



CBM

July 14, 2008

Approved Pumping Test on St Marys Cement Property

Dear Neighbour:

On July, 8 2008, the Ontario Ministry of the Environment (MOE) approved St Marys Cement Inc.'s (St Marys) application for a Permit to Take Water to carry out a pumping test on its property located at Lot 3, Concession 11, East Flamborough, City of Hamilton.

The permit requires that notification be provided to landowners within 1000 metres of the test site one week prior to commencement of the test. The pumping test is currently scheduled to begin on or about July 21, 2008 between 8:00am and 6:00pm and continuous pumping will continue for a maximum of 8 days. Site preparation activities will be ongoing over the course of this week by the team of licensed professionals who have been contracted to undertake the test. Daily updates related to the testing, including any change in the start date or time, will be posted on the St Marys website, www.flamboroughquarry.ca. Should you wish to be contacted by phone of any changes in the start date or time, please let us know.

We are committed to following the requirements set by the MOE in the Permit and to promptly respond to community questions or concerns during the testing. If you have any concerns, neighbours are asked to call 1-866-602-0080. This number will be monitored 24-hours a day during the testing. Please visit the website for new information.

Safeguards are in place to ensure that water quality and quantity will not be impacted. Representatives from Golder Associates, a hydrogeology firm approved by the MOE, will be providing third party oversight for the testing program as directed by MOE. In addition, there will be a daily on site meeting with representatives from the MOE, the City of Hamilton, the Region of Halton, Conservation Halton and the Hamilton Public Health Service.

St Marys' is committed to conducting the test in a safe and thorough manner and we will respond to community questions or concerns.

Sincerely,

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Procedure for Resolution of Private Well Interference Complaints

Background

The testing program at the CBM St Marys' property located north of the village of Carlisle in the City of Hamilton (Former Flamborough Township) will involve three pumping tests, each to be completed over a 6 to 8 day period. During these tests, groundwater will be extracted from the bedrock aquifer using test wells installed in 2007. The purpose of the testing program is to simulate the future effects of quarry development on local groundwater resources by and to evaluate the effectiveness of recharging the aquifer with extracted water to mitigate dewatering impacts.

As pumping occurs, it will lower water levels in the vicinity of the extraction wells. This is purposefully conducted to collect information on the extent and magnitude of the water level decline at the monitoring wells that have been installed around the test site and further away along the perimeter of the St Marys property. The bedrock aquifer's response to pumping provides a means by which the hydraulic properties of the aquifer can be established. This information is used in the development and calibration of a groundwater flow model and the model is in turn used as a tool, to simulate the effects of a quarry and to evaluate potential mitigation measures.

Pumping tests have the potential to interfere with the operation of adjacent water supply wells. This is related to a number of factors including the volume of water pumped, the duration of the test, distance to existing wells, depth and yield of these wells and climatic conditions. Well interference if it occurs, is noted as a decline in the water level of the adjacent well such that the capacity of the adjacent well, as measured by its ability to supply water, is temporarily reduced. In an extreme case, the water level in the adjacent well could be drawn below the intake of the pump in the well, and the well essentially goes 'dry' (i.e., not able to produce water). More typically, the level is drawn down to a point where the well pump recycles more frequently. On occasion, pumping can also result in changes to water quality, due to an alteration in the water source of water, such as the upward intrusion of more mineralized water or downward movement of near surface groundwater and surface water.

[Note: Other factors not related to the testing, such as reduced precipitation, well fouling and condition of the existing pump can contribute to the failure of a well to meet supply requirements.]

Provincial Regulatory Requirements

In order to undertake the testing, St Marys is required to obtain a Permit to Take Water (PTTW) from the Ontario Ministry of the Environment (MOE). The permit governs the maximum permitted rate at which the well(s) can be pumped, and provides the terms and conditions for the operation of the test well. One of the general conditions of a PTTW, relating to well interference, which is included with a PTTW when issued is as follows:

Interference with Other Water Supplies

The Permit holder shall immediately notify the Director of any complaint arising from the taking of water authorized by this Permit and shall report upon any action, which has been taken or is proposed with regard to such complaint.

For Ground-Water Takings, if the taking of water is forecast to interfere seriously, or is observed to interfere seriously with other water supplies obtained from any adequate sources that were in use prior to initial issuance of a Permit for this Water taking, the Permit holder shall take such action as will make available to those affected a supply of water equivalent in quantity and quality to their normal takings, or shall compensate such persons for their reasonable costs of doing so or shall reduce the rate and amount of taking so as to prevent the forecast interference or alleviate the observed interference. Pending permanent restoration of the affected supplies, the Permit holder shall provide to those affected temporary water supplies adequate to meet their normal requirements, or shall compensate such persons for their reasonable costs of doing so.

Upon issuance of the PTTW, St Marys will assume the obligation to meet the conditions in the permit and investigate interference complaints and, where it is found to be responsible, take the appropriate actions to resolve the complaint.

Investigation of Well Interference Complaints

Private well owners located in the vicinity of St Marys property where the test will be undertaken, will be provided with advance notice of the pumping test and will receive a copy of this document, which outlines St Marys' obligations related to well interference and the role of the participating agencies (MOE and the City of Hamilton Public Health Services) in resolving well interference.

On receiving a well interference complaint, St Marys will authorize its consultants to investigate the complaint. The consultant will typically be able to respond within an hour depending on the time the complaint is received. Lotowater Technical Services Inc., a consultant retained by St Marys, will handle the investigation of the complaint. Lotowater has professional geoscientists and licensed well technicians experienced in groundwater supply development, operation and maintenance.

