Dear Minister

In accordance to Section 27(1) of the Manitoba Environment Act, What the Frack Manitoba has issued make a formal appeal regarding the decision of the Director of Environmental Approval recommend to you that Clean Environment Commissions hearing not be held with the respect to CanWhite Sands Corp.(the proponent) silica sand development project file # 5067.00

I would like to make a separate appeal. My reasons for this separate formal appeal are;

There is new and significant information contained in the Proponent Response to Public Comments - Table 2, Attachment A (Attachment A), letter to the Impact Assessment Agency of Canada (IAAC) on September 1, 2020, written by Mr. Feisal Somji, President and CEO of CanWhite Sands Corp., posted on the Manitoba Public Registry on November 5, 2020.

Mr. Somji wrote the letter to the IAAC in large part to address my submission to the IAAC and to the Manitoba public review of the Vivian Sand Facility Project. I would like to point out that an incorrect version of my submission is posted on the registry of public review comments. Don Sullivan of What the Frack Manitoba submitted the revised correct version on August 20, 2020 but an earlier version was posted in error. The correct version appears in the IAAC comments. Since Mr. Somji's letter specifically addresses my comments I am submitting a separate appeal.

Mr. Somji's on page 3 of the IAAC letter to the IAAC, states

"*As the sand is removed the associated water returns to the formation through the annular space between the 25 cm and 15cm tubing*."

This statement clearly establishes water will be returned to the aquifer via the extraction well. This is very significant. Return of water to the aquifer was not mentioned in the proponent's EAP of July 2, 2020. No detail other than this one brief statement by Mr. Somji explains how much water or by what means the water will be returned. This brief inadequate disclosure clearly demonstrates that important critical information is being withheld from the approval process. This new and significant information by the proponent was not subject to public review. The public was not given the opportunity to provide comments on this new and significant information provided to the proponent.

One condition for a class 3 development as defined in the class development regulation (the regulation) of the Manitoba Environment Act is;

"*Aquifer recharge with a closed system where water is returned to the aquifer from which it is taken with no change in quality other than temperature and flow rates greater than 250 L/s*"

The flow rate of water from the closed slurry loop through the clarifier according to the proponent's EAP is 24,416 litres per minute. That is 407 L/s.

The flow rate of the circulation loop is 407 L/s which is greater than the criterion of 250 L/s as set out in the class development regulation of the Manitoba Environment Act.

It is unclear from the regulation if the flow rate refers to the rate of flow in the closed loop system, or the rate of flow back into the aquifer. Only a portion of the 407 L/s flow in the slurry closed loop system is returned to the aquifer.

It is expected that much more water will be withdrawn from the aquifer with the sand upon extraction than is lost when the sand is stockpiled at the wash plant. According to the EAP the water content of the stockpiled sand is only 15%. Therefore, it is quite likely that the water will be returned to the aquifer at rates greater than 250 L/s.

On Page 3 of Attachment A Mr. Somji states,

"*At the facility the sand is deposited wet into a Work In Process (WIP) pile on an engineered surface which contains the equivalent of French Drains allowing full containment of any water discharge. The water, rain and snow melt are captured and recycled for WIP pile wetting and continuous water loop*."

This is more new and previously non disclosed important information.

The above quote gives inadequate information on the actual destination of the water, rain and snowmelt diverted from the French drain system to the continuous water loop. Recycling of water to the WIP pile for rewetting during a rainfall or snowmelt will simply run off as the sand stockpiles will already be saturated. Since the all of the runoff is to be captured with no surface discharge, all must be diverted to the continuous water loop. Since this water will be excess and according to the EAP and Somji's letter, will not be discharged to the land surface, the excess water must be returned to the aquifer via the extraction well. This fact has not been explicitly disclosed.

The new information that water will be returned to the aquifer and that snowmelt and rainwater runoff will be collected and diverted to the aquifer have been deliberately inadequately documented to avoid discussion of detrimental consequences. The new information establishes the necessary intimate connection between the processing plant and the mining extraction operations. Separation of these two processes necessarily leads to suppression of essential information about project detriment. There is a persistent pattern of proponent failure to disclose essential information for this Project. It is only in response to reviewer comments that new information was revealed in Mr. Somji's letter. Even then the new information was not fully disclosed.

I assume the Manitoba Environment Act must be enforced even if the flow rate back to the aquifer (recharge) is even temporarily greater than 250 L/s.

The phrase in the class development regulation "*where water is returned to the aquifer from which it is taken with no change in quality*," establishes that if there is a change in the water quality returned to the aquifer therefore, this development must be considered a class 3 development under the regulation.

Certainly, there will be a change in water quality. At the very least there will be some dissolved contaminants in runoff water returned to the aquifer from rain or snow melt events. Dissolved contaminants will not be removed by flocculants in the clarifier tank and will accumulate due to recycling. Snowmelt in particular is known to accumulate contaminants from vehicle exhaust and other sources during winter as described in the reference in this link https://www.sciencedaily.com/releases/2011/03/110328162031.htm. There are many other peer reviewed scientific papers and measurements that establish contamination in snowmelt. Contaminant emissions such as nitrous oxides from CanWhite plant vehicles and equipment have been documented in the EAP. Runoff from rain will carry dissolved minerals from groundwater.

