Characteristics of Magnetite and Calc-Silicate Minerals in the Gryll's Bunny Skarn in the Land's End Aureole, SW England

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1. Geology of the Research Area

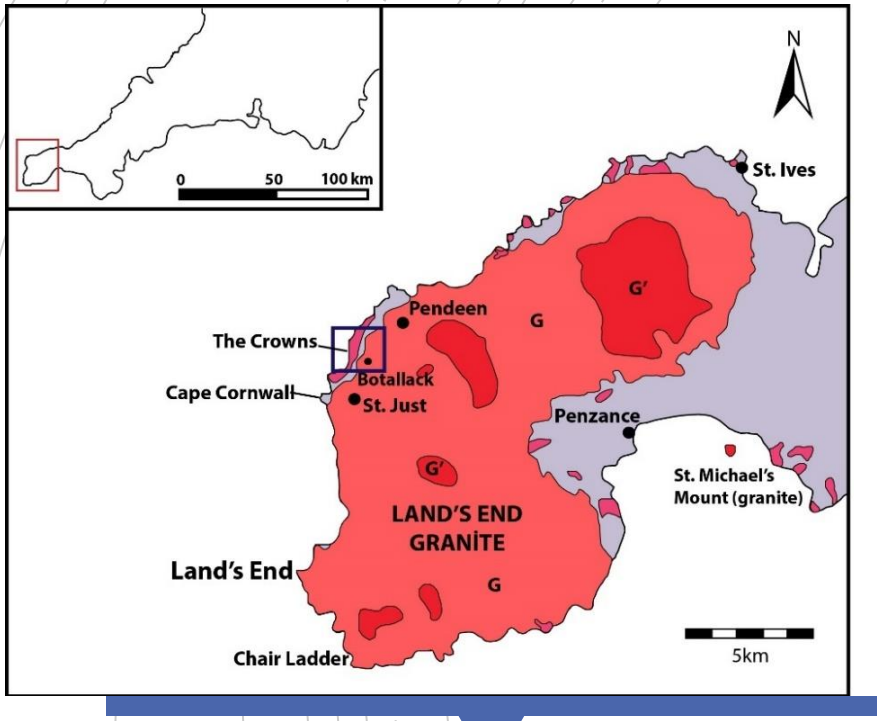


Figure 1. Geological map of SW Cornwall and location of the study area (simplified from Pownall et al. (2012) and Goode et al. (1984))

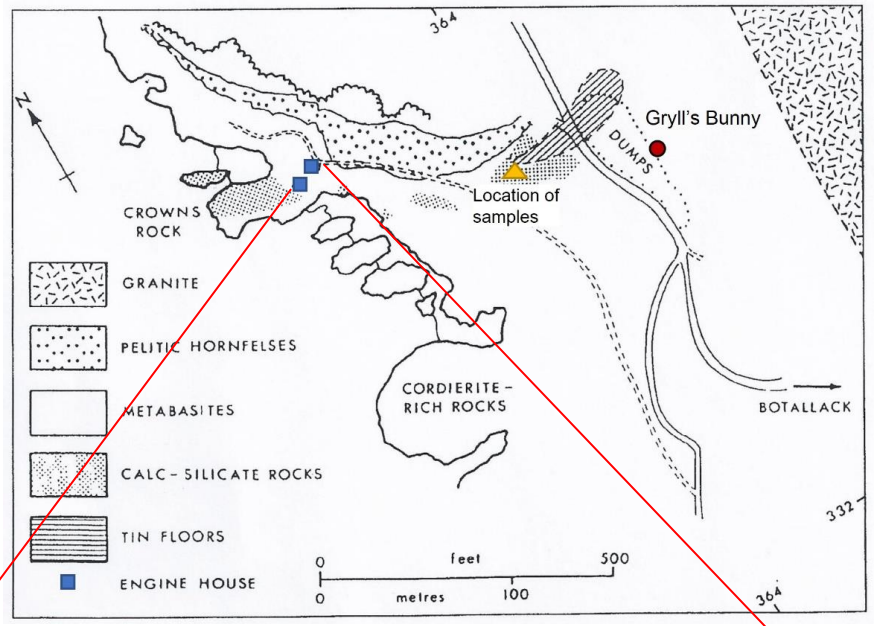


Figure 2. Location of tin floors and studied skarns (from Hall and Jackson, 1975).

