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The Honourable Jonathan Wilkinson
Minister of Environment and Climate Change
House of Commons
Ottawa, Ontario,
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September 28, 2020

Dear Minister Wilkinson,

I am writing to you to ask that there be a federal review under the IAAC (Impact Assessment Agency of Canada) of the CanWhite Sands Corp (CWS) proposed processing plant and silica sand mine to be located at Vivian, Manitoba.

The federal review could be conducted jointly with the province's Clean Environment Commission.

As it stands, the company and the province are considering the processing plant and the mine separately. This flies in the face of reason. It is essential that the review includes both the plant and the mine as they are closely interconnected; as detailed in the submission of Mr. D.M. LeNeveu on Sept 26, 2020.

We are concerned that splitting the assessment of mine and processing facility is designed to create confusion and minimize the true total environmental impact of the project. When Can White dismisses legitimate concerns about environmental impacts related to drinking water, agriculture, First Nations, Métis, and runoff for operations, it is because they are focusing only on the processing plant, which cannot operate independently from the mine, or from the mine's environmental impacts.

Since the plant and mine are intimately connected it is critical that they be reviewed jointly. Such a federal review of the proposal is appropriate since the Vivian Sands Facility (combined plant and mine) represent a new metal mine and mill with an ore input capacity of more than 5,000 tonnes per day.

The particular additional reasons for the federal review include:

- 1) Local opposition to this proposal is widespread and strong.
- 2) It is a project which has implications for the water supply and quality in the Sandilands aquifer which is an underground aquifer covering much of south-eastern Manitoba.
- 3) It is a project with a potential very large footprint – (over 85,000 hectares of claims have been put forward) and the potential for large cumulative effects.
- 4) It is a project which has potential implications for the Brokenhead River system and Lake Winnipeg which could add the potential for further cumulative effects.

- 5) It is a project which is upstream from the Brokenhead Ojibway Nation and may have adverse impacts on their community. The Brokenhead Ojibway Nation has not been consulted.
- 6) There are many Metis people who live in the area which may be affected by the Vivian Sands Project and the Metis people in Manitoba have not been consulted.
- 7) Because of the size of the aquifer and its extension into Minnesota, this project has potential international ramifications.
- 8) The project is to use new, unproven technology.
- 9) There are significant potential greenhouse gas emissions from the transportation of the produced sand which have not been included.
- 10) There are additional specific concerns about the actions of CanWhite Sands to date.

The Background and More detailed explanation of the Project and my concerns:

On July 16th, 2020 CanWhite Sands Corp (CWS), an Alberta based company, submitted an Environment Act Proposal (EAP), as per the Manitoba Environment Act (Public Registry File # 6057.00), to obtain Manitoba environmental approval to construct a silica sand processing facility and to produce 1.36 million tonnes of processed silica sand per year. The proposed silica sand processing facility will be located near Vivian, in Southeastern Manitoba. The processing plant will depend on a silica sand mine to be located at Vivian. For multiple reasons both plant and mine need to be assessed together.

The overall project includes mining claims of over 85,000 hectares, making it the largest claim ever given to a single company in Manitoba's history. It is larger than the City of Winnipeg which is 46,410 hectares. The details of the concerns are as follows:

1) Local Opposition to this proposal is widespread and strong:

There is strong local opposition to this proposal. An on-line petition calling for a combined review of the plant and mine under the Clean Environment Commission has gathered more than a thousand signatures. Submissions to the Province of Manitoba opposed to the Vivian Sands Facility have included more than 820 opposed to the Facility. A petition to be presented at the Manitoba Legislature which was signed in person has gathered more than 400 signatures in two weeks. I have personally visited the region where the proposed mine is to be located three times and have found a high level of local opposition.

2) It is a project which has major implications for the water supply and quality in the Sandilands aquifer which is an underground aquifer covering much of south-eastern Manitoba.

A major concern of the proposed mine and plant is that, if developed, it could contaminate the Sandilands aquifer (including both carbonate and sandstone aquifers), which covers much of southeastern Manitoba. The Sandilands aquifer has excellent water quality and is the water source for tens of thousands of Manitobans including many municipal water systems, agriculture, industry, private wells and an abundance of wildlife and ecosystems. A particular concern is that, based on previous experience at other locations, aquifer contamination is likely essentially irreversible and if it happens, will significantly affect people in south-eastern Manitoba for a long, long time into the foreseeable future.

As an added note, no credible estimate of the sustainable yield for all the aquifers in the Red River basin has been provided as was recommended in the Clean Environment Commission hearing of 2007.

3) It is a project with a potential very large footprint and has the potential for large cumulative effects.

