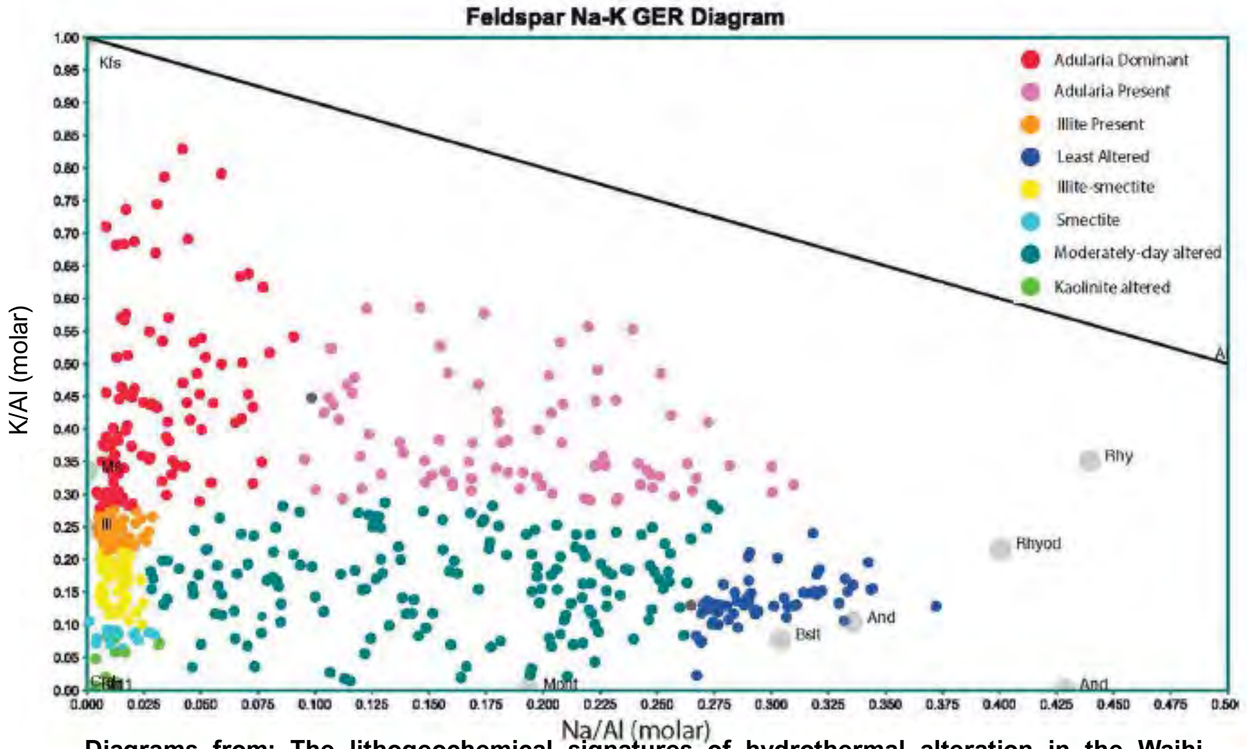
NORTHERNSHIELD RESOURCES INC.

Sinter to Center:

K/Al Ratios as a Vector to Epithermal Up-flow Zones, Root & Cellar, Newfoundland

NA-K GER DIAGRAMS - WAIHI, NZ



Diagrams from: The lithogeochemical signatures of hydrothermal alteration in the Waihi epithermal district, New Zealand,

Barker et al 2019

- Studies by Barker et al 2019 on the Waihi epithermal gold deposit used geochemical ratio plots as a proxy for alteration minerals
- The geochemical data revealed that elevated K/Al ratios occur in rocks proximal to low sulphidation Au–Ag deposits, reflecting adularia alteration in the host rocks associated with the upflowing hydrothermal fluids.

