

## Calcic Horizon

### ***Subsoil horizon with an illuvial accumulation of calcium carbonate***

#### **Concept and Background Information**

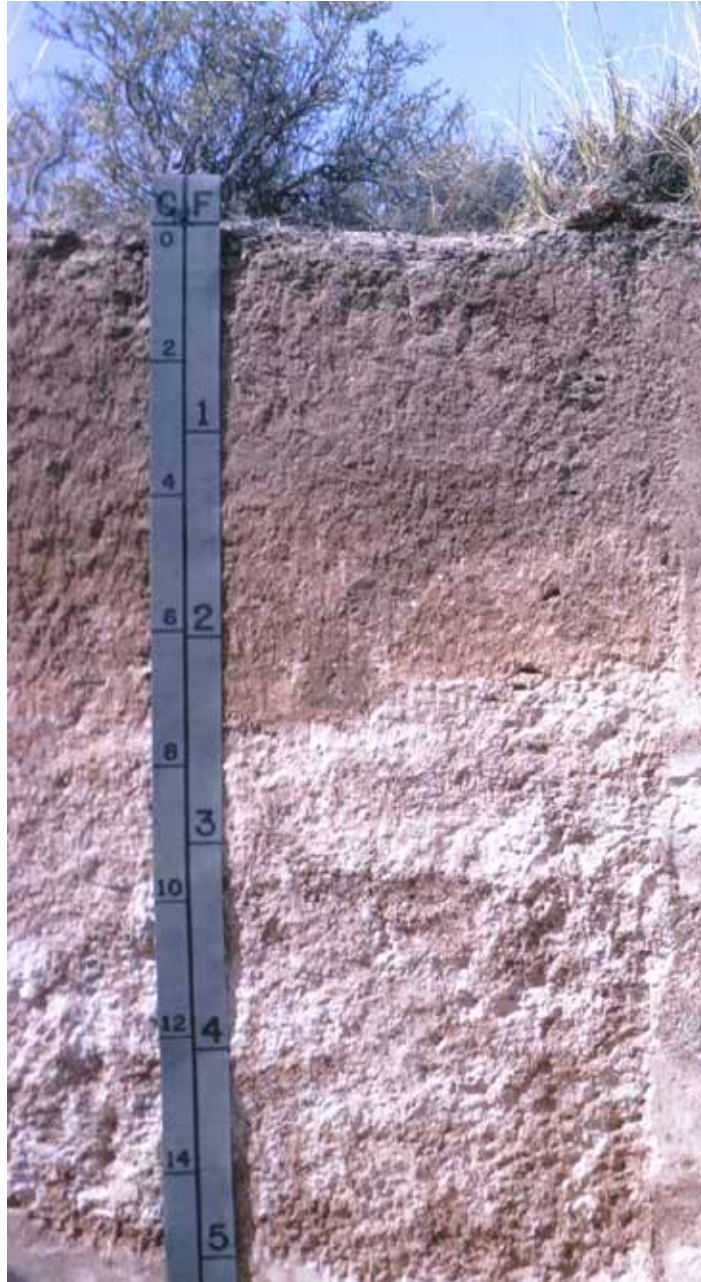
The [calcic horizon](#) is a subsoil horizon with a significant illuvial accumulation of calcium carbonate. Evidence for the pedogenic accumulation of calcium carbonate ( $\text{CaCO}_3$ ) is either the presence of secondary forms, such as masses, threads coatings, pendants, or nodules, or a calcium carbonate equivalent that is higher than that of the underlying horizon. The carbonates typically have moved downward in solution with the percolating waters and subsequently reprecipitated and accumulated at the wetting front. In some soils with a water table, the calcium carbonate may move upward due to capillary rise and accumulate as the water evaporates. The calcic horizon generally has no cementation, but the definition includes layers with cementation that is not sufficiently developed to meet the criteria for a petrocalcic horizon. Calcic horizons are commonly found in arid or semiarid environments where limited precipitation only moves soluble salts, including calcium carbonate, though the soil as a function of depth of moisture penetration.

#### **Generalized Characteristics**

- 1) Thickness is  $\geq 15$  cm.
- 2) Calcium carbonate equivalent is  $\geq 15\%$  (or  $\geq 5\%$  if the horizon has  $< 18\%$  clay and  $\geq 15\%$  sand) and horizon *either*:
  - a. Is 5% higher by weight (absolute) than an underlying horizon, *or*
  - b. Has  $\geq 5\%$ , by volume, visible secondary  $\text{CaCO}_3$  forms (such as masses, threads, coatings, and nodules).
- 3) Horizon has no (or minimal) cementation (air-dry fragments disintegrate when submerged in water).

#### **Common Horizon Nomenclature**

Commonly used horizon nomenclature includes master horizon A or B and suffix k or kk, alone or in combination with other suffixes, such as n, q, y, or z. Examples include: Ak, Bk, and Bkknz.



Profile of a soil in New Mexico. A calcic horizon is below a depth of about 75 cm. The white color is due to calcium carbonate concentrations. Scale is in 10-cm increments (left) and feet (right).

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