



# CASE STUDY



## Newterra's Two-Stage pH Adjustment System "Cleans-Up" for This Project

### Newterra's Environmental Triumph in Remedying Ontario's Notorious Mine Disaster

**Market Served:** Mining & Exploration  
**Application:** Decentralized Mining Tailings Treatment  
**Location:** Timmins, Ontario  
**Challenge:** Acid Water Treatment  
**Solution/Service:** Remediation System

#### Summary

Kam Kotia is noted for being amongst the worst environmental disasters in Ontario. The Canadian-based copper mine was operated for several decades until 1972, and subsequently abandoned when Kam Kotia Mines, Ltd. became insolvent.

The site contained almost six million metric tonnes of unmanaged, high-sulfide tailings covering almost 3.1 miles (5 km<sup>2</sup>). The impact on water of acid mine drainage and leached heavy metals produced from three tailings areas was severe. This effected the surrounding land and water that became devoid of vegetation and wildlife.

#### The Challenge

The Kam Kotia Mine, which is located within the northwest part of the City of Timmins, Ontario, Canada, was **mined for copper, zinc and secondary silver and gold**. The mine was originally developed in the 1940's under the Federal Government's War Minerals program.

Kam Kotia is widely considered to be amongst the worst environmental disasters in the Canadian province of Ontario. In all, 13,1981,549 gallons (600,000 m<sup>3</sup>) of acid water was treated.

#### The Solution

Newterra successfully tackled this comprehensive environmental remediation project by designing and constructing multiple reactors for a **two-stage pH adjustment**. This involved the utilization of a caustic soda solution and a metering pump

system. Additionally, an emulsion polymer was introduced into the system through a feed metering system to enhance metal hydroxide precipitation. The separation and dewatering phases were efficiently carried out using geo-textile filter bags. Notably, the remediation process achieved the treatment and discharge of a substantial 600,000 cubic meters of acid water, underscoring Newterra's commitment to effective and sustainable water treatment solutions.

Influent Level	Post-Treatment Level
pH 2.48	pH 6 to 9
Copper 15.6 mg/L	Copper 0.3 mg/L

#### Complete Support for the Mining Industry

From lack of water and wastewater services to **strict discharge requirements**, the mining industry faces many financial burdens. Newterra's global expertise delivers cost-effective solutions that treat water efficiently and reliably for long-term performance.

Newterra provides **cost-effective remediation solutions** for groundwater, water repurposing and volatile organic compounds, chlorinated solvents and total suspended solids (TSS) reduction – among others.

From simple indoor facilities to complex outdoor systems, we're **equipped to clean up your site**. As a **one-stop shop**, we handle every step of the process in-house. You receive streamlined assembly and a knowledgeable team who can handle the most difficult contaminants and flow rates.

#### What's Your Unique Water Question?

Contact us today at **+1.800.420.4056** to solve your most challenging water issue.