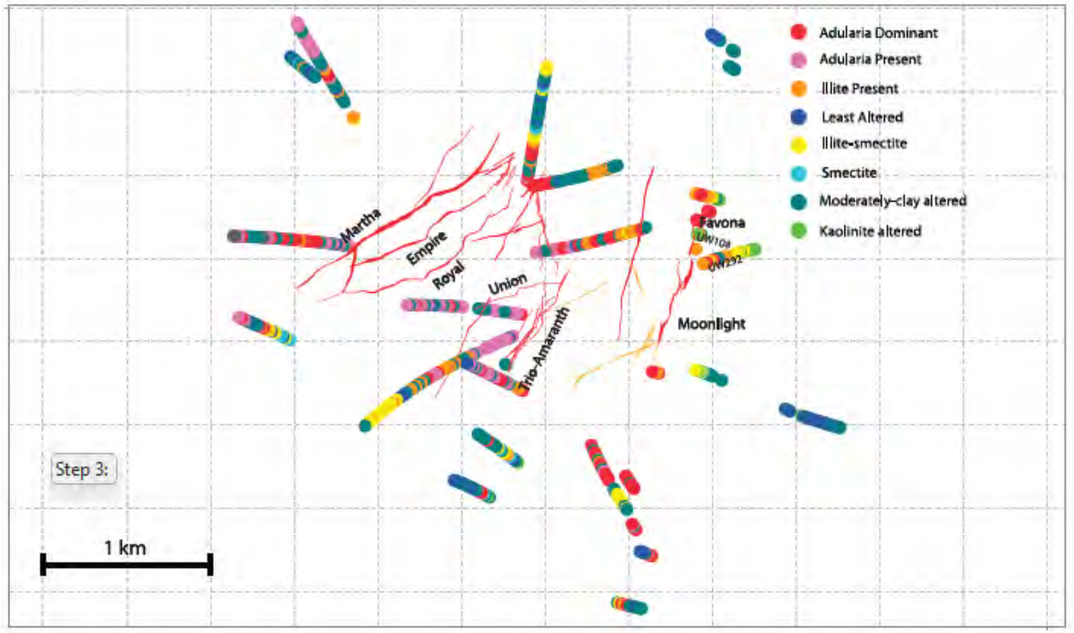
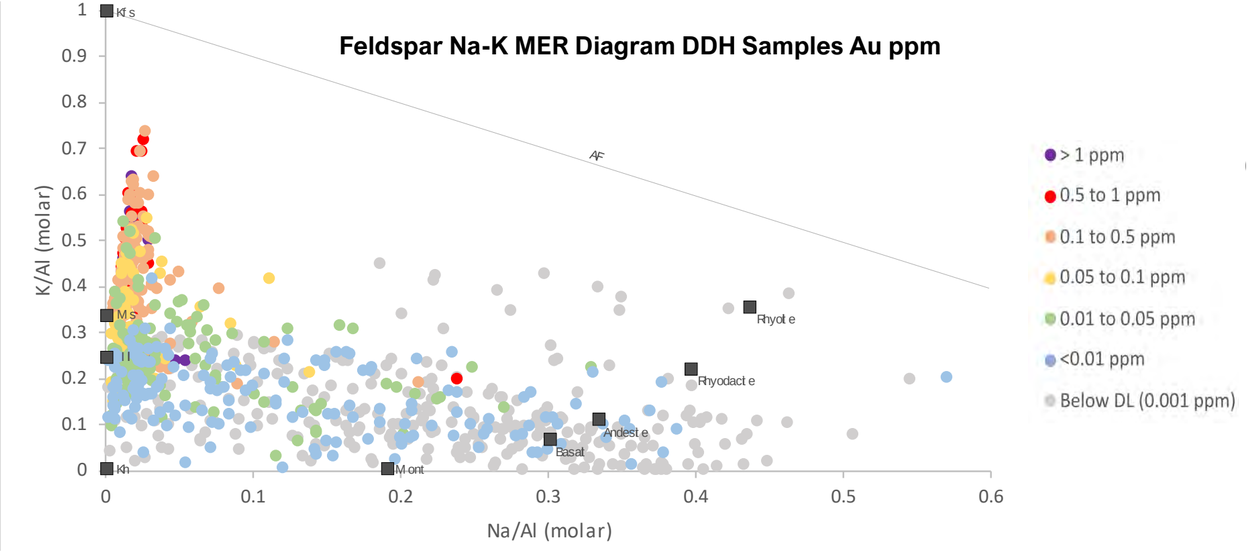
