



Comparison of U-Pb detrital zircon datasets from the Hurwitz, Amer and Ketyet River groups, towards stratigraphic correlation of the basal Paleoproterozoic sequence of the WCP

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Geological Survey of Canada



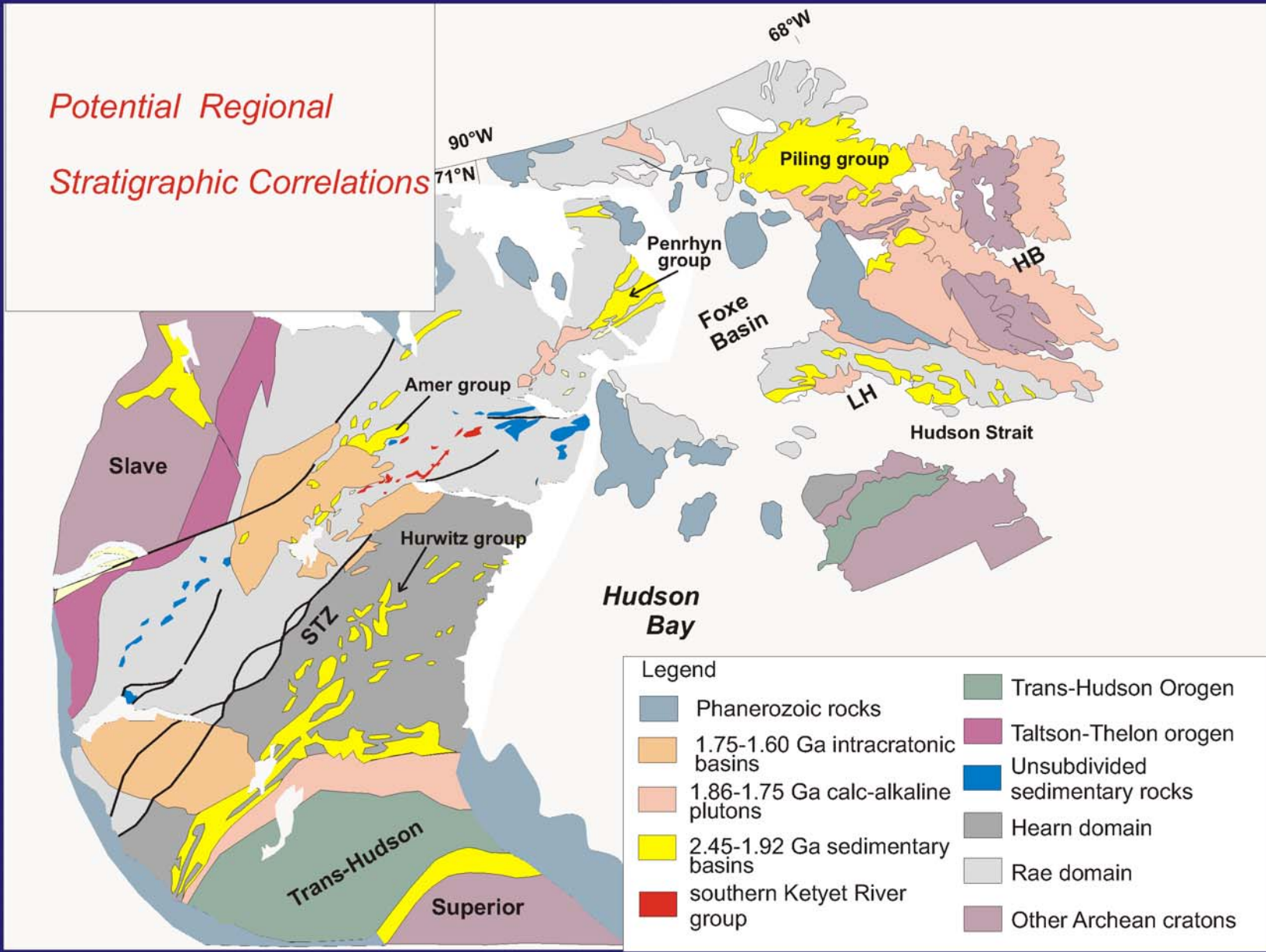
Acknowledgements

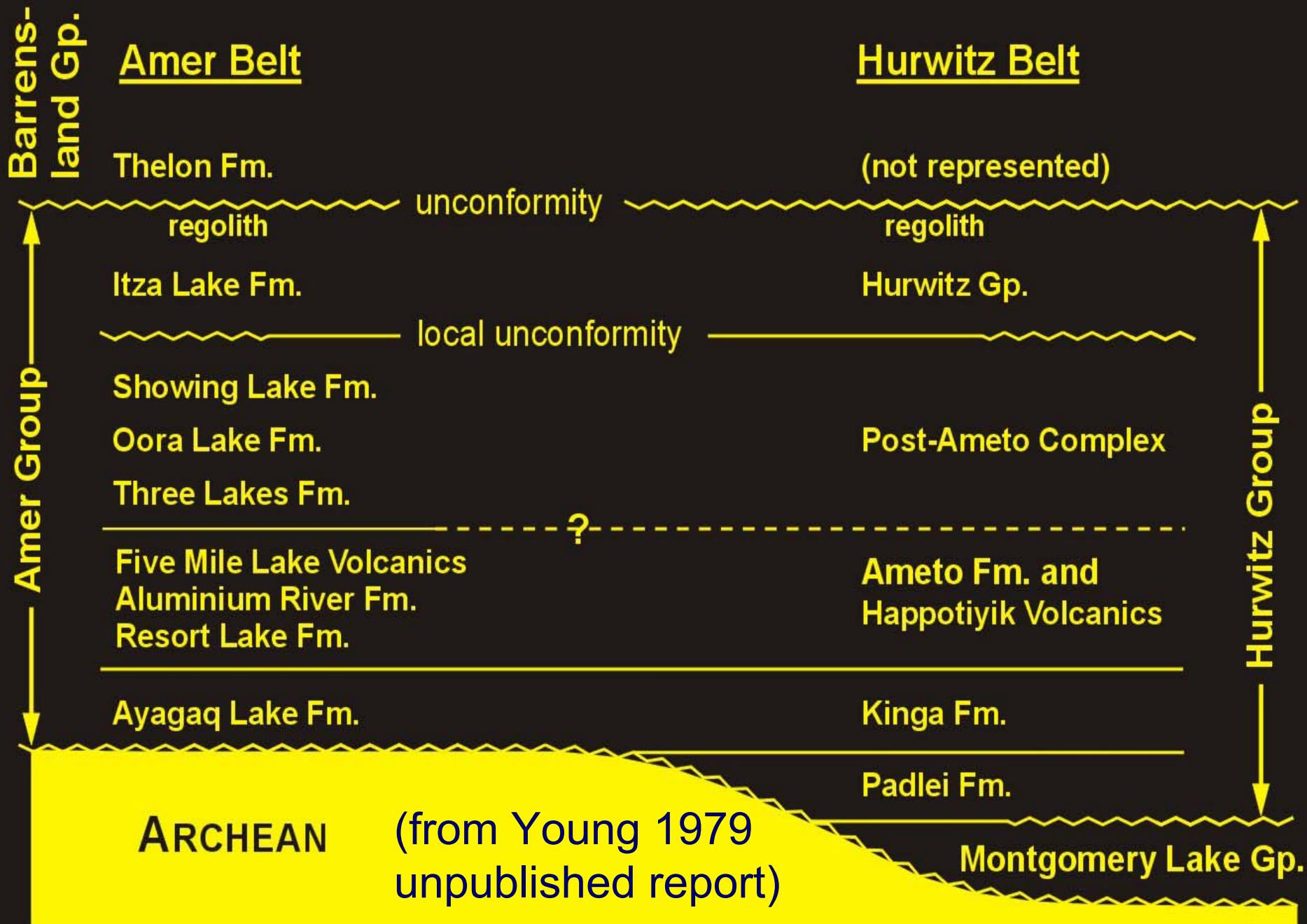
- **Cameco Corporation, Comaplex Minerals and Cumberland Resources for logistical support**
- **Nicole Rayner for lab assistance**
- **Eva Zaleski and Grant Young for published and archival data**
- **Larry Aspler and Jeff Chiarenzelli-Hurwitz study**