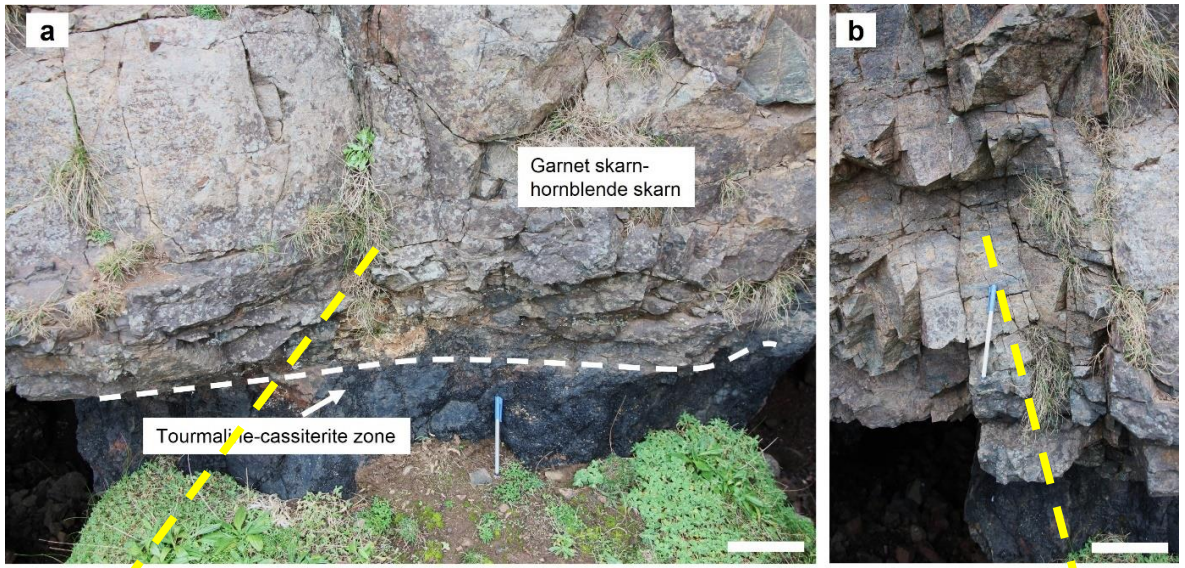
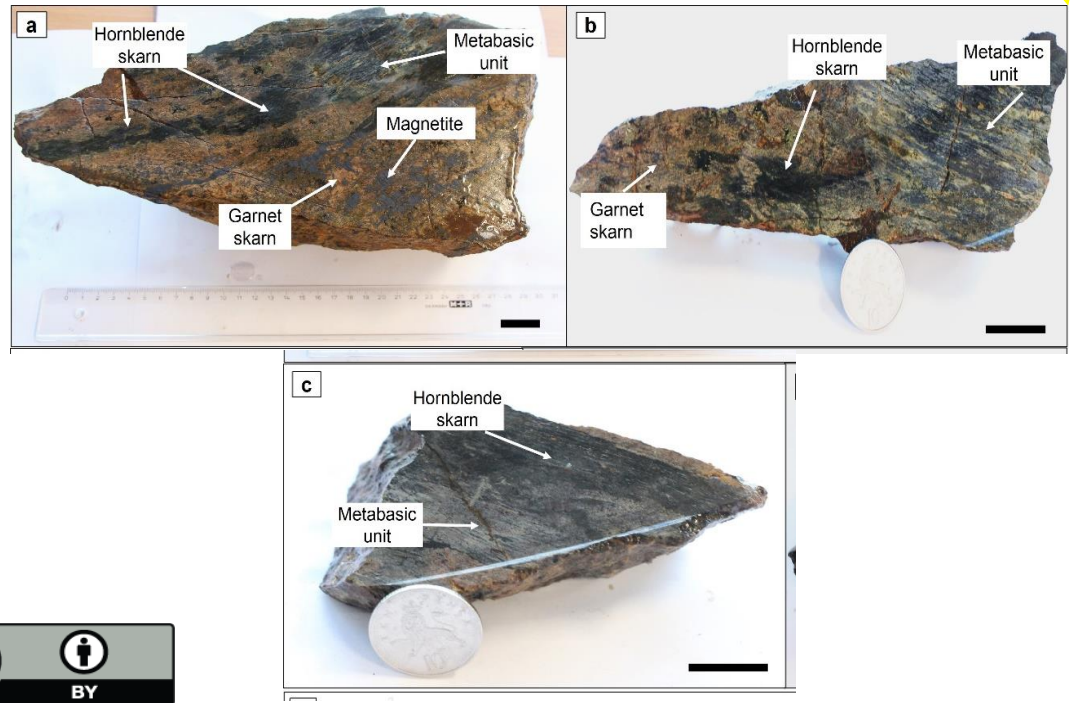


Figure 3. Contact relationship between skarns and tourmaline-cassiterite zone. Scale bar is 0.2 m.



