



Tintic Mining District, Utah and Juab Counties, Utah

High-altitude AVIRIS Mapping Results

Phyllosilicates, Carbonates, Sulfates, and Sorosilicates

Sulfate Minerals (*)

- alunite
- alunite + kaolinite +/- sericite
- kaolinite (75%) + alunite (25%)
- alunite + pyrophyllite +/- sericite

Kaolinite Group Minerals

- kaolinite + illite/muscovite or smectite
- kaolinite (well-crystallized)
- kaolinite (poorly crystallized and/or impure float)
- halloysite
- dickite (*)
- pyrophyllite
- kaolinite + pyrophyllite

Sericite Group Minerals

- high-Al illite/muscovite
- medium-Al illite/muscovite
- L H low-Al + Fe-rich illite/muscovite
(L = low fit x depth, H = high fit x depth)
- illite/muscovite +/- chlorite
- illite/muscovite + pyrophyllite or kaolinite
- montmorillonite (Ca + Na)
- montmorillonite +/- sericite, clays, alunite (south of County Line Ridge)

Mineral Assemblages with Moderate to High Acid-Neutralizing Potential:

Carbonate Minerals

- calcite
- calcite + muscovite
- dolomite
- calcite + dolomite +/- montmorillonite
- calcite + kaolinite
- epidote (usually occurs with calcite)

* Mapped minerals and mineral mixtures which often occur with pyrite and other sulfide minerals, indicating moderate to high potential for acid generation.