

April 17, 2011

**The Highland Companies,
Box 377,
Shelburne, ON L0N 1S0**

**Ministry of Natural Resources,
2284 Nursery Road,
Midhurst, ON L0L 1X0
Attention: Mr. Craig Laing**

Dear Sirs, Re: EBR Registry number 011-2864 MNR INST 19/11
The following sets out my objections with respect to the application which I understand was submitted on March 4, 2011 to the Ministry of Natural Resources by The Highland Companies for a quarry in the municipality of Melancthon.

As I am an ordinary citizen with no access at this point to experts in the areas of concern that this application gives rise to, I wish to reserve the right to adjust my objections once I have had the opportunity to digest the 3,100 pages of the submission and consult with people with some expertise, particularly in the areas of geology and hydrogeology. The time permitted by legislation of only 45 days for one to consider a potentially life-changing proposal of this enormous size seems most unfair and disconcerting.

Although some of my concerns and objections relate to perceived inadequacies in our legislation and its regulators, my objections are primarily directed to The Highland Companies (THC) under major headings as follows:

Proposed Quarry Depth

In THC's website, as well as in the application, THC has referred to the Province of Ontario's revised Resource Inventory Paper (163) for Dufferin County issued in December 2009. This paper notes that the bedrock in the northeastern and central part of Melancthon Township is generally covered by less than 8 meters of glacial drift which consists primarily of till, the underlying possible bedrock resources of Amabel formation dolostone providing a conservative workable thickness of 15 metres – a total of only 23 metres. THC's application calls for mining to a depth of approximately 75 metres, some 60 metres below the water table and some 52 metres below the bottom of the dolostone bedrock indicated in the above-mentioned paper.

In the "Geology, Bedrock Evaluation and Aggregate Suitability Study" report (geology report) included in its submission, THC has provided borehole logs for only two holes completed within the bounds of the proposed quarry site. These holes indicate that the dolostone continues to a depth of 68.4 and 63.8 metres respectively below the surface, the report stating, without further proof, that these holes are generally representative of the bedrock in the proposed license area. Thus the Province's Paper (163) is indicated to be substantially wrong. However two 108mm diameter holes drilled along the edge of a proposed 2300 acre quarry provides rather skimpy confirmation of this. Can you provide

data from the rest of the boreholes to more substantially prove the depth? It is not clear how many holes were drilled – the geology report stating there were 7 while Figure C in volume 1 of the hydrogeology report indicates there were 31 bedrock boreholes drilled. **I object to being given so little explanation with respect to these depth differences.**

Dolostone analysis

While THC claims its intent is to develop an aggregate quarry, **dolomite, which generally represents a large proportion of dolostone, has significant uses other than that of construction aggregate** if it is “chemical grade” (i.e. contains 20% MgO or more).

Some of the main uses are as a source of magnesium metal, as filler in plastics, paints, rubber and detergents, in the manufacture of glass and glass wool insulation, as refractory material and flux in the production of steel, as fertilizer and soil stabilizer. Of course, there is also an active and lucrative market for the limestone THC intends to mine as a major component of Portland cement. While further processing may be required, dolomite, when used to meet non-aggregate needs, has a market value an order of magnitude higher than its value as aggregate (5 to 100 times greater).

Given THC’s unwillingness to be open with respect to future plans, I object to THC’s desire to purchase a rail bed from the proposed pit north to Owen Sound, where aggregates are not needed, as it suggests intent to ship mined materials by boat to other markets.

THC has provided analyses of only a very modest number of samples taken from the core of four bore holes– the two holes for which log data has been provided plus two more as shown in Appendix A of the geology report. This sampling was done with a focus on determining the material’s suitability as aggregate in a **lab certified for construction materials testing**. It indicates an average MgO content in these samples of 20.4 %. If no further sampling and analysis of drill core was undertaken than what is reported in the application, why not? If it was, why is this not being shared?

Further explanation and information should be shared relating to the subject dolostone reserves – the depth of this ore body and its chemical content. Given the likelihood that there is even more corroborating evidence I object to having been offered such scant and possibly incomplete information. THC should explain why application for a license to mine ore was not made, rather than just a license for aggregate extraction.

Clearly the Aggregate Resources Act is intended in part to ensure the supply of aggregates to meet local construction needs, not to mine minerals for other industrial uses, which is a matter that should be considered under the Province’s Mining Act, administered by the MNM. There appears to be conflict between definitions relating to mineral bearing material in the Mining Act and the Aggregate Resources Act calls for clarification that it is incumbent upon THC, as the responsible citizen it purports to be, and the ministries that should be involved, to provide.

