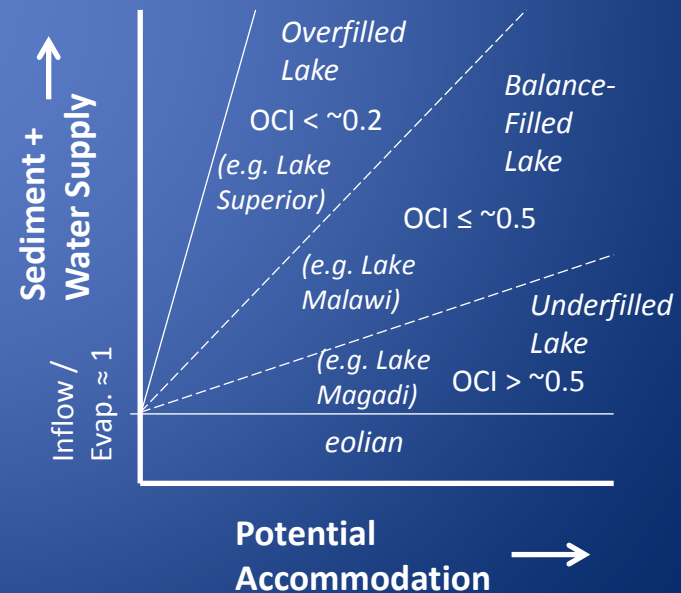
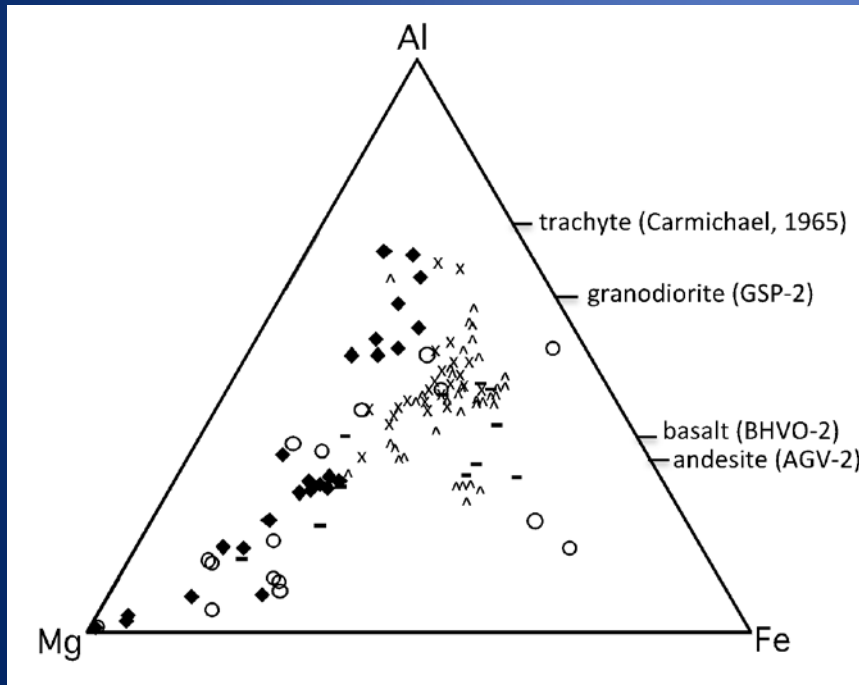


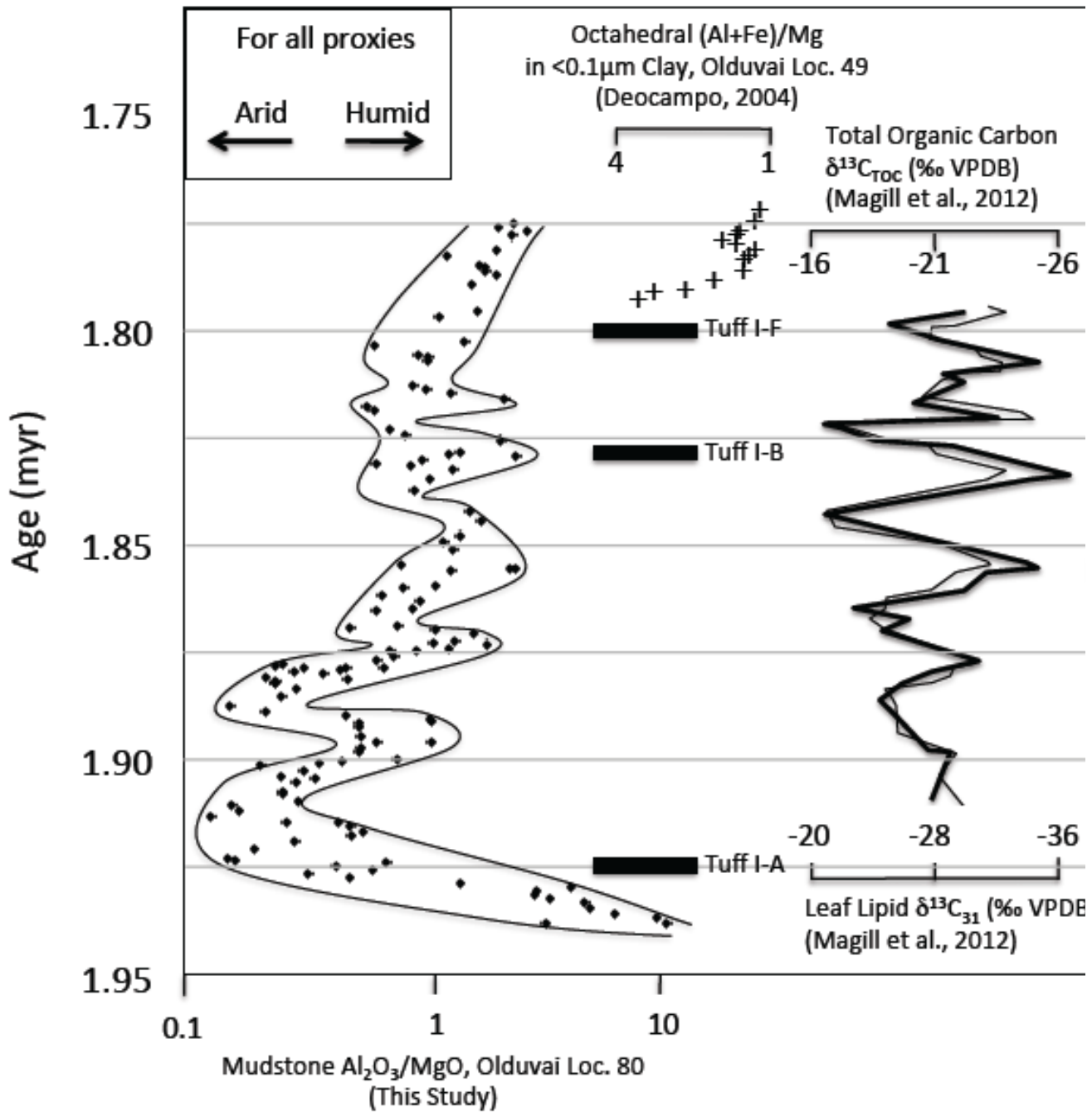
Bulk Mineralogy: detrital – authigenic – biogenic phases