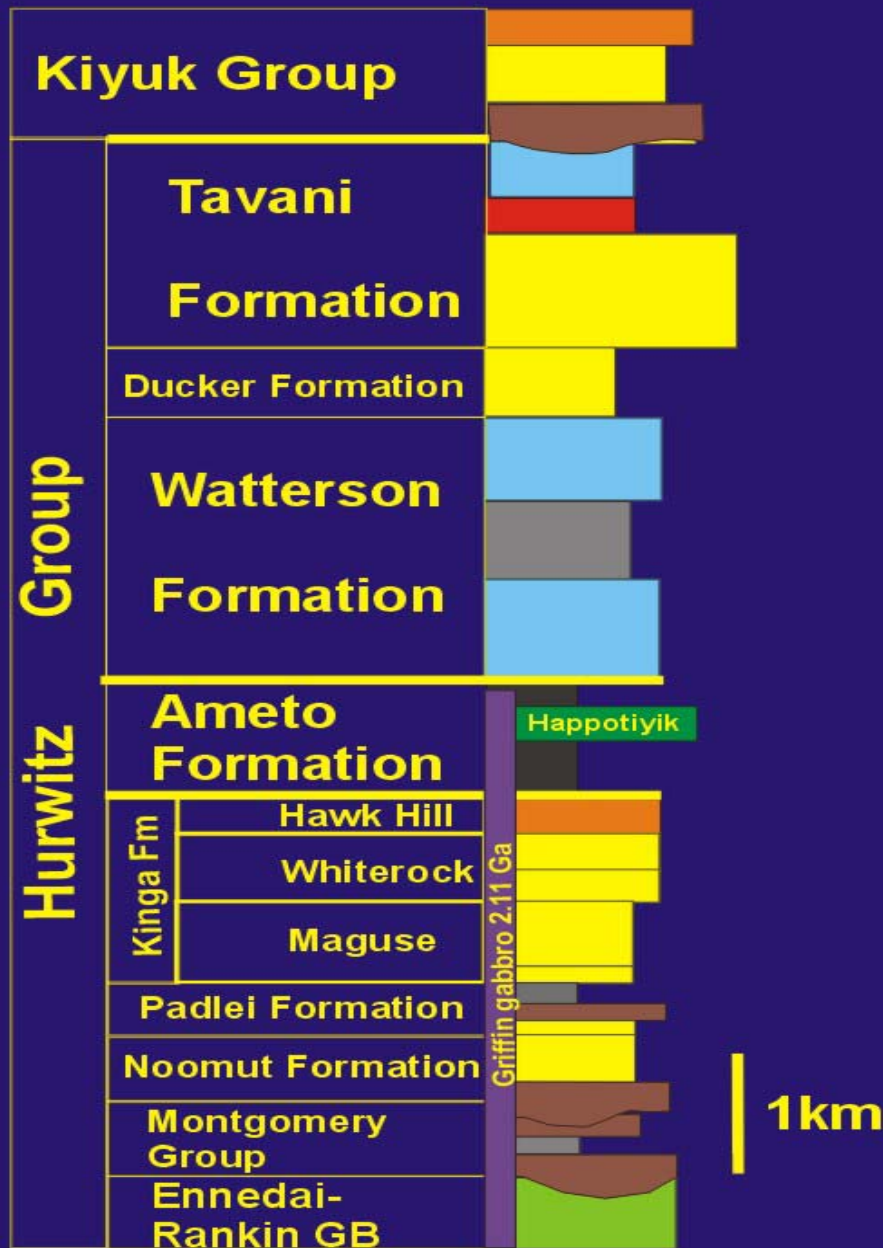
Correlation of basal Paleoproterozoic sequences in the WCP

- Important for fixing relative positions of underlying Archean terranes through time
- Assessing scale of tectonic processes responsible for sedimentary basin formation
- Best way to establish correlations is via sequence stratigraphic analysis combined with chronostratigraphy
- Direct dating not always possible-DZG is employed to establish maximum ages and to establish provenance as a means of assessing relative influence of local and regional tectonic processes

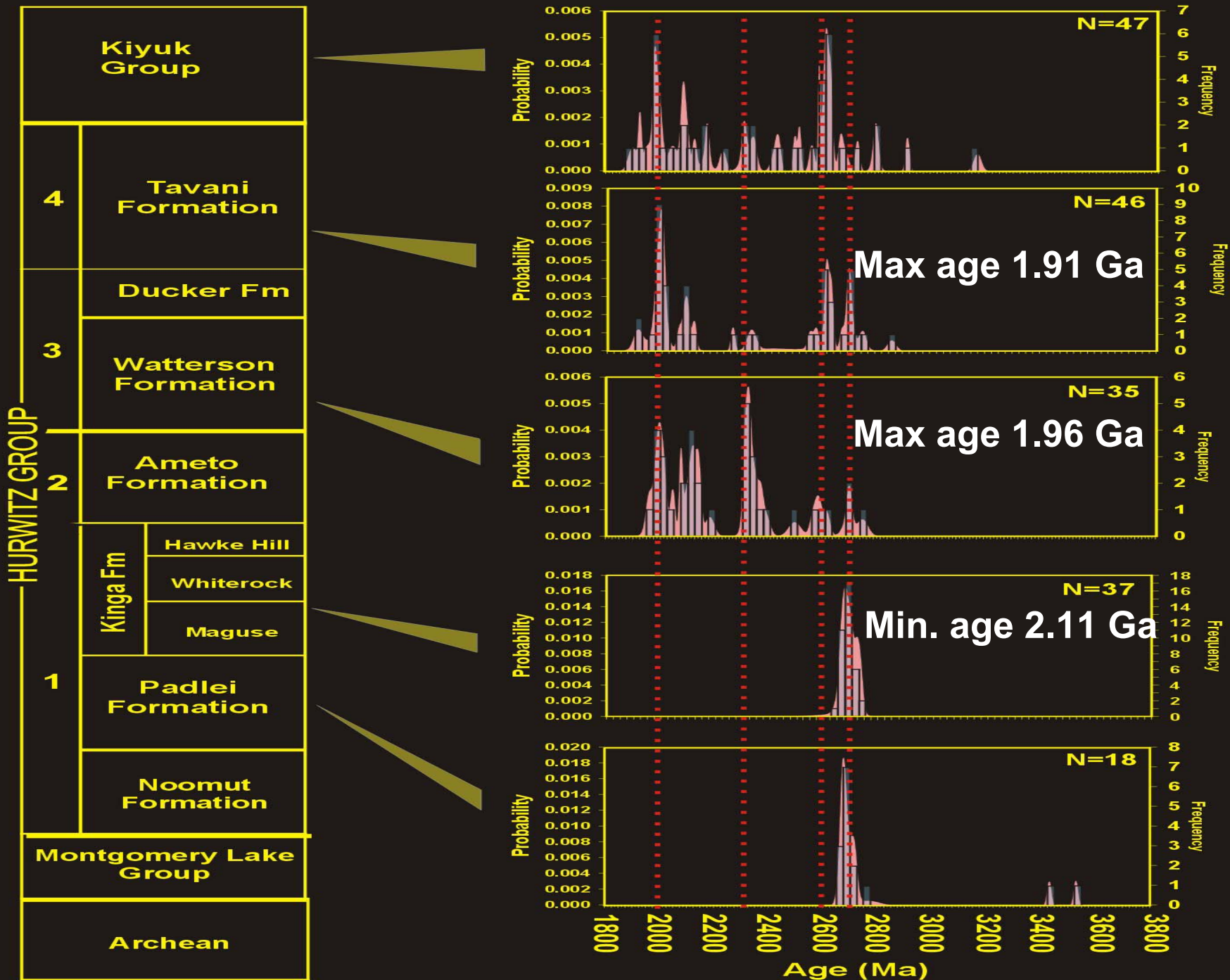
Potential Regional
Stratigraphic Correlations



