

Air Quality Monitoring DASHBOARD REPORT

February 2013



Continuous Monitoring Stations

February
2013

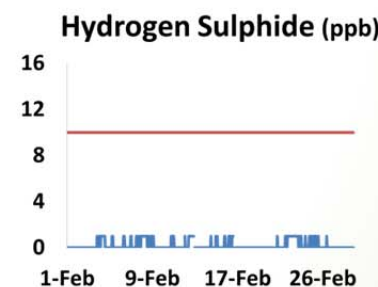
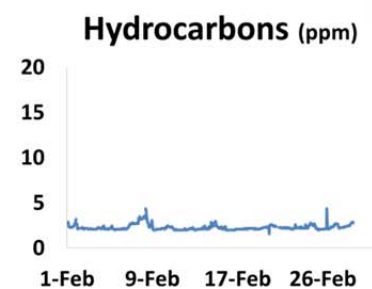
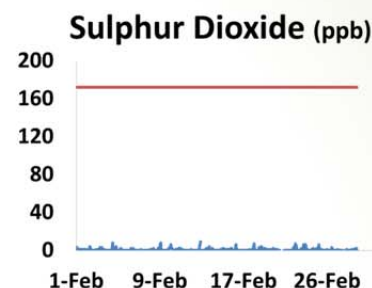
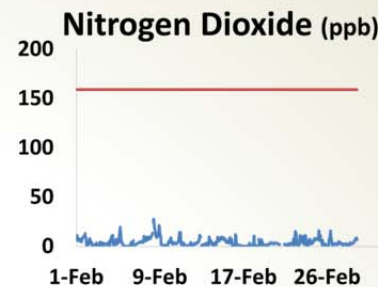
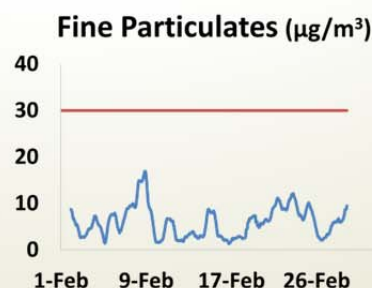
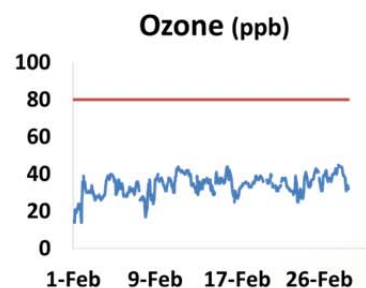
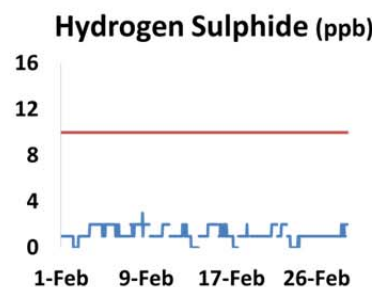
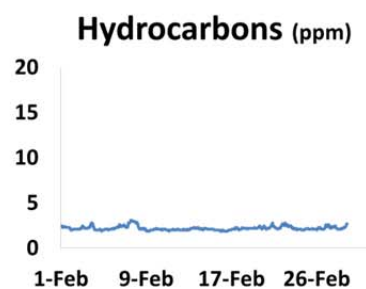
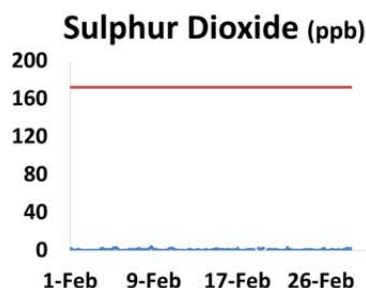
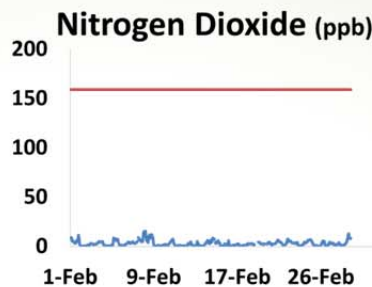