The Resource Inventory Paper (163) referred to above makes frequent use of the word “preservation” as an objective, in the context of ensuring that access to aggregates is not further encroached upon by environmental, social, agriculture and other less important constraints. As it relates to sand and gravel where, because of transportation costs, it is important to be able to access material as close as possible to where it is needed, “preservation” can make some sense. However, the umbrella provided by the Aggregate

Resources Act should not apply if bedrock is to be mined in whole or in part for its mineral content to meet industrial applications other than aggregates, or even if for aggregates to be shipped to a foreign country.

Water

My property lies approximately 4 kilometers east of the eastern border of the proposed quarry at an elevation approximately 150 meters below the present undisturbed surface of the proposed quarry and on the northern edge of the Pine River valley, being part of lot 19 east of Centre Road in Mulmur. There are many year-round springs crossing my property providing habitat for a wide range of wildlife as this water continues on its path to feed the Pine River. These springs are undoubtedly sourced by aquifers that originate in the area of your proposed quarry, that no doubt lie in the deeper dolostone. As well, water for my home use is supplied by an artesian well, which suggests its source to be a confined aquifer.

The karst nature of the bedrock this application seeks to extract is known to contain a multitude of aquifers both unconfined and at depth, confined, that represent a significant source of water for the rivers that run in all directions from this high table of agricultural land. The many sinks and underground streams in this area attest to this fact as do the many springs and artesian wells that are evident at lower elevations. The close spacing of, and both lateral and vertical nature of the fractures in the epikarst, the upper “interface aquifer”, will be quite inconsistent with the far more widely spaced and generally vertical nature of the fissures in the deeper dolostone. This raises the question as to the potential reliability of the effort to replicate the now natural hydraulic connection between them with the proposed series of recharge wells, particularly in light of the sheer volume of water it is proposed will need to be managed. Contamination of the water as it is collected and moved from the pit floor to the recharge wells is also a concern to me. Broad, rather simple statements seem to be made in the hydrogeologic report that do not inspire confidence – such as “To reduce the volume of water that could enter the quarry through the interface aquifer, a localized shallow hydraulic barrier can be constructed and maintained around portions of the quarry perimeter”. These statements are made by consultants hired by THC simply to prepare a report and whose responsibility will not carry through to implementation and operation. Examples offered as a comparison, such as Holcim’s Milton quarry, 1/10th the size of this proposal, and the Holland Marsh seem quite irrelevant apart from the fact that they use pumps to move water.

Given my proximity to the proposed quarry, its proposed depth, the nature of the aquifers that the proposed excavation will disturb, and the volume of water that will have to be managed as the proposed excavation proceeds, it is my belief that the proposed quarry will severely impact both the quantity and quality of the present water sources on my property. Also, the area that is proposed to be mined is known to be the headwaters of a number of rivers that service the water needs of an unknown number, but estimated to be at least one million Ontario residents – water that meets agricultural as well as residential needs. The application notes the need to manage 600 million liters a day that it is expected will enter the pit in perpetuity. While the application claims that only the Pine River subwatershed will be affected, this is not certain, and certainly will not be so when the THC’s next application comes along, should this one be successful. I believe it is incumbent on THC to demonstrate with greater assurance that the proposed activity will not have a detrimental

impact, in perpetuity, on the water supply – its quality and quantity - for a major segment of our Province, and if it does, to provide a workable primary plan as well as a backup plan for alleviating any detrimental impacts.

With THC having offered no known examples in the world of a situation of this magnitude and nature – the size and depth of the proposed excavation, its elevation, its location in a significant headwaters area with complex karst conditions - how can THC and its experts, with no experience in such unusual circumstances, state with assurance that the proposed water management plan will work? I object to this level of inexperience and uncertainty. What, if any, is the disaster back-up plan?

Non-Renewable Resource

My home is in an area managed by the Niagara Escarpment Commission. I moved here in 1970 just before the Province decided to provide some protection for this important natural heritage area by forming the NEC. Its mandate is to protect this environment from the kind of gross intrusion that this proposal would inflict upon our area. I believe that **the proposed quarry area** was considered to be a part of the Niagara Escarpment in the original maps prepared in 1978 and indeed **is a part of the Escarpment bedrock** in any event. The Commission's control area was whittled down to just over one third of what was originally proposed, as a result of political lobbying - not because of geology - placing land such as what THC has acquired outside the Commission's boundaries.

