

# Air Quality Monitoring

# DASHBOARD REPORT

March 2013

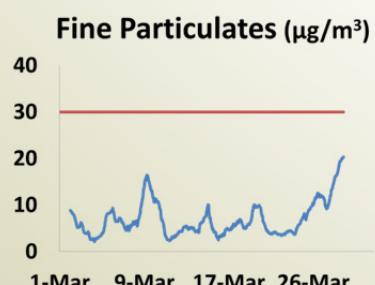
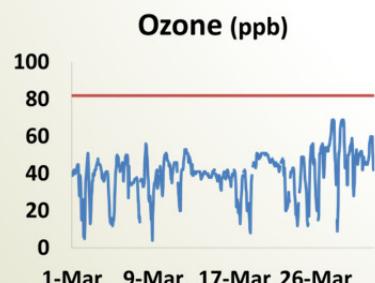
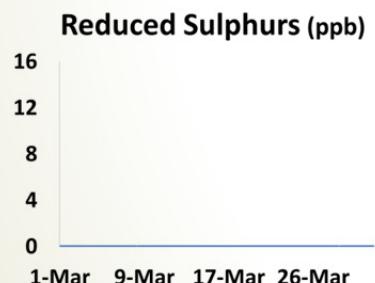
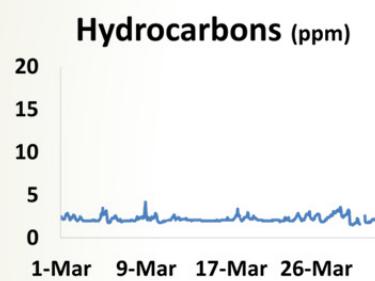
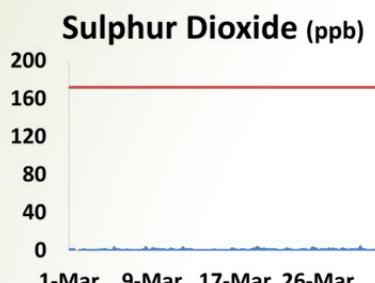
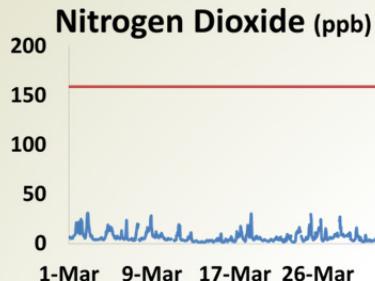