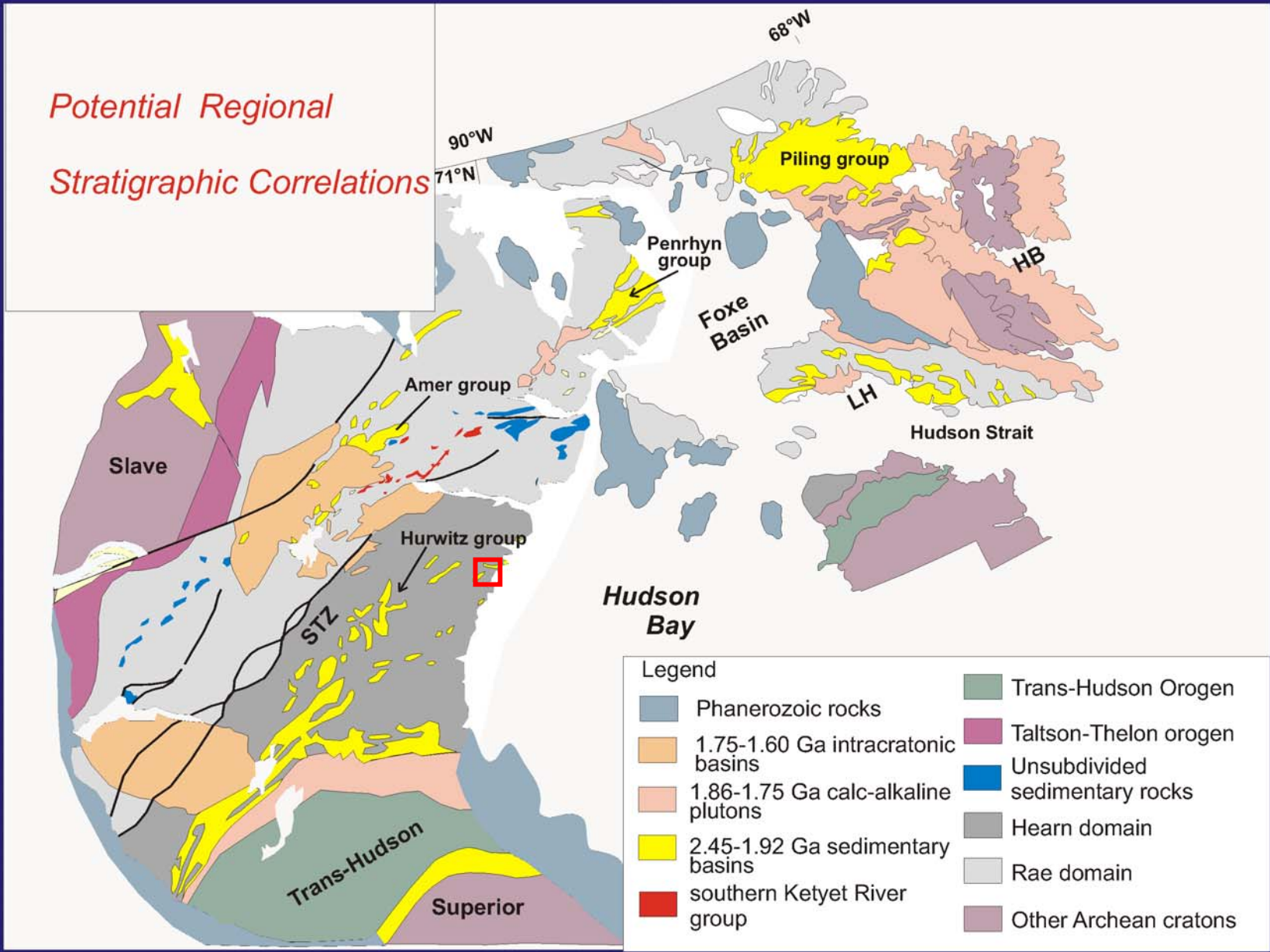


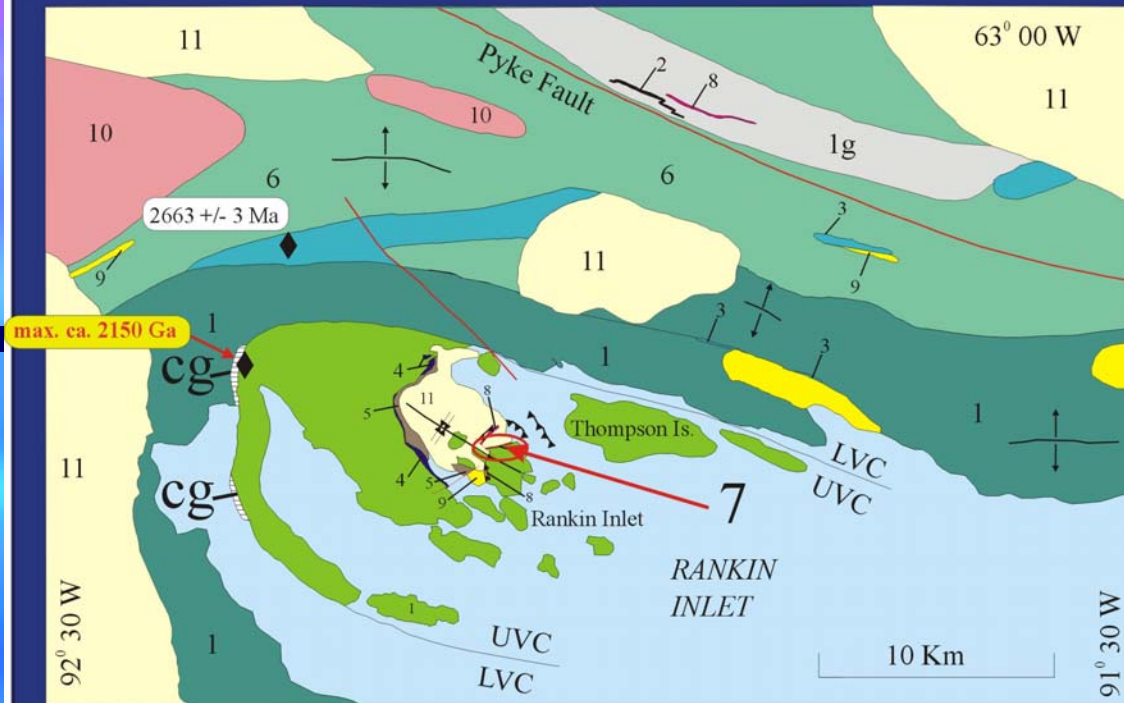


(Aspler et al. 2001)



Potential Regional
Stratigraphic Correlations





LEGEND

11 Quaternary cover

PROTEROZOIC

10 granite

9 orthoquartzite

ARCHEAN

RANKIN INLET GROUP

8 gabbro

7 ultramafics

6 mafic volcanic schist and tuffs (derived from 1)

5 impure quartzite

4 carbonate

3 felsic volcanics

2 banded iron formation

1 mafic volcanics, greywacke (1g), mafic and felsic tuffs, pyroclastics and conglomerate (cg)

