

The contents of your computer or cellphone may be the byproduct of a humanitarian crisis half a world away. Conflict minerals refer to cassiterite, wolframite, gold and coltan from the Democratic Republic of Congo (DRC). Among legitimate sources, these minerals can also be purchased by international customers for use in cellphones, computers, and other technologies indirectly and unknowingly through middlemen sourced back to rebel groups in the DRC, fueling war and violence. The goal of this study is to develop a process for confirming the source of the conflict mineral wolframite by testing several geochemical and crystallographic methods such as single crystal and power x-ray diffraction (XRD), x-ray fluorescence (XRF), inductively coupled plasma mass spectrometry (ICPMS), and Raman spectroscopy to look for subtle differences in bond length, angle, trace element content, and other traits that may be characteristic of a specific locality. In doing so we aim to fingerprint a suite of 15 wolframite samples, sourced from 15 separate locations around the world.