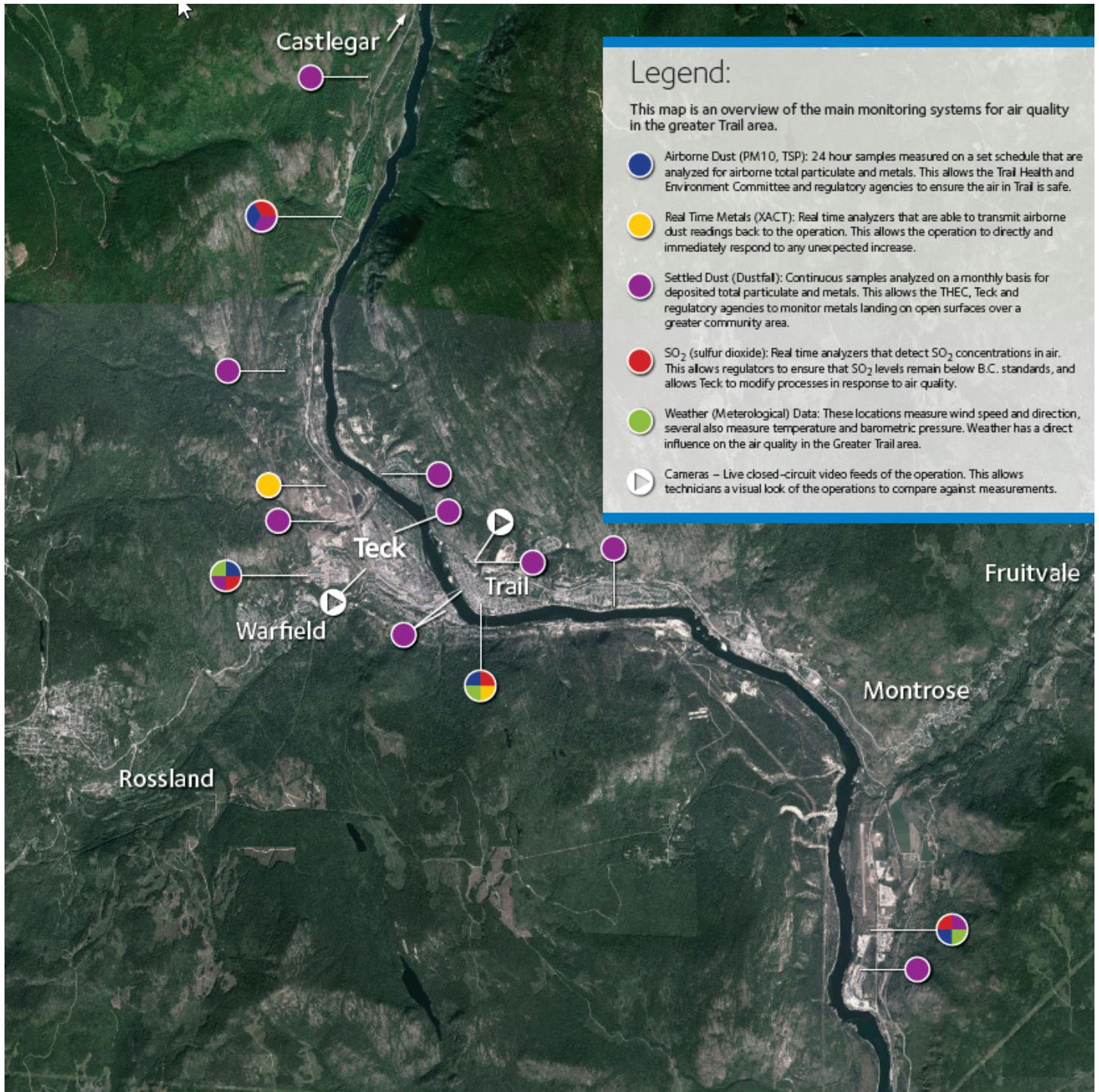


Figure 6: Teck Community Air Monitoring Stations