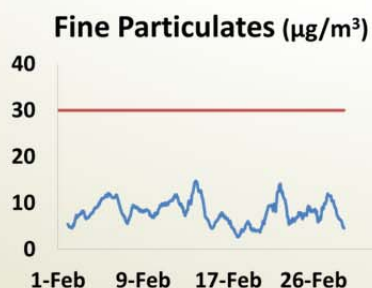
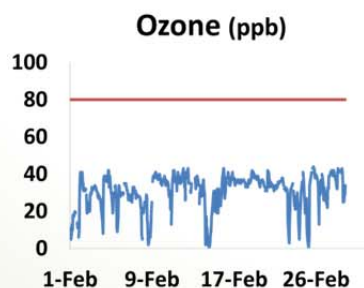
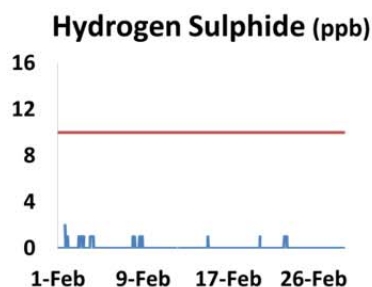
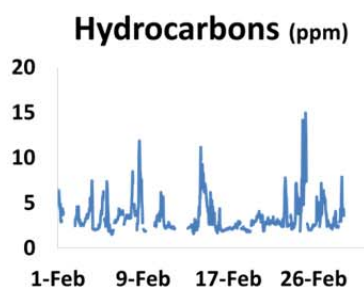
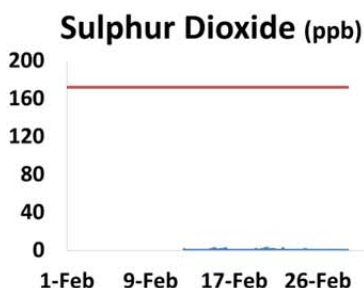
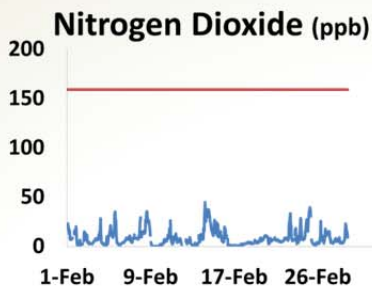
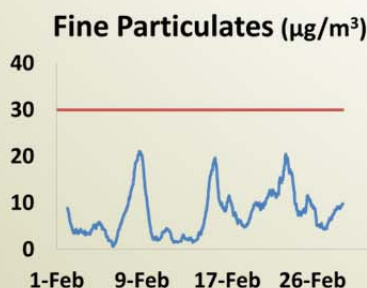
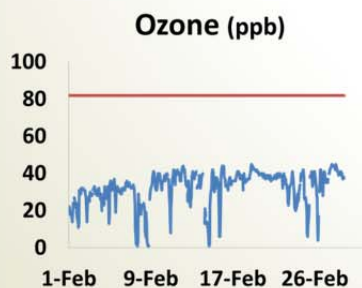
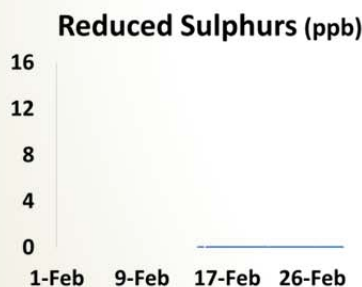
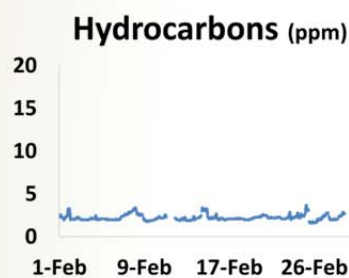
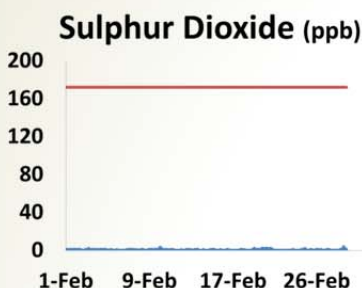
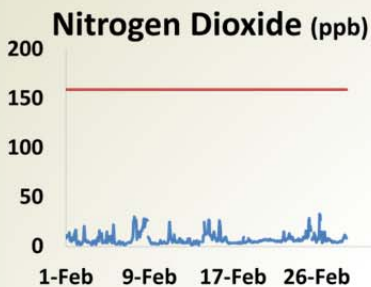


