

October 2, 2017

Mr. Joe Arab
3283920 Nova Scotia Limited
25, Oakley Avenue
Halifax (Nova Scotia) B3M 3G6

Subject : Review CBCL Limited – Level 2 Groudwater Assessment report

Lot B, Peggy's Cove Road
Upper Tantallon, Nova Scotia

Ref. : P-0012667-0-00-200

Mr Arab,

We are pleased to provide you with our additional comments following the review by CBCL Limited of the Level 2 Groundwater Assessment report conducted by Englobe on the above-mentioned property.

In the letter dated of August 10, 2017, CBCL ask for clarifications about the revised estimates of safe yields for Wells 3 and 4 and a comparison of safe yields and daily demand.

For the safe yield calculations, CBCL requested a new estimate since the 72 hour aquifer test was completed under cumulative pumping conditions and the calculations for transmissivities were made with methods for individual pumping. Transmissivities were interpreted using pumping rates for individual wells because this is a more conservative method. Drawdown would have been smaller if we had taken into account the cumulative pumping conditions. Moreover, the interpretation of the pumping test shows that even though that the two wells are within the radius of influence, there is little influence on the drawdown of the two wells. Also, the interpreted transmissivities are consistent for the two wells. Finally, it is important to note that there is no available analytical method for the interpretation of cumulative wells, which means that this analysis would have required numerical modeling and would have resulted in a small (less conservative) difference in the result.

Also for the safe yield, CBCL requested a comparison of long-term drawdown, water bearing fracture depths and sea level. As shown on Figures 3 and 4 of Appendix 1 of the report, there are 3 and 5 water bearing fractures below the maximum dynamic pumping water level, which means that no fracture will be dewatered by the pumping in well 3 and 4. Concerning the possible intrusion of salt water, as discussed in section 7.6.4 of the report, even though the dynamic pumping water level of the wells are below the sea level, the chemical analysis after 72 hours show that there is no intrusion of salt water in the wells. Moreover, considering the radius of influence of 210 m and the distance of the sea (250 m), there should be no influence on the salt-water interface so no salt water should be pumped.

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The recommended 12 hour recovery cycle was an artefact from previous version of the report, and should have been removed. Since there will be a storage tank to supply peak water demand, the 12 hour recovery cycle is not needed. So the comparison of total well yields to demand on a schedule of 24 hr/day is correct.

We trust this letter meets your current requirements. Please contact the undersigned if you require any additional information.

Sincerely,
Englobe Corp.

Aven Cole, M.Sc.E., P.Eng.
Project Engineer, Environmental Engineering