The EAP and Mr. Somj's letter state that the sand is to be used to produce solar panels and electronics. It is necessary to remove iron oxide and other minerals coating the sand grains in the wash plant for the production of pure silicon metal for solar panels and electronics. The minerals removed from the sand will be dissolved in the wash water and the slurry water diminishing water quality.

My submission to the public review and the IAAC, documents lab results prove sulphide is present in samples of Vivian sand that were collected by local volunteers. The sulphide is in the form of marcasite (FeS_2) in the Vivian sand. Marcasite is a type of pyrite. Physical samples and pictures of shale fragments in the extracted Vivian sand prove that shale is in the extracted sand. The shale contains pyrite. These sources of pyrite will form acid and mobilize heavy metals into the slurry water diminishing the water quality.

I have documented in my submission to the public review and the IAAC, evidence from a peer reviewed scientific paper, that the iron ions and acid from the pyrite will degrade the polyacrylamide flocculant into the neurotoxic, carcinogenic, teratogenic acrylamide monomer. Light also degrades the polyacrylamide. There will also be a very small amount of the monomer in the flocculent from the initial production of the flocculent.

Since much of the slurry loop water will be recycled, contaminants will build up in the slurry water. The water from the wash plant is to be stored over winter and reused. Even a tiny amount of acrylamide monomer will build up to extremely toxic levels eventually. As documented in my submission acrylamide will biodegrade when exposed to air and microbes. There will be little or no microbes in the slurry loop water and the aquifer so the toxic acrylamide monomer will persist. The other contaminants from snowmelt, rainwater runoff, minerals from the wash plant and acid and heavy metals from the pyrite will not biodegrade and will accumulate.

Another example of non-disclosure is the proponent insistence that only 2 to 300 gallons of water per day is removed from the aquifer. This water is for use by employees on the plant site. The EAP states that the sand stockpiles contain 15% water. This water must be withdrawn from the aquifer. This amounts to about 200 thousand cubic meters of water per year entrained in the sand stockpiles as documented in my submission. The aquifer draw for the water in the stockpiles has been omitted from consideration in the EAP and Mr. Somji's letter. The ruse of a separate approval for the Plant is being used to disguise this water draw. The contamination of slurry water will prevent recycling and will necessarily result in up to 7.7 million cubic meters of water withdrawn from the aquifer as described in my submission. At a minimum the new information about contaminants collected from snowmelt and rainwater being diverted into the slurry loop establishes slurry loop contamination. This fact has been omitted in Mr. Somji's letter. The contamination of slurry loop water from pyrite and acrylamide has been falsely discounted. Minerals that must be removed from the sand into the wash water have not been considered.

The new information from Mr. Somji's letter establishes that contaminants from snowmelt and rain runoff will accumulate and will be diverted to the aquifer along with the minerals coating the sand, acrylamide, and acid and heavy metals from pyrite.

According to the regulation the CanWhite Sands Corp proposed development project is a class 3 development on two irrefutable grounds.

1) Aquifer recharge with a closed system where water is returned to the aquifer from which it is taken will have a flow rate greater than 250 L/s.

2) There will be a change in water quality returned to the aquifer other than temperature.

Consequences of the significant new information, that water will be returned to the aquifer, and that snowmelt and rain runoff will be collected and diverted to the slurry loop, cannot be considered as the period for public comment is now closed.

The lack of adequate documentation of the Vivian Sand provincial environmental review process and lack of full disclosure of information by the proponent in its EAP in its July 2, 2020 documents is clearly revealed by this significant new information, which has been initially withheld from the public in the proponent's EAP documents of July 2, 2020.

This is an abuse of the process, which borders on administrative negligence in my opinion.

According to this new information the proposed project is a class 3 development. Thus, the entire approvals process must be suspended and restarted under the proper class development designation as per the Manitoba Environment Act and its corresponding regulation.

In my formal appeal to you as the Minister responsible for Manitoba Environment Act., I request that you immediately over-turn the decision of the Director of Environmental Approval and conduct a public panel review process in conjunction with your federal counterparts in the form of a joint Federal/Provincial Panel review process.

I request First Nation and Métis consultation as specified by Section 35 of the constitution be held prior to the joint Federal/Provincial Panel review process. The results and recommendations of the consultation must be included in the panel review process.

I request for this joint Federal/Provincial appeal, that you immediately request that the proponent re-submit a new EAP as a Class 3 Development project, in accordance to the regulations under the Manitoba Environment Act that contains third-party technical information and data on the proponent's processing facility, its mine and on its unconventional mining method to be reviewed by a joint Federal/Provincial public panel review process.

Respectfully,
Dennis LeNeveu