

# Kam Lake water fine for road dust: experts

*City is using arsenic-laced water as dirt suppressant on city streets*

by Sidney Cohen  
Northern News Services

Experts say residents need not be concerned about the use of Kam Lake water in city construction projects after *Yellowknife* learned water from the lake is being used as a dust suppressant on city streets.

Kam Lake is one of the most arsenic-contaminated lakes in the city after decades of gold mining at nearby Con Mine. Arsenic levels in the water have been measured at 0.24 milligrams per litre. Health Canada

has set the acceptable level for arsenic in drinking water at 0.010 milligrams per litre, based on a lifetime of exposure.

Yellowknife spoke with three scientists, all of whom said that using Kam Lake water as a dust suppressant on Franklin Avenue did not pose a significant risk to the public and workers' safety.

Ken Reimer is a professor emeritus in the Department of Chemistry and Chemical Engineering at the Royal Military College of Canada in Kingston, Ont., and the author of the 2016 book, *Arsenic is Everywhere: Cause for Concern?*

In Reimer's view, spraying Kam Lake water would add a negligible amount of arsenic to the ground, compared with the amount of the chemical that is already naturally present in Yellowknife soil.

"I would argue that it would be completely undetectable," said Reimer, who has studied arsenic levels in Yellowknife extensively.

He said Yellowknife has higher levels of naturally-occurring arsenic in its soil relative to elsewhere in Canada.

The Human Health and Ecological Risk Assessment, a study of arsenic present in Yellowknife, Ndilo and Dettah delivered to the federal government in January,

found the average concentration of arsenic from previous soil sampling in Yellowknife to be 83 milligrams per kilogram (mg/kg).

According to Health Canada, the average levels of arsenic in soil in Canada range from 4.8 to 13.6 mg/kg.

**"Certainly, you don't want to drink it."**

Chris Le

Chris Le is a professor in the division of Analytical and Environmental Toxicology in the Faculty of Medicine and Dentistry at the University of Alberta, and did research for his doctorate in Yellowknife.

Le said the benefits of suppressing dust at Yellowknife construction projects outweigh any risk that may be associated with spraying Kam Lake water on the ground.

**"It stays in the soil"**

To put it in perspective, Le said pouring one litre of Kam Lake water onto one kilogram of Yellowknife soil would add up to 0.5 milligrams of arsenic to dirt that already contains about 83 milligrams of the element.

"Certainly you don't want to drink it, or make a lot of mist to inhale but as far as evaporation, the arsenic in water is relatively stable and not volatile," said Le.

"In other words, it doesn't (become) gas, it stays in the soil and not in the air."



Sidney Cohen/NWS, photo

*A sign by Kam Lake warns about elevated levels of arsenic in the water.*

Jules Blais, a professor of biology and the environmental toxicology director at the Laboratory for the Analysis of Natural and Synthetic Environmental Toxicants at the University of Ottawa, said arsenic in Kam Lake water would likely bind to dust and soil particles as the water evaporates.

"But this would not likely increase arsenic concentrations in dust or soil to any significant extent, because these already contain arsenic," wrote Blais in an email on Wednesday.

"I would mainly reassure residents that this water is not likely to add significantly to anyone's arsenic exposure," he added.

Kami Kandola, the NWT's deputy chief medical officer, said a resident contacted the health department with concerns about the use of Kam Lake water on Yellowknife roads. Her department issued

a health advisory last year warning people not to swim, eat fish, or drink the water from Kam Lake due to the high arsenic levels.

Aside from the arsenic, Kam Lake was also the site of a major sewage spill last January, after a pipe ruptured near Ron's Auto spilling between 1,000 and 2,000 cubic metres of liquid waste onto Kam Lake Road and into the water.

## Fecal coliforms

This spring the city spread lime on affected properties to help break down bacteria.

Earlier this month there were still signs near Ron's Auto warning people to stay away from lime-treated areas to avoid exposure.

The deputy chief medical officer said using Kam Lake water on Franklin Avenue is not a health concern in terms of exposure to fecal coliforms.

She said microbiological tests done on Kam Lake water since the spill showed there were no fecal coliforms present at three sample sites around the lake.

When asked whether he was concerned about the use of Kam Lake water on Franklin Avenue, Coun. Niels Konge declined to comment. Coun. Julian Morse said he knows nothing about the use of Kam Lake water in city construction projects.

Morse said residents who may be concerned about the matter can contact city staff or a councillor.

*Yellowknife* twice asked the city whether the municipality or the Franklin Avenue project contractor, NWT Construction Ltd., had consulted with any experts as to whether water from Kam Lake was safe for use as a dust suppressant but did not receive a response before print deadline.

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