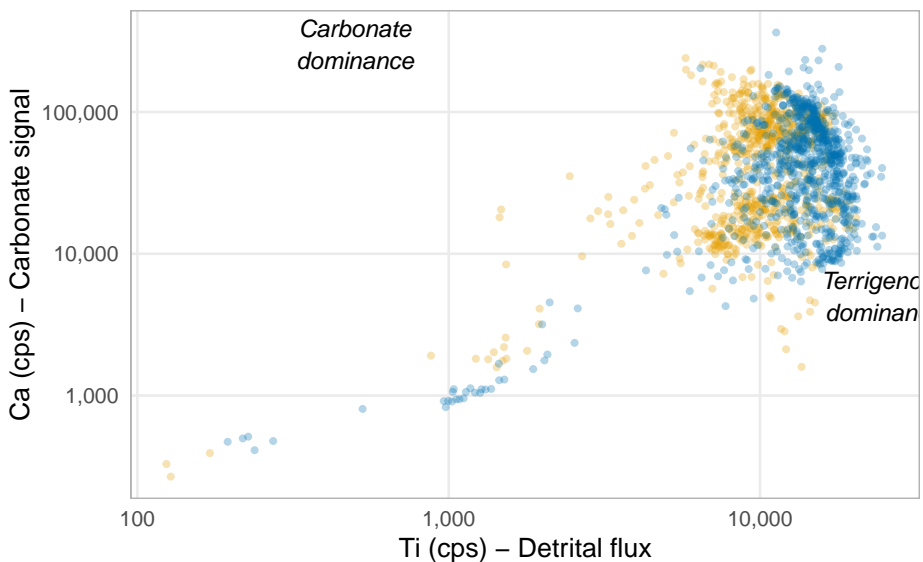


Figure S4: Proxy Cross-Plots with Interpretive Framework

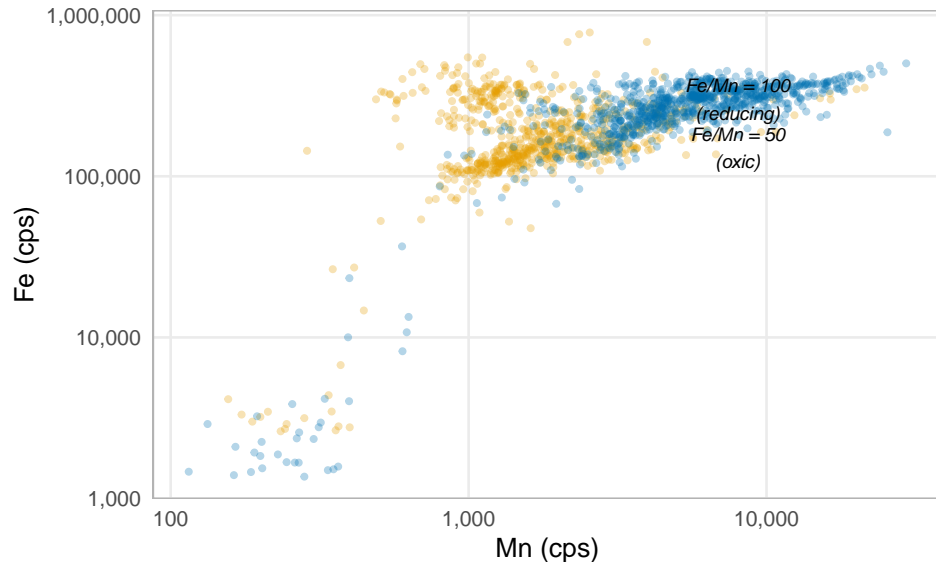
Geochemical relationships supporting proxy interpretation in Pebas Formation

A) Ca vs Ti: Carbonate–Detrital Mixing

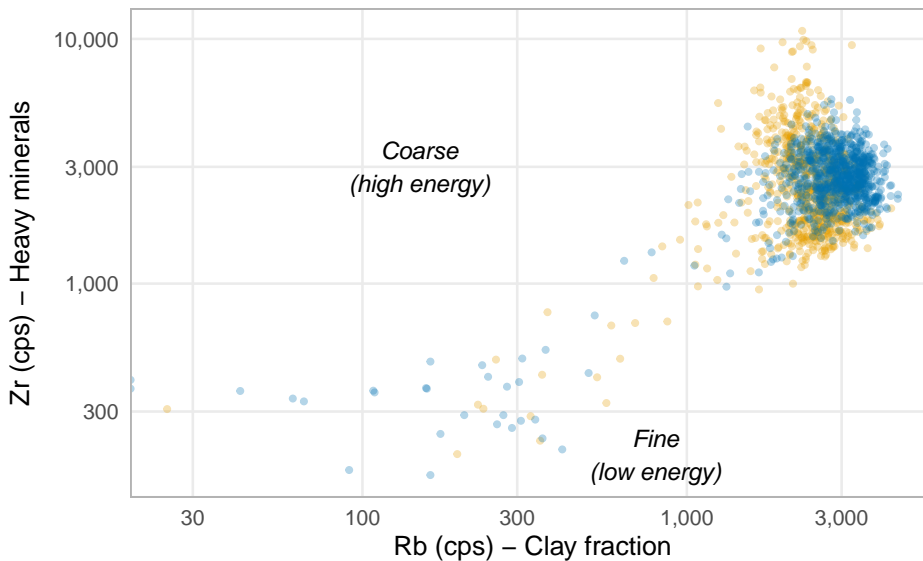


B) Fe vs Mn: Redox Systematics

TAM shows more reducing conditions than SC

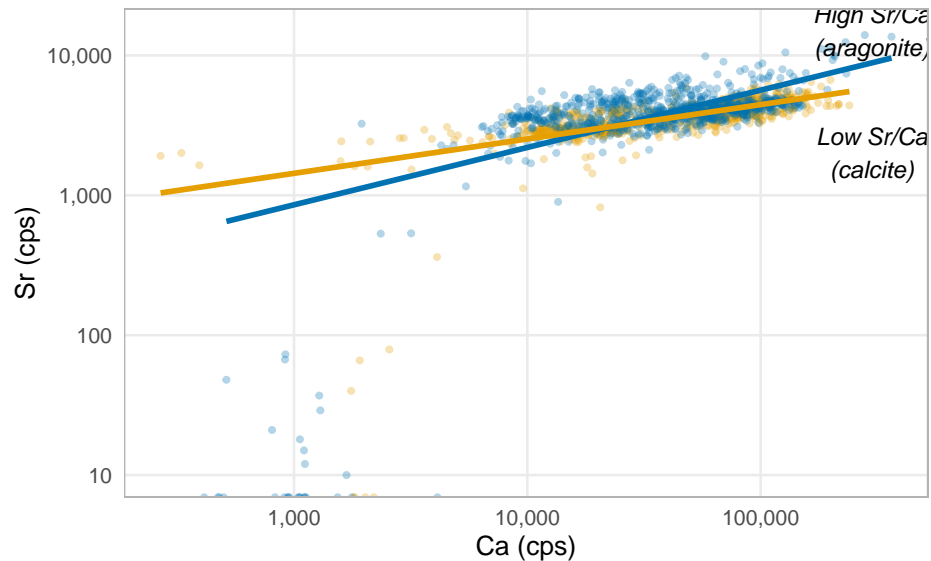


C) Zr vs Rb: Grain Size Systematics



D) Sr vs Ca: Carbonate Mineralogy

$r = 0.62$



Core — SC — TAM