The negative impact on my quality of life will be immeasurable. The economic value of my property will suffer a blow as well. THC claims that the impact of its proposed operation will stop at the border of its property. **Believing it to be patently untrue, I object to THC's unproven argument that no one will be affected beyond its property line.**

Noise, vibration and pollution from excavation activity

Having been personally involved in the mining business for some 30 years, including witnessing the operation of some 8 open pit operations, I am somewhat familiar with the impact of blasting on the environment. I understand that blasting is proposed to take place daily, with the exception of Sundays and statutory holidays. While I understand that existing regulations are **supposed** to attenuate the effect of this activity, **I believe that my proximity to the proposed operation and the nature of our shared bedrock will subject me to a level of noise and vibration that will severely impact my enjoyment of my home.** Depending on wind direction, I am likely as well to be subjected to significant amounts of **dust**. The effort required to bring mined material to surface from a depth of as much as 90 meters will undoubtedly consume much energy with a high level of **pollution** created by this exercise.

THC's presentations make many references to the responsibility of the Provincial Ministry of the Environment to ensure compliance by THC's operations with the many regulations in place dealing with noise, vibration, dust and pollution. It is my understanding that this Ministry suffers, as do many other of our Government's Ministries and agencies, a serious shortfall in funds to adequately do their job, leaving the burden on the Province's citizens to carry out the impossible task of "policing" the actions of large amorphous corporate organizations such as ultimately will be required to manage and rehabilitate a quarry of this

size. The amount of blasting material used, size of benches, etc. would have a tremendous bearing on the amount of noise and vibration. **I object to the possibility that THC will not be effectively monitored and that estimates of THC's experts regarding noise and vibration will prove to be inaccurate.**

Furthermore, given that this is by far the largest and most complex project of this kind ever contemplated, I seek assurance that the existing regulations, if complied with, will adequately provide the protection that one should expect.

The nature and extent of processing of the mined material that is proposed to take place, and processing of imported secondary material I understand that the application seeks permission to bring to the site for processing, is not clearly described and thus the impact of this activity not fully revealed. I object to this uncertainty.

My now very pleasant environment may well become only marginally livable.

Economic Benefit

THC's submission provides no analysis of the potential impact of a 24 hour a day, 7 day a week operation for the next 40 years or so on surrounding crops, livestock and people. There is essentially no economic benefit of any consequence offered for the immediate area apart from a minor net increase in jobs.

Apart from data provided by MNR's SAROS study, which was essentially prepared by the aggregate industry and its proponents, no unbiased evidence of the Province's aggregate requirements has been offered. **I object to a proposal that effectively rapes our countryside while giving nothing back of any consequence.**

Ingress/Egress on Shared Traffic Routes

My access to stores for obtaining supplies in the Shelburne area includes use of Dufferin County Roads 17 and 124, and provincial highways 89 and 10, routes that the application states are planned to be used to move aggregates to the south. The volume of traffic indicated in the application and the suggested average operating speeds of these very large trucks would appear to make use of these roads virtually unavailable for residents in our area and certainly unsafe if one will be able to access them at all. I have seen one estimate, based on the numbers provided, that suggests there could be a 40 tonne truck passing by in each direction every 12 seconds 24 hours a day. This is truly hard to visualize and it is even more difficult to imagine attempting to share these roads with so many trucks. It boggles the mind.

As well, I have several grandchildren who live in this area who travel by bus to their schools. These buses must necessarily use these same roadways on route from children's homes to their schools.

Would THC please address this objection and explain how and when I will be able to come and go from my rural home, and as well, how my grandchildren can get to school safely.

Road Maintenance

The incredibly small amount that current legislation apparently obliges THC to pay to the County and the Province, ostensibly to cover the cost of road repair, will certainly not cover this cost in light of the wear and tear from your proposed use of them. **As a result**

we can expect our taxes to increase with no net benefit to us unless THC is prepared to pay its full share. Is this the case?

Agriculture – Now and After Rehabilitation

It is my understanding that the till mantle that the application proposes to remove and stockpile for future agricultural use, is the best soil available in the Province for growing potatoes. THC has now purchased in the order of 8,000 acres of this land. I understand that THC explained to many of the farmers from whom it was purchased that it was the intent to continue in this business.