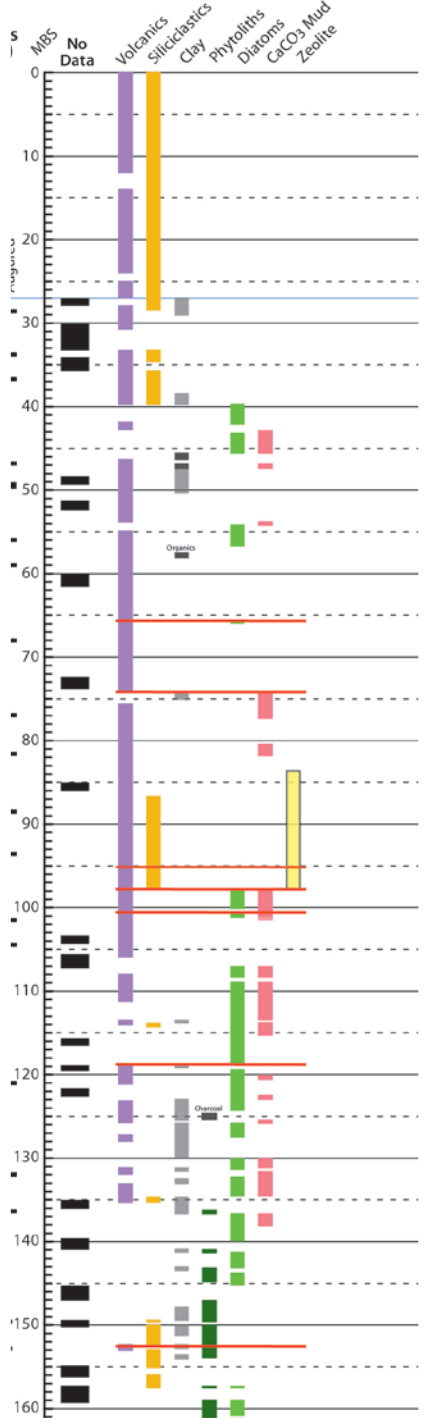
- Powder X-ray diffraction
- High resolution and High-throughput Analysis
- Needs to be coupled with other analyses

Authigenic Clay Minerals: <math><0.1\mu\text{m}</math> Clay Fraction

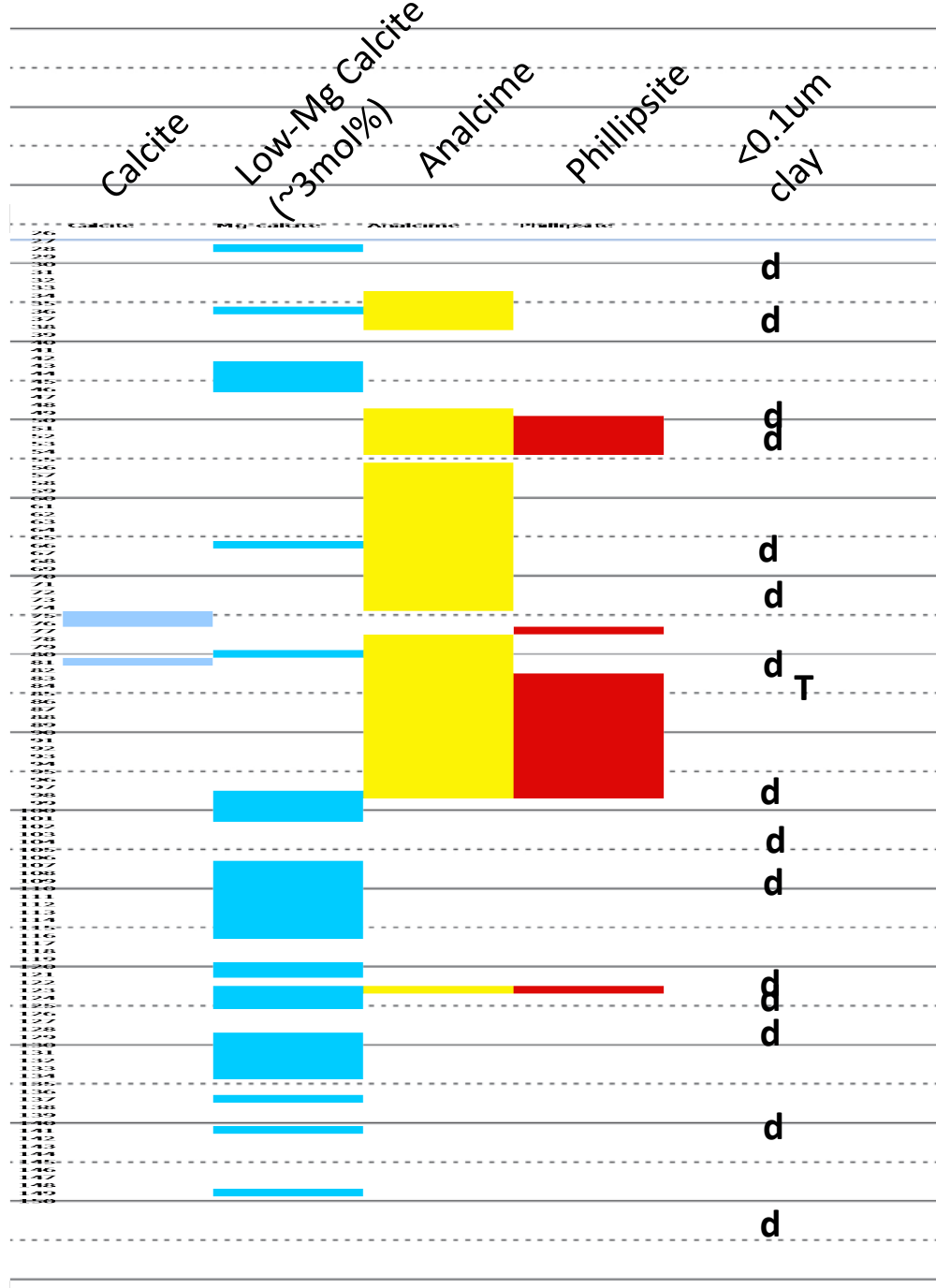
- clay mineralogy
- authigenic crystallography & geochemistry
- silicate stable isotopes ($\delta^{18}\text{O}$ and D)