# Continuous Monitoring Stations

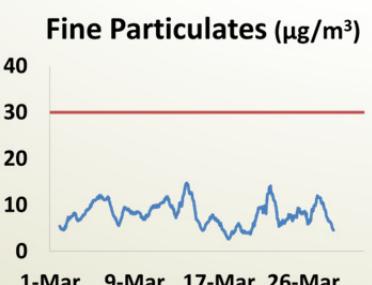
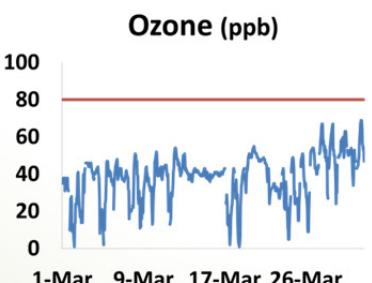
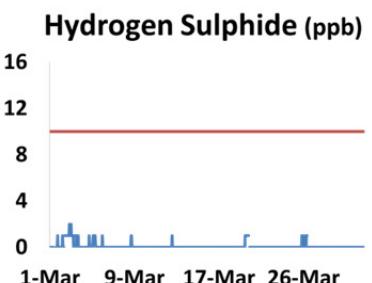
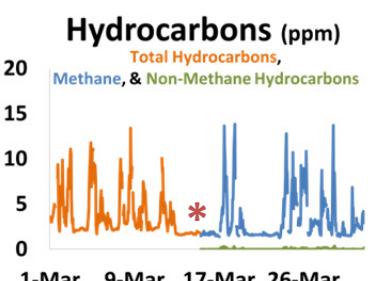
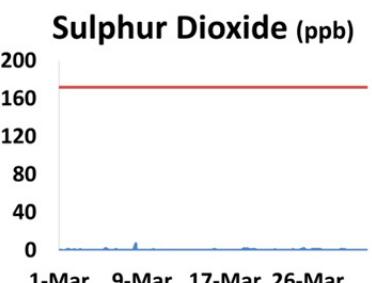
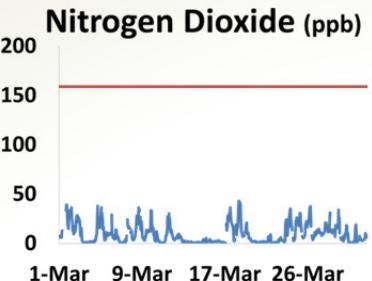
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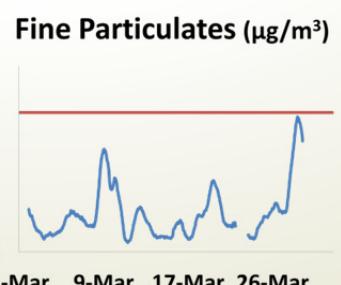
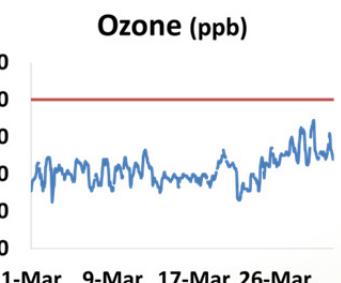
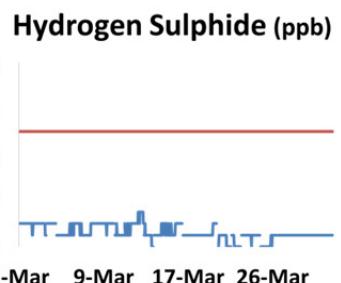
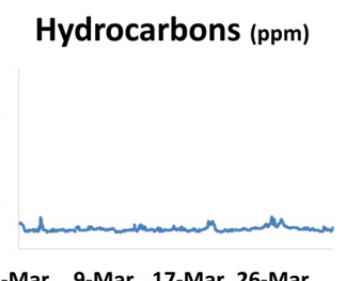
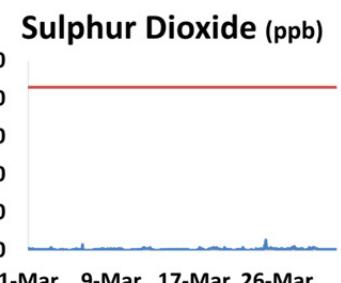
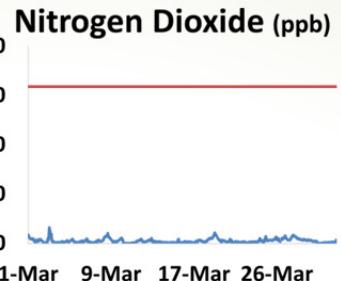
## Cold Lake



