QUESTION & ANSWER

Calgary Regional Airshed Zone (CRAZ) Portable Air Monitoring Laboratory

What is a Portable Air Monitoring Laboratory?
The Portable Air Monitoring Laboratory (PAML) truck will conduct continuous ambient air quality monitoring and report on outdoor air quality in Okotoks in real-time using the Air Quality Health Index (AQHI).

What is Calgary Region Airshed Zone (CRAZ)?
The *Calgary Region Airshed Zone* (CRAZ) is a non-profit air monitoring group geographically situated in southern Alberta; the region includes the municipality of Banff and Kananaskis County to the west, the southern rural regional municipalities of Willow Creek and Vulcan County, and the eastern agricultural Wheatland County. In collaboration with Alberta Environment and Protected Areas (EPA), the CRAZ Society develops and enacts the Air Quality Management Plan for the region, including monitoring and reporting on air quality at permanent and portable monitoring stations. Learn more at craz.ca

Why was the current location chosen?
The location for the portable air monitoring laboratory (PAML), stationed in the bus loop between Okotoks Junior High School and Percy Pegler School, was selected based on ambient air monitoring criteria outlined in Alberta's Air Monitoring Directive. It must be deployed in a location where it can monitor air quality data for a period of one year without moving, and with minimal interference from things like buildings, towers, etc. The selected location in this case has the advantage of collecting data in close proximity to sensitive land uses such as schools, residences, and outdoor recreation facilities.

How will the data collected from CRAZ be used in Okotoks?
Currently, the majority of air quality monitoring data for our area comes from Calgary monitoring stations. While operating in Okotoks, the real-time data from the PAML will be publicly available to provide a snapshot of air quality that is more representative of Okotoks conditions. Long term, the data will be used to assess overall air quality in

Okotoks and to identify parameters for potential future monitoring after the PAML project is completed.

How is it measuring the air quality; What parameters is it measuring?
The PAML will measure the following parameters:

- Ambient temperature
- Wind speed and direction
- Relative humidity
- Fine particulate matter ($PM_{2.5}$)
- Ozone
- Nitrogen dioxide (NO_2)

Three parameters are required to calculate the Air Quality Health Index (AQHI): NO_2, Ozone, and $PM_{2.5}$.

Where do these contaminants come from?

- **Particulate matter** consists of airborne particles in solid or liquid form. It includes large particles in smoke that you can see, and finer particles that are only detectable by electronic monitoring devices. The smaller the number (i.e., PM10, PM2.5), the finer the particle size. Some particulate matter is released directly into the air from a source, such as combustion, construction, or unpaved roads. Other particular matter can result from complex chemical reactions in the air. PM2.5 particles are small enough to get into the lungs and can be a human health concern.

- **Ozone** is present both in the upper atmosphere and at ground level. In the upper atmosphere, ozone protects us from the sun's ultraviolet radiation. At ground level ozone is a pollutant that is formed when chemicals in the air react in sunlight. It is a major component of smog and can damage vegetation.

- **Nitrogen dioxide** is a product of high-temperature combustion processes that is released to the air as exhaust. This includes fossil fuel vehicle engines and industrial processes. It is a pollutant on its own, and also contributes to the formation of ozone and fine particulate matter.

How long will the CRAZ truck be in Okotoks for?
The PAML truck will be set up in its current location for one year.

Will the public be able to access the data from CRAZ to see the trends from day to day and see what air quality is for a given day?
Real-time monitoring data for the PAML will be available at craz.ca

For the parameters CRAZ measures, what's the highest limit before concern (i.e. what is the threshold concentration)?
The contaminants that are being measured by the PAML will be combined into an AQHI

rating. The AQHI is a public health tool reported on a scale from 1 to 10+, the lower the number, the lower the health risk. The Index has corresponding health risk categories and provides advice to the general population and at-risk audiences on how to lessen risk based on those categories. For more information on the Air Quality Health Index, visit Alberta.ca