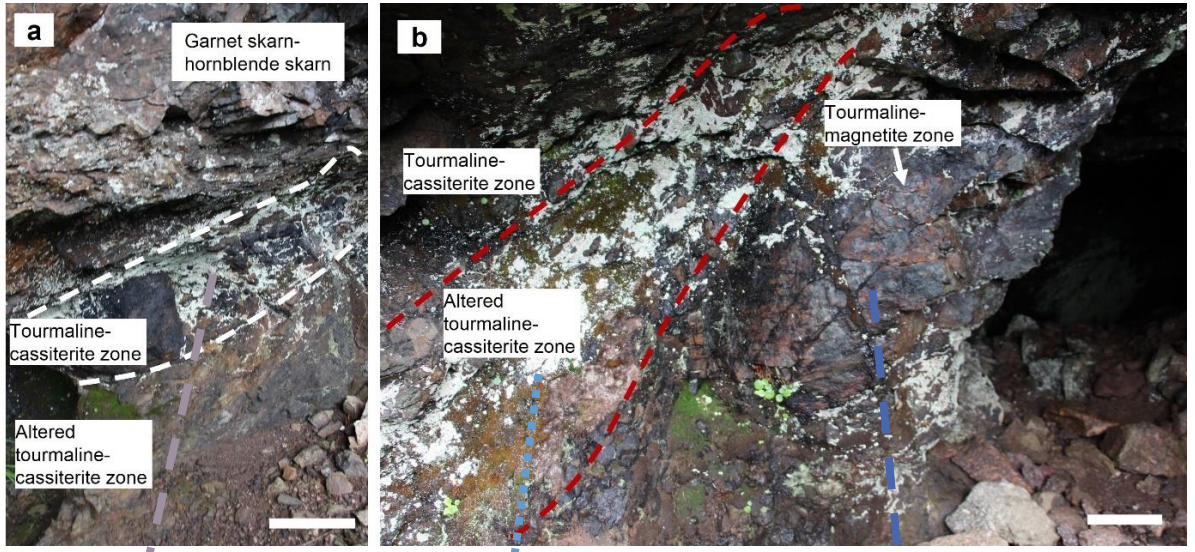
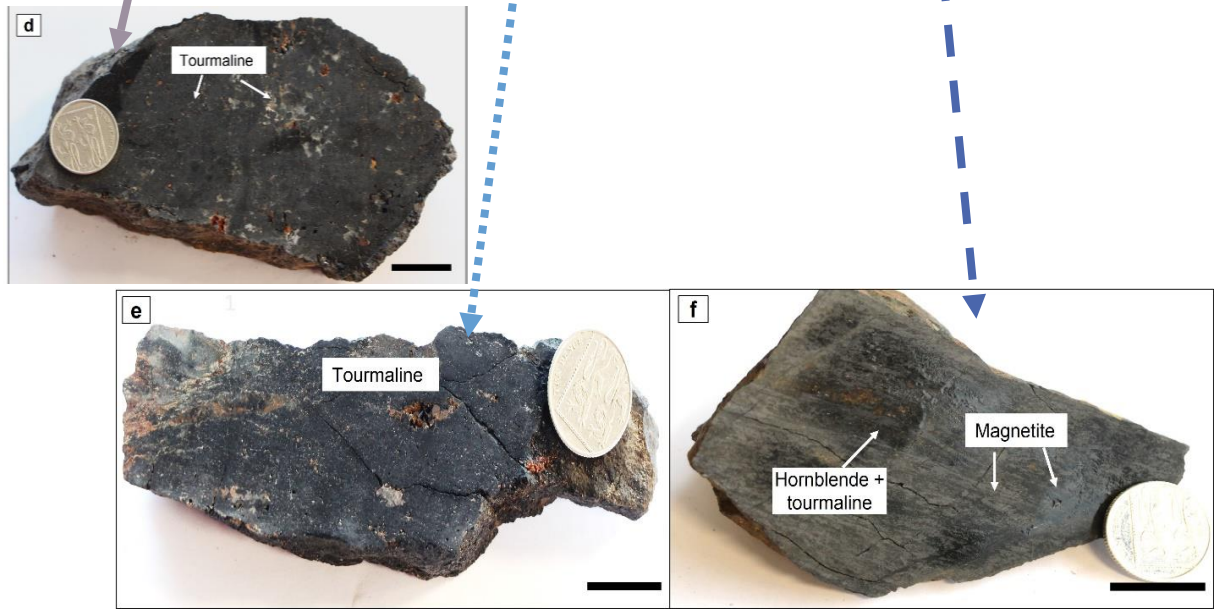
