Ministry of the Environment and Climate Change

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Ministère de l'Environnement et de l'Action en matière de changement climatique

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March 08, 2017

MEMORANDUM

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

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

Subject: Ministry mobile air monitoring results, Beachville Airshed, August 2016 to December 2016

This memorandum provides the results of the ministry's mobile air monitoring sampling in the Beachville area from August 2016 to December 2016. This monitoring was conducted as a temporary measure in order to supplement the ministry's ongoing static air monitoring.

The ministry conducted the air monitoring in the Beachville and Ingersoll area with equipment that is located in a cargo style van. With this equipment, the ministry is able to collect real-time particulate matter of three different size fractions (total suspended particulate (TSP) matter: particulate matter smaller than 44 micrometer in aerodynamic diameter, PM_{10}: < 10 micrometer and $PM_{2.5}$: < 2.5 micrometer) at various locations in the area. This monitoring was conducted twice per month, from August to December, at four locations. The analytical results of the ministry's sampling are found on the data table attached to this memorandum. The following summarizes the ministry's interpretation of those results:

1. The hourly particulate concentration values did not raise any concerns because the values were much lower than the 24-hour Ambient Air Quality Criteria (AAQC) (1-hour standards are generally higher than 24-hour standards).

2. Findings were similar to the results that were reported in 'Beachville Area Air Quality Assessment Final Report' (Oxford County Public Health and Public Health Ontario, April 26, 2016).

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 total suspended particulate, the particulate matter in the air which is less that 44 µm (microns or millionths of a metre) in diameter.

- TSP is assessed by comparing it to the TSP AAQC for which is 120 µg/m^3 based on a 24-hour average, and 60 µg/m^3 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.

- Static monitoring in the Beachville area occurs at four locations. In addition, a fifth monitor which samples $PM_{10,}$ was added at one of the existing locations.

Next Steps:

1. The ministry will continue to monitor TSP at four locations in the Beachville area. At one of these locations, the ministry will also continue to monitor PM_{10} and local wind speed and wind direction data.

2. Based upon the results of the mobile air monitoring in 2016, the ministry will not be continuing mobile monitoring in 2017. The mobile monitoring results did not raise any concerns and showed levels of particulate matter well below the AAQC.

3. The ministry remains available to discuss these results and will continue to provide the results of our static air monitoring as they become available.

The ministry will continue to monitor air quality in the Beachville air shed for contaminants at the four air monitoring stations. The results of the monitoring program will be provided to the Oxford County Public Health & Emergency Services and Oxford County as they become available.

Should you have any questions please do not hesitate to contact me.

Sincerely,

R. Wrigley

Rob Wrigley
District Manager
London District Office, Southwest Region
Ministry of the Environment and Climate Change

Attach. Beachville PM van Summary Data-Excel file