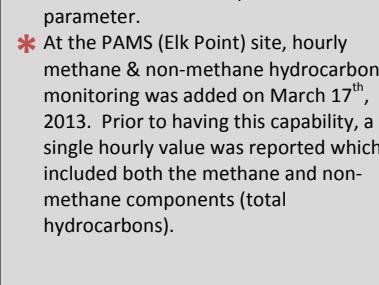
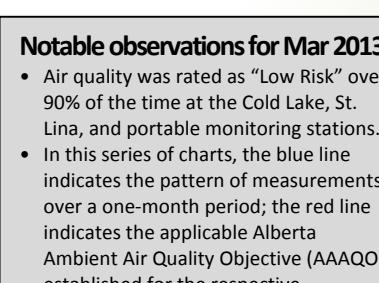
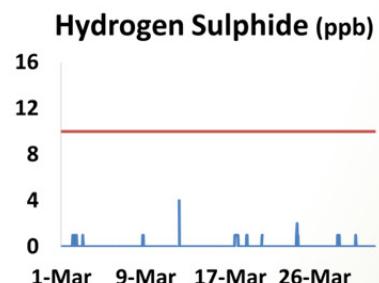
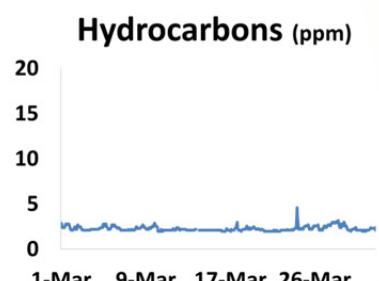
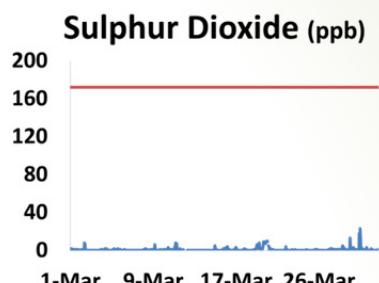
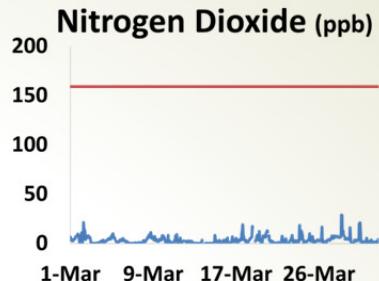
## PAMS (Elk Point)



## St. Lina



## Maskwa



### Notable observations for Mar 2013:

- Air quality was rated as "Low Risk" over 90% of the time at the Cold Lake, St. Lina, and portable monitoring stations.
- In this series of charts, the blue line indicates the pattern of measurements over a one-month period; the red line indicates the applicable Alberta Ambient Air Quality Objective (AAAQO) established for the respective parameter.

\* At the PAMS (Elk Point) site, hourly methane & non-methane hydrocarbon monitoring was added on March 17<sup>th</sup>, 2013. Prior to having this capability, a single hourly value was reported which included both the methane and non-methane components (total hydrocarbons).



# Passive Monitoring Stations

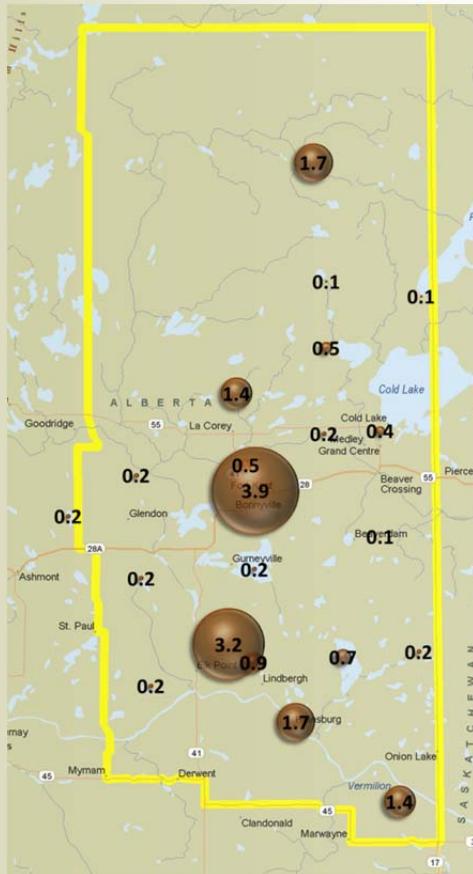
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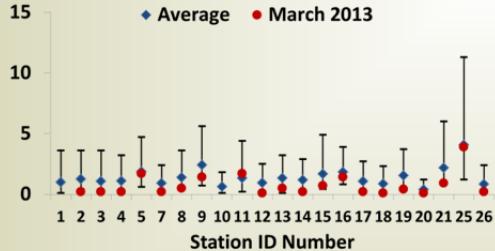
This series of bubble maps present monthly average concentrations in parts per billion (ppb).