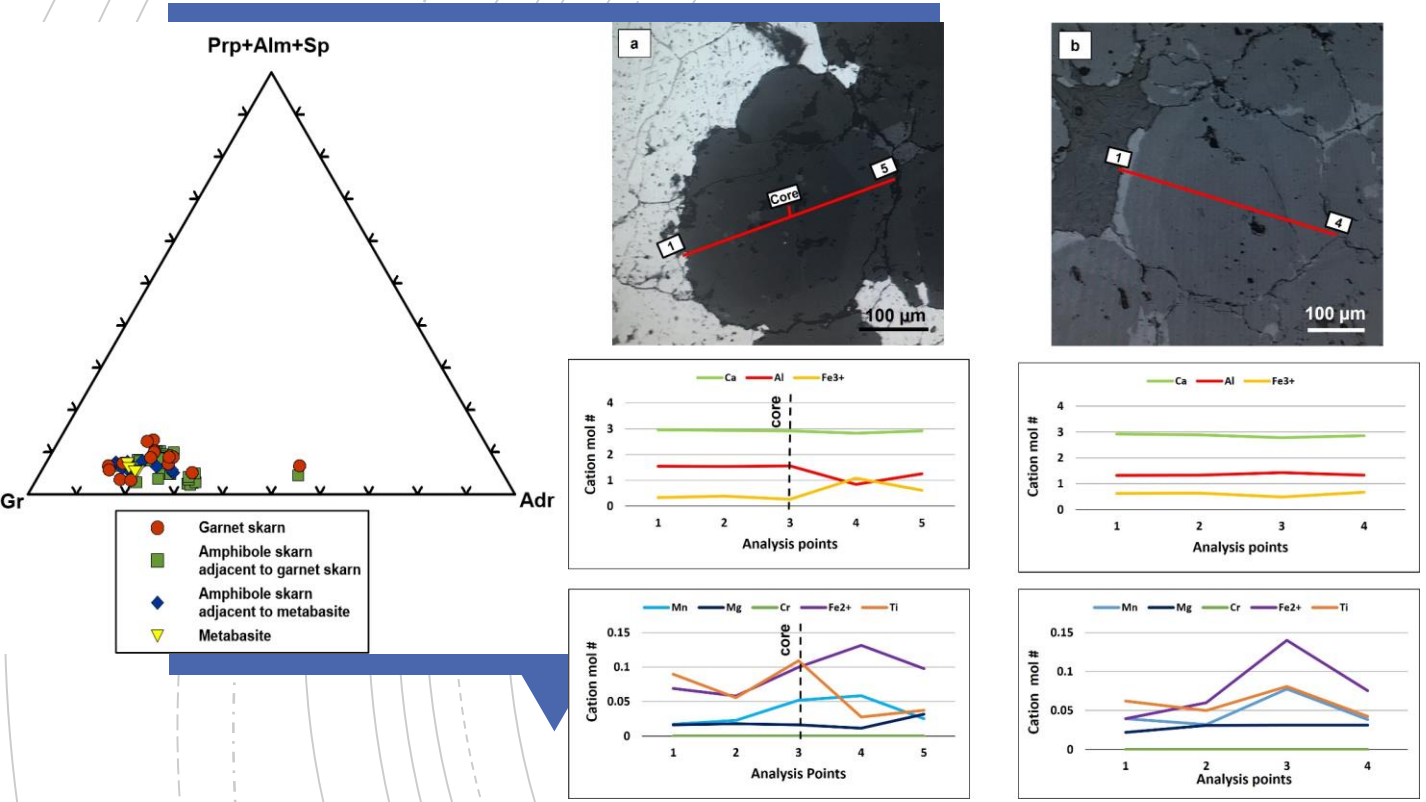


