

WATER POLLUTION IS NOT AN OPTION

As a mining company, we know our environmental footprint extends beyond our fence line. The most obvious example is water, which — if managed improperly — has the potential to harm the environment. It doesn't have to be that way.

For more than a decade, we have been studying the regional groundwater and surface water conditions. Simultaneously, we have managed a regional hydrology survey to define surface water conditions in the surrounding rivers and lakes.

Water balance models predict the amount of water necessary versus available. Process requirements, reuse opportunities, plus historical climate and hydrological data are all taken into account. The models serve as the foundation of a water management plan, which is an integral component of mine design, operation, and closure.

In an ideal situation, you would have just the right amount of water when it is needed. In Back Forty's case, we have more water than we can use; therefore, we need to collect, treat, and discharge excess water. That means our water management plan must be tailored to reflect the needs of both the facility and the community. As a result, our plan promotes continuous improvement in the form of minimizing water loss, efficient water usage, in-process recirculation

systems, and most importantly — effective water treatment.

Our mine features an on-site, state-of-the-art wastewater treatment plant (WTP) to ensure the water we put into the environment meets permit conditions. The WTP is designed to treat up to 63,000 gallons of water per hour. The treated water will be reused in the mining process or discharged to the environment. The plant will begin operating during construction and continue into closure.

Existing groundwater and surface water monitoring programs extending beyond the mine site will continue throughout operations and after mine closure. Monitoring includes water quality and the aquatic ecosystem both upstream and downstream of the discharge point to the Menominee River. Michigan Department of Environment, Great Lakes, and Energy, U.S. Environmental Protection Agency, and Wisconsin Department of Natural Resources all determined that the conditions in our water discharge permit will protect the health of the community, wildlife and the environment — including the river.

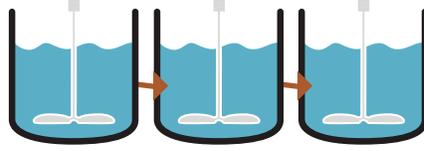
Throughout the life of the mine, we will continue to look for ways to reduce our environmental impact. If you have additional questions or concerns, please contact us.

WATER TREATMENT PROCESS



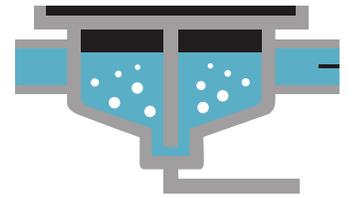
CONTACT WATER BASINS

Water that comes into contact with mining activities (e.g., process water, inflow to open pit, tailings and waste rock facilities, runoff from snow and rain) will flow via gravity or pumps to lined Contact Water Basins (CWB). Design features of the CWBs include a maximum capacity of roughly 161M gallons, ability to contain a 100-year/24-hour storm event, a composite liner system, and emergency spillway to the open pit. From the CWBs, water will be pumped to the WTP to begin the treatment process.



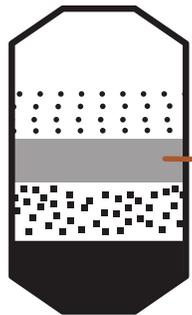
PRECIPITATION

Treatment starts with a series of reactor tanks to remove dissolved solids from the water. A chemical reaction within the tanks causes very fine particles to bind together to form larger particles for easier removal in the following steps.



CLARIFICATION

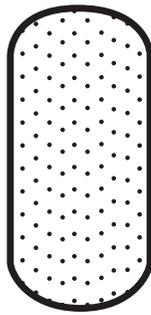
Here the particles, or solids, settle to the bottom of the tank. The solids are collected and sent to the mill to be combined with thickened tailings and sent to the tailings management facility. The water above flows to the filtration process.



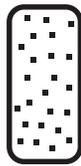
MULTIMEDIA FILTER



0.1 MICRON



MERCURY REMOVAL



0.5 MICRON

FILTRATION

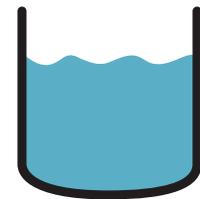
The water will travel through a sequence of filters to remove any fine particles remaining from the clarifier.

The first is a multimedia filter composed of elements such as sand, activated carbon, and gravel to remove solids from the water. Multimedia filters help remove suspended solids from the water similar to how a coffee filter removes coffee grounds.

Next, the water passes through a 0.1 micron cartridge filter. For a sense of scale, a human red blood cell is about 7.5 microns wide. The tiny holes in this filter allow water to move through and stop unwanted particles from continuing.

From here, water passes through another filter with adsorbent pellets designed to collect dissolved mercury. The water we discharge to the Menominee River is required to meet the quality standard of 1.3 parts-per-trillion — imagine a single drop of water in 10 million gallons of water.

Finally, water will pass through a 0.5 micron cartridge filter to prevent any remaining particles from leaving the system. From here the water is sent to the treated water tank.



TREATED WATER TANK



REUSE IN MINING PROCESS



DISCHARGE TO MENOMINEE RIVER

TREATED WATER

The treated water storage tank will hold the water until it is reused in the mining process or discharged to the environment. Our permit allows for the release of up to 1.52 million gallons of treated water per day. The actual amount discharged will vary by the amount of water the plant receives. We will only discharge water to the Menominee River that meets quality standards. If water does not meet permit conditions, we will return it to the CWBs for re-treatment.

An on-site laboratory will analyze water quality data necessary for both operations and process control. A third-party accredited laboratory will confirm compliance with permit requirements.