Displaying data this way illustrates the spatial patterns of the parameters monitored in the LICA passive monitoring network.

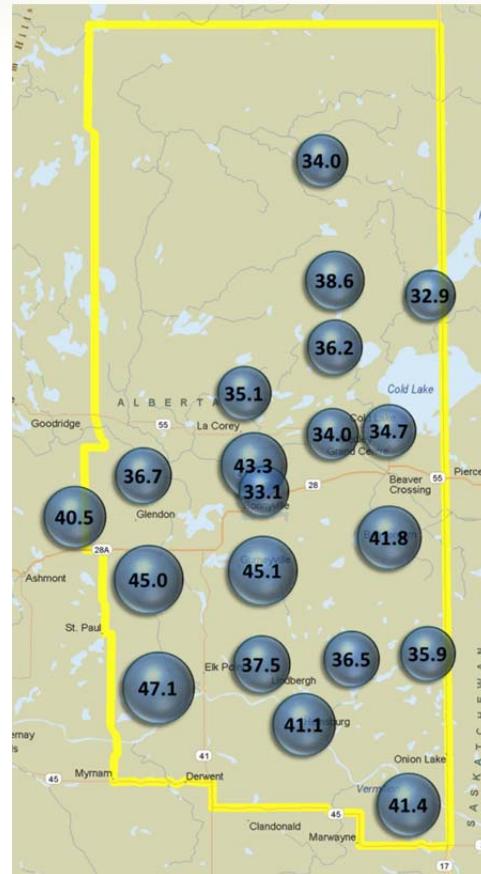
## Nitrogen Dioxide



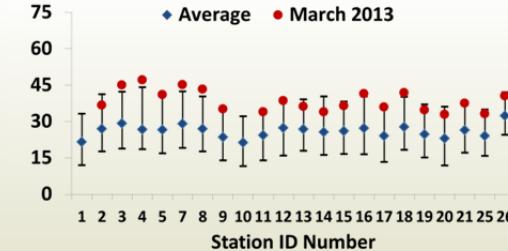
Minimum-Maximum-Average (ppb)  
Monthly Nitrogen Dioxide: 2011 - 2012



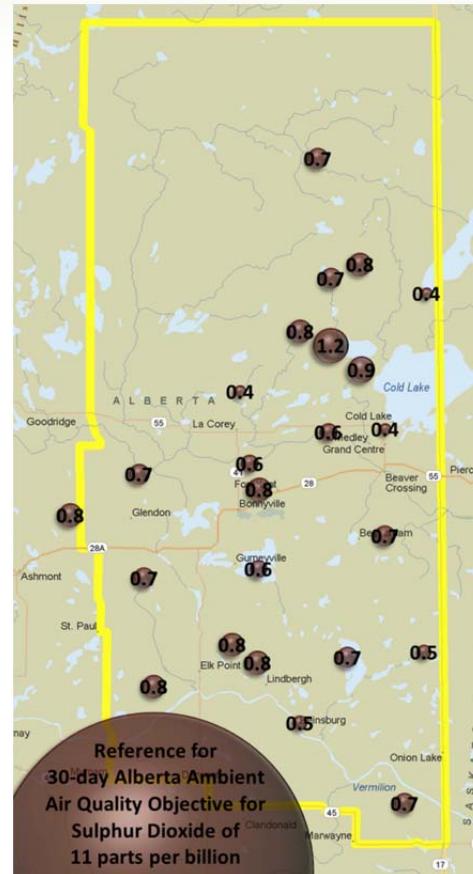
## Ozone



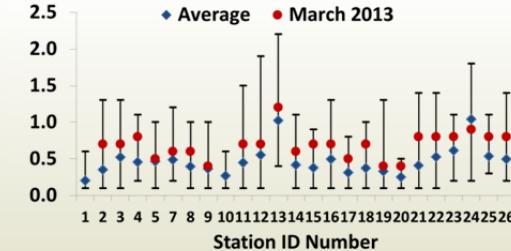
Minimum-Maximum-Average (ppb)  
Monthly Ozone: 2011 - 2012