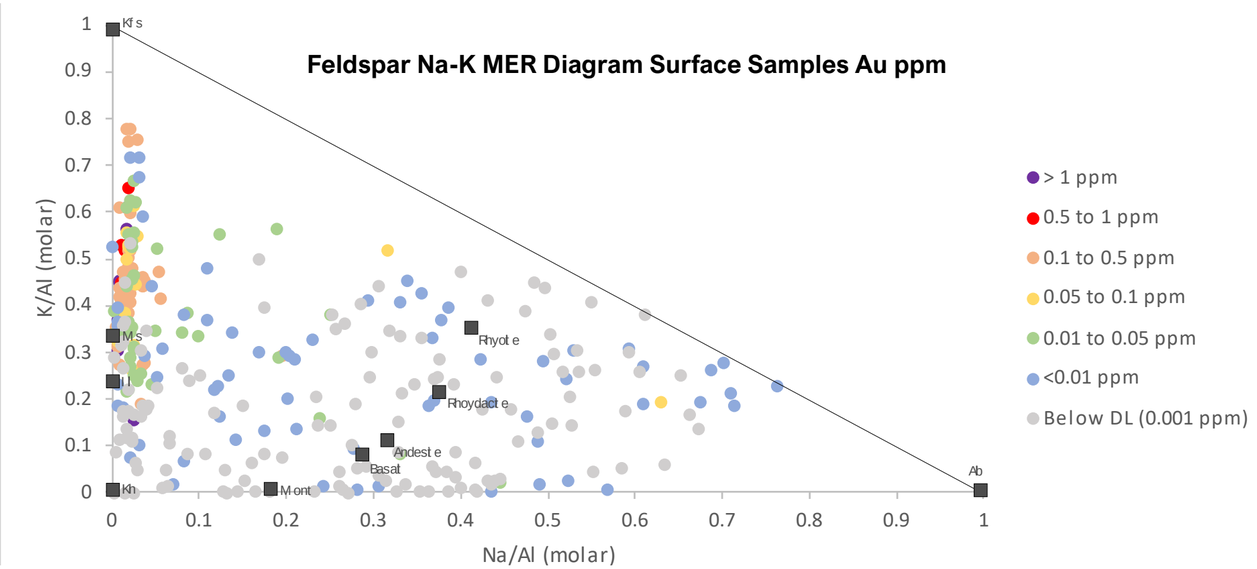


