

Environmental and Workplace Health

New Brunswick Shale Gas Air Monitoring Study – Interim Report 01

Executive summary

In the fall of 2012, a Memorandum of Agreement for Services (MOA no. 4500290325) between Health Canada and the New Brunswick Department of Environment and Local Government was established to conduct an air monitoring study around shale gas activities in the province of New Brunswick. This first interim report presents the monitoring activities conducted between October 2012 and April 2013 as part of the New Brunswick Shale Gas Air Monitoring Study.

The study consists of four phases that represent as much as possible the different stages of shale gas development: Phase I – baseline conditions prior to any development; Phase II - well development and gas production; Phase III - natural gas processing and distribution; and Phase IV - well closure.

This interim report is limited to data collected at the Phase I site. The analyses in this interim report, mainly through descriptive statistics and time series plots, must be considered preliminary, as the available data set was incomplete. In fact, as of April 2013, data were available mostly for continuous data collected with analyzers that provide real-time results (i.e., carbon monoxide, ozone, sulphur dioxide, total reduced sulphur, fine particulate matter, total suspended particulates and nitrogen oxides). For compounds requiring the collection of physical samples and laboratory analysis (e.g., polycyclic aromatic hydrocarbons, carbonyl compounds), data were limited to a few samples, and no elaborate interpretation was possible.

Preliminary analyses of the data and comparisons with historical air quality trends across the southern part of the province of New Brunswick (including Fredericton, Saint John and Moncton) show that the concentrations of air pollutants at the baseline site were similar to or lower than those at other provincial monitoring sites (rural and/or urban). The wind data also indicated that no significant sources of pollution, especially oil and gas activities, were located upwind of the site. As such, it appears that the baseline data will provide an appropriate data set against which to compare air quality data collected during other phases of the study.

As continuous and discrete data from Phases I, III and IV become available, and once appropriate data quality assurance/data quality control procedures have been conducted, Health Canada will produce a second interim report.

As for Phase II of the current shale gas air monitoring study, covering the well development stage, it will be initiated as soon as a favourable project and site are identified by the New Brunswick Department of Environment and Local Government.

To obtain an electronic copy of the document, New Brunswick Shale Gas Air Monitoring Study - Interim Report 01, please contact AIR@hc-sc.gc.ca.