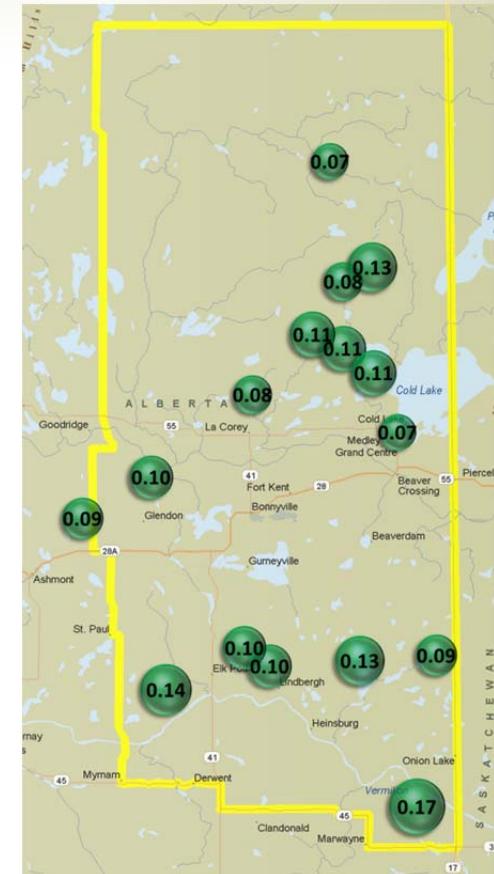
## Sulphur Dioxide



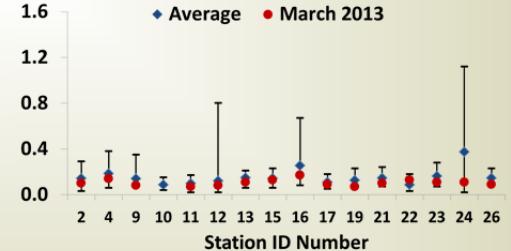
Minimum-Maximum-Average (ppb)  
Monthly Sulphur Dioxide: 2011 - 2012