Figure 4. a. Relationship between skarns and tourmaline-cassiterite-altered tourmaline-cassiterite zones b. Gradually transition demonstrated between tourmaline-cassiterite zone to tourmaline-magnetite zone. Scale bar is 0.2 m.

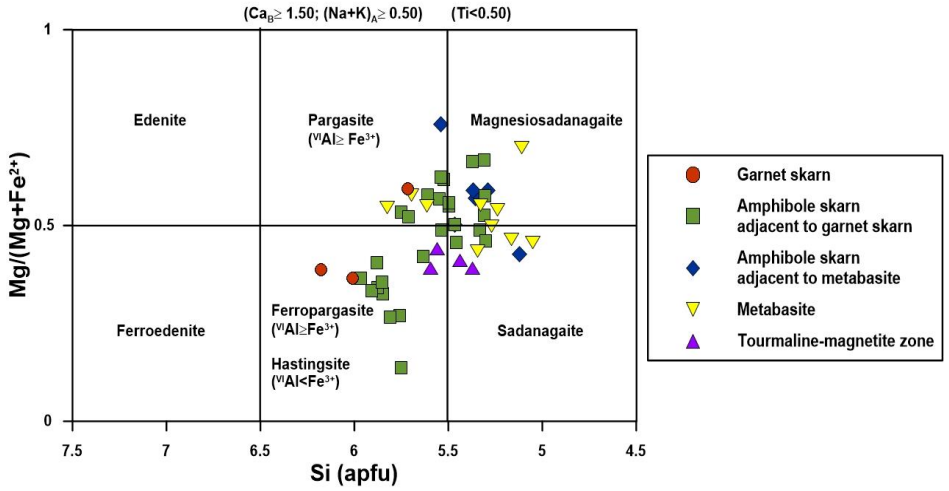


2. Silicate Geochemistry

Chemical compositions of garnet



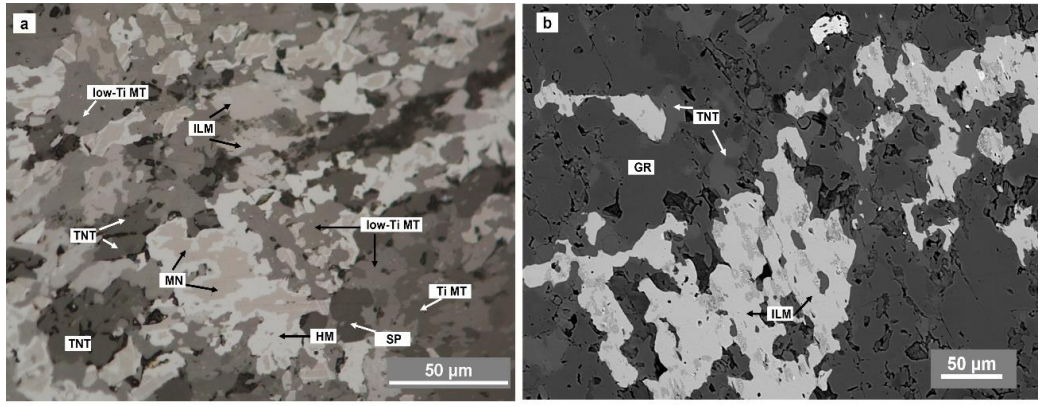
Chemical compositions of amphibole



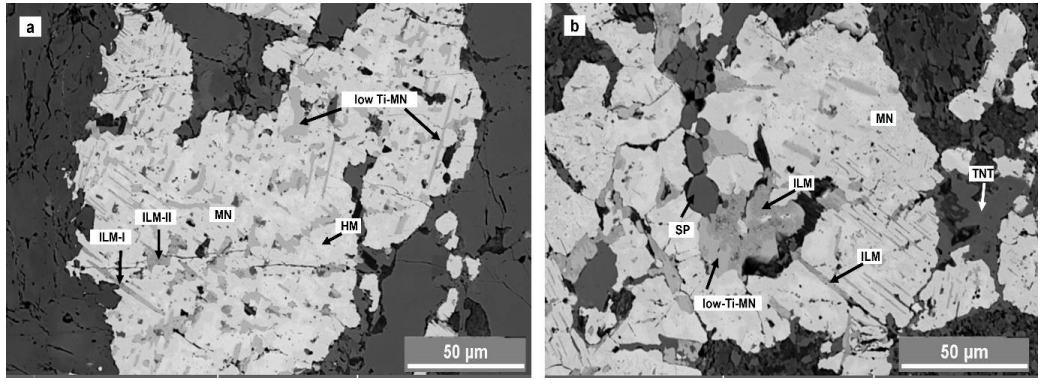
Leake et al. (1997)

3. Ore Microscopy Studies

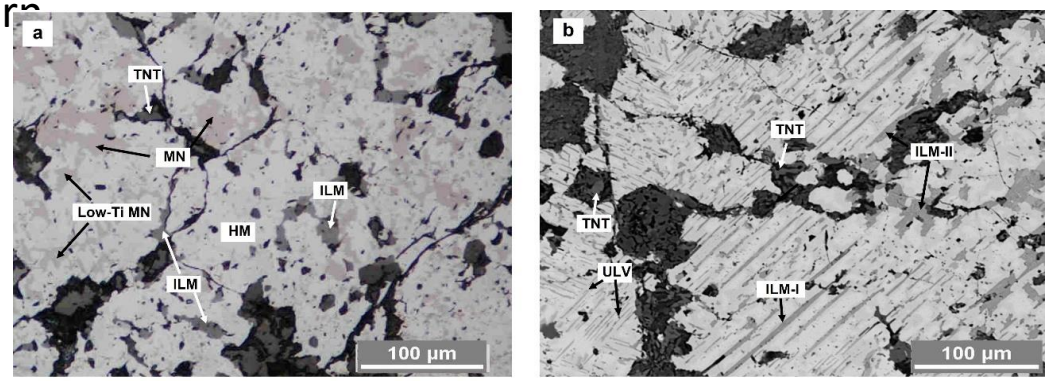
- **Type 1 magnetite** → in metabasic unit



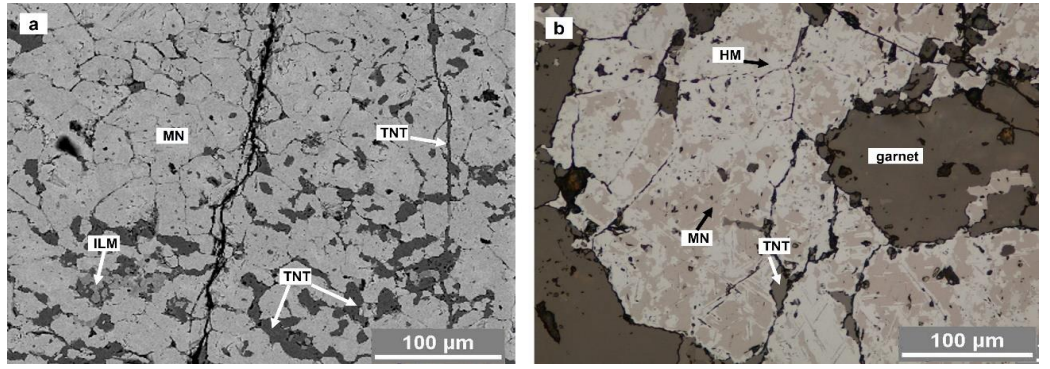
- **Type 2 magnetite**→ in hornblende skarn adjacent to metabasic unit