Figure 8. Map showing the distribution of alteration styles at Waihi as defined on the basis of the lithogeochemical alteration classification (see Figure 7).

NA-K GER DIAGRAMS - ROOT & CELLAR

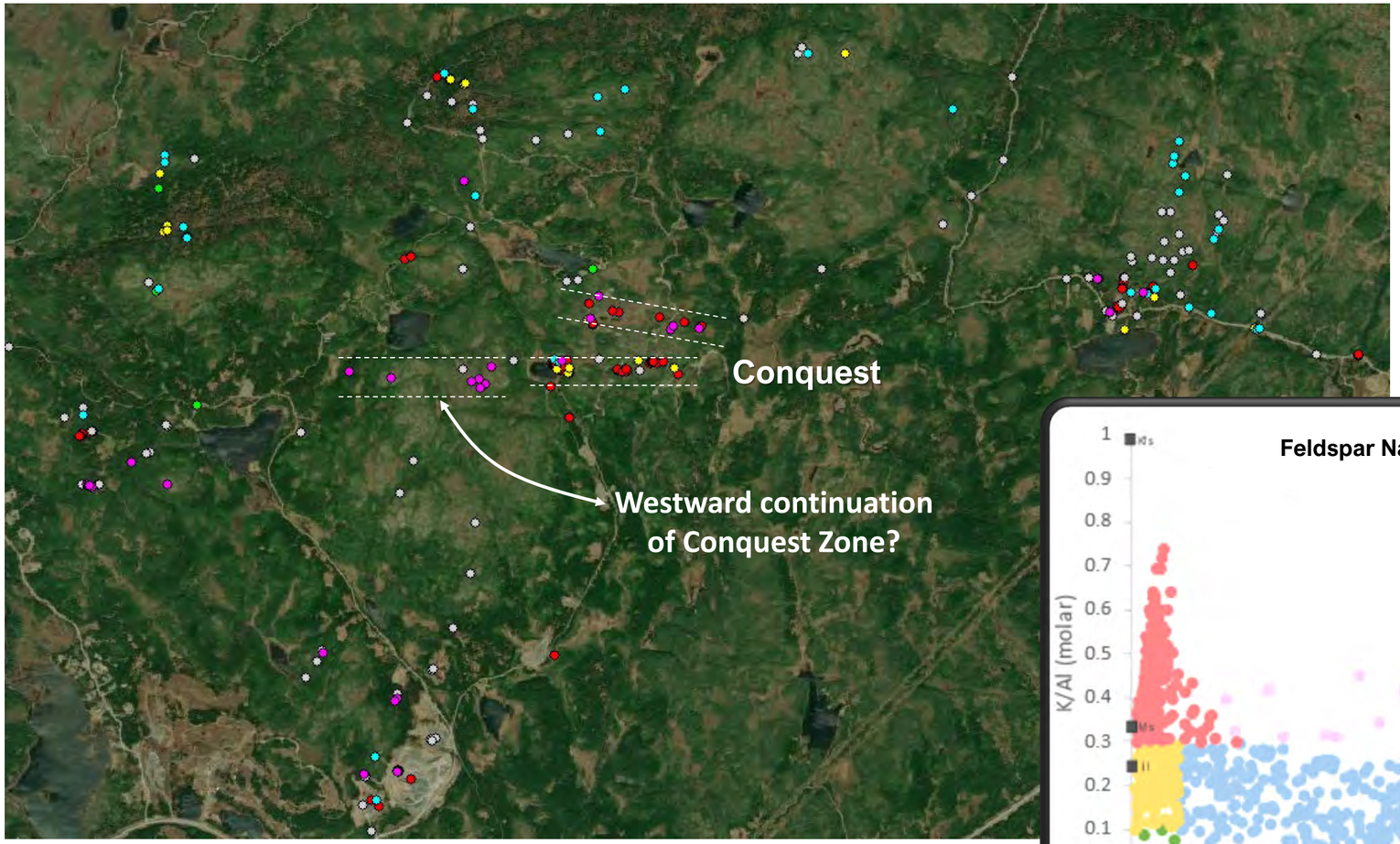




- Data was plotted on the same charts as used at Waihi using 32 element assay data (rather than whole rock) from surface and DDH samples
- and colour coded according to gold values
- Results clearly show mineralization associated with increasing K/Al values i.e illite -> adularia

Diagrams from Kaine Johnson, M.Sc. Student, Memorial University of Newfoundland

ALTERATION BASED ON NA-K DIAGRAMS SURFACE SAMPLES



- Following work done at Waihi epithermal Au deposit in New Zealand, Root & Cellar samples were placed into previously established alteration groups based on K/Al
- In context of the entire Root & Cellar Property, the Conquest Zone stands out as containing the most abundant adularia-bearing samples