## Hydrogen Sulphide



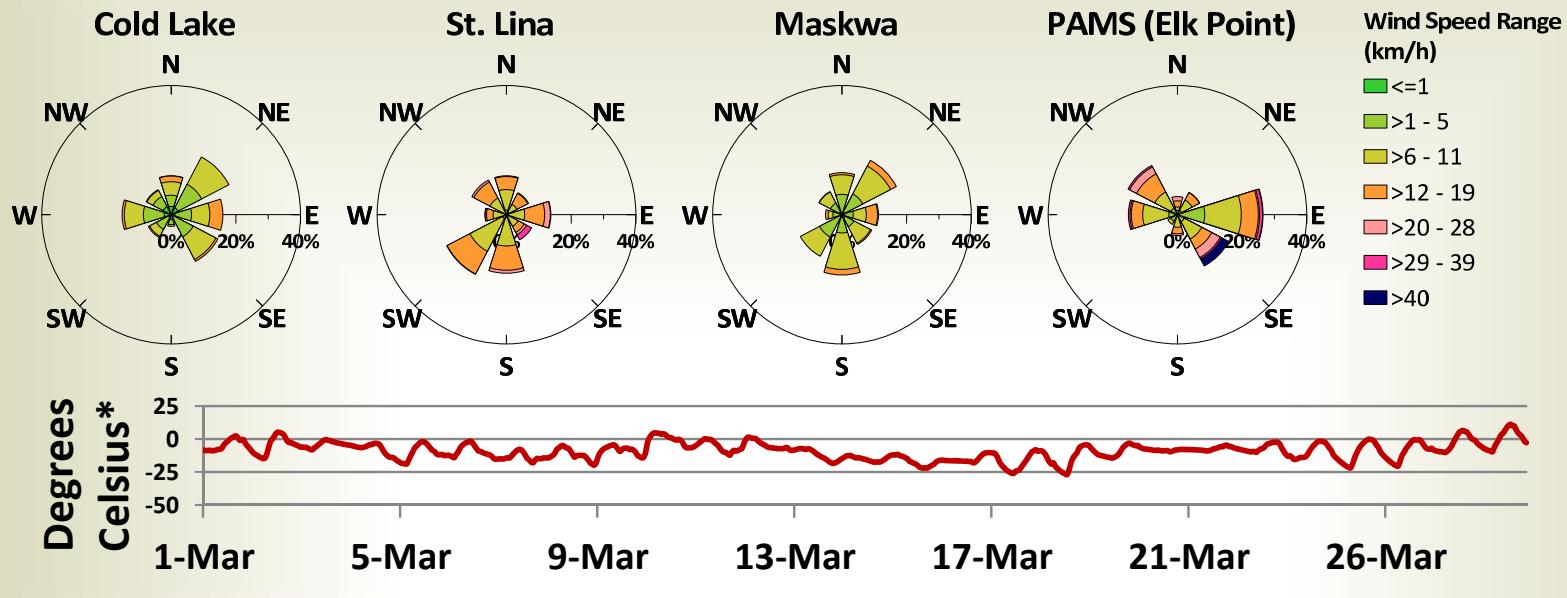
Minimum-Maximum-Average (ppb)  
Monthly Hydrogen Sulphide: 2011 - 2012





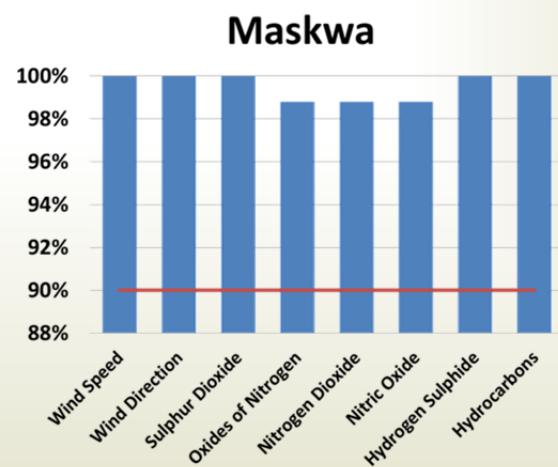
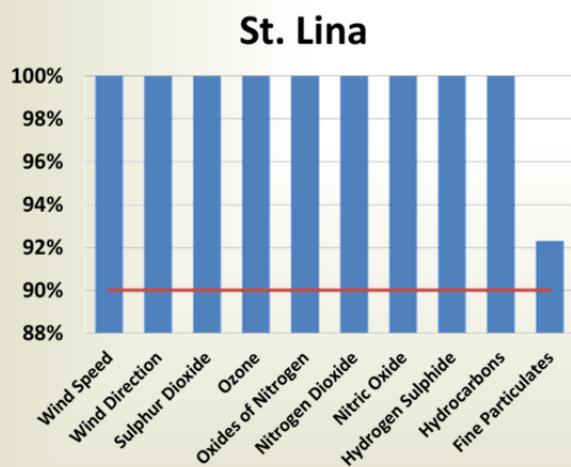
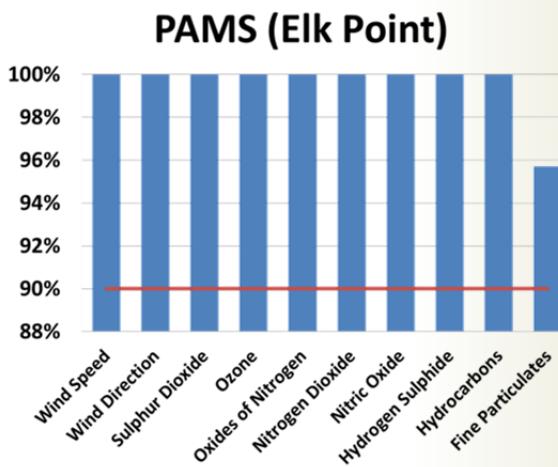
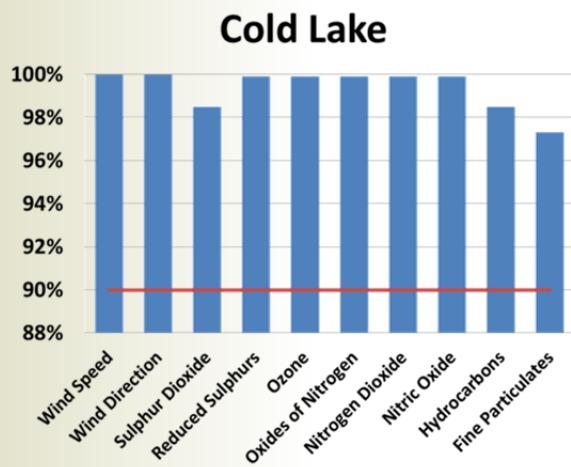
# Wind Speed, Wind Direction, Temperature

