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SMC test results announced

Dianne Cornish, Review Staff

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A series of pump tests done this summer at the proposed St. Marys quarry in northeastern Flamborough showed no effect on groundwater levels beyond 500 metres of the pumping well used to simulate the impacts that the quarry would have on the water in the area, a hydrogeologist said Tuesday.

Fluctuating groundwater levels did occur in and around the test well during the pumping, but they didn't extend to monitoring wells 500 metres or more away, said Stephen Hollingshead of Gartner Lee Ltd., an engineering firm that headed up the testing from July 21 to 29. Groundwater levels were affected on the quarry site, but that impact didn't extend to neighbouring wells, he said.

Throughout the testing, the constant flow rate at the test well was 10 litres of water per second. Hollingshead said that's all that was needed to confirm what the bedrock is like on the site and how the groundwater moves through it. But Graham Flint, chair of the anti-quarry group FORCE (Friends of Rural Communities and the Environment), says the test results are far from representative of the impacts that a full-scale quarry will have on the source water in the area. At the pumping rate used during the testing, the drawdown, or the level that the water fell to in the pumping well hole, was 14 metres, a long way from the proposed quarry's full depth of 40 metres, he said this week.

Flint maintains that the test, allowed under a temporary Permit to Take Water (PTTW) granted to St. Marys by the Ministry of the Environment (MOE), has been scaled back so much to ensure groundwater safety, that its results are meaningless. Hollingshead counters that huge volumes of water don't have to be extracted to get the required data. "We have tons of capacity," he said, alluding to the 50 litres of water per second granted in the permit. "If we don't need it, we won't use it."

The hydrogeologist also disputed Flint's claims that the test results were skewed by the record rainfalls that fell during some of the days of testing. "We were able to separate rainfall issues from pumping," he insisted, pointing to minor elevations on a graph that showed groundwater levels rising only a little as a result of heavy rains.

Flint noted that neighbouring private wells showed increasing water levels throughout the pumping test rather than decreasing levels, as would be expected when water was being pumped out of the system.

While Hollingshead said the test data offered “no surprises” in that it reinforces what technical experts believed about the bedrock aquifer, namely that it acts uniformly as a single aquifer to the amabel formation, Flint said he saw evidence to the contrary at some of the technical meetings about increased levels of surface water and deep well aquifers in monitoring wells after heavy rainfalls.

Jim Perrone, a water resource engineer from Stantec Consulting which monitored surface water on the site during the testing, said there was “a small influence” on surface water levels during the testing. Levels were “up a bit” in seeps (areas where groundwater comes to the surface), he said. But he did not detect any influence from the pumping tests on the water levels in Mountsberg Creek and its tributaries. Thirteen monitoring stations were set up on the creek and two of its tributaries during the tests to monitor the relationship between groundwater and surface water.

John Moroz, general manager and vice-president of St. Marys CBM, said efforts by FORCE to halt the pump tests by seeking leave to appeal the PTTW were sidelined last week when the Environmental Review Tribunal (ERT) ruled it has no jurisdiction to rule on the matter. The permit was issued for 357 days. Permits of less than a year cannot be appealed but FORCE questioned that ruling, contending that as the testing is being done over three rounds, with reports to the MOE being studied after each round before the next proceeds, it could well extend beyond a year.

Moroz stressed that the permit’s duration totals 24 days, with testing being held to a maximum of eight days over each of the three rounds. The length of the permit, which expires at the end of next June, was determined by the MOE which requires an extensive reporting system in between tests, he explained. Flint said the appeal application ensured that the community’s objections to the tests and the quarry proposal are “on the record.”

The ERT decision documents future commitments by St. Marys and the MOE about testing and public participation, a press release from FORCE said last week. The remaining two rounds of testing will look at the feasibility of a groundwater recirculation system that the aggregate company says will mitigate groundwater impacts of the quarry, if approved. If the tests show the system isn’t feasible, no additional water taking will be granted without a new design and approval process. If the option is shown as feasible, a longer-term PTTW will be sought and the public will be given additional opportunities to participate in the decision-making process regarding permit approval.

St. Marys hopes to begin the second round of testing this fall, but proceeding depends on how quickly the MOE reviews the findings of the first tests. The ministry must sign off before each round of testing resumes.

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