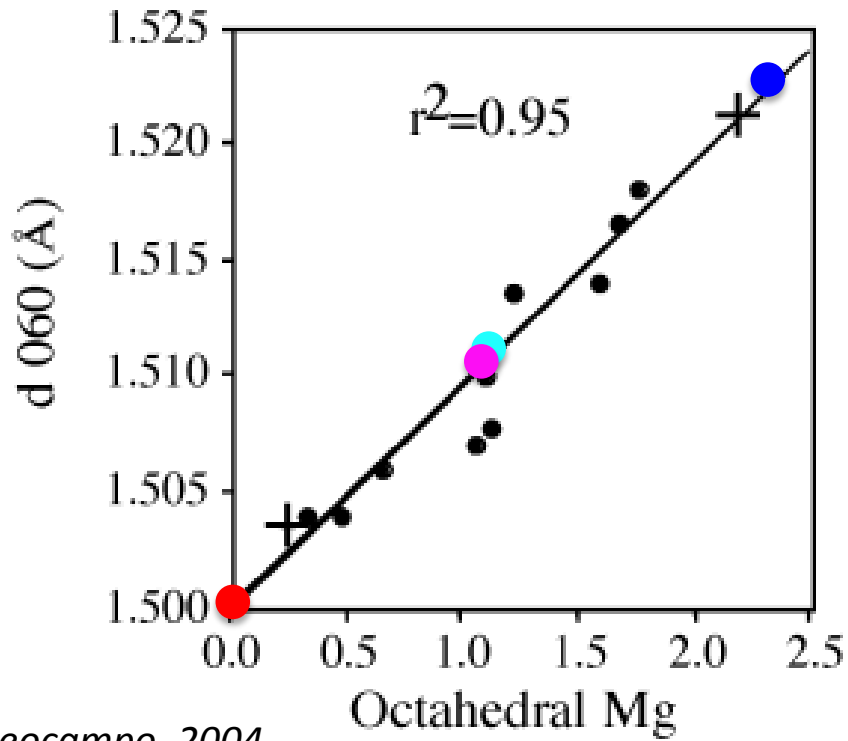




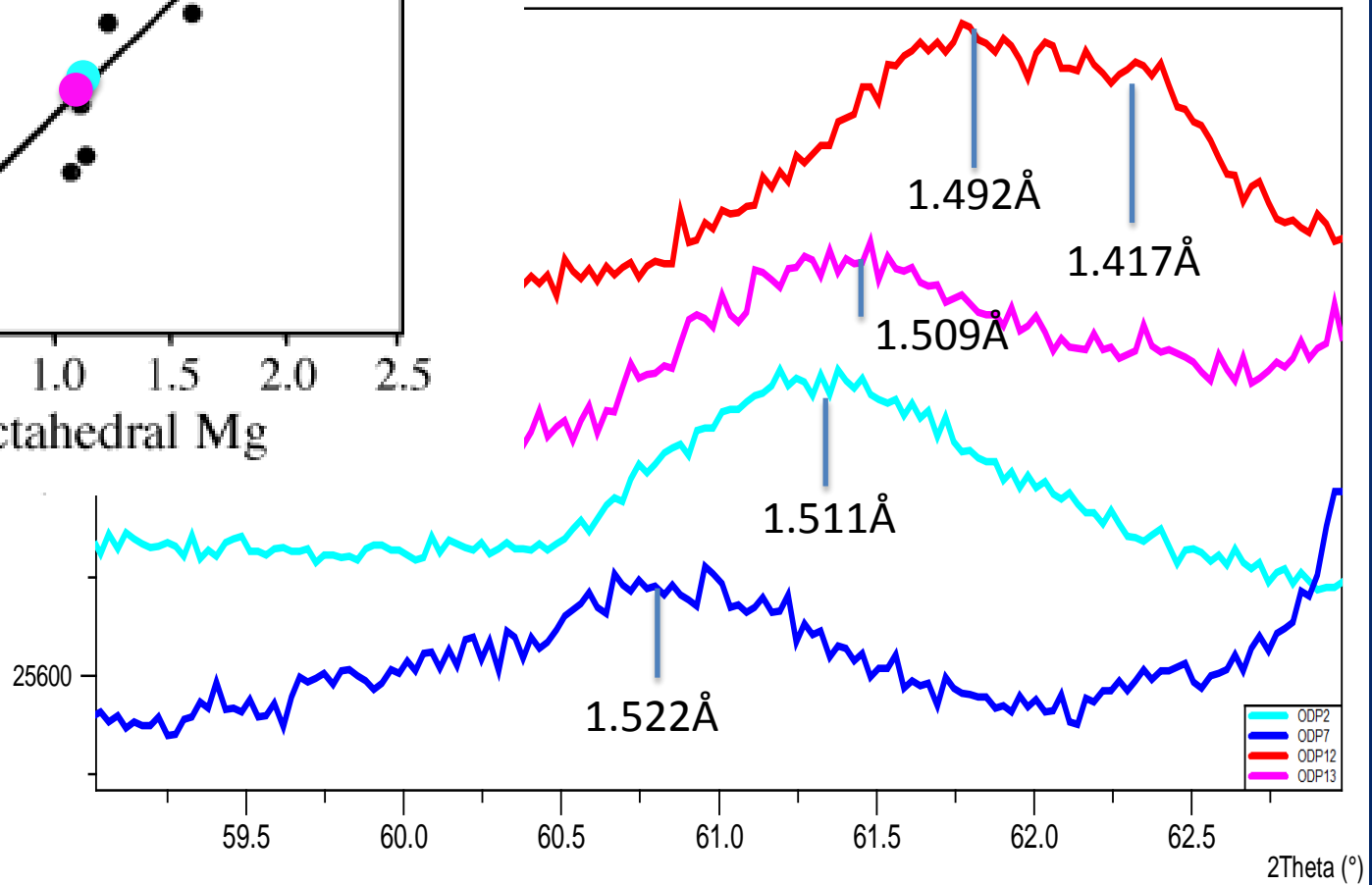


Authigenic Mineralogy (blank: detrital phases only)