◆ Geochron Sample Locality

UVC - Upper Volcanic Cycle

LVC - Lower Volcanic Cycle

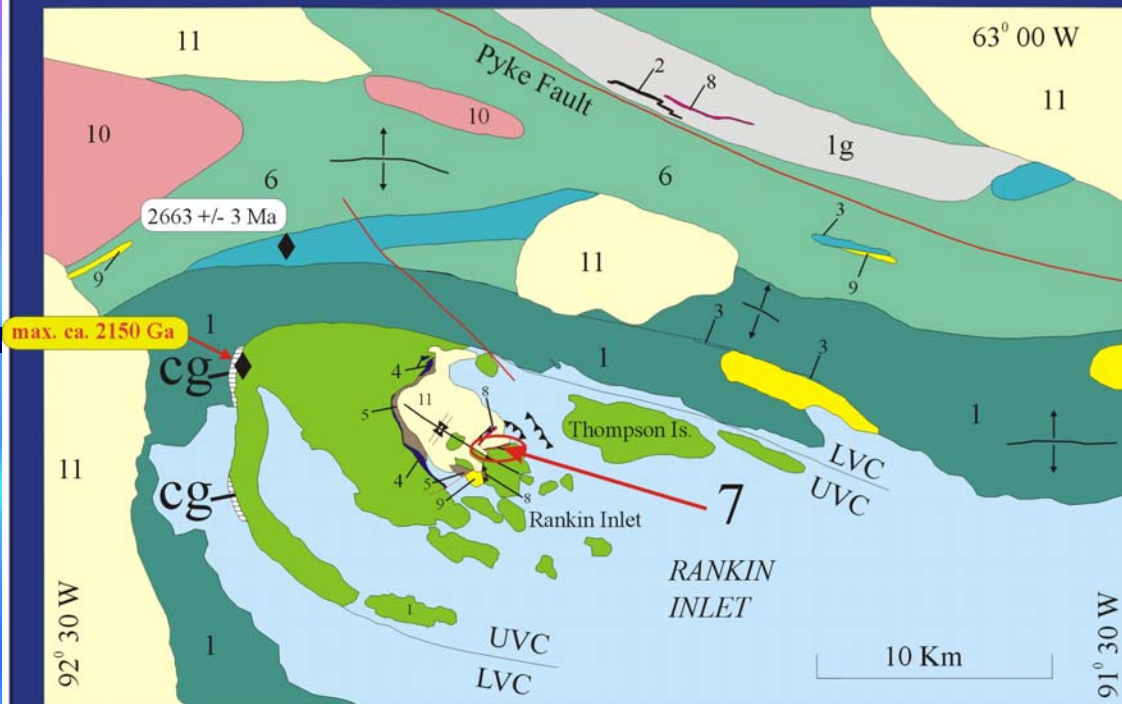
+ Axial trace F1-Anticline

||| Axial trace F2-Anticline

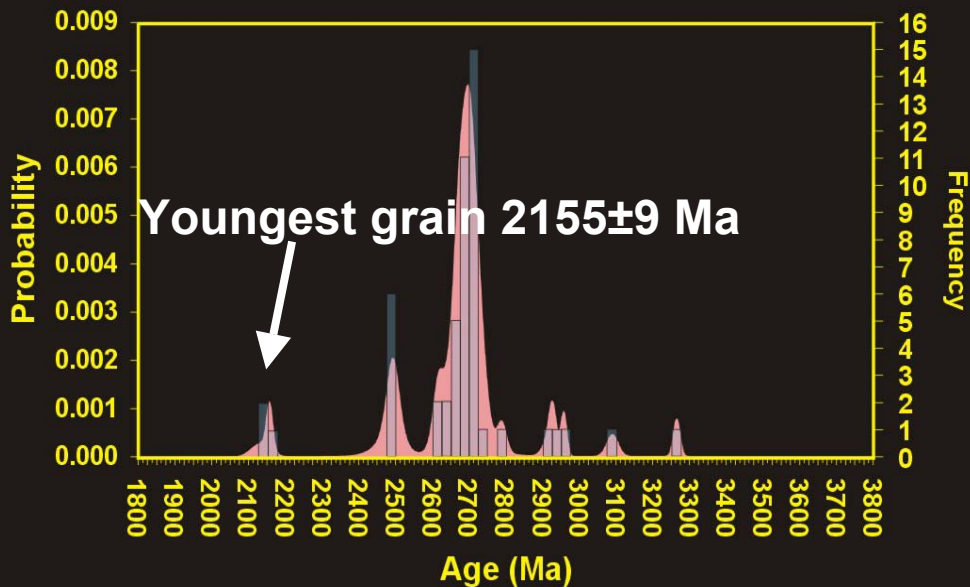
— Fault

— Thrust Fault

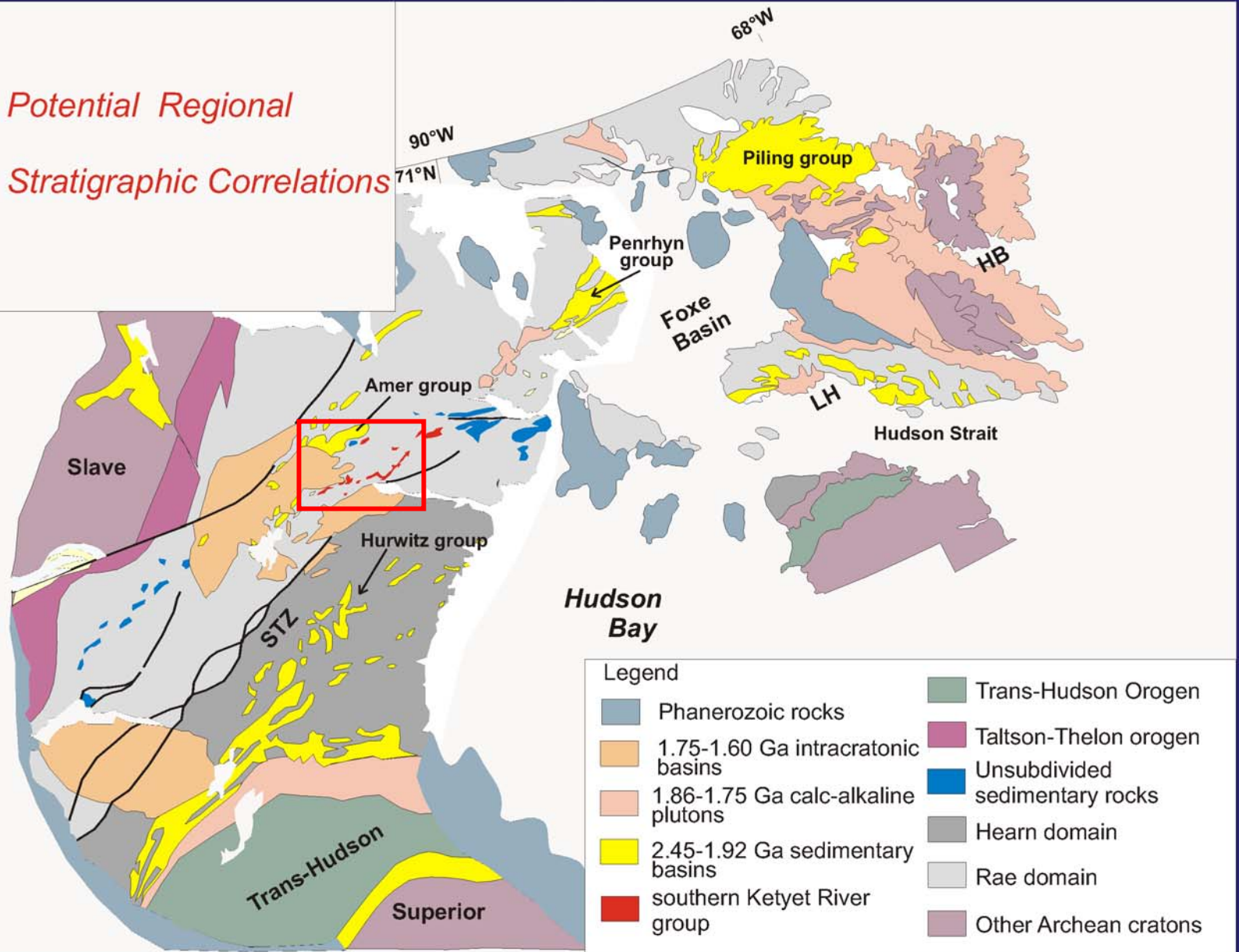
Simplified geological sketch map, Rankin Inlet Area (after Tella).

