

# Aitkin County Geology Mining Impact

## MINING IN AITKIN

- Talon Metals and their partner Rio Tinto plan to build an underground high sulfide Nickel Copper mine - extracting more than 16 million tonnes of material over a 12 to 20 year period.
- In the process they indicate a need to pump up to 2.6 million gallons of water per day from the mine.
- This water is likely contaminated with sulfides as well as other toxic minerals.
- This water comes from the aquifers above the mined areas, seeping through mine shafts and fissures in the bedrock - draining the aquifers.
- This water must be put someplace - no plan by Talon to filter and dispose of this water without flooding and further damaging the ecosystem.

Geology and hydrology information is from a presentation by Carrie Jennings – an experienced geologist and educator who has studied Aitkin County geology. You can view Carrie Jennings' slide presentation here:

[https://docs.google.com/presentation/d/1dLjsq7X3tIEE1PgIOO0QwXi3cAcIit\\_U/edit?usp=sharing&ouid=114950883619467869858&rfpof=true&sd=true](https://docs.google.com/presentation/d/1dLjsq7X3tIEE1PgIOO0QwXi3cAcIit_U/edit?usp=sharing&ouid=114950883619467869858&rfpof=true&sd=true)

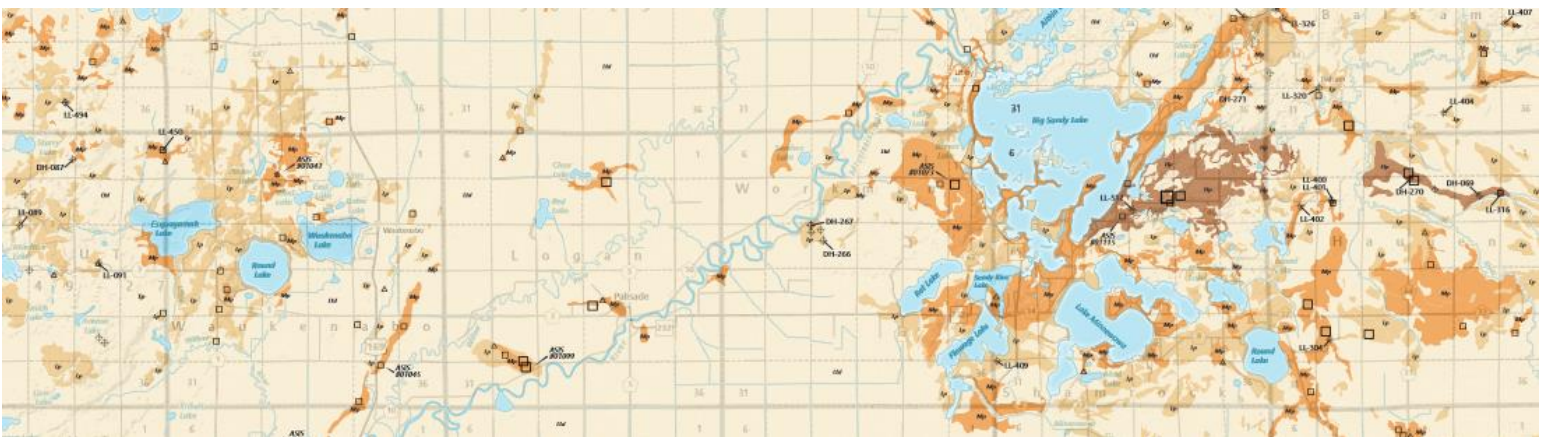
The TALON Plan (PEA) is downloadable at [https://talonmetals.com/wp-content/uploads/2021/02/Talon-Tamarack-PEA3\\_2021.pdf](https://talonmetals.com/wp-content/uploads/2021/02/Talon-Tamarack-PEA3_2021.pdf) and [https://talonmetals.com/wp-content/uploads/2022/11/Final\\_NI43101\\_Report\\_Talon\\_Tamarack\\_N\\_20221102.pdf](https://talonmetals.com/wp-content/uploads/2022/11/Final_NI43101_Report_Talon_Tamarack_N_20221102.pdf)

## IMPACT OF MINING ON WATER FLOW

- The area where Talon has mineral leases is situated between two ice lobes, or places where retreating glaciers left their mark.
- These features are underground, but not without consequence for life on the surface.
- The geology of this area is complicated by overlapping ice advances with lobe deposits potentially covered by peat, water, sand and lake sediment along with other glacial sediment.

## WHAT WE DON'T KNOW ABOUT WATER FLOW IN THE PROPOSED MINING AREA

- We don't fully understand where water is recharged, what is the flow path, how old is the water, and how water will move through peat and other materials.
- We don't know whether the current sampling strategy adequately addresses the way water is held and altered as it moves through the layers.
- We don't know the impact of high dissolved organic carbon and low pH on movement of metals.
- We don't know how compromised lakes such as Big Sandy and Minnewawa will react.
- Understanding these issues are key to making sure that environmental reviews of projects like the proposed Talon Mine are correctly considered.



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[www.tamarackwateralliance.org](http://www.tamarackwateralliance.org)  
[waters@tamarackwateralliance.org](mailto:waters@tamarackwateralliance.org)

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