

## Vita

Candidate's name: James Huset Roush

Universities

Attended: University of Michigan (2023)  
Bachelors of Science

University of New Brunswick (2025)  
Masters of Science  
Earth Science

### Publications/Conference Presentations:

Roush, J., Martins, T., McFarlane, C.R.M., Rinne, M.L. and Groat, L. 2023. Preliminary examination of the Tappy, Eagle and F.D. no. 5 pegmatites in the Cat Lake–Winnipeg River pegmatite field, southeastern Manitoba (parts of NTS 52L5, 11); in Report of Activities 2023, Manitoba Economic Development, Investment, Trade and Natural Resources, Manitoba Geological Survey, p. 20–26.

Roush, J., Martins, T., McFarlane, C.R.M., Rinne, M.L. and Groat, L. 2023. A first look at the Tappy, Eagle and F.D. no.5 Pegmatites, Winnipeg River-Cat Lake pegmatite field, southeastern Manitoba. Poster. Central Canada Mineral Exploration Convention, Winnipeg, MB

Roush, J., Martins, T., McFarlane, C.R.M. 2024. Preliminary Results from the Tappy, Eagle and F.D. no.5 Pegmatites, Cat Lake-Winnipeg River pegmatite field, southeastern Manitoba. Presentation. Atlantic Geoscience Society, Moncton NB

Roush, J., Martins, T., McFarlane, C.R.M., Rinne, M.L. and Groat, L. 2024. The Eagle, F.D. no. 5 and Tappy Pegmatites from the Cat Lake-Winnipeg River pegmatite field, southeastern Manitoba. Poster. Geological Association of Canada - Mineralogical Association of Canada Conference, Brandon, MB

Roush, J., Martins, T., McFarlane, C.R.M. and Groat, L. 2025. As Within, So Without: Pegmatitic and Host Rock Monazite. Poster. Geological Association of Canada - Mineralogical Association of Canada Conference, Ottawa, ON

## **Petrology, Mineral Chemistry and Geochronology of the Eagle, F.D. no. 5, and Tappy Pegmatites: Cat Lake- Winnipeg River Pegmatite Field, Southeastern Manitoba, Canada**

UNIVERSITY OF NEW BRUNSWICK

THESIS DEFENCE AND EXAMINATION

in Partial Fulfillment

of the Requirement for the Degree of  
Master of Science

by

**James H. Roush**

in the Department of Earth Science

U.N.B., Fredericton, N.B.

**Friday, July 25<sup>th</sup>, 2025  
1:30 p.m.**

via MS TEAMS

Examining Committee

Dr. Chris McFarlane  
Dr. Tania Martins  
Dr. David Lentz  
Dr. William Cook  
Dr. Karl Butler

Co-Supervisor  
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External Examiner  
Chair of Oral Examination

## **Abstract**

The Eagle, F.D. no. 5, and Tappy are spodumene-bearing, Li-Cs-Ta (LCT) class, rare-element pegmatites. The Eagle and F.D. no. 5 dykes are spatially related: both located in the Cat Lake-Maskwa Lake pegmatite district in the northern part of the Bird River Domain in southeastern Manitoba. However, petrologically and chemically they do not appear to be part of the same body. The Tappy pegmatite is hosted within the Winnipeg River pegmatite district to the south. All three dykes are emplaced near vertically and have good exposure with accessible locations near roads making them all prospective targets for critical mineral development. U-Pb geochronology on tantalite and monazite gives near contemporaneous ages for the Eagle, F.D. no. 5, and Tappy dykes at ~2650 Ma, placing them all within the D3 deformation event in the Bird River, coeval

with widespread granitic magmatism and other pegmatites in the region.