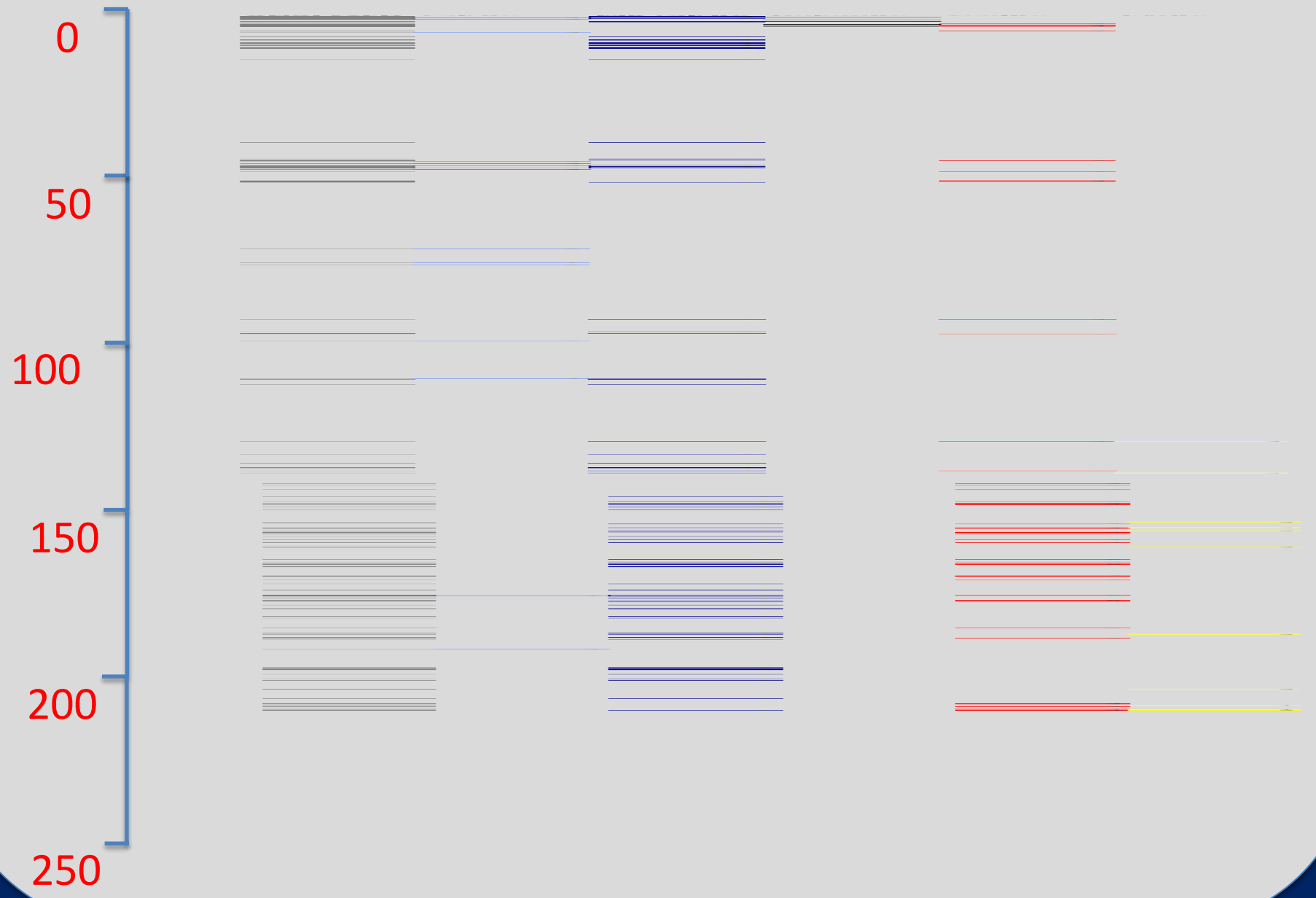
Deocampo, 2004

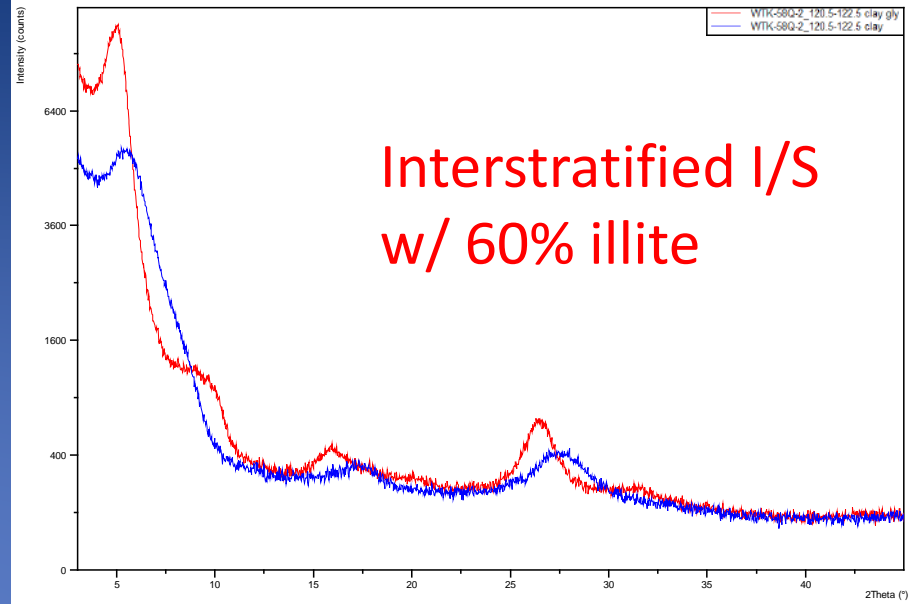
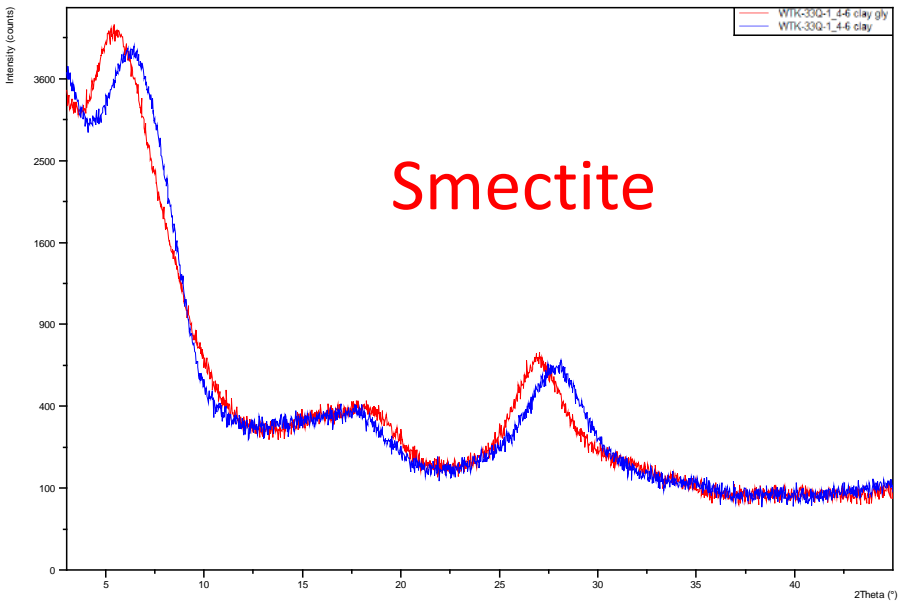