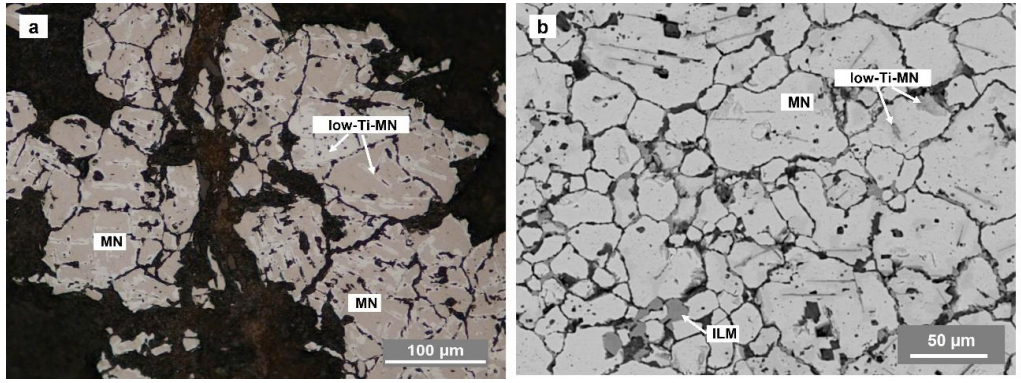
- **Type 3 magnetite**→ in hornblende skarn adjacent to garnet skarn



