

Fig. 1. Field and [photomicrograph](#) of [glauconite](#): (a) Field photograph of the sample location showing green and grey [shale](#) in section (green shale has been pointed). (b) Close up of the green shale [facies](#) rich in glauconite (Pen length = 10 cm). (c) Close up view of the grey shale facies rich in fossils of [foraminifera](#) (length of matchstick = 40 mm). (d) Thin section of the green shale facies in crossed [polarized light](#) showing glauconite occurring as pellets and few infillings within foraminifera shell (black arrows). (For interpretation of the references to colour in this figure legend, the reader is referred to the web version of this article).

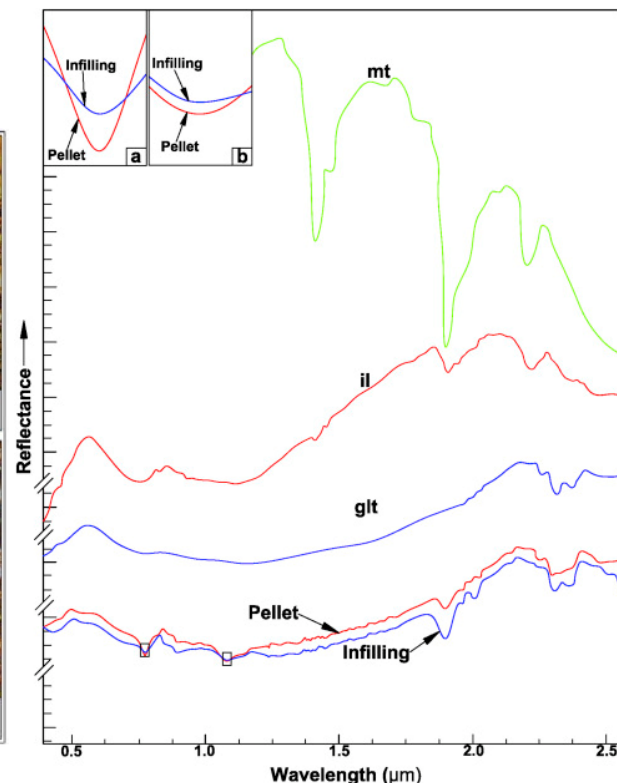


Fig. 2. Reflectance spectra of USGS standard minerals viz. [montmorillonite](#) (montmor6.spc Montmorillonite CM 20), [illite](#) (illite2.spc Illite IMt-1.a) and [glauconite](#) (glauconi.spc Glauconite HS313.3B) available in usgs\_min.sli library (ENVI, Ver. 5) and studied glauconite infilling and pellets in the 0.5–2.5  $\mu\text{m}$  range (Abbreviations used for standards: mt – Montmorillonite, il – Illite, glt – Glauconite) [Inset: Enlarged view of the selected portions of the spectra of studied glauconite showing difference in depth of absorption between pellet and infillings at 0.77  $\mu\text{m}$  (a) and 1.08  $\mu\text{m}$  (b)] (Spectral offset given for clarity).

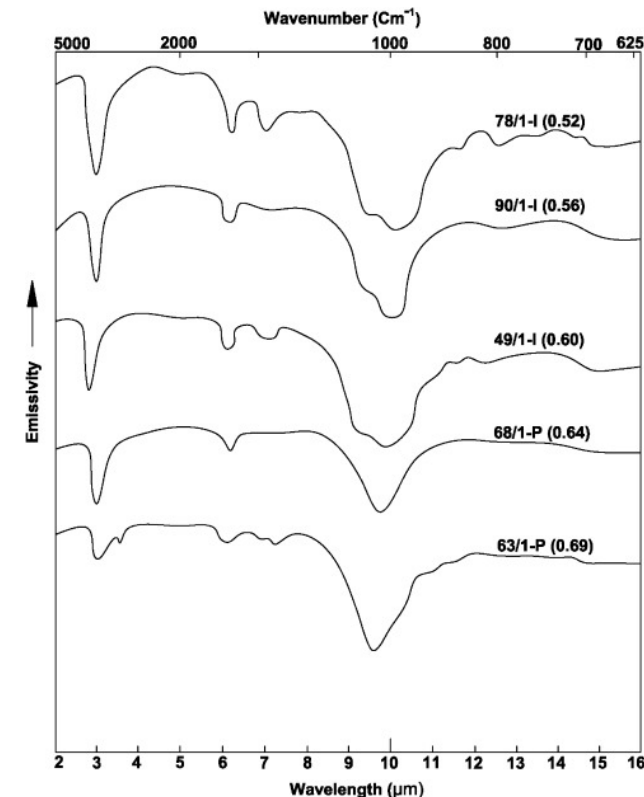


Fig. 3. [Emissivity](#) spectra of [glauconite](#) infillings and pellets in the 2–16  $\mu\text{m}$  range showing a gradual decrease in the depth of the 2.8  $\mu\text{m}$  band from infillings to pellets indicating the presence of less expandable smectitic layers in the later. A similar conspicuous shift in emissivity minima approximating 10  $\mu\text{m}$  Si O band, progressively, towards higher wavelengths is noted with an increase in  $\text{K}^+$  content indicating diminishing expandable layers. (I and P in sample name column stand for glauconite infilling and pellet respectively with corresponding  $\text{K}^+$  content in bracket) (Spectral offset given for clarity).