

## BACKGROUND

There is significant porphyry copper-gold the Quesnel terrane of British Columbia, but large parts of it are under glacial till, hindering exploration.



## MOTIVATION

Terrane map: Colpron and Nelson, 2011 Quaternary overburden: Cui et al., 2017

- Electromagnetic (VTEM) and gravity data collected for Geoscience BC's QUEST Project in 2007 provided significant amounts of new data to improve geologic mapping and aid exploration in central BC.
- These data have been generally underused to interpret the geology of the Quesnel terrane beneath sedimentary cover.
- This project aims to explore and define the ability of VTEM and gravity data to distinguish lithological units beneath sedimentary cover to link geological formations along the Quesnel terrane, and to better understand the mineral potential of the region.

## **PRELIMINARY INSIGHTS**

Petrophysical, VTEM, and gravity data show correlations that suggest these data can distinguish between more massive versus porous (e.g. sedimentary) stratigraphy, identify felsic to ultramafic intrusive bodies, and locate major faults and geological boundaries.



## Electromagnetic and gravity data help identify deep and under cover geology in BC's Quesnel terrane

Mitchinson, D., Mineral Deposit Research Unit, UBC, demitch@eoas.ubc.ca

intrusive rock, and sedimentary rock domains



Petrophysical data from Canadian Rock Physical Property Database (Enkin, 2018)

The author wishes to thank Geoscience BC and the Geoscience BC Minerals Technical Advisory Committee for funding C. Hart, D. Fournier, T. Astic and D. Cowan, have provided valuable feedback and guidance throughout earlier and current investigations of these data. The author gratefully acknowledges P. Kowalczyk and J. Logan for early reviews of the Geoscience BC 2022 Summary of Activities report covering this work.