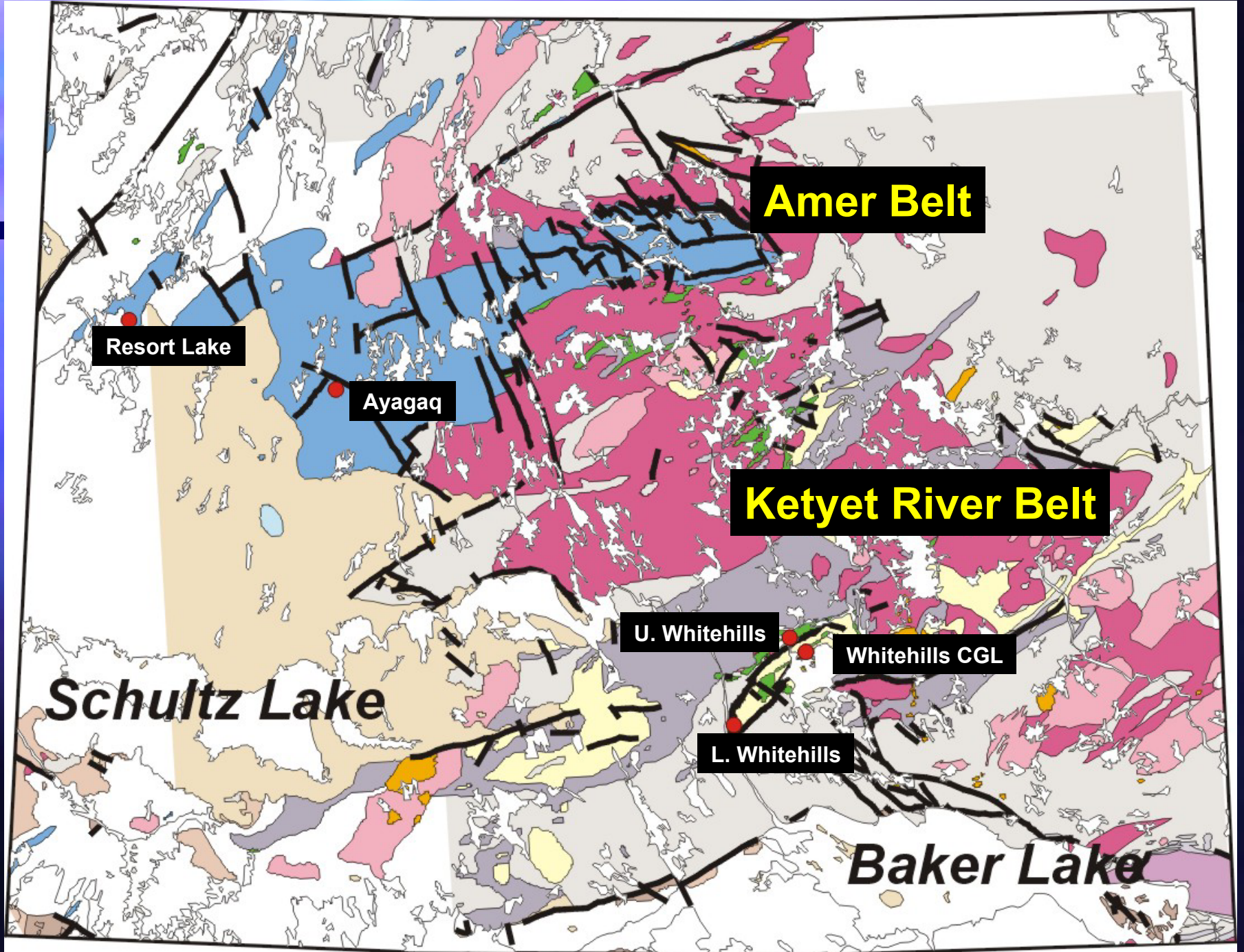


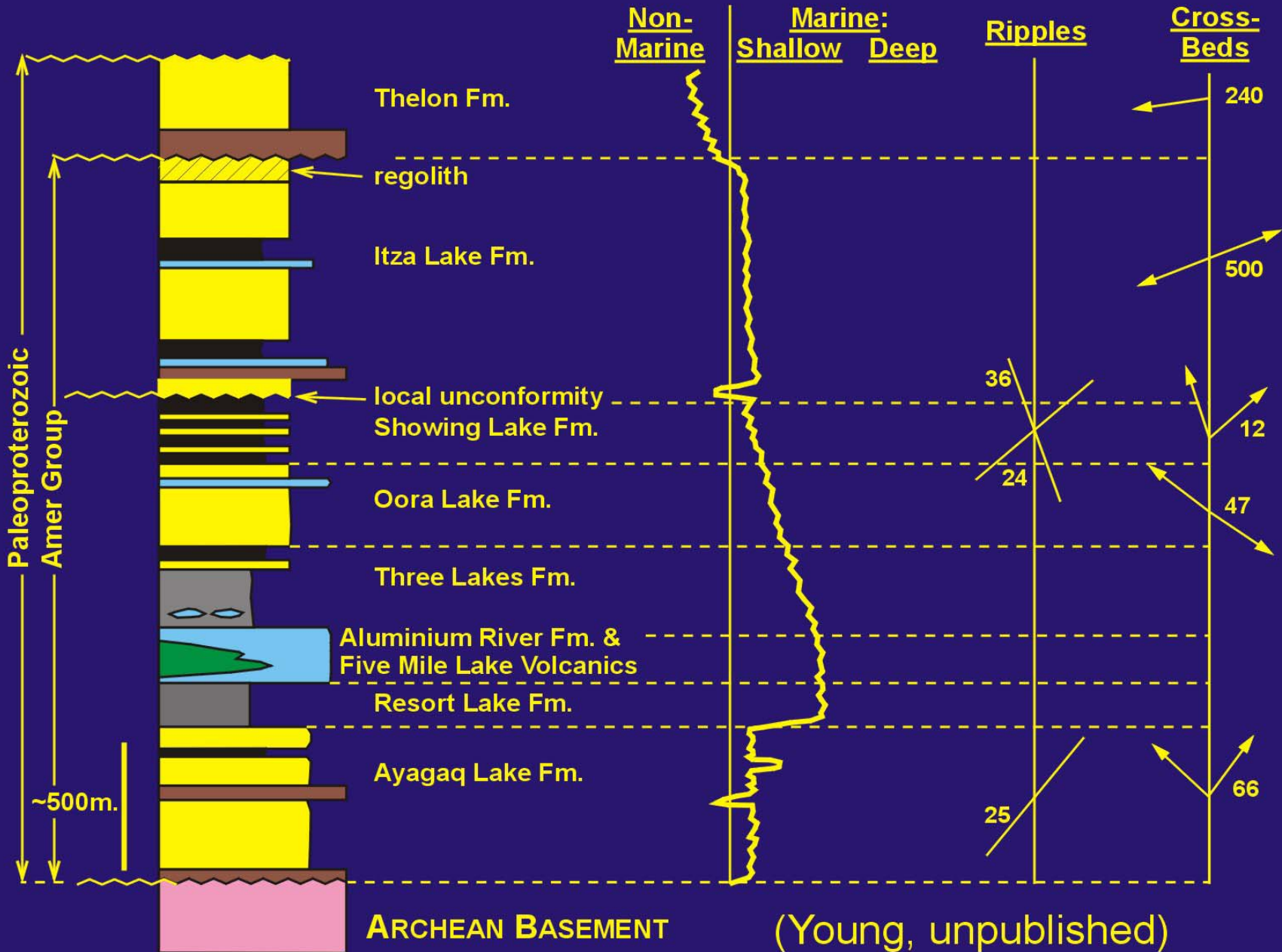
Rankin Conglomerate, n=55, 95–105% conc.



