

56 Alexandra Ave., Waterloo, Ontario N2L 1L5

October 11, 2016

Mr. Joe Babin Water Superintendent, Town of Erin, 5684 Trafalgar Road RR # 2 Hillsburgh, Ontario NOB 1Z0

Dear Mr. Babin

Re: Review of Nestle Waters Canada, 2015 Annual Monitoring Report, Erin Spring Site

Nestle Waters Canada (Nestle) has a water supply well (TW1-88) located west of Hillsburgh. It is operated under Permit to Take Water (PTTW) Number 3719-8UZMCU issued by the Ministry of the Environment and Climate Change (MOECC) September 28, 2012 and expiring on August 31, 2017. Historical information shows the well was constructed in 1988 on part Lots 23 and 24, Concession 7, in the Town of Erin. Nestles owns approximately 75.5 hectares (187 acres) of property around the well. The well has been permitted to take water since 1989, although there was limited water taking in the first 10 years, under previous ownership. Commercial use began in March 2000. Various permits have been issued since that time allowing for a water taking for bottling water purposes at a maximum pumping rate of 773 L/min (170 Igpm) and a maximum withdrawal rate of 1,113,000 L/day (244,830 Igpd). The current PTTW also allows for a maximum instantaneous rate of 946 L/min and a daily withdrawal of 1,362,240 L/day (299,656 Igpm) from April 1<sup>st</sup> to September 30<sup>th</sup>, provided that the average daily taking in one month shall not exceed 1,113,000 L/day. This additional condition in the PTTW was added to allow Nestle to provide additional water for short-term peak demands during the summer months.

The following is noted with respect to the monitoring program and requirements of the PTTW:

- an annual monitoring report is required under the PTTW,
- water taking is monitored on a continuous basis and daily flows are measures and reported,
- water levels are monitored a numerous locations, some continuous and some monthly, in the shallow groundwater, bedrock, wetlands and surface water, including:
  - o 9 monitoring well nests with 15 monitors
  - 1 staff gauge (monitors the local pond)
  - 7 piezometer nests with 14 monitors (monitor shallow groundwater)
  - $\circ$  6 surface water stations (monitor water levels and flows)
  - Monitor 13 private wells on 9 properties,
- precipitation data is provided in the annual report to assess the influence or impact of any significant variations in precipitation patterns on natural fluctuations in groundwater levels and surface water flows, and

 any well interference complaints are provide to the MOECC and measures taken to address the complaints must be reported.

The findings of the 2015 monitoring program show the following:

- Total volumes of water pumped are substantially below the maximum permitted rate, ranging from about 16% to 22% of the permitted rate on a monthly basis. Summer spike rates were not used in 2015.
- The pumping well has not shown a substantial variation in water levels under pumping and non-pumping conditions. There is typically about a 6-7 metre decline in water level at the well itself, under pumping conditions; however, the water level recovers back to or close to the historical static water level when the well is not being pumped. There is no apparent long-term decline in the water level at the well.
- Water levels in bedrock wells do not show any long-term decline as a result of pumping.
- Water levels in the shallow overburden wells do not show any apparent response to pumping from the Nestle well, and typically show a seasonal response to spring recharge and with a decline through the drier late summer and early fall months.
- Surface water monitoring does not show any influence from pumping of the Nestle bedrock well.
- Water level monitoring at the Hillsburgh municipal wells does not show any influence from pumping of the Nestle well.

Several recommendations are presented in the Nestle monitoring report, primarily related to discontinuing the monitoring at some locations, and in some cases replace an existing monitoring well with a new monitoring well. Several homeowners would like to discontinue monitoring of their well. Given that Nestle has a monitoring record of 15 years in many locations there are not any concerns with the recommendations.

In summary, the current water taking rates at the Nestle well have not shown any long-term impact on the groundwater levels and surface water. There is local decline of water levels or "drawdown cone" in the vicinity of the pumping well but this has not expanded over the 15 years of pumping. The current conditions in the PTTW appear to be adequate to ensure that the monitoring program will capture any negative impacts from water taking at the Nestle well.

If you have any questions or require further detail, please do not hesitate to contact me.

Sincerely Blackport Hydrogeology Inc.,

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Ray Blackport, P. Geo