March  
2013



\* Temperature in Cold Lake

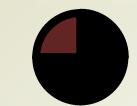
## Operational Uptime



**Notes on instrument uptime:** The Alberta Air Monitoring Directive (1989) requires that real time instrumentation must be operational at least 90% of the time on a monthly basis (indicated by the red line on the above charts).

# Regional Monitoring Network Map

March  
2013



**Passive Monitor:**  
Sulphur Dioxide



**Passive Monitor:**  
Ozone



**Passive Monitor:**  
Nitrogen Dioxide



**Passive Monitor:**  
Hydrogen Sulphide



**Continuous Monitor:**  
Sulphur Dioxide, Hydrogen Sulphide, Oxides of Nitrogen, Total Hydrocarbons, Meteorology



**Continuous Monitor:**  
Sulphur Dioxide, Hydrogen Sulphide, Oxides of Nitrogen, Ozone, Methane/Non-Methane Hydrocarbons, Particulate Matter, Meteorology



**Continuous Monitor:**  
Sulphur Dioxide, Hydrogen Sulphide, Oxides of Nitrogen, Ozone, Total Hydrocarbons, Particulate Matter, Meteorology



**Continuous Monitor:**  
Sulphur Dioxide, Total Reduced Sulphurs, Oxides of Nitrogen, Ozone, Total Hydrocarbons, Particulate Matter, Meteorology



