
September 29, 2016

MEMORANDUM

TO: Peter Heywood
Manager, Health Protection
Oxford County Public Health & Emergency Services

FROM: Rob Wrigley, Manager
London District Office
Ministry of the Environment and Climate Change

RE: Ministry particulate sampling results, Beachville Airshed, August 2014 to December 2015

This memorandum provides the outcomes of the ministry's particulate sampling in the Beachville Area from August 2014 to December 2015.

The analytical results of the ministry's sampling are found on the data tables attached to this memorandum.

The following summarizes the ministry's interpretation of those results:

1. Review of this data suggests a declining trend for Suspended Particulate concentrations. Both the historical results and the current data indicate that the Suspended Particulate concentrations are generally below the associated Ambient Air Quality Criteria (AAQC).
2. The ministry notes the variability in data from the most recent data collection period of August 2014 to December 2015 as compared to the historical values.
3. The ministry continues to examine all available information, including a review of internal processes, collect new monitoring data to confirm the concentrations of Suspended Particulate levels in the Beachville area, and determine the reasons for the variability in air monitoring findings. If issues are found, they will be addressed promptly.
4. Analytical results of metals sampling show very low concentration with no exceedences of the relevant AAQC. Many of those sample results indicated levels that were below the laboratory method detection limits.

Air quality varies from year to year; therefore, interpreting results for particulates in air requires sufficient long-term data. Trends in historical air contaminant levels often reflect a more accurate picture of the airshed than short-term data. In addition, Suspended Particulate levels can be influenced by variable wind speed and direction, precipitation, seasonal effects, traffic patterns, agricultural activities, fires and alternate home heating as well as changes in industrial and economic activity. The ministry is taking steps to enhance and validate its air monitoring processes to ensure results are accurate.

Background

- The Ministry of the Environment and Climate Change has been monitoring particulate levels in the Beachville area since the 1970s.
- This sampling has focussed on Suspended Particulate, the particulate matter in the air which is less than 44 µm (microns or millionths of a metre) in diameter.
- Suspended Particulate is assessed by comparing it to the AAQC for Suspended Particulate which is 120 µg/m³ based on a 24 hour average, and 60 µg/m³ based on an annual geometric mean.
- AAQC are developed to reflect the most sensitive endpoint (i.e., the lowest concentration at which any adverse effect such as health impairment, odour, vegetation effects, soiling, or reduction in visibility may be expected) for a particular contaminant. For Suspended Particulate the AAQC is developed for soiling and visibility rather than a health concern.
- Monitoring now occurs at four locations. In addition, a fifth monitor which samples particulate matter less than 10 microns, also known as PM₁₀, was added at one of the existing locations.

Next Steps:

1. The ministry remains available to present the most recent air monitoring data for Beachville, together with Oxford County Public Health & Emergency Services, and Public Health Ontario.
2. The ministry is continuing local sampling at the four sampling locations, including the addition of two co-located air monitors for the purposes of enhancing and validating the ministry's air monitoring process. Filters from the co-located air monitors will be sent to a separate laboratory for comparative purposes.
3. The ministry has begun conducting mobile air monitoring in the Beachville area. Through mobile monitoring, the ministry can collect real-time results at various locations in the area. The ministry plans to conduct this monitoring at four locations, twice per month.

4. The ministry is continuing its regular inspections of the Beachville area industries and working with the companies, where necessary, on continuous improvements to local air quality.
5. The ministry has committed to take action, where necessary to address any concerns that are brought forward by the Health Unit and Public Health Ontario.

The ministry will continue to meet its responsibility by ensuring on-going compliance with our regulatory requirements. We look forward to continue working with the Oxford County Public Health & Emergency Services and Oxford County to ensure the protection of the health of the residents and the natural environment.

Sincerely,

A handwritten signature in cursive script that reads "R. Wrigley".

Rob Wrigley