

Sarah Ans Tomiak

March 23, 2023

Chairman and Commissioners  
Clean Environment Commission  
305-155 Carlton Street  
Winnipeg, Manitoba, R3C 3H8

RE: CanWhite Sands Corp Silica Sand Extraction Project

Dear Chairman and Commissioners,

I am writing to express my full opposition to the proposed RM of Springfield Silica Sand Extraction Project. I formally ask the Chairman and Commissioners to deny approval and licensure to the Silica Sand Extraction Project under the Environmental Act.

My reasons to deny approval and licensure, as well as the supporting scientific research are as follows:

**1. Unalterable damage to the land and ecosystems.**

The Journal of Geography and Regional Planning published a full review of mining practices and their effects by Mishra in June of 2015. Examination of active and inactive silica mines revealed multiple changes of previous environmental features. These changes include altered structural forms of the land, interruptions to drainage, decreases in fertile soil, and the loss of vegetation. These changes have also been found to decrease biodiversity and damage local ecosystems. We as Manitobans have a proud and long history of farming, particularly within the RM of Springfield. The proposed mines will not only alter the land they wish to use permanently, but jeopardise farms as well. Changes in biodiversity, silica buildup on plants, and altered water drainage will impact their livelihood and their farms.

**2. Silica mining has been shown to cause permanent damage to surface and ground water sources.**

The RM of Springfield has aquifers to provide water to its constituents. Those who do not live within the areas supplied rely on wells. Both of these types of water sources are vulnerable to changes in the surface and ground water caused by mining. Specifically, the amount of water, contamination, and changes in acidity pose the most risk. Large-scale water use will decrease the water levels and availability to constituents. Pgh Environmental states that some mines report water usage as 1.25 million gallons of water per day. This amount of water usage is not sustainable without significant impact to the water levels of the aquifers, and may cause some wells to go dry. Proponents of mining will state that the water is processed and reused. However, the process by which this is done leads to contamination. The Policy Study on Silica by the Heartland Institute in 2015 states that Polacrylamide is a polymer used to treat water after being used in silica

mining, it removes the particles more efficiently than other methods. This chemical contains acrylamide a known carcinogen and neurotoxin. It will only be partially removed from the water if processed through oxygen-rich soil, which silica mines compromise, leaving upwards of 26% of this chemical to remain in our drinking water. Additional risks are posed by the use of retention ponds in contaminating ground water, changing waters acidity levels, and potential spills. Water is a finite and extremely valuable resource. It is essential for life, to farm, and to maintain our ecosystem. Once compromised, water cannot be replaced. Failure to protect this valuable resource will render our municipality uninhabitable and severely compromise food supply industries.

**3. The extraction and transport of silica affects air quality.**

The Minnesota Department of Health states that silica can become airborne during mining through drilling, sanding, cutting, and grinding. Transport on trucks, and the loading of these vehicles also cause silica to become airborne. Mined silica can be categorized into multiple size categories. The most concerning size category is crystalline silica, which is defined by the Minnesota Pollution Control Agency as having a size of less than 4 microns. This size can be inhaled and causes permanent health consequences and is of utmost concern as there is no standardized method for monitoring the contaminant levels in ambient air. The current Manitoba guideline for ambient air quality is that an airborne contaminant may not exceed 30 µg/m<sup>3</sup> over a 24-hour period. The most advanced standards in Canada for environmental air quality are held by the Standards Development Branch of Ontario Ministry of the Environment and Climate Change. They list the maximum particulate exposure in air to be 5 µg/m<sup>3</sup> over a 24-hour time frame. Minnesota has established their standard as 3 µg/m<sup>3</sup> over a 24-hour period. Ontario and Minnesota's guidelines are considered to be evidence and health based measures as they are lower than the level considered to cause high risk of harm. Manitoba's current guidelines do not provide sufficient protection or high enough standards to prevent contamination and safeguard the health of its citizens. Additionally, as the most dangerously sized silica particles cannot be effectively monitored, citizens are at a high risk of continuous exposure well above safely established levels.

**4. Exposure to silica in the local environment, and more acutely in workers leads to irreversible life altering health effects.**

The National Institute for Occupational Safety and Health, and the CDC both state that long term exposure may lead to silicosis, autoimmune disease, lung cancer, Chronic Obstructive Pulmonary Disease, kidney disease and tuberculosis. Further expansion on this statement by Chen et al. in the April 2012 issue of PLoS Medicine, concluded in a cohort study, that long term exposure led to increased risks of mortality from cardiovascular and respiratory diseases, as well as tuberculosis. The cohort study revealed that as exposure amounts both cumulative and per exposure increased, so did the mortality rate for all persons. In September of 2022, Environment International published a study by Onyije et al. which clearly demonstrates the correlation between parental exposure to silica and increased childhood leukaemia risk. Despite children not visiting the mines themselves, having a parent who worked in one provided an increased risk of childhood leukaemia. The risks of these mines are not limited to those who work within them. This proposed mine has the potential to increase exposure to silica to those who

work or live near the mines, as well as their families. It is unconscionable to expose citizens to these risks for profit.

In summary, the proposed mining by Sio Silica poses great risk to the health of those who live in the vicinity through air and water-borne contaminants. There are insufficient safeguards to protect against the effects of mining, and legislation at the provincial level does not adequately prevent or protect against dangerous practices. Contamination of water is of utmost concern, as it is a non-renewable resource vital to life and agriculture in this province. The long-term health effects of those exposed to silica greatly outweighs the potential benefits of jobs brought into the region. Silica exposure greatly increases the mortality and incidence rate of both cardiovascular and respiratory disease, as well as childhood cancers. The risks and consequences of allowing silica mining in the RM of Springfield greatly outweigh the potential benefits. I ask that the Chairman and Commissioners deny the application for the proposed Silica Sand Extraction Project.

Sincerely,

Sarah Ans Tomiak