

## Gypsum-Rich Horizons as Seen in the Field and under the Microscope

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**ABSTRACT.** Gypsum is a minor component of many soils throughout the world. However, mainly in dry countries, gypsum determines the appearance and behavior of some horizons. The gypsum-rich horizons studied by us appear in the field either as "gritty", "flour-like", or "hard-bread crumb", composed of sandy or coarser gypsum lentils, microcrystalline gypsum, or travertinic gypsum, respectively. The size, shape and arrangement of the gypsum particles as well as their solubility and other properties make peculiar horizons. Quera, a complex calcification-decalcification pedofeature found in our gypsum-rich soils, illustrates the relationships between gypsum, carbonates and CO<sub>2</sub>. Queras or their residues mixed with gypsum lentils can make loose surficial horizons. Traces of celestite are also found in gypsum-rich horizons. We propose refinements in the description of these horizons, linked with the interpretation of their constitution, behavior and genesis.

Salt Lake City, Utah, 2-noviembre-1999.