Over 85,000 hectares of claims have been put forward involving a large area of south-eastern Manitoba. If the proposed silica processing facility receives Manitoba environmental approval, CWS intends to submit a second and separate EAP for environmental approval, under the Manitoba Environment Act, for its proposed silica sand mine and the mining method to extract the silica sand. The extent of the mining claims filed strongly suggest that the company involved believes in the potential of many more such mines in the region. It is important to have the first mine and plant assessed carefully because of the large potential of future mining and plant operations in the Sandilands aquifer. The potential for very large cumulative effects is a reason why a federal review of this proposal under the IAAC is so critical. Put simply, the environmental impact of the Vivian Sands project must be carefully assessed as the long term and cumulative impacts are potentially immense. While the company says it is only likely to mine sand from 10% of the aquifer, this itself, at 8,500 hectares, is quite substantial. Further CWS indicates it expects to drill at least one new mine every 5 days for 24 years. If the company works 5 days a week for eight months a year, this would be 832 bore holes scattered over 85,000 hectares across south-eastern Manitoba. This is substantial. If the company has two sites operating at any one time this would be 1664 bore holes. If there are ten sites operating simultaneously this would be 8,320 bore holes, and if it has 100 sites operating simultaneously this would represent 80,320 bore holes. The company is not clear on how many sites will operate concurrently.

4) It is a project which has potential implications for the Brokenhead River system and Lake Winnipeg, thus extending the potential cumulative effects even further.

The mining method which uses new technology and approaches, has the potential to discharge water from the process into nearby marshes which then empty into the Brokenhead River which flows into Lake Winnipeg. The company has asserted that “this is not possible”, despite the reality that this is a brand new, untested system. Notwithstanding the proponents proposed use of a closed loop system, there are concerns about the feasibility of this new process, and concerns that as a result of feasibility issues, the proponent in operating the mine, may discharge significant amounts of water into the nearby marshes and into the Brokenhead River. The possible discharge of polluted water into the Brokenhead River which drains directly into Lake Winnipeg could have major adverse effects, as the discharged water could contain high levels of heavy metals including chromium and arsenic and will be acidic and contain possible neurotoxins. This could occur as a result of certain chemicals being used in the wash plant. While this discharge is not planned in the company’s submission, the submission by Mr. D.M. LeNeveu of September 26 and *What the Frack Manitoba* outlines reasons why this discharge could occur if there were any problems with the proposed plan for recycling the water extracted from the aquifer. In the past there have been too many instances of extensive pollution being dumped from mining activity into local waterways. The federal review is needed because the project takes water and sand from this large aquifer which is so very important to so many Manitobans’ health; well-being; and livelihood.

- 5) It is a project which is upstream from the Brokenhead Ojibway Nation and may have adverse impacts on their community. The Brokenhead Ojibway Nation has not yet been consulted.**

Despite the company's assertion that "there are no reserve lands within the Local or Regional Project Area", the Sandilands aquifer does extend to the Brokenhead Ojibway Nation's Na-Sha-Ke-Penais Indian Reserve. Further, the Brokenhead Ojibway Nation is along the Brokenhead River downstream from the Vivian area. There is the potential of long lasting impacts to this aquifer which could affect this and other communities downstream from the Project Area. The federal review needs to assess the potential risk that the proposed closed loop system may not function as projected by CWS, and as a result there could be intermittent or permanent discharges into the Brokenhead River, which would also significantly impact this community and its surrounding environment. Only an independent expert and public review under the IAAC will be able to address this question adequately and provide the level of assurance of safety that people in the Brokenhead Ojibway Nation and indeed those in all south-eastern Manitoba need.

- 6) There are many Metis people who live in the area which may be affected by the Vivian Sands Project and the Metis people in Manitoba have not been consulted.**

There are many Metis people who live in south-eastern Manitoba in the area of the Sandilands aquifer. This includes many Metis people who live in the area of Vivian and surrounding communities, particularly in the nearby communities of Ste. Rita and Ste. Genevieve. The information provided to The Manitoba Metis Federation (MMF) by the company does not amount to consultation. CWS is aware that The Regional Project Area is within an area recognized by the Manitoba Metis Federation as an area for Metis Natural Resource Harvesting. A federal impact assessment is required to ensure the potential for significant adverse impacts raised by the MMF, are appropriately assessed, mitigated or accommodated to the satisfaction of the MMF.

- 7) Because of the size of the aquifer and its extension into Minnesota, this project has potential international ramifications.**

The Sandilands aquifer extends beyond Canada's borders into Minnesota. To our knowledge CWS has not consulted with the State of Minnesota, nor the United States federal government. The potential for cross-jurisdictional impacts of this project requires extra diligence to protect our relationship with our neighbours and respect their environmental rights.