These professionals will collect and evaluate the following information in order to understand and resolve the complaint:

- details of the complaint – address/location, history of problem, nature of complaint;
- location of the well and proximity to the wells that are being tested;
- water well record (if available), depth of the well and depth of the water level in the well;
- type and condition of pump, depth of the pump intake and performance of the well’s pumping system (pumping rate);
- presence of other high capacity wells in the area and locations of other adjacent wells;
- geologic and hydrogeologic setting; and,
- water level response in nearest monitoring well(s) installed for the purposes of monitoring test response.

If the complaint is related to a perceived change in the quality of the water, a sample of the water will be collected and submitted to a commercial laboratory for chemical/bacteriological analysis (per the attached Table).

The St Marys’ consultant will inform staff in the MOE Hamilton Office and the City of Hamilton Public Health Services of the interference complaint and provide them with copies of all correspondence related to the complaint. The cost of investigating the well interference regardless of the outcome will be borne by St Marys.

It should be noted that well problems may occur for a variety of reasons including drought conditions, low water levels, pump or plumbing problems, poor well construction, etc. Therefore a thorough investigation is required to assess the cause of the well interference complaint.

Results of the Well Interference Investigation

If the results of the investigation identify an adverse impact on the complainant’s well caused by the testing program, St Marys will immediately contact the MOE and the City of Hamilton Public Health Services and establish an appropriate action to rectify the situation.

The most immediate corrective response would be to offer the impacted well owner an alternative supply of potable water. The secondary response would be to reduce the pumping rate at the test wells.

More details on the provision of a water supply are provided in the following section.

Any water quality complaints will be addressed in a similar way, with an initial investigation of the complaint undertaken to establish its cause. The response action will be coordinated with the MOE and with the City of Hamilton Public Health Services. Again, if requested, St Marys will provide a temporary water supply.

While it is expected that the groundwater levels and initial water source will become re-established on termination of the testing, any adverse water quality conditions such as turbidity, if identified, may require a response such as the chlorination of the impacted well according to prescribed MOE guidance.

Although it is unlikely that the water level decline associated with the testing will damage pumps in adjacent wells as a result of overheating, if this should occur, St Marys will replace the well pump at no expense to the complainant.

In cases where the results of the investigations are uncertain, St Marys will work with the well owner to reach an equitable solution.

St Marys will inform the MOE and the Hamilton Public Health Services in writing upon resolution of the well interference complaint. Copies of all related documents will be provided to these agencies.

Provision of a Temporary Water Supply

St Marys is prepared to provide a temporary water supply to the owners of any wells that are affected by the testing. The following describes the process for providing such a supply:

- Immediately following the investigation of a complaint and the determination that the subject well has been adversely affected by the pumping test, St Marys consultant, Lotowater, will extend an offer to provide a temporary water supply.
- This will involve the delivery of a 500-gallon water tank to the residence and the connection of the tank to the existing residential water system. The tank may be connected directly to the owner's pressure tank or a pressure tank will be provided depending on the plumbing within the house.

- The tank will be filled with water from a list of acceptable suppliers obtained from the Hamilton Public Health Services.
- Once the tank is filled, the chlorine concentration of the water will be checked and, if necessary, adjusted. This may require that the tank be emptied and refilled using a supply of acceptable quality.
- Following the test, water levels in the private well will be monitored until they have recovered sufficiently to allow the use of the pump. At this time, a water sample will be collected for the parameters indicated in the attached Table. Following review and acceptance of the chemistry results (by the MOE and the Hamilton Public Health Services), the private system will be reestablished and the temporary water supply will be removed. [Note: the Public Health Services will assist the MOE with assessing the microbiological quality of recovering water wells that are not regulated under the SDWA, as part of the process for resuming normal use of the affected groundwater supply.]

Contact Phone Numbers

Anyone experiencing either a loss in the water supply or a perceived alteration in the quality of the supply should contact St Marys Cement at 1.866.602.0080 (toll free). The call will be redirected to Lotowater Technical Services Inc., the consultant retained by St Marys to respond to any well interference complaints, which are received.

Alternatively, the complaint may wish to contact the Hamilton office of the Ministry of the Environment at 905.521.7650 or the City of Hamilton Public Health Services' 'Safe Water Hotline' at 905.546.2424 ext 2189.

Chemical Parameter List, Groundwater Sampling Program.

ANALYTE GROUPING	ANALYTE
<i>GENERAL INDICATORS</i>	pH* Conductivity* TDS (calculated) Temperature* Turbidity*
<i>MAJOR IONS</i>	Chloride Sulphate Alkalinity Calcium Sodium Magnesium Potassium
<i>MINOR IONS</i>	Ammonia** Nitrate Nitrite Fluoride Bromide Cyanide (Free)
<i>METALS</i>	Arsenic Barium Boron Cadmium Chromium Iron Lead Nickel Zinc Mercury
<i>VOLATILE ORGANIC COMPOUNDS</i>	Volatile Scan including chlorinated organics & aromatic hydrocarbons
<i>BACTERIOLOGICAL PARAMETERS</i>	E. Coli Fecal Coliforms Fecal Streptococci Total Coliforms

() parameter to be measured in field using portable instruments, (**) ammonia is incorporated into the shallow, weathered-zone monitoring.*