

From: [Jeff Froese](#)
To: [Reinder Kramer](#)
Cc: [Mike Iwanyshyn \(Mike.Iwanyshyn@nrcc.ca\)](mailto:Mike.Iwanyshyn@nrcc.ca)
Subject: Follow up to Friday's meeting (RA19016)
Date: July 15, 2019 1:47:00 PM

Hello Mr. Kramer,

Thanks for having me out to your farm last Friday and your patience through the conversation. I appreciate that it was unpleasant news that I delivered to you and your wife.

In that meeting, you indicated that the lagoon is approximately twelve feet deep, this is the maximum depth that could be excavated with the machinery when the lagoon or earthen liquid manure storage was constructed. You also indicated that there was no plastic (synthetic) or compacted soil liner in the lagoon.

As discussed, through use of the NRCB's environmental risk screening tool I have identified that your lagoon presents a moderate potential risk to groundwater. The risk to groundwater is largely due to the relatively shallow sandstone below and around your farm (potentially as shallow as 12 feet) and because it appears as though people are or could potentially be using the sandstone as a water source. The NRCB's approvals policy requires me to include conditions to a permit to address that risk if a manure collection or storage facility presents a moderate or high risk when screened with the environmental risk screening tool.

There are many ways that you could potentially address the concerns raised by the lagoon's potential moderate risk to groundwater which include but are not limited to:

- Proving that there is a layer of soil between the lagoon floor and the sandstone that meets the requirements of the Agricultural Operation Practices Act
- Several other CFOs with situations like yours have been part of a leakage detection program, that program helps to identify if there is a leak from the lagoon and how to proceed going forward. Typically that program requires the submission of a plan from the CFO operator as to how to identify, monitor and fix suspected leaking lagoons. Typically an engineer is hired by yourself and they are involved in the process.
- Relining the lagoon, doing so would require a permit under the Agricultural Operation Practices Act
 - o There may be funding available through the CAP program: <https://cap.alberta.ca/CAP/> to help with these and other related costs

I am not requiring you to reline or to reconstruct the lagoon at present time. However, I expect that a plan from you that addresses the risk posed by the lagoon will be required in the relatively near future.

If you would like to discuss this email or related matters, feel free to get in touch.

Regards,

Jeff Froese

Approval Officer

Natural Resources Conservation Board

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