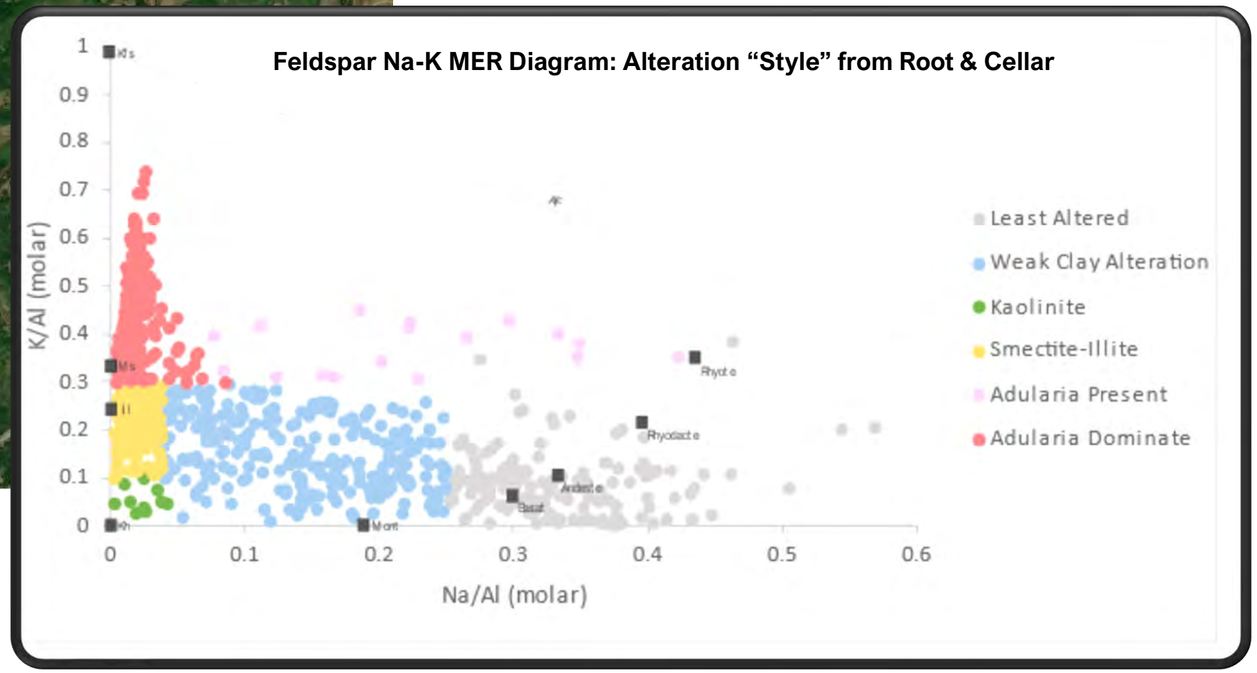
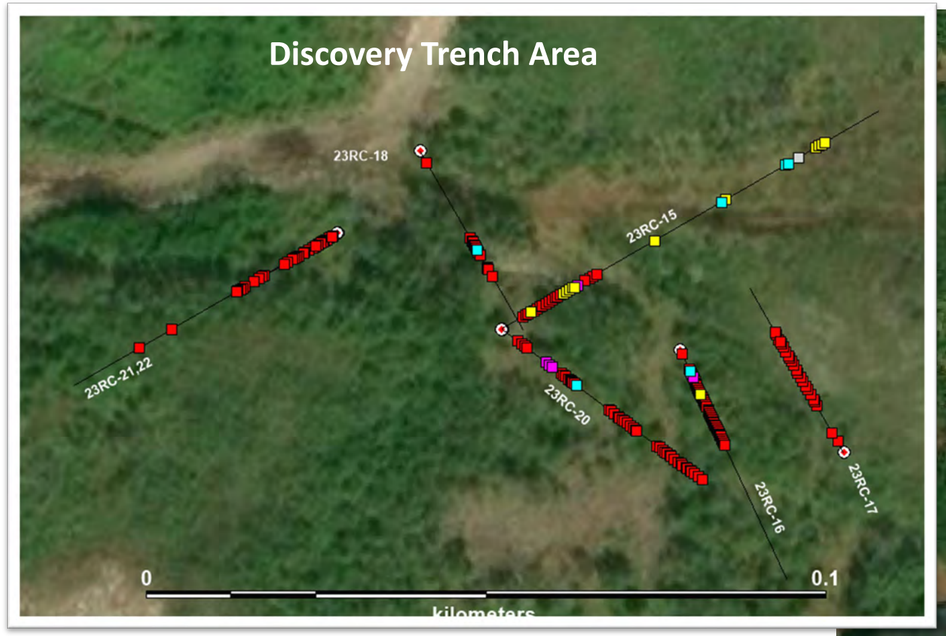
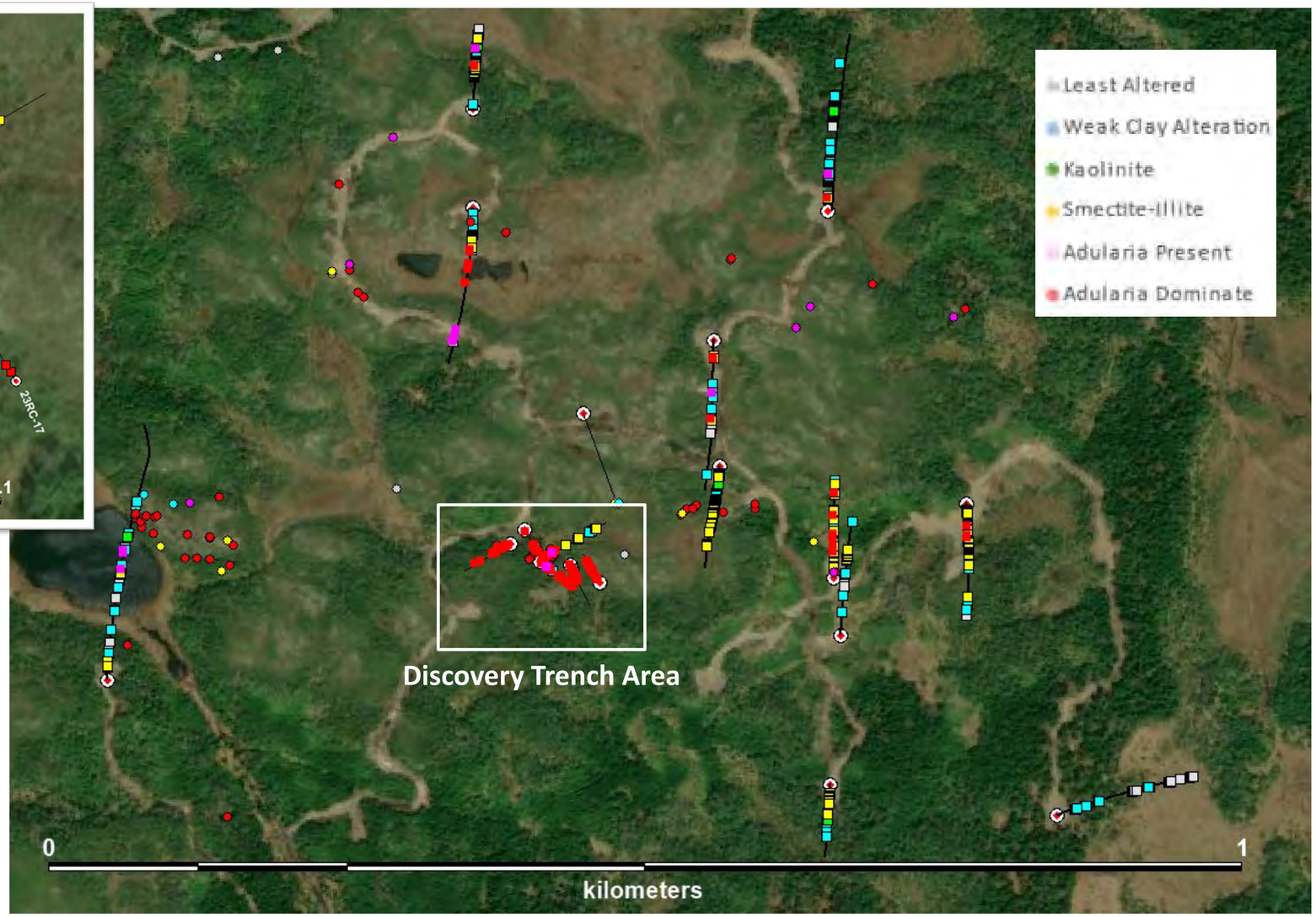


Diagram from Kaine Johnson, M.Sc. Student, Memorial University of Newfoundland

ALTERATION BASED ON NA-K DIAGRAMS DRILL SAMPLES





- Zooming in on the Conquest Zone and adding drill data it becomes very clear that the Discovery Trench area is distinctly anomalous in adularia based on K/Al ratios
- With nearly every samples in all drill holes in this area being adularia dominant
- These plots strongly support other evidence that the Discovery Trench area is an up-flow zone and likely closest to an epithermal vein