- 8) The project is to use new, unproven technology.**

CWS makes several claims about its new, untested extraction method none of which can be verified because the company dubiously has not included the extraction process in the initial material presented for the provincial environmental review. CWS defends its process saying "At the time of the public engagement phase the Company can answer all the concerns about the extraction process and the impact on the aquifer. CWS cannot answer these questions as of today as the study is not yet completed." The safe extraction of this sand is fundamental to this project. There needs to be a federal review to provide assurance that the new technology can operate safely. Review of this new method under the IAAC is appropriate, and needs to be held as part of a joint review of the plant and the mine sites.

9) There is significant concern over pyrite in the aquifer and its impact.

There are at least three verified sources of pyrite in the aquifer – oolite, shale and marcasite within the sand itself. The evidence for this includes geology reports, certified laboratory reports and physical evidence from shale fragments and oolite nodules interspersed in sand piles extracted by CanWhite exploratory drilling. The latter was collected by concerned citizens who collected samples of the oolite and shale from the CanWhite sand piles. CanWhite in its letter to the IAAC reveals aerated water will be returned to the aquifer. There is great concern that the aerated water will react with the pyrite in the aquifer creating acid that mobilizes heavy metals poisoning the aquifer. The particular concern is that oolite shale and marcasite in the extracted sand will leach acid and mobilize heavy metals in the slurry pipes, wash plant and sand stockpiles in the Vivian Sands Facility. The acid and heavy metals in the closed loop slurry loop are then likely to render recycling water in the slurry loop impossible and necessitate construction of an impoundment area for tailings (rejected sand material) similar to Anderson Lake in the district of Snow Lake and other mines with pyrite in the ore. In the CanWhite letter runoff from the sand stockpiles is to be collected and sent to the aquifer. This runoff will contain acid and heavy metals from the marcasite in the sand and must be sent to a tailings impoundment area not sent to the aquifer. An impoundment area is highly likely to leach contaminated water into the Brokenhead River. Without recycling, the water drawn from the aquifer would be 7.5 million cubic meters per year – beyond the sustainable yield of the aquifer. All of these significant concerns need to be fully explored by the IAAC.

10) There are significant potential greenhouse gas emissions from the transportation of the produced sand which have not been included, as well as the end purpose of the sand for fracking

CWS fails to account for Greenhouse gas emissions from the transport of such large amounts of sand via diesel rail over the lifetime of the project, or for the trucking of large amounts of slurry from many, many different sites across 10% of the Sandilands aquifer. Such an assessment must be complete to be able to properly assess the real environmental impact of this project. In addition, Can White has presented very different accounts for the sand's purpose. Currently, Can White is emphasizing the use of sand in manufacturing, fibre-optics, and glass manufacturing on their website. This is at odds with a presentation to investors, and other documents from the company, which make it clear that the sand's primary use is for fracking in Alberta and the Bakken Oil Fields in North Dakota. There are other mineral resources, like lithium, nickel and copper, or glass for solar panels, which have "green" applications in sustainable power generation or storage.

According to the company's own statements, the purpose of this facility is to sell premium quality sand for fracking at a discount in order to undermine American competitors before selling out.

If the lifecycle impact of the sand mine and processing facility is to be considered, the GhG impact of frack sand should be part of the calculation.

11) There are additional specific concerns about the actions of CanWhite Sands to date.

Residents in the area have also expressed fears of being overexposed to silica dust during production as there has been a demonstrated lack of safety and environmental procedures by the CanWhite Sands during the exploratory drilling phase. Signage and fencing have been poor, identifying and required mine claim tags were missing. There were no warnings for silica dust exposure and no coverings to prevent exposure of the silica stockpiles to the elements. Residents' concerns include the fact that boreholes which should have been promptly and properly sealed were left open for a year. CWS claims it will "eliminate legacy reclamations as all sites are immediately reclaimed through borehole abandonment and equipment removal", however the company has already demonstrated an inability to do so.

In addition to this there have been statements made by the company which are simply not accurate as detailed in a submission by Mr. D. M. LeNeveu on September 26, 2020.

For all of these reasons I am therefore asking you, as the Minister responsible for IAAC, to use your discretionary authority under Section 9(1) and designate not only CanWhite Sands Corp proposed silica sand processing facility, but also its silica sand mine, and method used to extract the silica sand, as a physical activity for assessment under the IAA. I believe the potential for these physical activities to cause adverse effects within the federal jurisdiction and beyond warrants the designation.

Sincerely, 

<original signed by>

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