

2023 Q3 (July -September) Air Quality Monitoring Results



Air Quality Health Index (AQHI) Ratings

The AQHI is calculated by the Government of Alberta using data collected at FAP air monitoring stations. The AQHI is a measure of air quality as it pertains to human health.

AQHI levels are low, moderate, high or very high. Risk to health increases as the index level rises.

Visit our [Alberta Quality Health Index](#) for more information. Seven of FAP's 10 continuous air monitoring stations monitor substances whereby the AQHI can be calculated.

| FAP – 2023 Q3 | | Risk Level (% of time in each) | | | |
|--------------------|-----------------|--------------------------------|-------------|------------|------------|
| Station Name | Hours Monitored | Low | Moderate | High | Very High |
| Bruderheim | 2109 | 74.1% | 19.7% | 5.6% | 0.6% |
| Elk Island | 2155 | 78.0% | 13.7% | 6.4% | 1.9% |
| Fort Saskatchewan | 2128 | 75.0% | 16.1% | 6.6% | 2.7% |
| Gibbons | 2105 | 75.8% | 15.0% | 7.5% | 1.7% |
| Lamont | 2146 | 74.0% | 18.9% | 6.5% | 0.6% |
| Redwater | 2105 | 76.7% | 13.8% | 7.1% | 2.4% |
| Newbrook* | 2143 | 79.0% | 11.8% | 5.2% | 4.0% |
| Total hours | 14891 | 11331 | 2317 | 957 | 286 |

*The Keith Purves Portable station is located near Newbrook.

Hours with a High or Very High Risk AQHI Rating

| FAP Continuous Air Quality Monitoring Station | | | | | | | | | | | | | | | | |
|---|------------|----------------|------------|----------------|------------|----------------|-----------|----------------|-----------|----------------|-----------|----------------|-----------|----------------|-------------|-------------------------------------|
| Event Dates | Bruderheim | | Elk Island | | Fort Sask. | | Gibbons | | Lamont | | Redwater | | Newbrook | | Total Hours | Attributed Cause |
| | High Risk | Very High Risk | High Risk | Very High Risk | High Risk | Very High Risk | High Risk | Very High Risk | High Risk | Very High Risk | High Risk | Very High Risk | High Risk | Very High Risk | | |
| Jul | 51 | 12 | 60 | 26 | 60 | 22 | 56 | 22 | 72 | 13 | 60 | 29 | 38 | 48 | 569 | Wildfire smoke and summer-time smog |
| Aug | 3 | - | 4 | - | 17 | - | 18 | - | 7 | - | 20 | - | 11 | - | 80 | Wildfire smoke and summer-time smog |
| Sept | 65 | - | 74 | 15 | 64 | 26 | 84 | 15 | 61 | - | 67 | 20 | 60 | 37 | 588 | Wildfire smoke |
| Jul 2 | - | - | - | - | - | - | - | - | - | - | 3 | 1 | - | - | 4 | Structure fire |
| Sep 18,25 | - | - | - | - | - | - | - | - | - | - | - | - | 2 | - | 2 | Agriculture operations |
| Total Hours | 119 | 12 | 138 | 41 | 141 | 48 | 158 | 37 | 140 | 13 | 150 | 50 | 111 | 85 | 1243 | |

Summary of Exceedances

There were 1283 exceedances of the 1-hr and 167 exceedances of the 24-hour Alberta Ambient Air Quality Objectives (AAAQOs) in the third quarter of 2023.

| One Hour Exceedances | | | |
|----------------------|-------------|--|------------------------------------|
| Parameter | Exceedances | Date | Attributed Cause |
| Benzene | 18 | Jul 21,22,24 Aug 3, Sep 2,8,9,10,11,13 | Under Investigation |
| H ₂ S | 1 | Aug 6 | Natural due to wetlands |
| H ₂ S | 2 | Sep 25 | Undetermined |
| Ozone | 1 | Aug 6 | Summertime smog |
| Ozone | 1 | Aug 28 | Wildfire smoke and summertime smog |
| PM _{2.5} | 1253 | July (545 over 6 days), August (90 over 3 days) September (618 over 12 days) | Wildfire smoke |
| PM _{2.5} | 4 | Jul 2 | Structure fire |
| PM _{2.5} | 2 | Sep 19, 25 | Agricultural operations |
| Styrene | 1 | Jul 9 | Under Investigation |

| 24-Hour Exceedances | | | |
|---------------------|-------------|----------------------|------------------|
| Parameter | Exceedances | Date | Attributed Cause |
| PM _{2.5} | 64 | 12 days in July | Wildfire smoke |
| PM _{2.5} | 41 | 7 days in August | Wildfire smoke |
| PM _{2.5} | 62 | 12 days in September | Wildfire smoke |