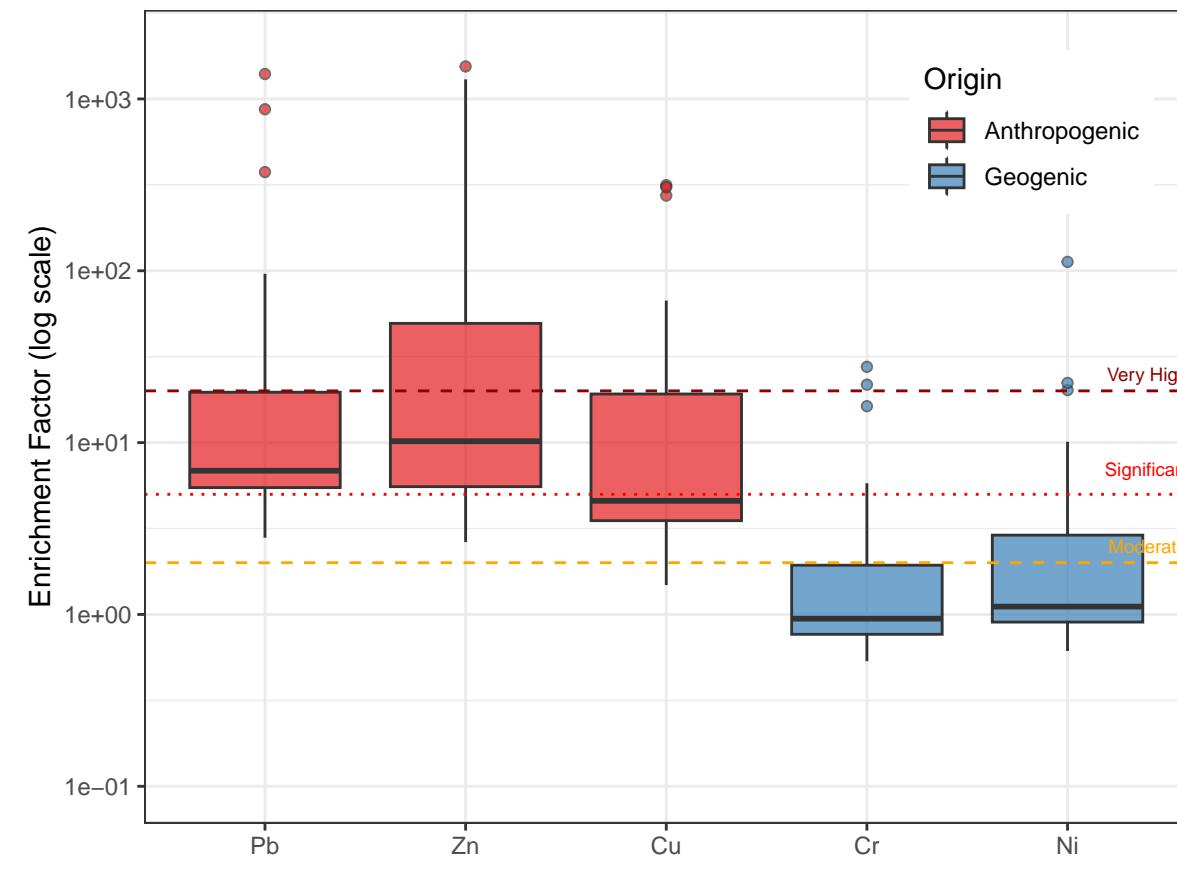


Multi-Spectral Evidence for Anthropogenic Source Apportionment

Convergent lines of evidence from geochemistry, elemental ratios, and mineral associations

