



## **Water Quality**

*PolyMet Mining's NorthMet Project will meet or exceed applicable federal and state water quality standards and regulations, including the strict Minnesota sulfate standard for wild rice. The water it discharges back into the environment will be both swimmable and fishable.*

### **Will PolyMet pollute the Boundary Waters?**

- No. And no other watershed either. The PolyMet project is in the Lake Superior watershed so none of the treated water that will be discharged from the site will ever enter the Boundary Water Canoe Area Wilderness lakes or streams. PolyMet's commitment to protecting water quality and complying with all applicable water quality standards remains steadfast regardless of the watershed.

### **Will PolyMet operations release acidic water (acid rock drainage) into the environment?**

- No. At a news conference Dec. 6, 2013, the Minnesota Department of Natural Resources explicitly stated that the project will not create acid rock drainage. Almost all the water PolyMet will manage on its property is in the pH neutral range – neither acidic or basic – including all the water in the tailings basin, the mine pit and water from the largest and only permanent stockpile on the mine site. The small portion of waste rock that has the potential to generate acidic water will be temporarily stored onsite on a lined pad then returned to the open pit as backfill during reclamation. There, it will be covered by water and no longer able to generate acid. Under no circumstance will water that is discharged from the site – either during operations or after closure – be acidic.
- Rainwater that comes in contact with any waste rock, tailings or the mine will be collected, contained, reused to the extent possible in the processing operations, and eventually treated before it is ever discharged from the property.

### **Will PolyMet be protective of wild rice?**

- The project will meet the strict Minnesota standard for wild rice that limits sulfate to 10 milligrams per liter. By comparison, Minnesota's drinking water standard for sulfate is 250 mg/L. PolyMet will build and operate a water treatment facility on site that uses membrane filtration to remove sulfates and metals from any water before it's discharged into the environment during operations and closure. The company built and operated a similar plant as a pilot that successfully treated about 3 million gallons of water from the project site to demonstrate to regulators it could meet the wild rice standard.

### **Will PolyMet release mercury into the environment?**

- All water on the PolyMet project site will have low concentrations of mercury, and any water discharges will comply with the Great Lakes Initiative standard of 1.3 nanograms per liter for mercury. This is about eight times cleaner than the rainwater (about 10 ng/L) that falls on the site and three times cleaner than what is found in natural runoff from the watershed.

### **Besides water treatment, what other methods will PolyMet use to protect water quality?**

- The project is designed to minimize the potential for negative environmental effects to the watershed. Extensive monitoring began years ago, will continue through construction and operation and extend long after operations cease to ensure the engineered controls work as expected. In the unlikely event a system fails, there are backup systems and controls already identified that will be deployed to ensure the operation remains in compliance with environmental standards.

- PolyMet has already collected a tremendous amount of monitoring data using a number of wells located strategically throughout the plant and mine site. This data today helps inform decisions on what types of protections will be required. These same wells, and more, will be used during operations and long after closure to ensure any potential issues are caught and addressed long before they could ever trigger an environmental violation. Monitoring wells are like radar for an airplane – they are designed to identify and stop a problem before it gets out of hand.
- One of the engineering controls is cutoff walls – think of them as impermeable dams that extend underground from the surface to bedrock -- that will be constructed around a large portion of the tailings impoundment and permanent waste rock stockpile to stop water from migrating off-site.
- Water control and treatment methods have been used successfully in mining and many other industrial and municipal applications for decades. They will be used at the PolyMet site to meet all applicable water quality requirements.