



Natural Resources
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August 30, 2021
CIAR File No.: 80974

Ian Martin
Team Leader, Prairie and Northern Region
Impact Assessment Agency of Canada
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Subject: Natural Resources Canada's Submission of Federal Authority Advice Requested for the Proposed Vivian Sand Extraction Project

On August 16, 2021, the Impact Assessment Agency of Canada (IAAC) requested that Natural Resources Canada (NRCan) provide federal authority advice on whether the Vivian Sand Extraction Project (Project) proposed by CanWhite Sands Corp. (the Proponent) has the potential to cause adverse effects within federal jurisdiction or adverse direct or incidental effects as described in section 2 of the *Impact Assessment Act*. In addition, IAAC is seeking advice on whether NRCan has a program or additional authority that may be relevant and could be considered as a potential solution to concerns expressed about the Project. NRCan understands that this advice will be used to inform the Minister of Environment and Climate Change if new information about the Project suggests that a reconsideration of the designation decision for the Project is warranted.

Please find attached below NRCan's submission of our federal authority advice on the Project. If you have any questions, please contact me via e-mail at anica.madzarevic@nrcan-rncan.gc.ca.

Sincerely,

<original signed by>
Anica Madzarevic
Impact Assessment Officer
Office of the Chief Scientist

Attachment:
Federal Authority Advice

ATTACHMENT: Federal Authority Advice

Review of information on the potential effects of the Vivian Sand Extraction Project

Department/Agency	Natural Resources Canada
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- 1. From the perspective of the mandate and area(s) of expertise of your department or agency, does the Extraction Project have the potential to cause adverse effects within federal jurisdiction or adverse direct or incidental effects as described in section 2 of IAA? Could any of those effects be managed through legislative or regulatory mechanisms administered by your department or agency? If a licence, permit, authorization or approval may be issued, could it include conditions in relation to those effects?**

Upon NRCan's expert review of the Proponent's Environment Act Proposal application for the Project, we find that the Project has the potential to negatively affect areas within federal jurisdiction, in particular fish habitat, through drainage from drilling waste rock stored at the surface. However, this could be prevented with appropriate monitoring and management of this potentially problematic rock. The tested Winnipeg Shale unit demonstrated uncertain potential to generate acid rock drainage (ARD), while all three tested units (also Red River Carbonate and Winnipeg Sandstone) have the potential for metal leaching (ML) including (but not limited to) aluminum, iron, arsenic, selenium, and uranium. The Proponent recognizes that further testing is warranted to capture the full extent of risk associated with ARD/ML from the Winnipeg Shale, and that it should be managed conservatively through blending with higher carbonate material (available in the Red River Carbonate Formation), as described in the referenced Waste Characterization and Management Plan (not provided to NRCan for review). NRCan agrees with the approach to test drill cutting during development of the project, and further recommends monitoring of drainage from the surface waste pile with means to capture and manage prior to release to the environment, should it be found to contain elevated metal concentrations.

Based on a review of the Proponent's hydrogeological assessment report, NRCan finds that the Project does not have the potential to cause significant adverse effects within federal jurisdiction or adverse direct or incidental effects as described in section 2 of the *Impact Assessment Act* from a groundwater quantity perspective.

While NRCan is prepared to provide technical expertise from the perspective of our mandate on potential effects from the Project, NRCan does not administer legislative or regulatory mechanisms relevant to managing these potential effects.

2. Does your department or agency have a program or additional authority that may be relevant and could be considered as a potential solution to concerns expressed about the Project? In particular, the following issues have been raised by the requestors:

- a. Impacts due to groundwater withdrawal quantity
- b. Impacts on water quality through releases or accidents
- c. Impacts on soil quality
- d. Contamination of fish bearing waters
- e. Impacts on air quality and atmospheric environment, including noise and light pollution
- f. Impacts to human health and socioeconomic conditions

The Mine Environment Neutral Drainage program has worked to develop technologies to prevent and control acidic and neutral drainage. Best practices and guidance are outlined in publications available here: <http://mend-nedem.org/guidance-documents/>.

Anica Madzarevic

Name of departmental / agency responder

Impact Assessment Officer

Title of responder

August 30, 2021

Date