



## LPAT Day 19 – June 20, 2019

Day 19 is done. Two days of truck traffic are behind us and we're back, up to our ears, in water. We're nearing the end of Halton Region testimony – They've brought some impressive experts, and their peers from CRC and JDCL are there to listen. We learn in the breaks that they have all worked with each other and against each other in hearings gone by – it's a life-long passion and debate - and today we felt like we were actually in a university master class where great minds pondered the deep mysteries of the earth and its watery secrets.

### IMPORTANT HOUSEKEEPING UPDATES:

1. **Hearing times are 9:30 to 4:45** unless otherwise advised.
2. There will be **no Hearing on Friday, June 28.**
3. The **agenda for Monday** is at the end of this report.
4. **[Sign in on our roster here.](#) Note: This is a new link for the week of June 17 and 24.**

**Session Content** (This is not a detailed report – just a very simplistic record of activity because of the complexity of the issues, technical analyses and regulatory requirements. Any inaccuracies or opinions are Linda Sword's, not CRC's!! These daily journals are all on the CRC website [www.hiddenquarry.ca/OMB](http://www.hiddenquarry.ca/OMB))

Halton Region called Hydrogeologist Daryl Cowell, who specializes in karst (fissured rock, sometimes with openings large enough to be caves). He clarified that the dolostone rock in this area is young – post glacial, so the karstification is just beginning to develop. He said that the most important thing in assessing karst is to understand the specific site in question. You cannot generalize. In the dolostone the karst fissures are forming opportunistically, when acid rain, for example, finds a pre-existing weakness like a crack which is vulnerable to further dissolution, and the more pronounced openings are near valleys...like the Blue Springs or Eramosa Valleys.

For this reason he had requested, as had Burnside (on behalf of GET), that JDCL undertake dye testing, following the water from a surface source into the groundwater and then watching likely exit points for the dye to re-appear, at a spring for example. This is one of the few ways to gain some idea of how the underground water is flowing, because it is not possible to know where the fissures are otherwise. JDCL did not undertake any dye testing, ("we got tired of asking") so their analysis of the sources of the Brydson Spring, for example, is not at all substantiated. There are other methods to give more detail, chemical signals or electro-magnetic scanning – but none of these were used. Boreholes were the only method used by JDCL and that is like looking for a needle in a haystack. The JDCL bore hole logs do show cavities in the bedrock. They also show the presence of clay in some fractures...evidence that surface water is finding its way into the bedrock. More work must be done, as well, on monitoring water temperature to get a full picture.

It is important to say that Daryl Cowell spoke with authority, but he spoke quickly and his comments were often barely audible in the back seats, so I missed a lot of what he said. But he was clearly questioning JDCL's expert Stan Denhoed and finding only occasional common ground with JDCL karst expert, Dr. Worthington. But what he said, and what I underlined in my desperate note-taking was this: "I believe there are conduits that lead to the Brydson Spring, that it is not just infiltration through the overburden and this is important! If the quarry affects this conduit, then it is possible that things would change. The integrated system could be lost; solids could be introduced into the spring; annual flows could change affecting the fishery; and water warming in the quarry 'ponds' could impact the fishery as well." He went on to say that he could see alternate explanations for the Allen and DeGrandis Ponds – that they connect directly to the bedrock. The Wentworth Till of this area is not layered or consistent – so there may not be a layer of impermeable matter – the ponds may communicate through permeable till to permeable bedrock. There is doubt. There has not been enough research. Like Halton's other witness on hydrogeology, Norbert Woerns, Mr. Cowell also doubted the assumptions made about the water flow in and around Tributary B as it crossed the site...Did water only move vertically, or was there horizontal activity as well which would be affected by the quarry operation. CRC'ers have always wondered about the survival of this tributary, surrounded by 100 foot holes created by blasting...We didn't know all the reasons why we were concerned...but hydro-geology with its more sophisticated questions raises specific concerns. One of the points Mr. Cowell raised was that Halton Region should receive all monitoring reports if the quarry proceeds...something JDCL consistently missed.

David White's questioning led him into some quagmires...Mr. Cowell just knows too much and has too many questions! When Mr. White wanted to debate turbidity, Mr. Cowell added concerns about the lead and zinc that would be present in the rock. Had anybody tested? (No!) Asked about his participation in the process leading to the approval of the Acton Dufferin Quarry expansion (a got-you question if there ever was one), Mr. Cowell said, absolutely not...yes, he had represented the Niagara Escarpment Commission in early discussions, but the minute MOE and MNR approved perpetual pumping of water into provincially significant wetlands because they would be drained by the operation, Mr. Cowell quit, astounded that these government departments could find such 'mitigation' acceptable. Clearly they didn't need any expert counsel. David White pulled out some maps...it turned out they were from an inappropriate date...The Chair added another file to his "discard" pile. Halton lawyer David Germain jumped up, more than once, to say that Mr. White was attempting to introduce evidence, rather than cross-examine. One of Mr. Cowell's most important responses to the Chair, was that no, he had not looked at other sub-aqueous blasting sites in Ontario because there were none. Dolime is mining in shallow water. The Hidden Quarry is an experiment!

### What's on the agenda for Monday?

Halton Region's Planning expert Nick Macdonald will testify followed by cross-examination. It looks like CRC experts will begin sometime on Tuesday! Watch also for the time/date of Participant Tony Russell who couldn't attend last Monday, but will be called soon.