Deocampo and Rabideaux, unpublished, 2014

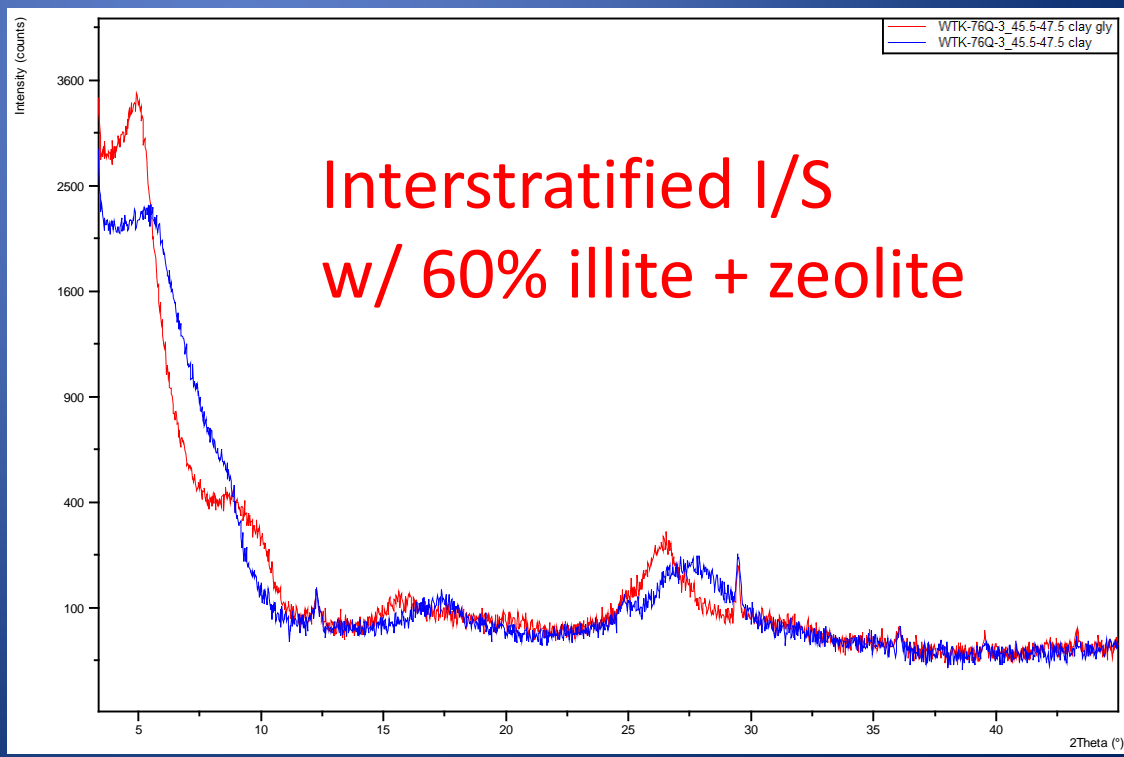
WTK-1A

Analysis Calcite Mg Calcite Dolomite Zeolite Pyrite