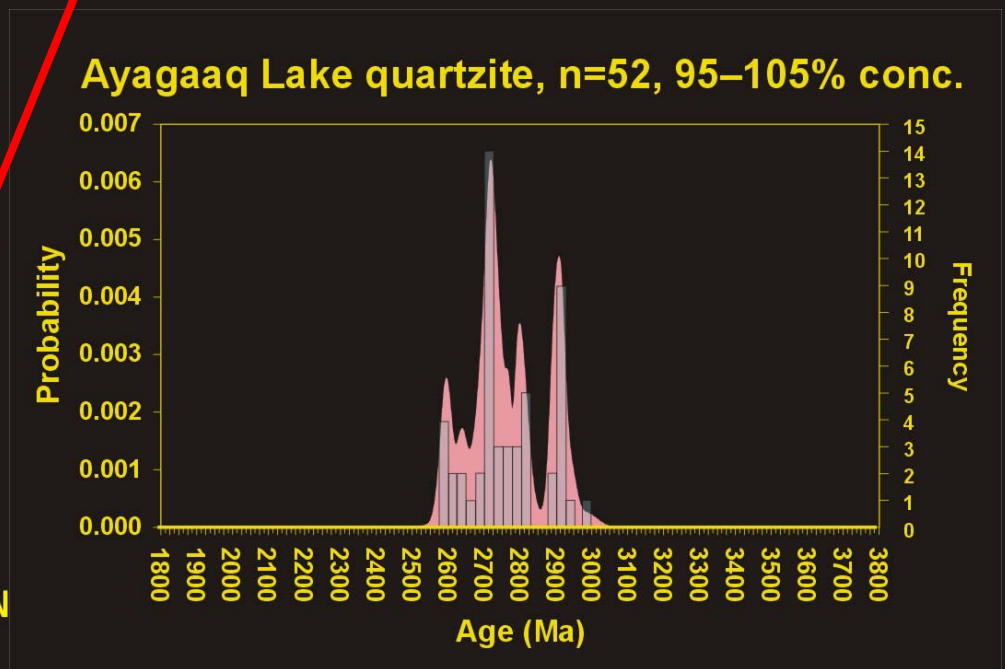
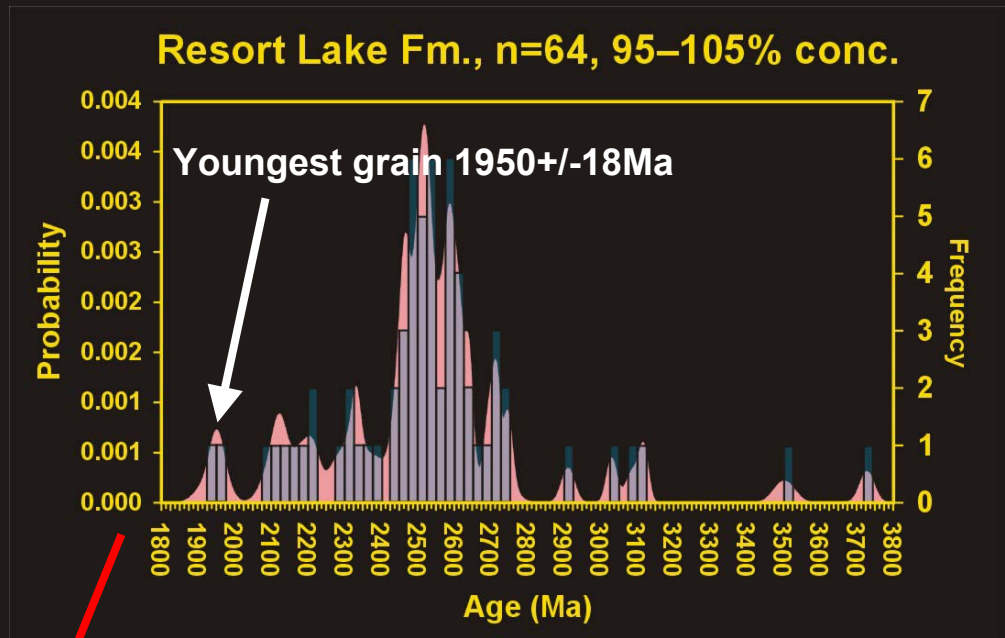
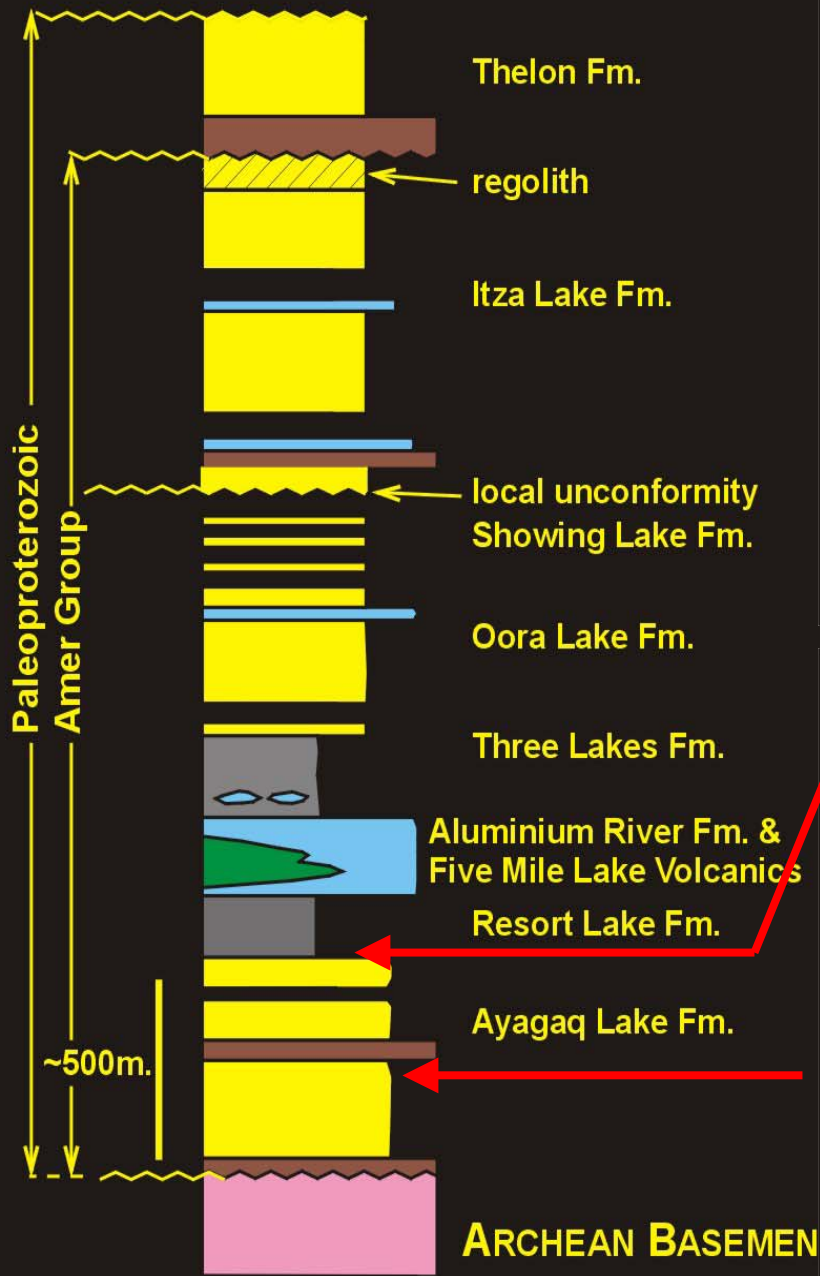
Potential Regional
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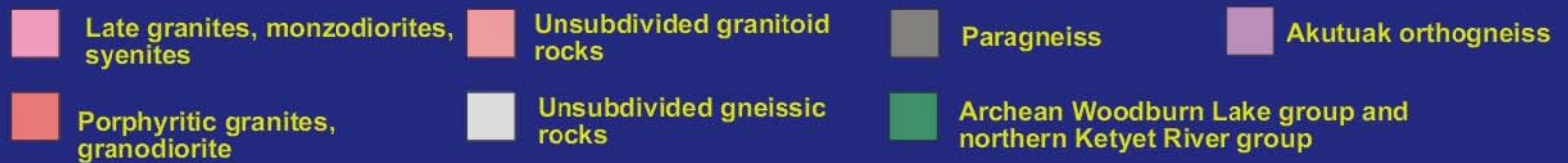
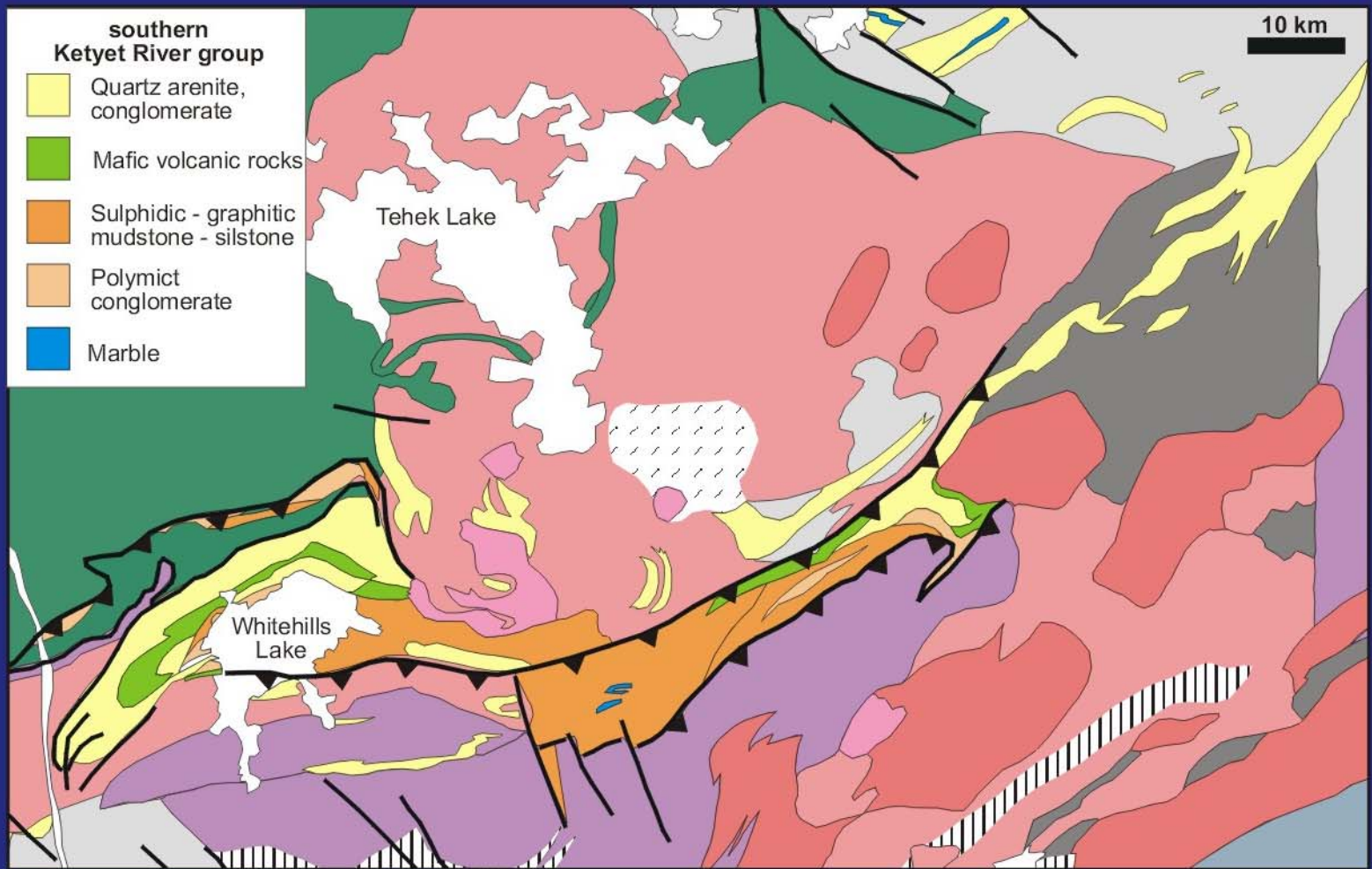




(Young, unpublished)

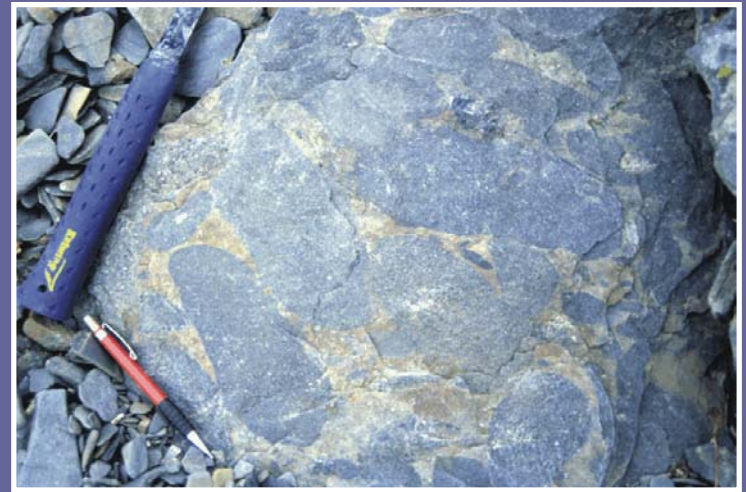
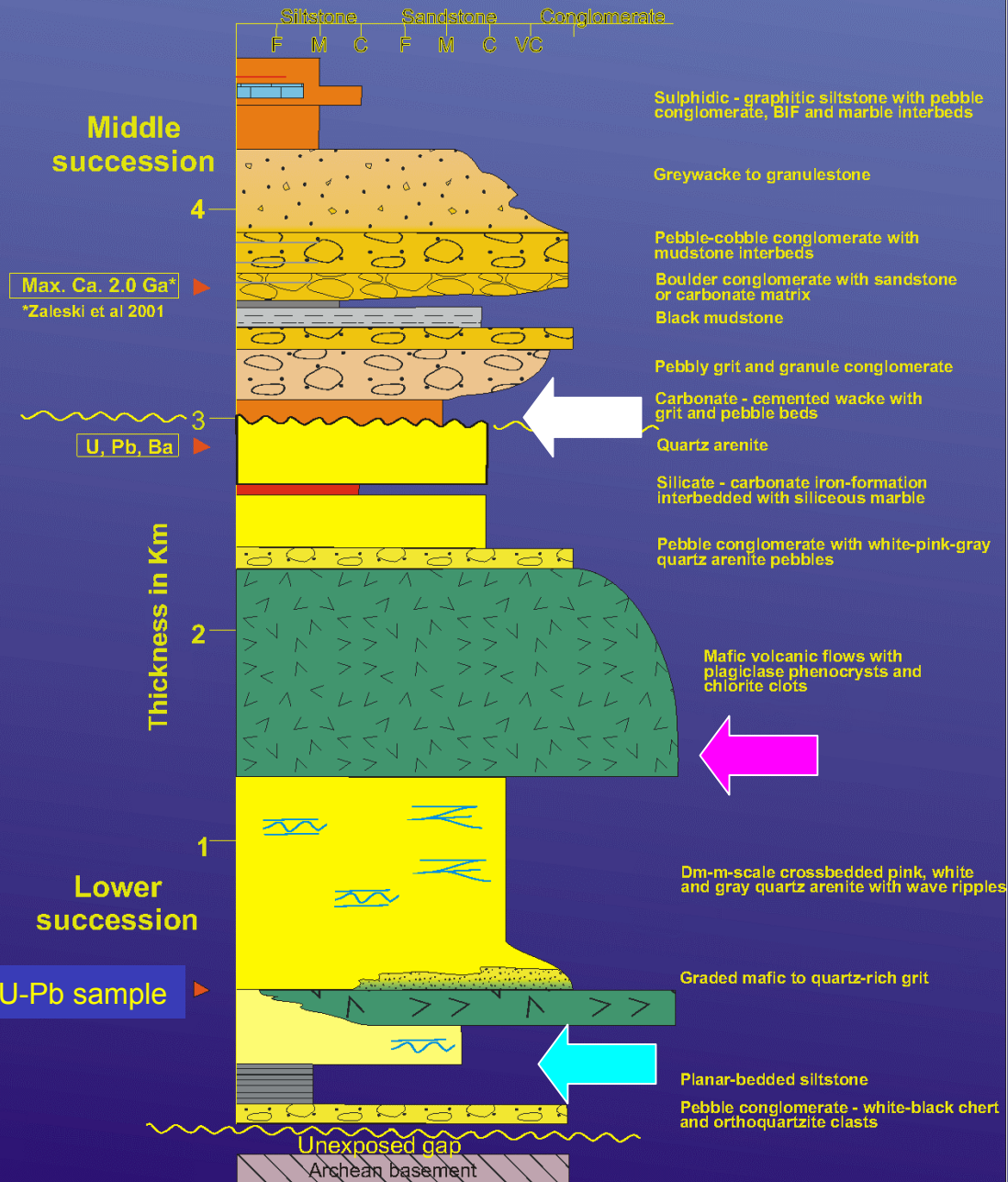