Cold Lake

PAMS (Elk Point)

St. Lina

Maskwa



Notable observations for Feb 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.
- The total reduced sulphur analyzer failed its 'as found' check point at the Cold Lake South station. The cause was determined to be a failure of the scrubber material. Data were invalidated back to the last good calibration on January 31 (ESRD Reference #268468).
- A circuit board failure and instrument instability resulted in operational uptime less than 90% for the particulate matter analyzer and the sulphur dioxide analyzer (reference #268469) at the PAMS site.

Passive Monitoring Stations

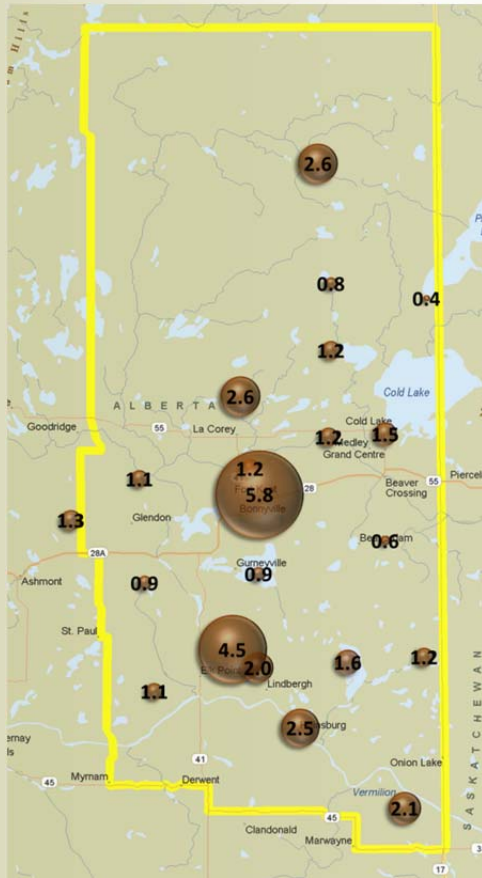
February
2013



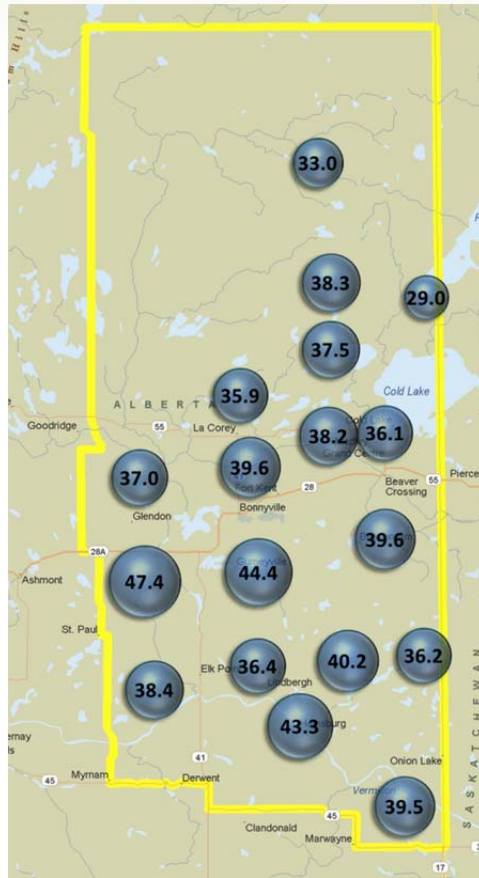
This series of bubble maps present monthly average concentrations in parts per billion (ppb).

