

**From:** Check, Gordon G  
**Sent:** Wednesday, May 13, 2015 9:39 AM  
**To:** MacPhail, Helen  
**Cc:** Benjamin, Cheryl L  
**Subject:** RE: Black Point Quarry: Proponent's responses to IRs on EIS

Hi Helen,

Here are my comments for you, regarding Vulcan Materials/Morien Resources responses:

**IR-14 – Discussion:** I had expected a more in-depth discussion of the very real possibility of seawater intrusion into the proposed below-sea-level pit.

**Proposed further request:** None (see others related below)

**IR-22 – Discussion:** My request for an initial theoretical assessment of landward migration of the saltwater/freshwater interface was not addressed – just their opinion they think it would not occur. On this issue I expected a detailed hydraulic analysis using hydrogeological principles (D’Arcy’s law, Gyben- Herzberg principle, etc) to demonstrate and estimate post-excavation flow conditions at the currently proposed depths. The concern is that the site activity reclamation will result in a brackish lake as opposed to a freshwater lake and that localized saltwater intrusion into groundwater will occur.

**Alternate solution:** Place conditions in the site Approval that would not allow excavation below mean sea level (msl). This may be preferred to allowing excavation below sea level, particularly if they cannot/won’t demonstrate IR -22 above and given the 10 yr expected timespan of Approval and given the response provided to IR-23

**IR-23 – Discussion:** Response was adequate, reported timeframe anticipated until excavation below sea level is 15-25 years

**IR-24 – Discussion:** The proponent made no changes to their monitoring plan based on comments received and perhaps *did not understand the request or rationale for an initial baseline monitoring network of a minimum of 3 well locations that will not change during the life of the Approval. Monitoring locations that are planned to be in the excavation area and therefore destroyed over time should not be considered to be part of the monitoring network.*

**Alternate solution:** In this regard, understanding that an Approval from NS Environment is most likely to be for a maximum of 10 years , I adjust my monitoring recommendation as discussed below:

The proponents suggest installing two well pairs within the planned 10 year excavation area (BP-3 and BP-6) and one well pair to the east (Green 1)- before commencement of mining. However, BP-6 would be destroyed after 5 years and BP-3 after 10 years. They then have plans to add some wells (BP-2 etc.) over time throughout the 45 year projected mining operation in an “adaptive” or sequential manner. Their plan does not provide an adequate, consistent long-term baseline monitoring network of groundwater for the potentially approved extent of site. It does not give a consistent network of at least 3 wells. If the project for some reason stops between years 5-10 – the proponent has not provided for adequate monitoring.

My recommendation is as follows:

1. The monitoring network must be adequate for a minimum 10 year Approval and represent baseline conditions surrounding the approved area. Minimum of 3 well pairs.
2. Install BP-2 well pair now and the Green 1 well pair to the east now. Also install the Green 2 well pair to the west now. These 3 monitoring well pairs then are on the periphery of the 10 year projected mining extents and appropriate for a 10 year approval, providing a consistent baseline network for that time period.

3. If/when an approval extension is considered, or expansion warrants it – install the Green 3 well pair (to the south)
4. Other operational monitoring wells may be installed within the 10 year excavation extents as the proponent sees fit

If you want to discuss further, please let me know.

Regards,

Gordon

**From:** MacPhail, Helen  
**Sent:** May-11-15 3:40 PM  
**To:** Check, Gordon G; Taylor, Darrell; Cooper, John; Labor, Peter  
**Subject:** FW: Black Point Quarry: Proponent's responses to IRs on EIS  
**Importance:** High

Hello All,

Just a reminder that comments on this are due today.

Thank you,

Helen

**From:** MacPhail, Helen  
**Sent:** Monday, May 04, 2015 10:15 AM  
**To:** Check, Gordon G; Taylor, Darrell; Cooper, John; Labor, Peter  
**Cc:** Savard, Micheline [CEAA] ([micheline.savard@ceaa-acee.gc.ca](mailto:micheline.savard@ceaa-acee.gc.ca)); MacLean, Don A; Tattrie, Steven C; McDonald, Jessica; Swaine, Angela; Weseloh McKeane, Sean; Cross, Anna; MacMillan, Heather J; MacDonald, Darlene M; Blackburn, Lori M; Whiteway, Patrick; Petrie, Bob D; English, Bill J; Feldman, Don A; Hickman, Leslie C; Elderkin, Mark; Dera, Beata E; Henderson, Lana A; McKenna, Chuck W; Green, Will A; Power, Jason WB; Murphy, Andrew (ENV); Keats, Paul J  
**Subject:** FW: Black Point Quarry: Proponent's responses to IRs on EIS  
**Importance:** High

Good Morning All,

Please review the attached document which contains the proponent's responses to the Information Requests on the Black Point Quarry Project's EIS. Please respond to me by end of day on **May 11** and indicate whether you are satisfied with the proponent's responses or have further questions for the proponent. Thank you for your continued participation.

Regards,

*Helen MacPhail*

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