Stratigraphy from Young, unpublished

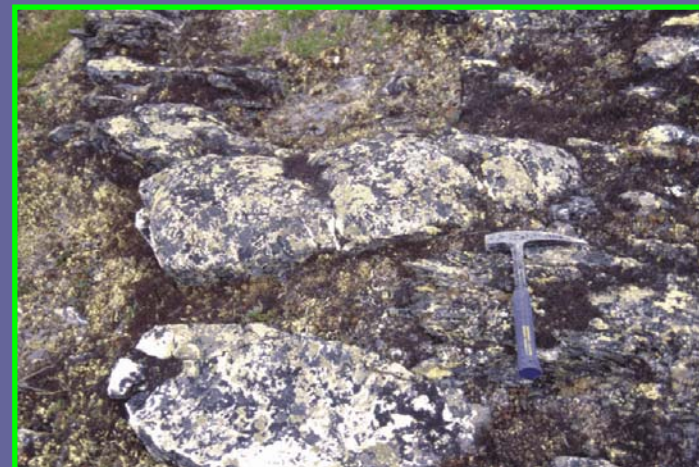
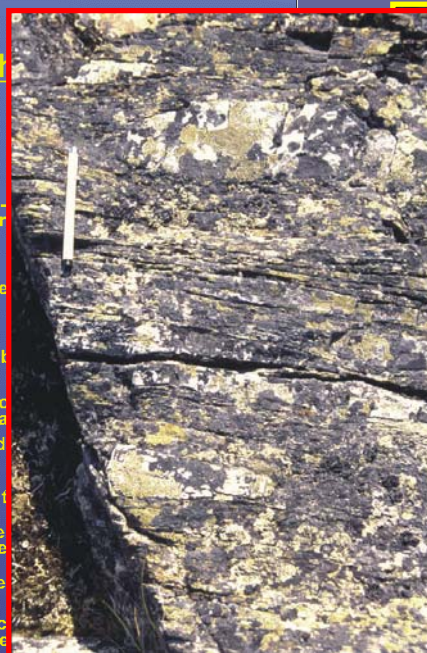
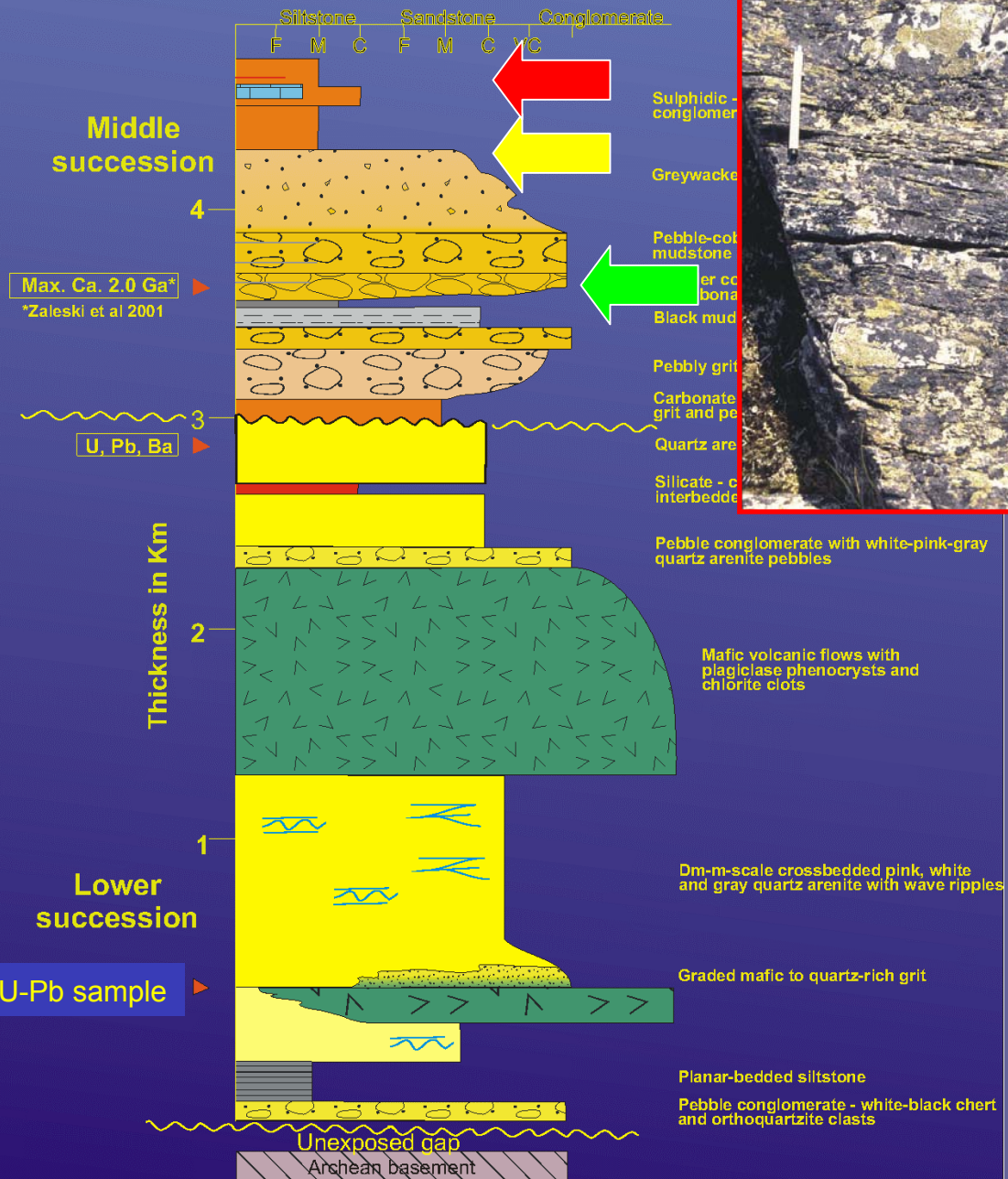