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

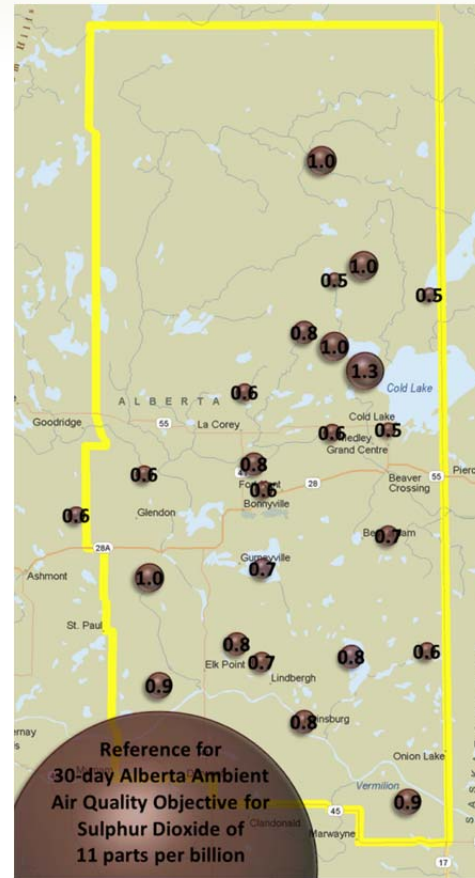
Nitrogen Dioxide



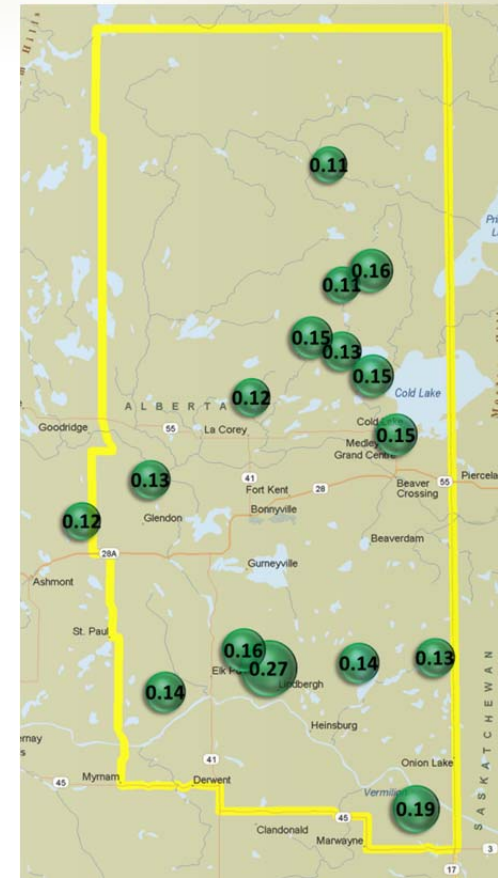
Ozone



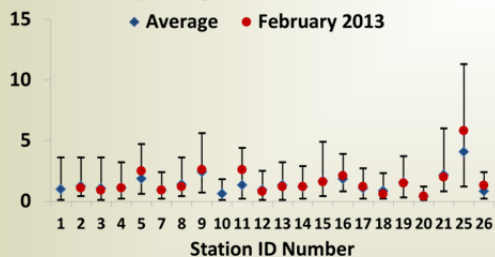
Sulphur Dioxide



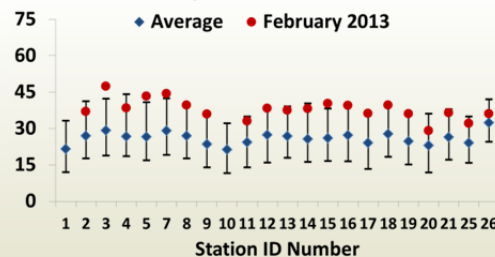
Hydrogen Sulphide



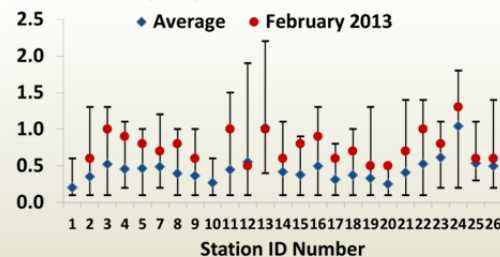
Minimum-Maximum-Average (ppb)
Monthly Nitrogen Dioxide: 2011 - 2012