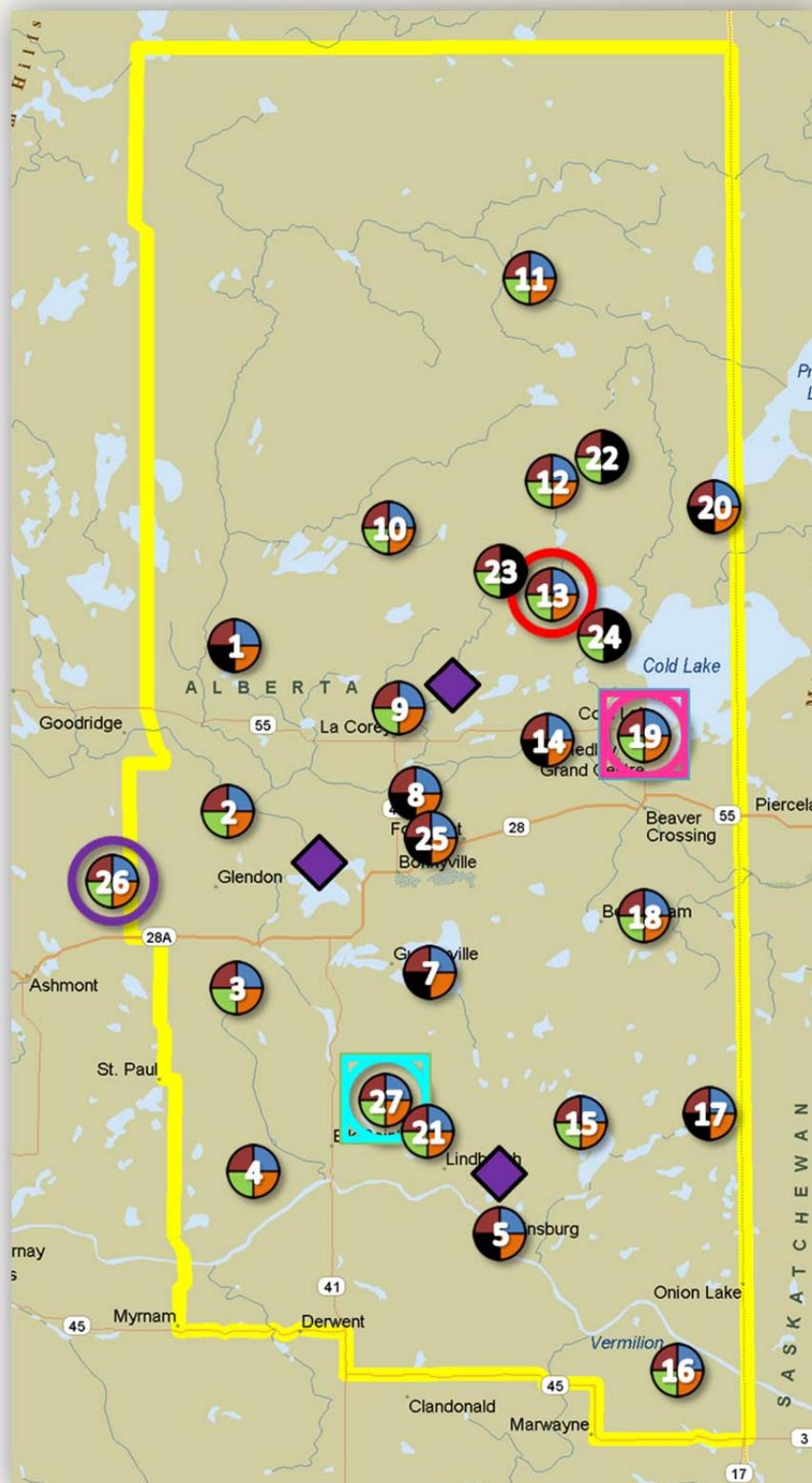
**Polycyclic Aromatic and Speciated Hydrocarbons:**  
Routine 1-in-6 Day Samples



**Polycyclic Aromatic and Speciated Hydrocarbons:**  
Routine 1-in-6 Day Samples  
High Non-Methane Hydrocarbon Triggered Samples



**Soil Acidification Monitoring Plot:**  
pH, Soil Texture, Electrical Conductivity, Soluble Ions, Cation Exchange Capacity – Buffered/Unbuffered, Exchangeable Cations, Total Carbon, Total Nitrogen, Total Sulphur, Available Ammonium, Available Nitrates, Available Phosphorous



## Station Identification

1	Sand River	9	La Corey
2	Therien	10	Wolf Lake
3	Flat Lake	11	Foster Creek
4	Lake Eliza	12	Primrose
5	Telegraph Creek	13	Maskwa
7	Muriel-Kehewin	14	Ardmore
8	Dupre	15	Frog Lake

16	Clear Range	23	Mahikan
17	Fishing Lake	24	Hilda Lake
18	Beaverdam	25	Town of Bonnyville
19	Cold Lake South	26	St. Lina
20	Medley-Martineau	27	Portable Station
21	Fort George		
22	Burnt Lake		

