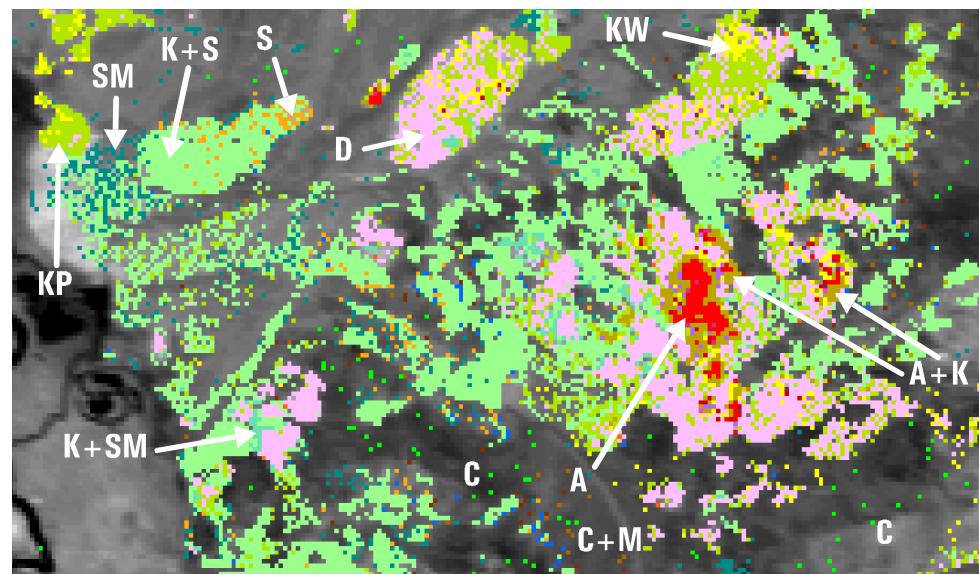


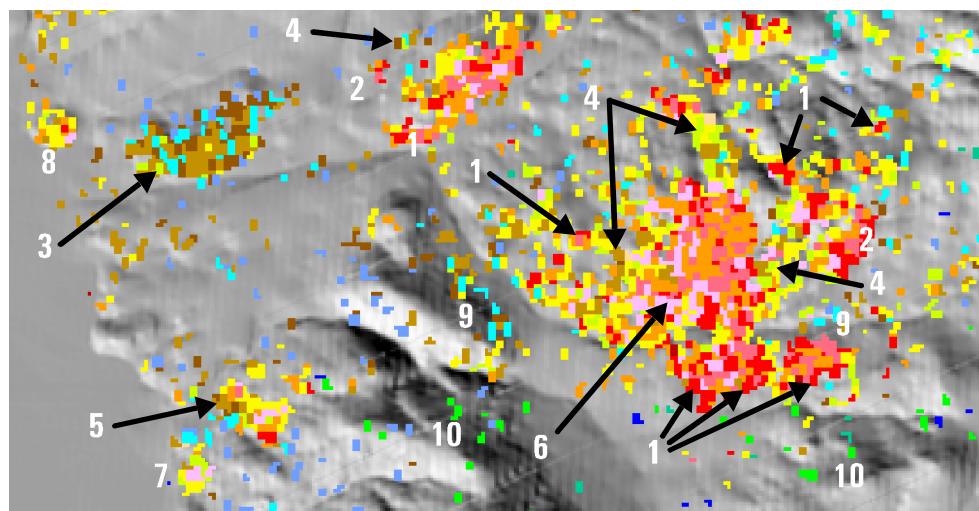
Explanation for low-altitude AVIRIS mapping: clays, carbonates, sulfates, and micas	
Kaolinite Group Minerals	Sulfate Minerals
dickite	alunite
kaolinite (well crystallized)	alunite + kaolinite intimate mix
G kaolinite (poorly crystallized and/or impure float)	alunite + kaolinite +/- illite
G kaolinite (poorly crystallized and/or impure float +/- smectite)	alunite, intermed. composition
kaolinite + illite/muscovite	jarosite + illite +/- clay, gypsum
Carbonate or Sericite Group Minerals	smectite (montmorillonite)
illite/muscovite	possible chlorite
calcite + illite/muscovite	

a. Low-altitude AVIRIS mapping results (3-m pixel size)

