

# 2024 Q4 (October-December) Air Quality Monitoring Results



## Air Quality Health Index (AQHI) Ratings

The AQHI is calculated by the Government of Alberta using data collected at HAMP 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.

New in 2024, Alberta has implemented a revised AQHI that will provide earlier health risk warnings to Albertans during exceptional or rapidly changing wildfire events.

Under the original AQHI formula for calculating health risk, a high risk rating was triggered when PM<sub>2.5</sub> levels exceeded a threshold<sup>[1]</sup> of 80 micrograms per cubic metre of air (ug/m<sup>3</sup>). With the new AQHI, a high-risk rating will now be triggered by a lower PM<sub>2.5</sub> measurement of 60 ug/m<sup>3</sup>.

The new AQHI was first developed and piloted in B.C. when officials found that residents near large wildfires were not getting adequate warnings in rapidly changing conditions to reduce their exposure to smoke. The change is now being adopted by provinces and territories across Canada to provide consistent reporting, especially during wildfires.

During this quarter, the high risk ratings were attributed to elevated fine particulate matter levels resulting from a temperature inversion condition that affected air quality throughout the entire Edmonton Metropolitan Area, including the HAMP region.

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

HAMP – 2024 Q4		Risk Level (% of time in each)			
Station Name	Hours Monitored	Low	Moderate	High	Very High
Bruderheim	2173	98.25%	1.75%	0.00%	0.00%
Elk Island	2155	99.21%	0.70%	0.09%	0.00%
Fort Saskatchewan	2103	96.38%	3.52%	0.10%	0.00%
Gibbons	2161	97.04%	2.96%	0.00%	0.00%
Lamont	2106	98.67%	1.33%	0.00%	0.00%
Redwater	2160	98.52%	1.48%	0.00%	0.00%
Thorhild	2157	98.89%	1.11%	0.00%	0.00%
<b>Total hours</b>	<b>15015</b>	<b>14736</b>	<b>275</b>	<b>4</b>	<b>0</b>

## Hours with a High or Very High Risk AQHI Rating

HAMP Continuous Air Quality Monitoring Station																
Event Dates	Bruderheim		Elk Island		Fort Sask.		Gibbons		Lamont		Redwater		Thorhild		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		
Dec 21-22	-	-	2	-	2	-	-	-	-	-	-	-	-	-	4	Wintertime Inversion
Total Hours			2		2											

### Summary of Exceedances

There were 2 exceedances of the 1-hour, and 2 exceedances of the 24-hour objective in the fourth quarter of 2024.

One Hour Exceedances			
Parameter	Exceedances	Date	Attributed Cause
SO <sub>2</sub>	1	December 16	Industry Responsible
PM <sub>2.5</sub>	1	December 22	Wintertime Inversion

24-Hour Exceedances			
Parameter	Exceedances	Date	Attributed Cause
PM <sub>2.5</sub>	2	December 22	Wintertime Inversion