

M06 GUIDE FOR ESTIMATING LINEAR EXTENSIBILITY

1. To estimate percent non-carbonate clay.^{1/}

Begin from the left side percent total clay figure, go horizontal to the appropriate percent CaCO₃ solid line, and then vertical to the percent non-carbonate clay at the top. (Example: 40 percent total clay and 40 percent CaCO₃ = 29 percent non-carbonate clay.)

2. To estimate the linear extensibility (or shrink-swell potential).^{2/}

Begin from the left side percent total clay figure, go horizontal to the appropriate percent CaCO₃ solid line, then go vertical, up or down to the appropriate percent rock fragment dashed line, and then horizontal to the linear extensibility figure. (Example: 40 percent total clay, 30 percent CaCO₃, 30 percent rock fragments = LE - 3.4 .)

The shrink-swell potential is rated as follows:

Linear extensibility <3 – low

Linear extensibility 3-6 – medium

Linear extensibility >6 – high

1/

The reliability for non-carbonate clay estimation is about plus or minus 3 percent, for soils without strong carbonate accumulation layers. For soils with calcic horizons the estimation is slightly less reliable.

2/

The estimation of linear extensibility is reliable within a range of about plus or minus 0.3. (For soils that classify as Xerolls, Borolls, Orthids, or Argids included in the computer data from Utah) .

See note on nomogram for soils with more than 40 percent CaCO₃ and more than 35 percent non-carbonate clay.

(adapted from a Utah version)

Estimated Percent Noncarbonate Clay and Linear Extensibility from Percent Total Clay, Percent CaCO_3 , and Rock Fragments Calculated from Laboratory Data by Computer for Soils in Utah