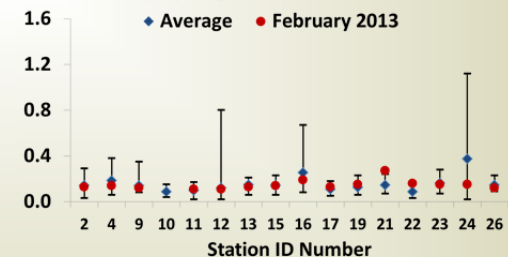
Minimum-Maximum-Average (ppb)
Monthly Ozone: 2011 - 2012



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

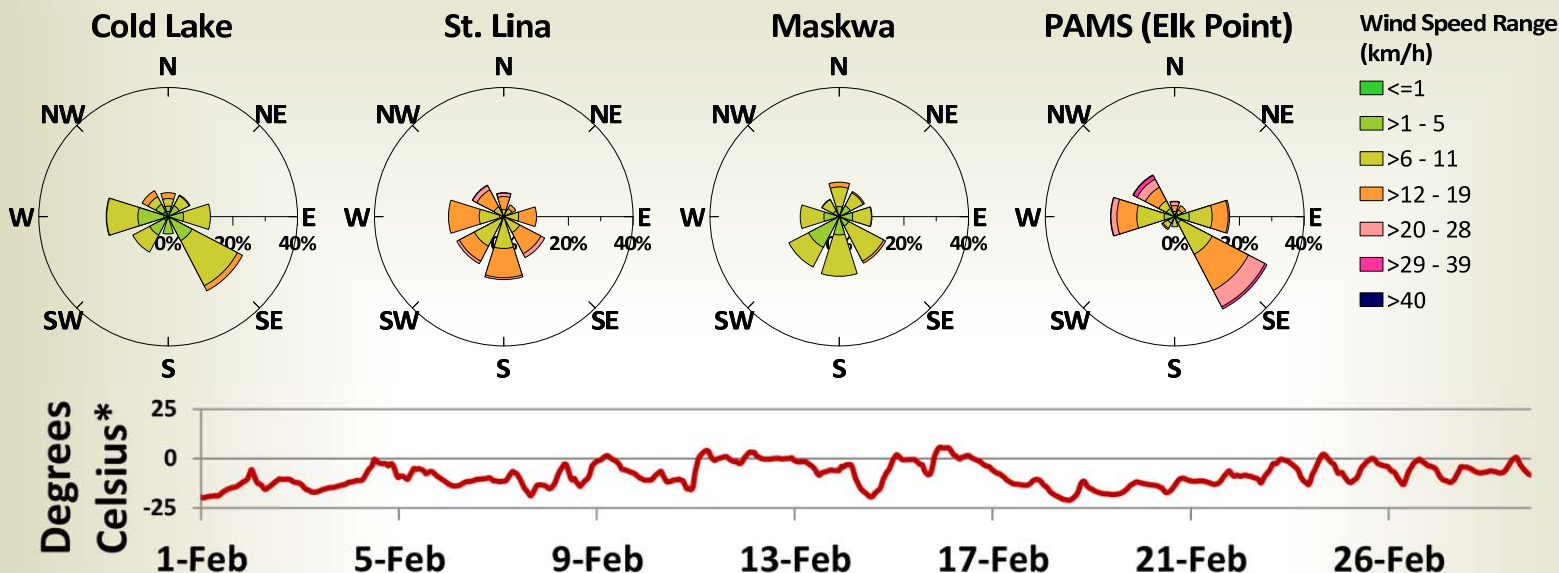


Minimum-Maximum-Average (ppb)
