Shell Canada

Screwdriver Creek Valley Air Quality Monitoring Station

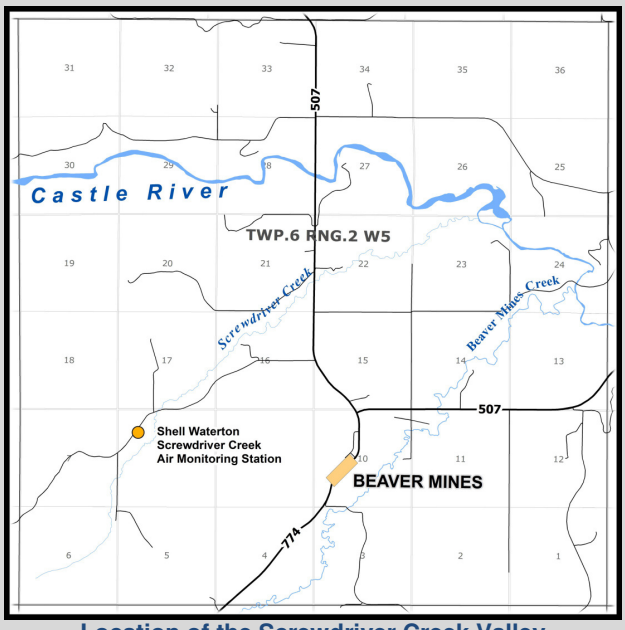
Data Summary Report September, 2014

Background

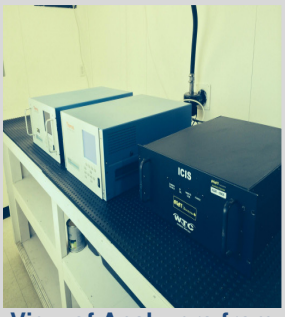
Based on recommendations arising from work completed with RWDI Air Inc. and the Waterton Advisory Group (WAG) in 2012 and 2013, Shell established a new continuous ambient air quality monitoring station in the Screwdriver Creek Valley area. The station was setup by AGAT Laboratories according to the Alberta Air Monitoring Directive requirements and began collecting data in March 2014. As per RWDI Air Inc. recommendations, the station will operate for a period of one year, upon which time a detailed review of the data will be conducted by the WAG Technical Subcommittee to evaluate the utility of the station.

The station continuously measures sulphur dioxide (SO_2), hydrogen sulphide (H_2S), wind speed, wind direction, and atmospheric temperature. A summary of the most recent period of data available from AGAT Laboratories (March 21 to July 31, 2014) is provided herein. Shell will continue to provide further updates on the station through WAG as the monitoring advances.

Screwdriver Creek Valley
Continuous Air Quality Monitoring Station



Location of the Screwdriver Creek Valley
Continuous Air Quality Monitoring Station

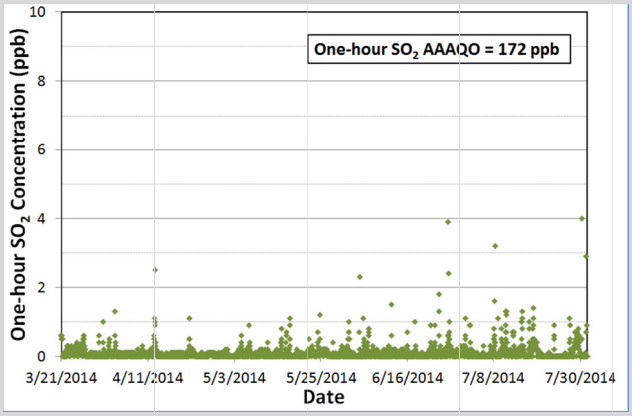


View of Analyzers from
Inside the Station

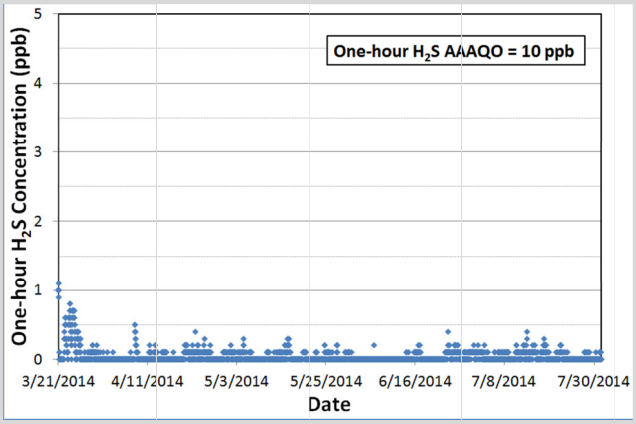
10 Meter Tall Station
Meteorological Tower

Air Quality Data Summary

Measurements show that the maximum one-hour SO_2 concentration of 4.0 ppb was well below the applicable Alberta Ambient Air Quality Objective (AAAQO) of 172 ppb. Measurements show that the maximum one-hour H_2S concentration of 1.1 ppb was less than the applicable Alberta Ambient Air Quality Objective (AAAQO) of 10 ppb. Graphs of the measured one-hour SO_2 and H_2S data over the data period are provided on the reverse.