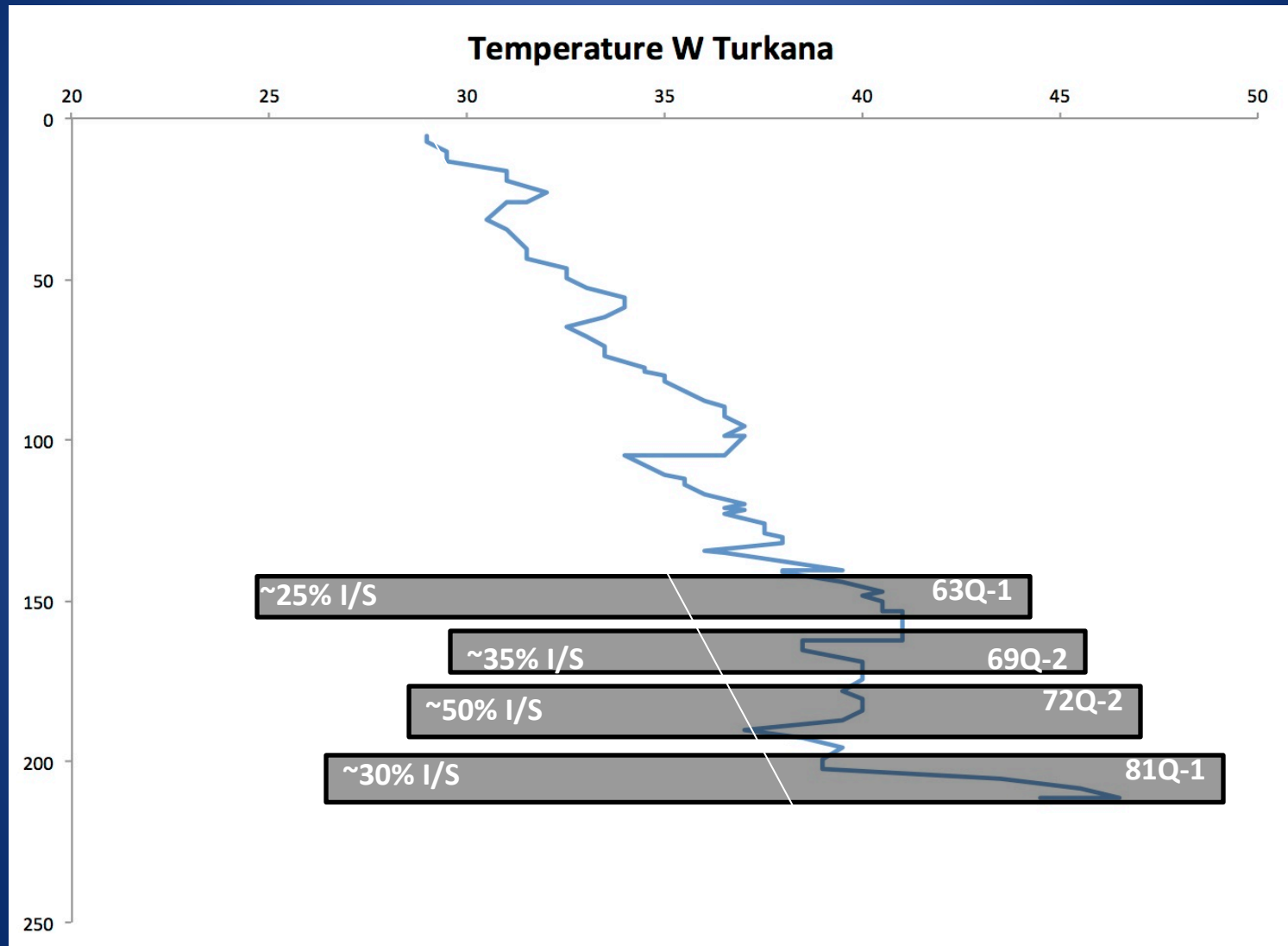




WTK-1A
<0.1 μ m



Downhole Temperature Curve



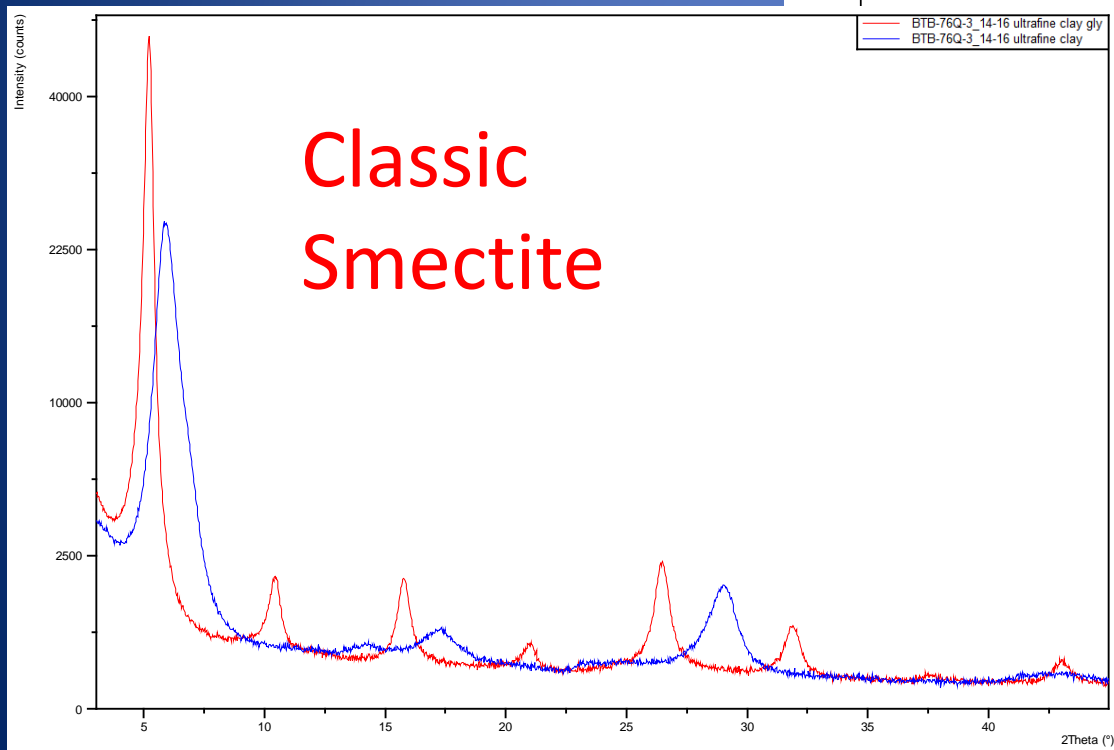
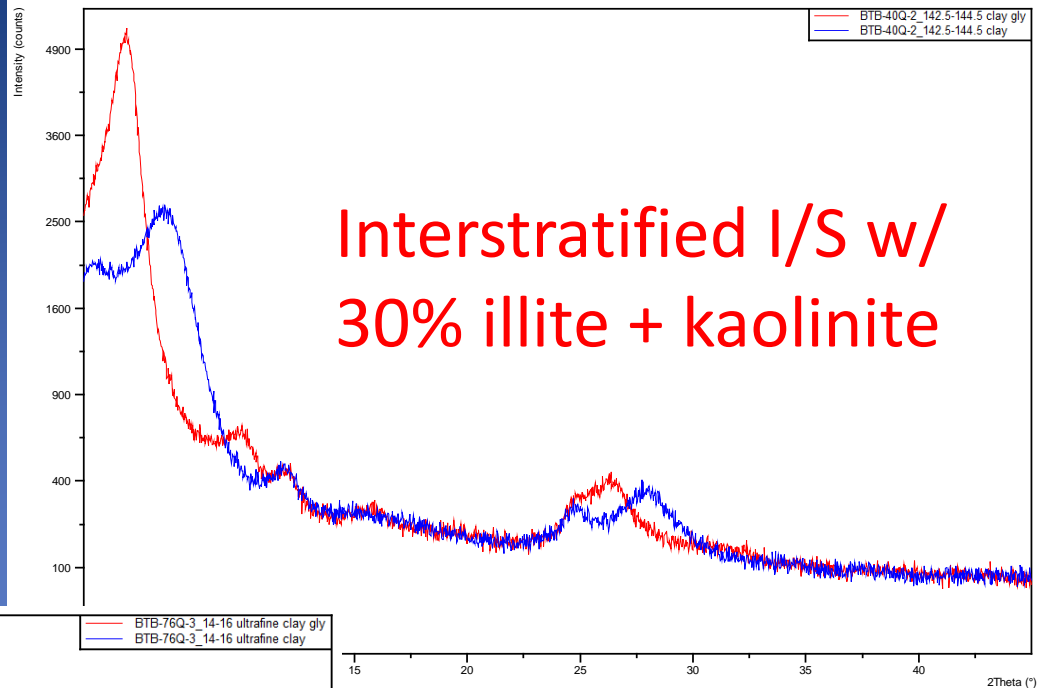
BTB-1A