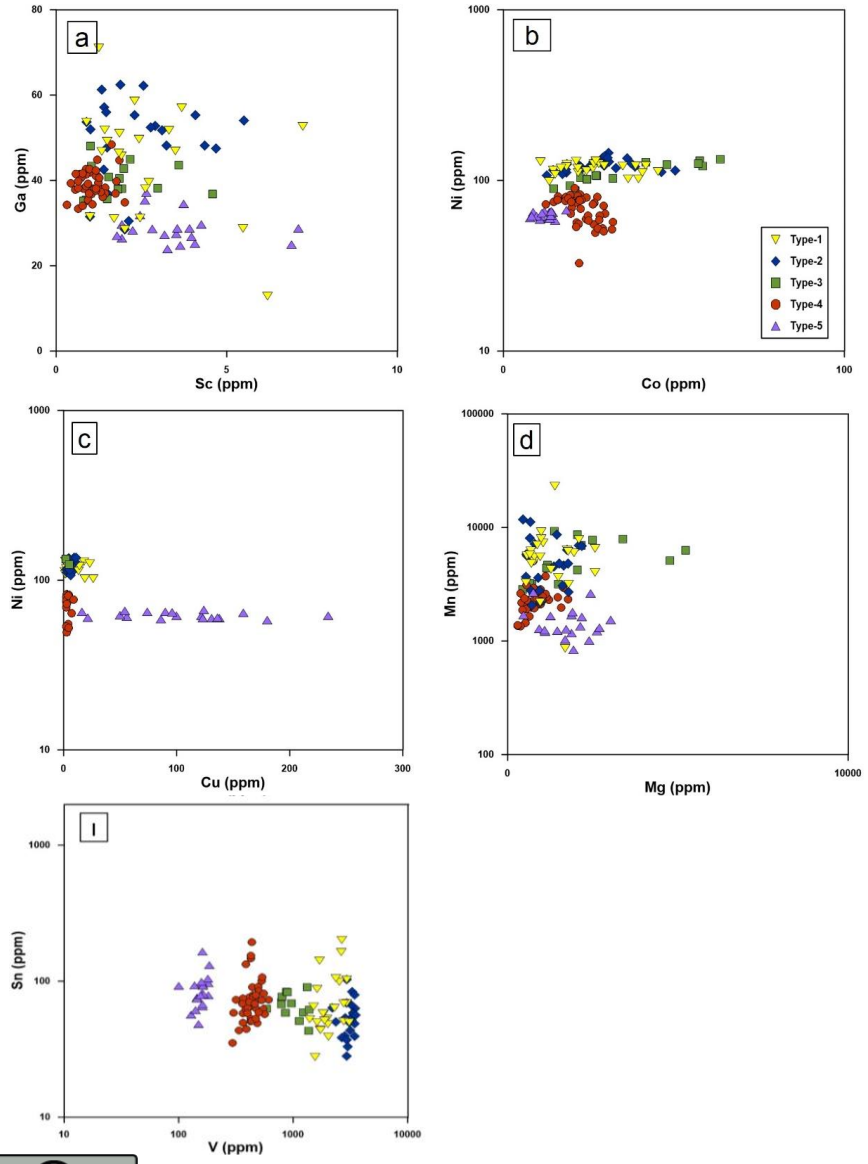
- **Type 4 magnetite**→ in garnet skarn

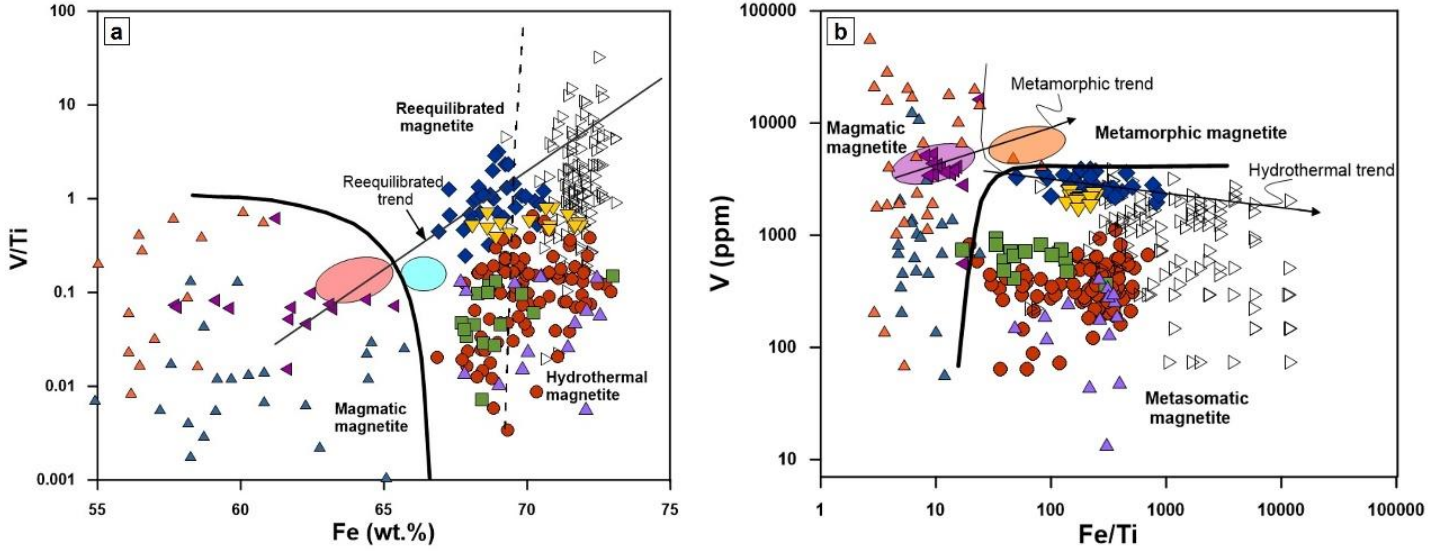


- **Type 5 magnetite**→ in tourmaline-magnetite zone

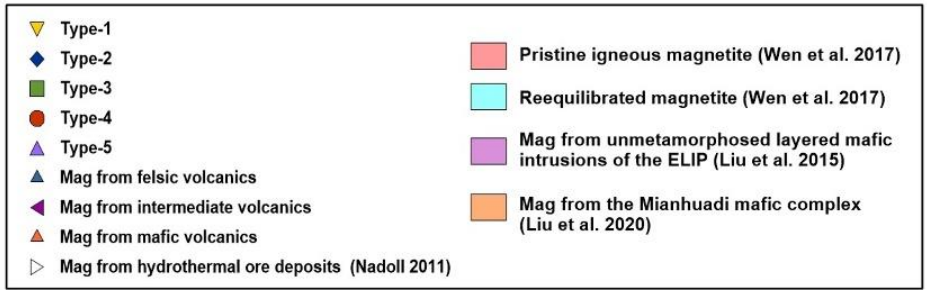