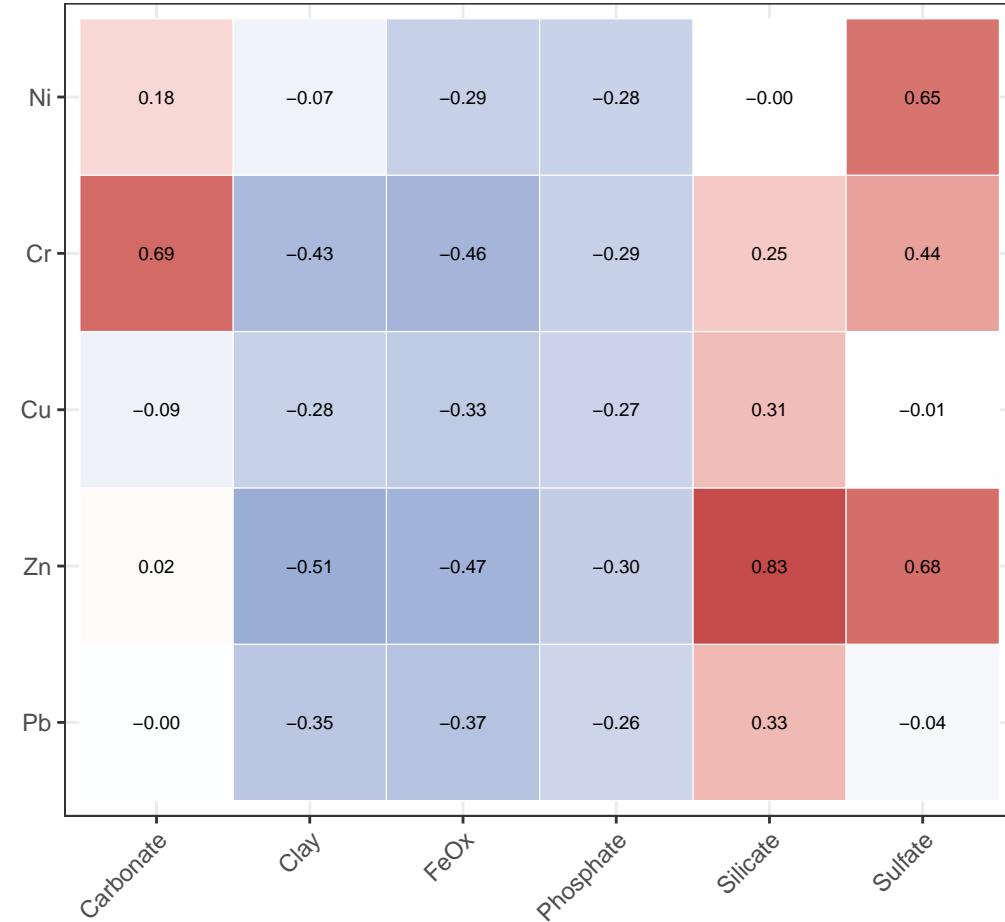
A) Enrichment Factors by Metal Type

Al-normalized, UCC reference



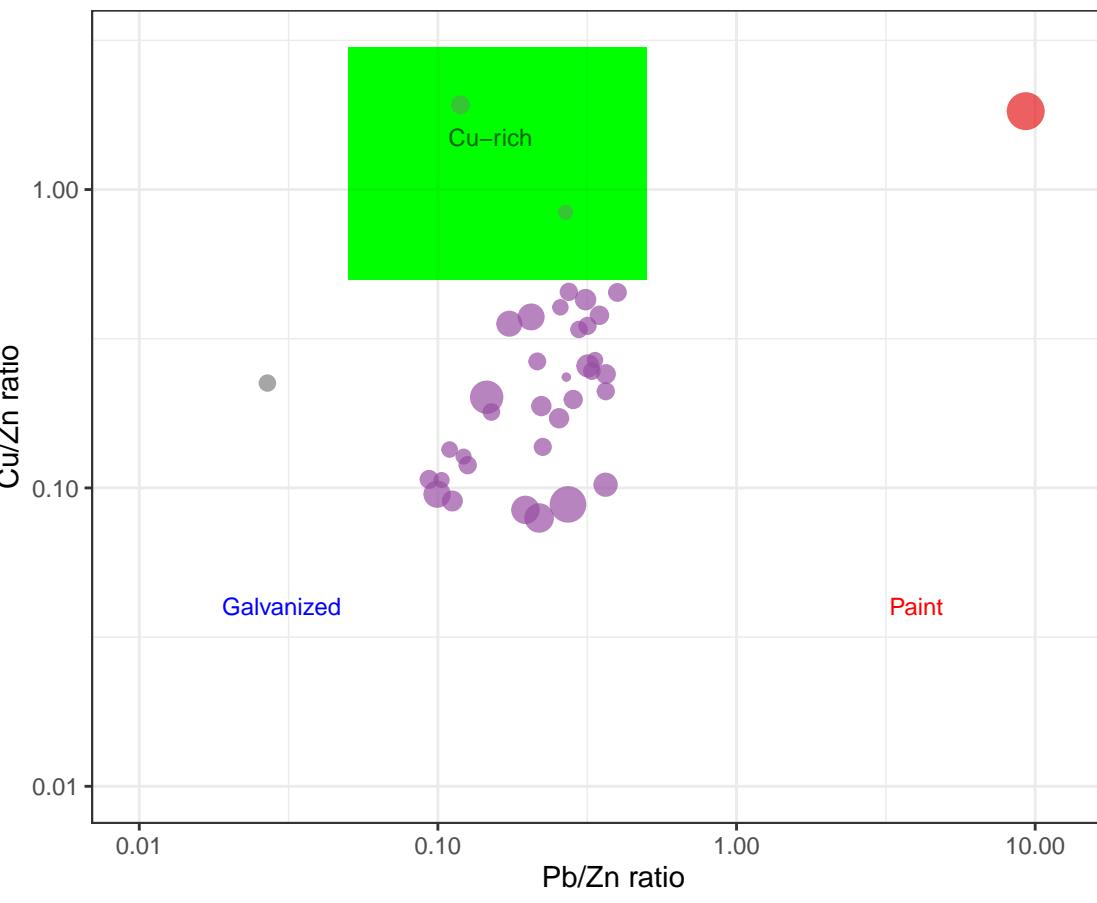
C) Mineral Proxy–Metal Correlations

XRF-derived indices



B) Source Discrimination from Elemental Ratios

Shaded regions = literature source signatures



Source ● Cu wiring/pipes ● Galvanized/Zn-rich ● Mixed/Unknown ● Paint/Pb-rich