Monthly Hydrogen Sulphide: 2011 - 2012



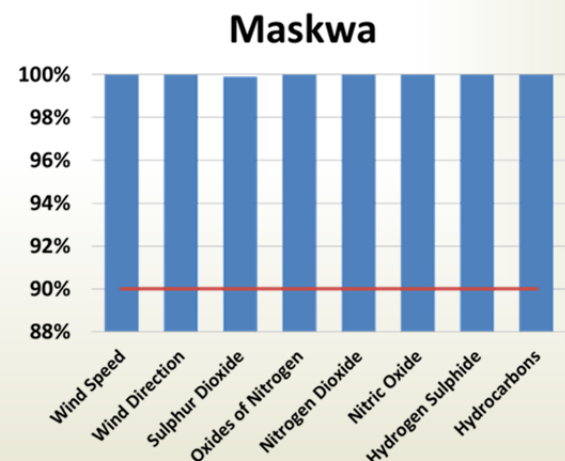
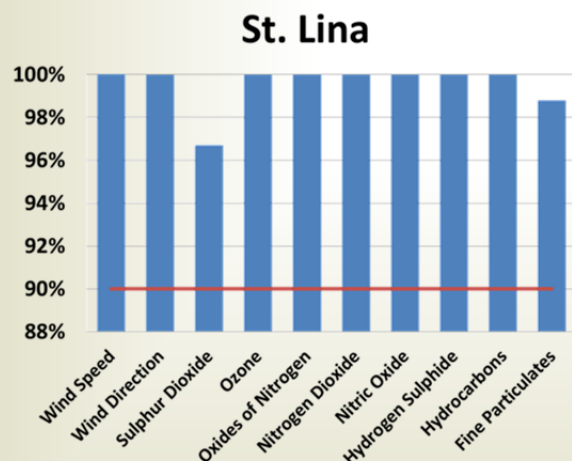
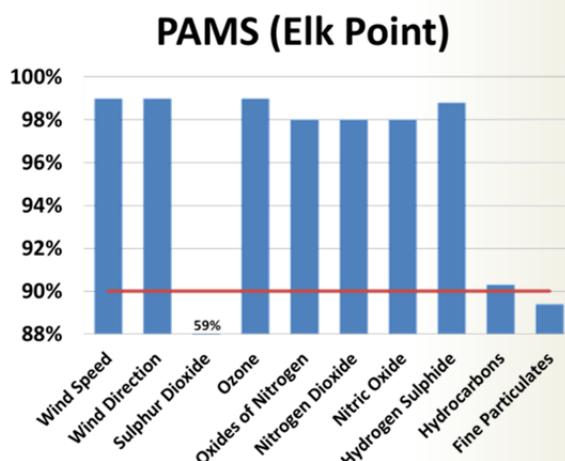
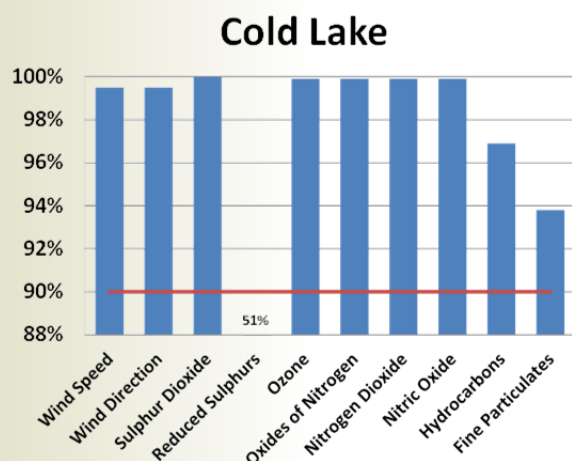
Wind Speed, Wind Direction, Temperature