Analysis Calcite Mg Calcite Dolomite Zeolite Pyrite

0
50
100
150
200
250



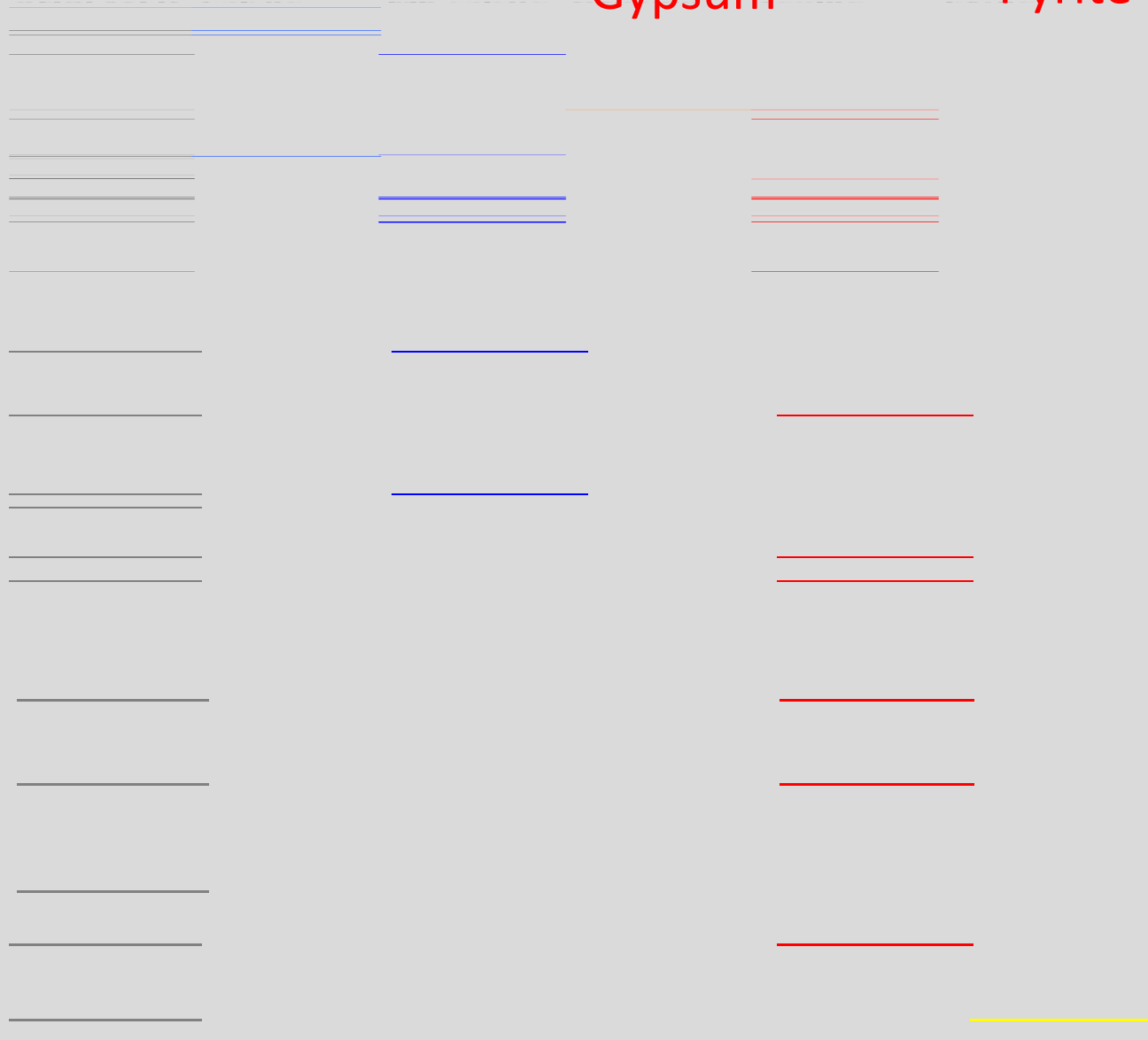
BTB-1A
<0.1 μ m

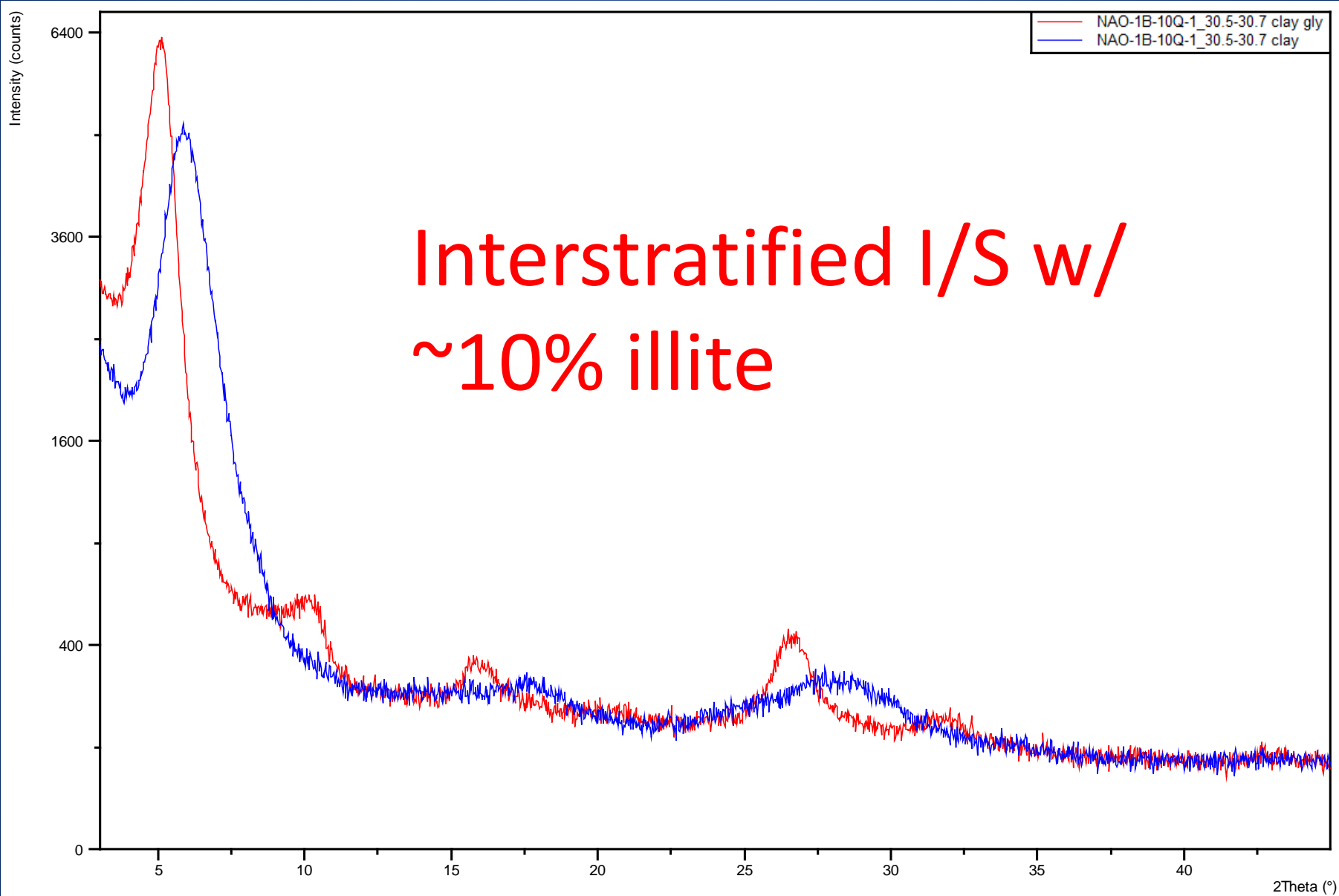


NAW-1A

Analysis Calcite Mg Calcite Gypsum Zeolite Pyrite

0
50
100
150
200
250





WTK-1A: Mostly LMC + phillipsitic assemblage. Possibly >calcite in upper section. Mostly detrital assemblage of dioctahedral clays and kaolinite, but some indication of authigenic clays and some indication of hydrothermal alteration.

BTB-1A: Mostly zeolitite. Related to volcanoclastic input? Complex zeolite assemblage – requires closer mineralogical examination. Clays are more variable than bulk assemblage – detrital smectite, kaolinite, I/S.

NAW-1A: Few analyses but thus far lower section is carbonate-free. Sulfates are present unlike the others. Clays thus far appear typical dioctahedral smectites.

OLO-1A: Fluctuations between carbonate and zeolitic assemblages. Controlled by lake salinity? Volcanoclastic input? (Both?) Uniformly smectites, but variation between di- tri-oct.

Magadi (core-top): Trona, halite, erionite.