

Ecoflo®

Cluster treatment system



Premier Tech Aqua and Canadian Shield Consultants

Major Wastewater Treatment Breakthrough in the Mining Industry

Canadian Shield Consultants, an Ontario engineering firm that specializes in wastewater and water treatment infrastructure projects, has just received approval from the Ontario Ministry of the Environment (MOE) to install five (5) Ecoflo® mobile systems for outpost, mining and exploration camps in Northern Ontario.

Situation in the Mining Industry

Over the past two years, mining research and operations in Ontario have taken off. In fact, you might even say they've skyrocketed. This newfound surge can be seen more particularly in the Great North region known as the *Ring of Fire*, some 240 kilometres west of James Bay and north of Thunder Bay. At the present time, some 40 mining and exploration companies are active at the heart of this coveted and much publicized sector.

Mining camps popped up so quickly that there was no time to measure the impact of these new activities on the environment. This gave rise to earnest discussions between the MOE, exploration groups and the Grand Chiefs of the First Nations. The Grand Chiefs feared that the activities would have a major negative impact on the fauna and flora of the Great North, a fragile natural environment.

Well-Founded Fears

Until January 2011, mining camps were equipped with incinerating toilets to treat black water. Grey water was discharged directly into the environment without any treatment. Then, the MOE intervened by ordering mining operations submit a solution to comply with the disposal standards.



Case Study





Gold Canyon Resources Ecoflo® installation

Challenges

In an effort to find a wastewater treatment solution, some mining companies approached Canadian Shield Consultants. However, several limitations had to be taken into consideration:

- Surface disposal had to be used (unfavorable soil)
- There was a risk of deep freezing temperatures
- The disposal standards were very rigorous
- Transporting the systems to the camps was a problem (ice roads and airplane)

Solution

Following several studies and analyses, Canadian Shield Consultants requested the MOE's approval to install an Ecoflo® treatment system developed by Premier Tech Aqua. The request Canadian Shield Consultants was making was in line with the MOE's Plan to Reduce Toxins, that is, install a technology that would correct a situation regarding lack of respect for the environment. This type of authorization is rarely granted in Ontario. The MOE gave its consent to install five (5) mobile wastewater treatment systems.

Each station has a treatment capacity of 2 015 L/d (average design flow) and includes:

- One (1) PST-500 septic tank from Premier Tech Aqua, equipped with an effluent filter and a capacity of 4 300 litres
- One (1) Ecoflo® STB-650 from Premier Tech Aqua with a capacity of 2 015 litres

A quick installation

To facilitate the installation, the units were pre-assembled at the plant. Since a unit could not exceed 1000 lbs, leaching chambers replaced the clean stone at the bottom of the shells. The pumping stations, septic tanks and biofilters were insulated in polyurethane and a protective coating against UV rays was applied. To keep the units from freezing, a heat tracer was integrated within the mobile treatment system.

The installation was completed in only two days. Because of the Ecoflo®'s excellent performance record, the MOE allowed final disposal of the treated water directly into a natural environment.

Now, the next step for Canadian Shield Consultants is to obtain the MOE's authorization to treat black and gray water treatment with Ecoflo® and septic tank followed by UV treatment unit, thereby less expensive and more high performing than incinerating toilets.

For more informations

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