

Microbes, Minerals and Mining: Unique Microbial Communities and Microbe-mineral Interactions in Sulfidic Mine Waste from Minnesota's Duluth Complex

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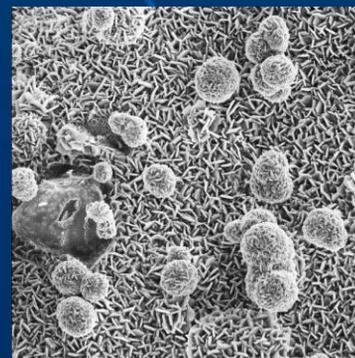
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The Duluth Complex in Northeastern Minnesota contains magmatic sulfide mineral deposits that are estimated to represent one of the largest undeveloped copper-nickel prospects on Earth. Microorganisms are important catalysts for metal sulfide oxidation under certain conditions, and decades of research on microorganisms from extremely acidic waste rock has improved our management of sulfidic mine waste. However, because ores and waste rock

from Duluth Complex weather under more moderately acidic conditions, and because the dominant sulfide minerals are pyrrhotite and other acid-soluble sulfides, little is known about the microbial processes that could influence water quality from the proposed mines.

We will discuss new research on the unique microbial communities that occur in weathered rock from the Duluth Complex, and ongoing experimental work on the oxidation of sulfide minerals that occur in the deposit.



September 13th @ 12 pm – Jones Annex 101