Geology of Whitehills Lake area

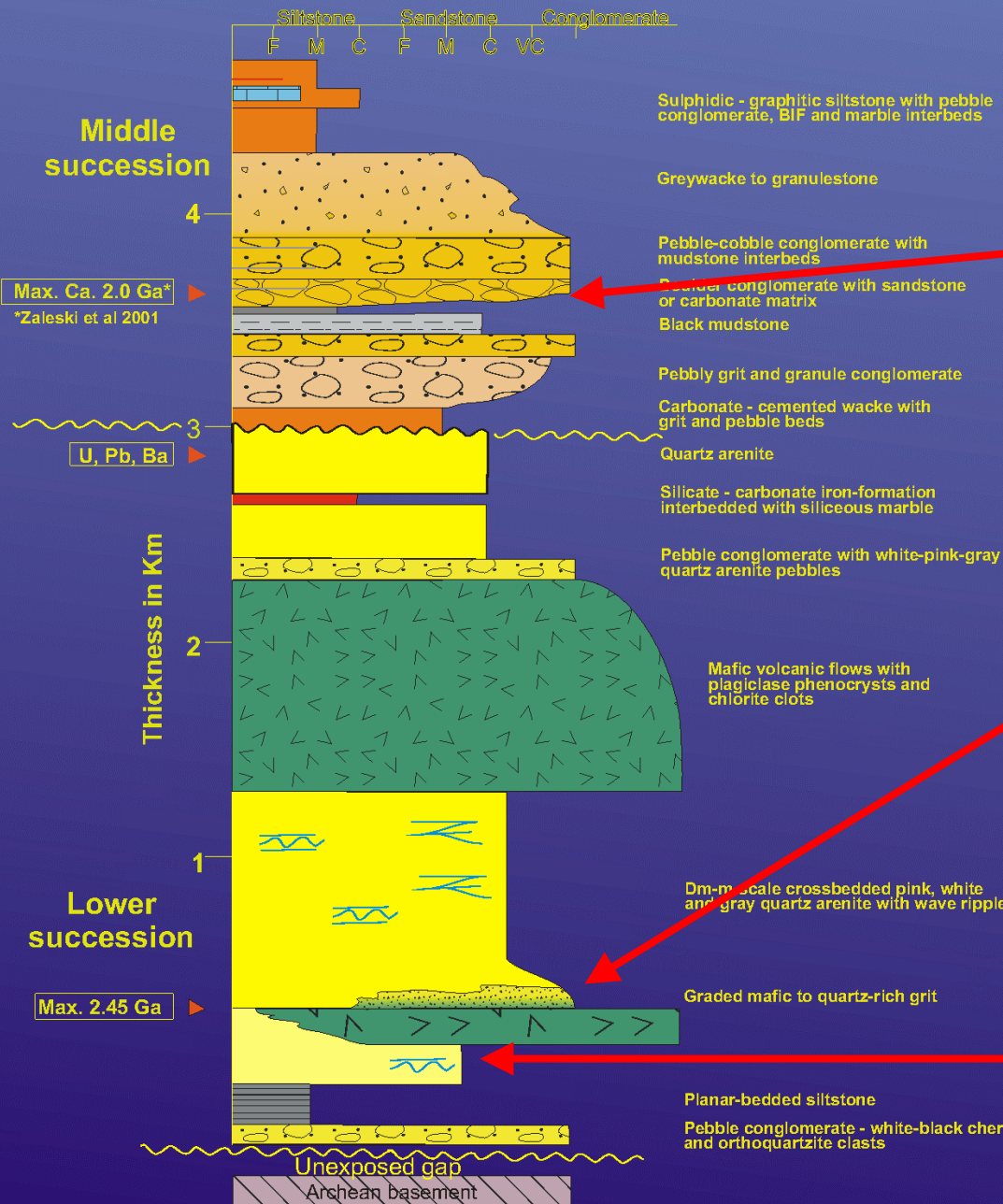
Stratigraphy of the southern Ketyet Group, Whitehills Lake



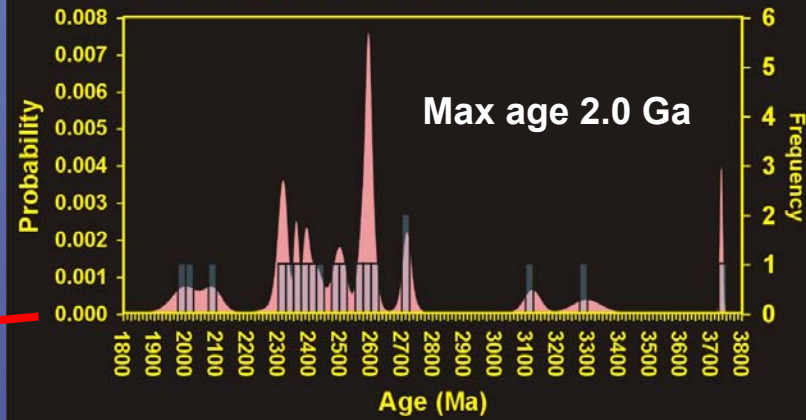
Stratigraphy of the southern Ketyet Group, WI



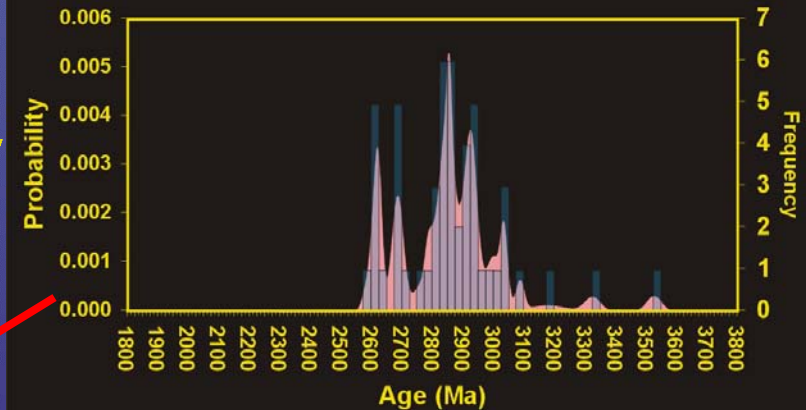
Stratigraphy of the southern Ketyet Group, Whitehills Lake



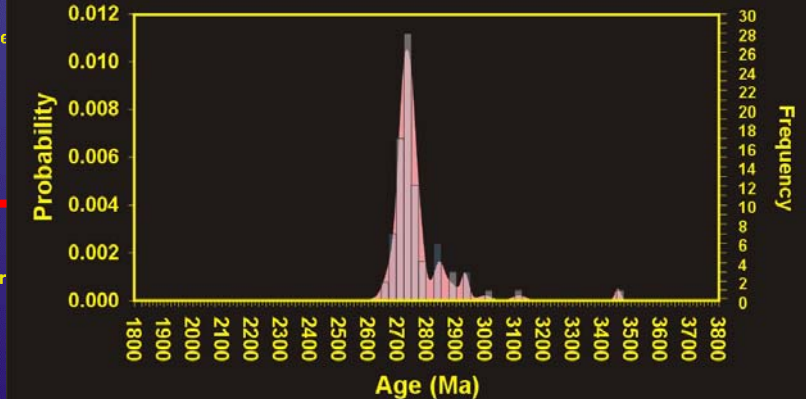
Ketyet Conglomerate, n=25, 95-105% conc.



Ketyet Quartzite, n=56, 95-105% conc.



Whitehills Quartzite, n=85, 95-105% conc.

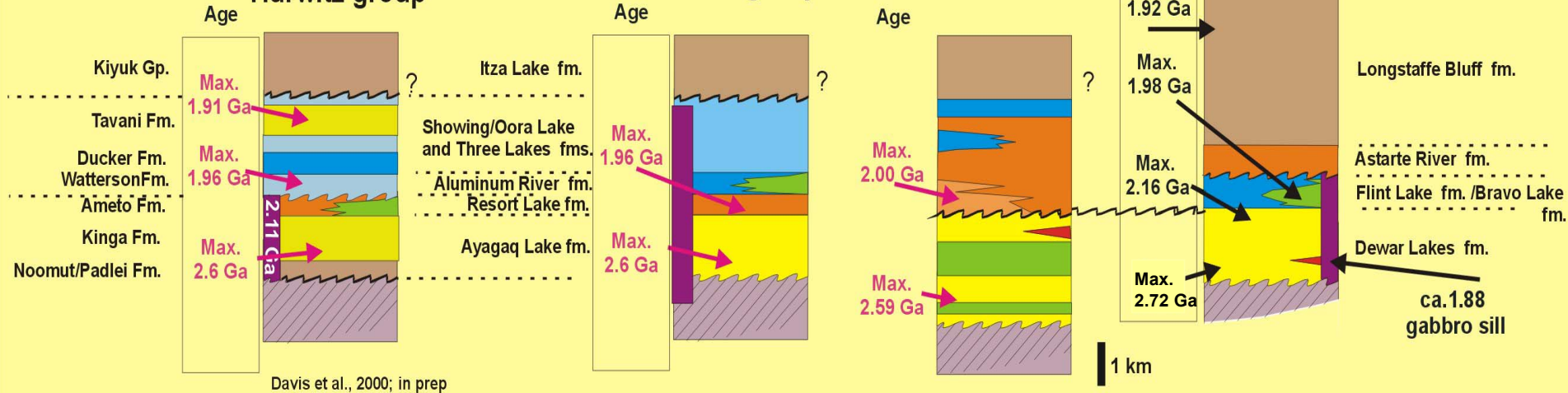


Piling group

Hurwitz group

Amer group

Ketyet R. group



Davis et al., 2000; in prep

Young, unpublished

Rainbird and Davis, unpublished data

Schau (1983), Zaleski et al., 2000

Pehrsson et al, 2001
Rainbird and Davis, unpublished data

Corrigan et al., 2001

Wodicka et al, Central Baffin Workshop, 2002

Legend