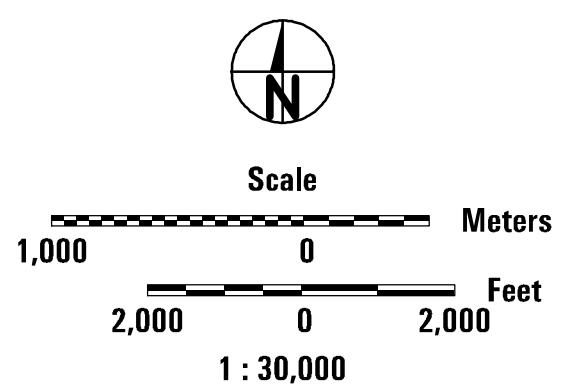


A = alunite
A+K = alunite + kaolinite +/- sericite
D = dickite +/- kaolinite +/- alunite
KW = well-crystallized kaolinite
KP = poorly crystallized or impure kaolinite
K+S = kaolinite + sericite
S = sericite (orange and blue)
K+SM = kaolinite + smectite
SM = smectite (montmorillonite)
C = calcite +/- chlorite (propylitic alteration)
C+M = calcite + muscovite (brown)

b. High-altitude AVIRIS mapping results (17-m pixel size)



Explanation for ASTER mineral mapping:	
Clay-bearing Assemblages	kaolinite, poorly crystallized or impure ¹
dickite or well-crystallized kaolinite ¹	kaolinite +/- pyrophyllite ²
kaolinite +/- smectite ³ (high-albedo surfaces with minor amounts of kaolinite, often serpentine)	alunite +/- pyrophyllite ² kaolinite, or alunite + minor kaolinite
montmorillonite/smectite, or kaolinite + montmorillonite	alunite + kaolinite ³
Kapilnites-bearing assemblages may be misidentified in areas with sparse, dry vegetation +/- sericite or montmorillonite	jarosite +/- gypsum, or ferric iron + hydrous quartz gypsum +/- clay
Clay-Fe/Mg-OH Minerals ⁴	¹ These assemblages may represent areas extremes of clay mineralization or areas of sensor instability related to low or high surface albedo
calcite	Clay-bearing Assemblages
chlorite (Mg-Cr SWR + broad Fe-Cr VSWR absorptions)	dickite or well-crystallized kaolinite
epidote, or calcite + dolomite mixture	kaolinite, poorly crystallized or impure ¹
calcite (or chlorite/epidote) + sericite or smectite	kaolinite +/- pyrophyllite ² kaolinite, or alunite + minor kaolinite
These assemblages are often difficult to distinguish reliably using ASTER SWIR data because of spectral similarities between minerals and may co-occur as areal and intimate mixtures. They also may be incorrectly identified in areas of sparse, dry vegetation.	alunite +/- pyrophyllite ² kaolinite, or alunite + minor kaolinite
Sulfate-bearing Assemblages	alunite +/- pyrophyllite ² kaolinite, or alunite + minor kaolinite
possible pyrophyllite ²	alunite +/- pyrophyllite ² kaolinite, or alunite + minor kaolinite
jarosite +/- gypsum, or ferric iron + hydrous quartz gypsum +/- clay	alunite + kaolinite ³
Carbonate and Fe/Mg-OH Minerals ⁴	² These assemblages may represent areas extremes of clay mineralization or areas of sensor instability related to low or high surface albedo
calcite	Clay-bearing Assemblages
chlorite (Mg-Cr SWR + broad Fe-Cr VSWR absorptions)	dickite or well-crystallized kaolinite
epidote, or calcite + dolomite mixture	kaolinite, poorly crystallized or impure ¹
calcite (or chlorite/epidote) + sericite or smectite	kaolinite +/- pyrophyllite ² kaolinite, or alunite + minor kaolinite
Sericite-bearing Assemblages	alunite +/- pyrophyllite ² kaolinite, or alunite + minor kaolinite
Al/Fe illite/muscovite	alunite +/- pyrophyllite ² kaolinite, or alunite + minor kaolinite
Al/Fe illite/muscovite, or structure of muscovite and chlorite, or kaolinite, and/or dry vegetation	alunite +/- pyrophyllite ² kaolinite, or alunite + minor kaolinite
hydrated quartz (chalcedony or opal) or jarosite/gypsum + clay/mica near mapped occurrences of jarosite	alunite +/- pyrophyllite ² kaolinite, or alunite + minor kaolinite



c. Merged ASTER mapping results from Fig. 18 (30-m pixel size)