4. Geochemistry of Different Types of Magnetite



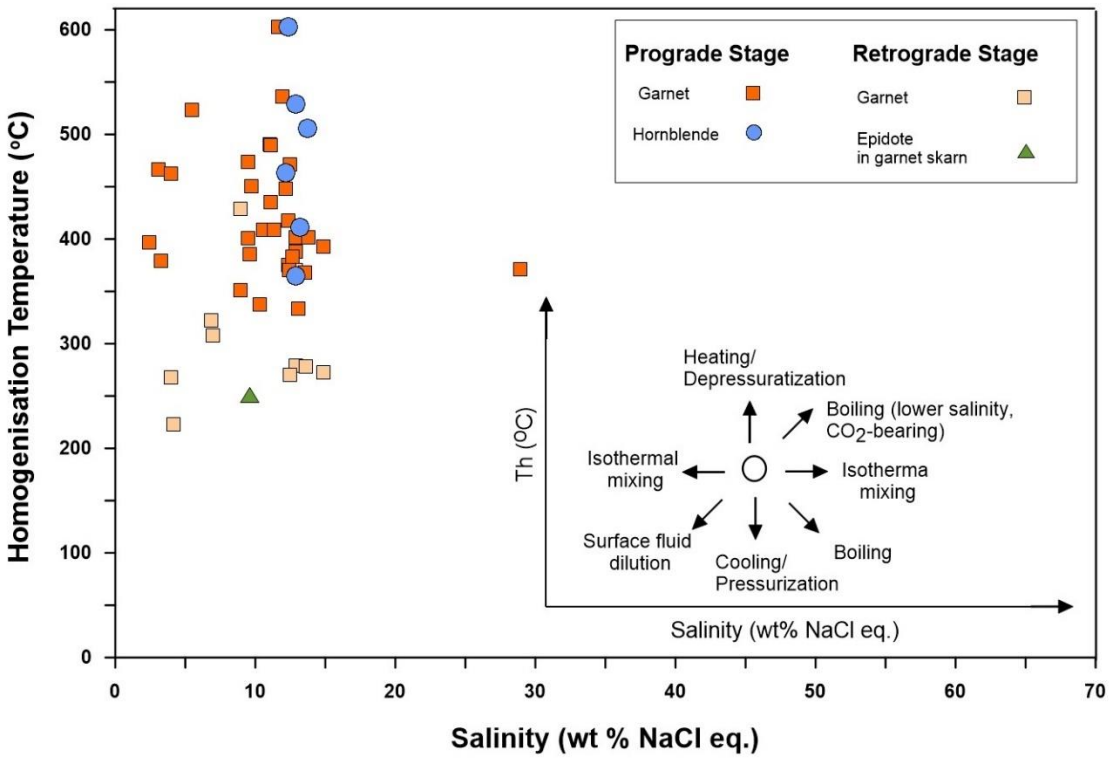


(Wen et al., 2017).

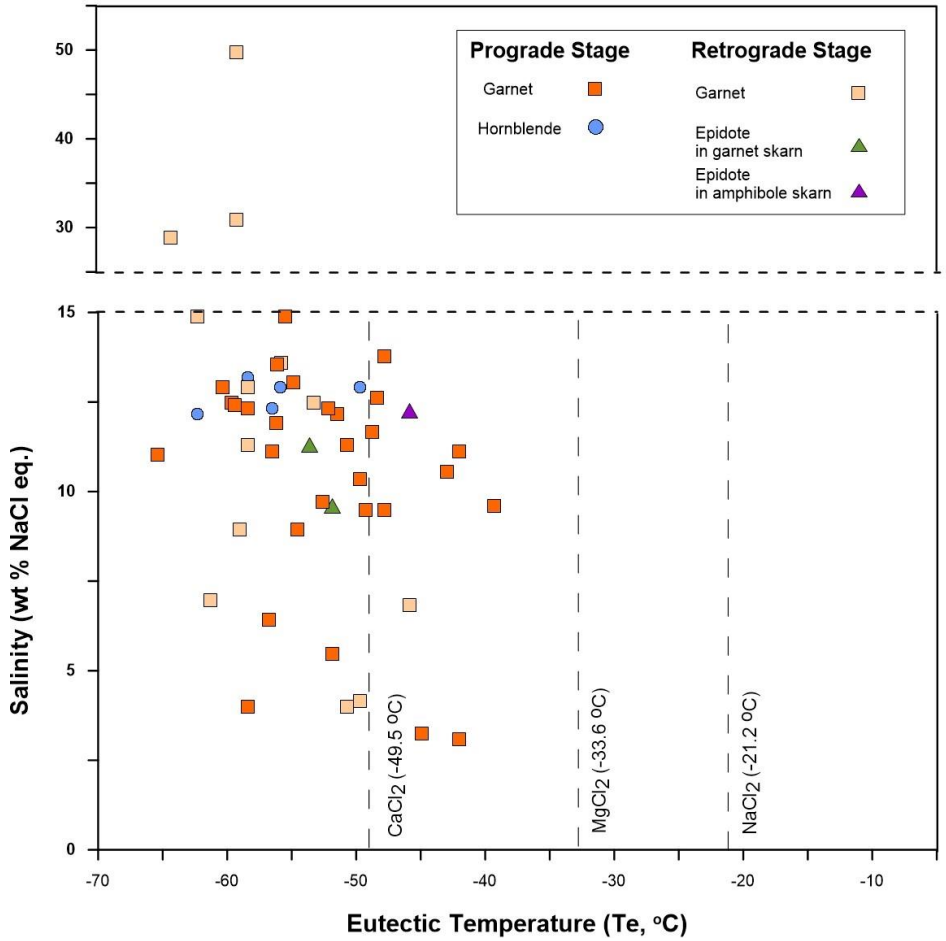


(Liu et al., 2020)

5. Fluid Inclusion Studies



(Wilkinson, 2001).



(Shephard et al., 1985).