

Addressing public concern over water quality

The Town of Kirkland Lake, Ontario



THE SITUATION

Public pressure to address discoloured water

For 20 years, the Town of Kirkland Lake in Timiskaming District has experienced increasing levels of manganese and iron in its source water, Gull Lake. Recently, the problems had been worsening, especially during recent winters, due to the changing climate and an aging distribution system.

Each time the distribution system was disturbed during the winter months—for instance, from flushing after fighting a fire — many customers would complain of brown water. Brown water is caused by the oxidation of manganese, and the water treatment plant was not originally designed to remove iron and manganese.

In 2016, the problem became widespread and persistent. “We had constant reports of brown and sometimes smelly water, and the problem wasn’t localized to one area of town or another,” says Wilfred Hass, Interim Chief Administrative Officer at the Town of Kirkland Lake.

The northeastern Ontario town’s community began to share their concern on social media, and municipal staff brought forward the issue to council.

“It got to the point where something had to be done,” says Hass.

OCWA'S RESPONSE

Affordable, sustainable disinfection

As Kirkland Lake's water treatment plant operator, OCWA looked at several options to manage the water quality issues. After taking some depth samples at Gull Lake, the OCWA team found a high concentration of manganese throughout the water. That eliminated the option of changing the elevation of the water intake. The OCWA team also considered treating the water with potassium permanganate, which is commonly used to remove magnesium and iron, but that solution would require an additional layer of media, which is why this option was not selected.



Ultimately, OCWA and municipal staff recommended a chlorine dioxide system to remove manganese and iron from the raw water. In early 2017, the Town agreed to implement a pilot system and selected OCWA to provide the solution.

"OCWA has a long and good working relationship with the local community," says Hass. "Our municipal staff handles the distribution system and OCWA does the processing, so there was a natural overlap, which made it easy to share information."

THE IMPACT

Working together to solve and save

Chlorine dioxide turned out to be a winning solution. Installed in January 2018, the pilot system garnered positive results. Throughout the winter, the Town received only six calls from the public regarding the water, compared to more than one hundred in 2017. Operators working on the spring flush remarked on the noticeable difference in water quality over the previous year.

Due to the pilot's success, the Kirkland Lake council agreed to install the system on a permanent basis.

OCWA's solution not only addressed public concern, it also translated to outcomes with cost savings and environmental benefits. At a total cost of \$200,000, the chlorine dioxide option meant that the Town would not have to install expensive new intake or immediately replace distribution piping. Aside from the unit's installation, there is no long-term operational increase to the client.

"We are seeing the impacts of the changing climate on our town," says Hass. "There is a need for an interdisciplinary approach to solving these issues. While our local staff is fantastic, in this case we also needed access to engineering, chemical analysis, and project management skills. OCWA was a natural choice for us, and Kirkland Lake is very happy with OCWA's services."

OCWA's solution not only addressed public concern, it also translated to outcomes with cost savings and environmental benefits.

If your business is water, you need to know OCWA.

GET IN TOUCH

Office: 905.491.4000 Toll free: 1.800.667.6292

Email: ocwa@ocwa.com Web: www.ocwa.com