It is now quite evident that THC was less than forthcoming and that, while potato operations are currently continuing, the plan is ultimately to convert the entire area purchased into the world's largest quarry, and as well, the only such operation on the planet that would operate virtually totally below the water table, at a very high elevation and in a headwaters area. Such an assault seems beyond comprehension if one had one iota of regard for the environment. With only questionable untested technology available to attempt to handle, until the end of time, some 600 million liters of water requiring management in each 24 hour period with the proposed 2300 acre pit, just what would be involved with a pit of 8,000 acres in a headwaters area, or possibly 15,000 acres if THC is successful in chasing the rest of the agricultural activity out of this area of prime agricultural land by destroying their access to water?

I understand that, regardless of the rehabilitation plan included in the application that offers to return the land to agriculture, the Minister of Natural Resources has suggested that use of this land for agricultural purposes after rehabilitation can not be expected. She suggested that it could become a nice golf course. Perhaps she is not aware that a very fine 18 hole golf course requires no more than 120 acres, thus proposing, it seems a nice 350 hole golf course 250 feet below the surrounding land. From these comments, made on February 28 by the Minister, a week before the THC application was submitted and therefore not based on any study of the application, one can also conclude that THC's behind the scenes lobbying at Queens Park over the past few years has been quite effective. In our system of government this may be legal but is it fair? Clearly the Minister was not given a balanced understanding of the potential outcome of this proposal or she would surely not have made such uninformed comment.

I object to the fact that, given the potential ongoing water management issue and the fact that putting the agricultural loam back in place will be a virtual impossibility, realistic rehabilitation plan has not been offered.

I met one of the rehabilitation consultants hired by THC at the required public meeting held in Hornings Mills on April 12, 2011. This consultant referred to examples of "outstanding rehabilitation and reclamation sites" after aggregate extraction, none of which even remotely compare in terms of size, depth of excavation, perpetual intrusion on the water table and invasion of the headwaters of major watersheds and river systems.

Management Competence

The level and depth of competence that would be required to manage and rehabilitate each aspect of a quarry of this size, given the conditions under which it would have to function, with the slightest failure in any operating area potentially having a very deleterious impact on the environment well beyond the operation's borders, would be very considerable.

Clearly THC was incorporated to carry out the task of land assembly, a function it has carried out in a very proficient, albeit seemingly underhand way, having had prior knowledge of the potential asset that lay beneath the surface but not sharing this knowledge with the seller. Having carried out most of this task, THC then had need to continue with the farming operations it had acquired, and to the extent possible, curry the favour of local citizens, while proceeding with the preparation of an aggregate license application. It did this by hiring some of the larger growers on the land it purchased to keep up this façade and by putting on the face of a benevolent corporate entity, through using local business services where required and making charitable donations towards local activities.

Apart from its recently acquired complement of potato growers and marketers, its public relations staff, its people with land acquisition skills and its behind-the-scene workers in the Queens Park milieu, THC is obviously not an entity of any operational substance. It would seem to have no in-house knowledge of, or the requisite skills to manage and operate, quarries, especially one of this complexity. All the reports provided in the application have been prepared by consultants each hired to do a report in their area of competence. While there is some evidence of communication between these outside sources, the application seems rather disjointed – not the work of a team well versed in the business at hand in any overall sense.

Should this application be approved, it is hard to conceive of how THC could move from its current low level of expertise – using outside consultants - to becoming a premier operator of a quarry, replete with so many potential pitfalls, without stumbling badly and creating any number of environmental disasters and lapses in meeting standards.

Given that it is financed by a large U.S. based hedge fund, it would seem most likely that THC will be given the task, if it is successful in obtaining a license to operate this quarry, of disposing of this investment to an international giant, such as Holcim, Ltd., with the in-house skills to operate the mine.

This outcome would perhaps bode well for those in the Province who would be affected, except for the fact that transfer of obligations and agreed responsibilities are easily lost on transfer of ownership. As well, any ongoing weakness on the part of the Province in “policing” adherence to the regulations intended to protect us, would remain a serious concern, quite apart from the fact that the cost of doing so would fall upon us as taxpayers and not the mine operator.

My objection then is no realistic plan has been provided with respect to managing/operating this mine, if the application is approved. And, if it should be approved, the Province’s Ministries and Agencies will be ill prepared to ensure regulations are adhered to.

Yours truly,

Gary Corlett,
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