SO_2 Concentrations (March 21 to July 31, 2014)



H_2S Concentrations (March 21 to July 31, 2014)

Meteorological Data Summary

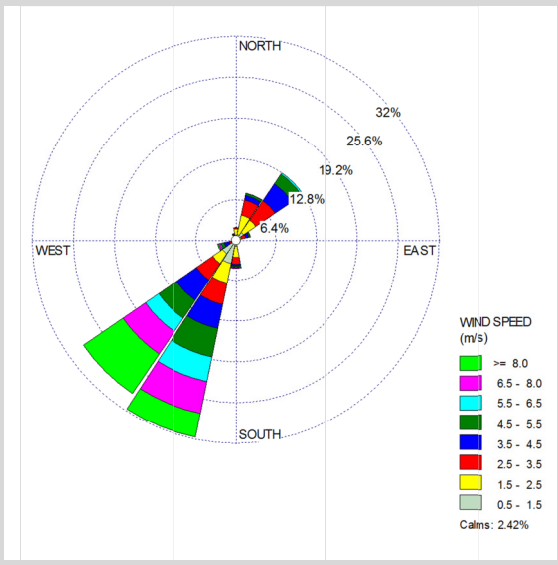
During the data period, winds were primarily from the southwest direction, with speeds ranging up to 57 km/hr (16 m/s). Calm conditions (wind speeds of less than 1.8 km/hr or 0.5 m/s) were observed less than 3 percent of the time. Ambient air temperatures ranged from a low of -22 degrees Celsius to a high of 30 degrees Celsius over the data period.

Data Access

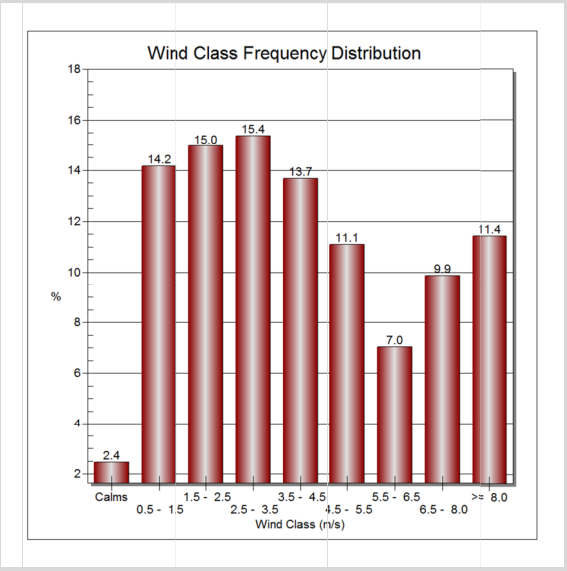
Raw air quality data for the new station are available real-time online. Tables or graphs can be viewed and exported in either Excel or PDF format.

http://webair.agatlabs.com
Login: screwdriver
Password: shell
** Includes one-hour and 24-hour periods.*

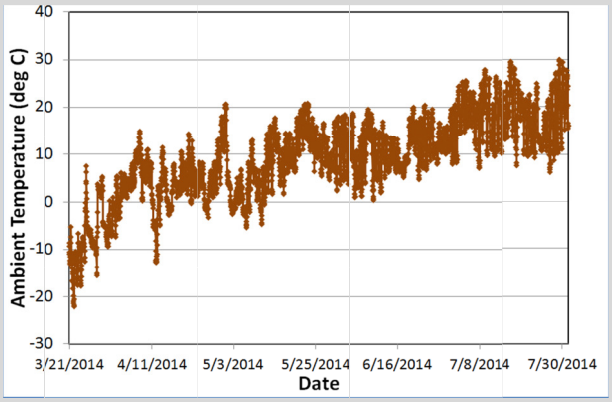
http://74.48.167.74/ssc.html
Login: None required
** Includes short-term 1-min, 15-min, and one-hour periods.*



Wind Rose Diagram (March 21 to July 31, 2014)



Wind Speed Frequency Distribution (March 21 to July 31, 2014)



Ambient Temperature (March 21 to July 31, 2014)

We welcome your feedback!
If you would like more details or if you have questions, please contact Rod Sinclair, Shell Waterton Community Liaison Officer at 403-627-7282, rod.sinclair@shell.com.