February
2013



* Temperature in Cold Lake

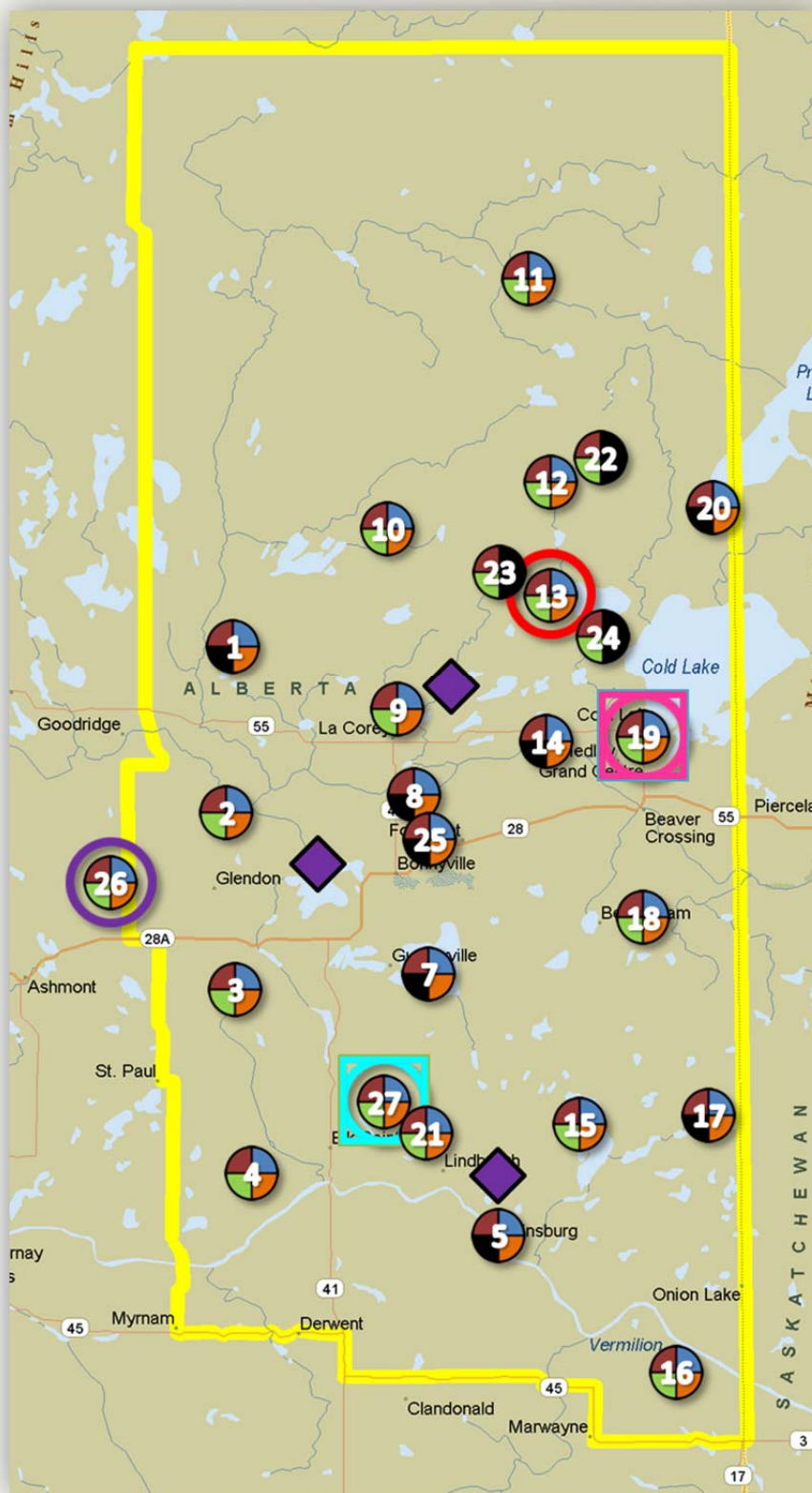
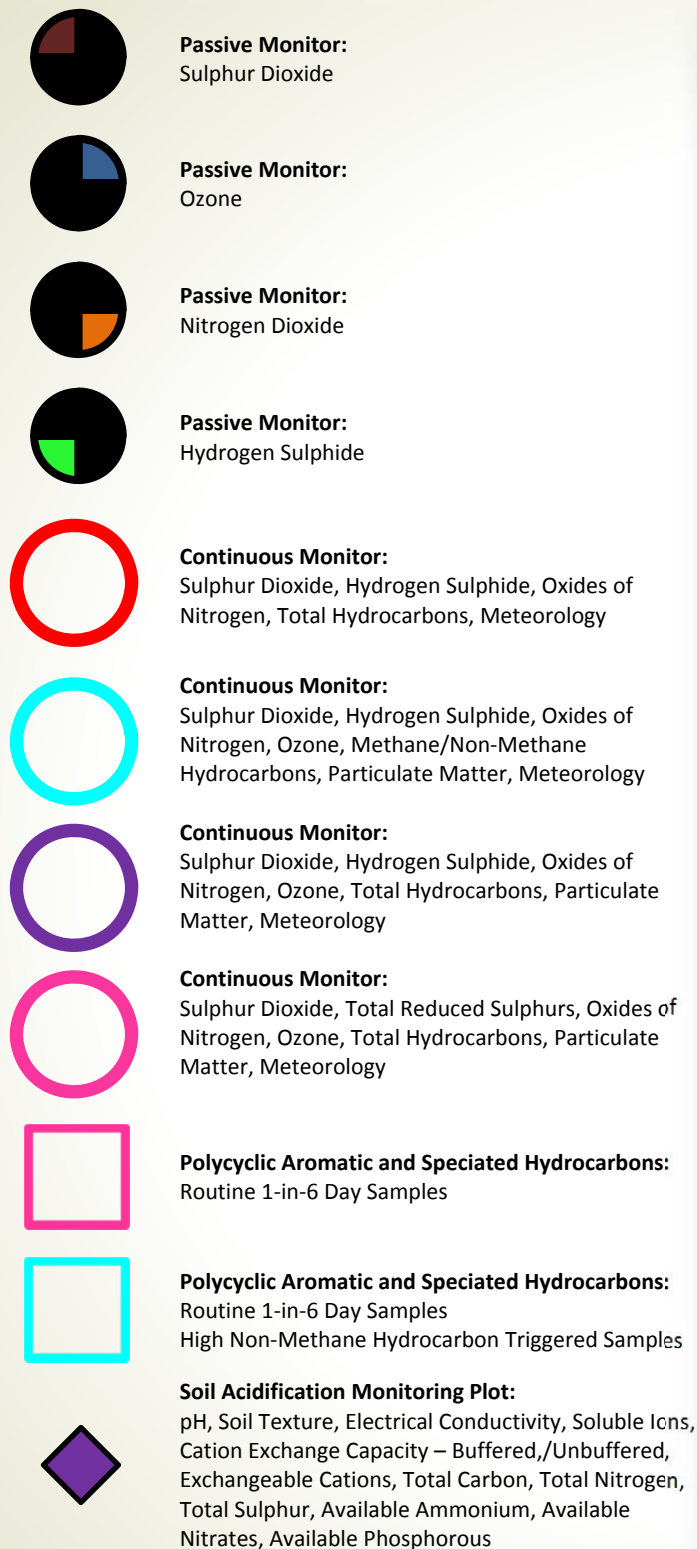
Operational Uptime



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). The total reduced sulphur analyzer failed its 'as found' check point at the Cold Lake South station on February 14th. The cause was determined to be a failure of the scrubber material. Data were invalidated back to the last good calibration on January 31 (reference #268468). The corrective action that LICA is taking to address this issue is to install a second (redundant) scrubber at the station. At the end of January 2013, a snow removal crew accidentally cut the power line to the PAMS site. Power was restored to the station within a matter of hours however the event caused damage to the sulphur dioxide analyzer's circuitry and further instability with the particulate matter analyzer (reference #268469). The corrective action that LICA took to prevent this from happening again included raising and relocating the power supply.

Regional Monitoring Network Map

February
2013



Station Identification

1 Sand River	9 La Corey	16 Clear Range	23 Mahihkan
2 Therien	10 Wolf Lake	17 Fishing Lake	24 Hilda Lake
3 Flat Lake	11 Foster Creek	18 Beaverdam	25 Town of Bonnyville
4 Lake Eliza	12 Primrose	19 Cold Lake South	26 St. Lina
5 Telegraph Creek	13 Maskwa	20 Medley-Martineau	27 Portable Station
7 Muriel-Kehewin	14 Ardmore	21 Fort George	
8 Dupre	15 Frog Lake	22 Burnt Lake	