VERTIC A HORIZON

Layman's description: Dark and clayey, with large blocks and cracks

(i) has strongly developed structure;

(ii) has at least one of the following:

- clearly visible, regularly occurring slickensides in some part of the horizon or in the transition to an underlying layer,
- a plasticity index greater than 32 (using the SA Standard Casagrande cup to determine liquid limit) or greater than 36 (using the British Standard cone to determine liquid limit).

A horizons that have both a high clay content and a predominance of smectitic clay minerals possess the capacity to swell and shrink markedly in response to moisture changes. Such expansive materials have a characteristic appearance: structure is strongly developed, ped faces are shiny, and consistence is highly plastic when moist and sticky when wet. Swell-shrink potential is manifested typically by the formation of conspicuous vertical cracks in the dry state and the presence, at some depth, of slickensides (polished or grooved glide planes produced by internal movement). However, the presence of these planes is apparently also a function of vertical thickness, being dependent on the total volume of the material which swells and shrinks. Shallow vertic horizons may lack these features, but then meet the plasticity index requirement. Bar linear shrinkage values for vertic horizons are usually greater than 12%. Most typically, vertic horizons in South Africa have a black or very dark colour caused by the same properties that give the melanic A horizon its dark colour. However, examples are known of grey, yellow-brown and red vertic horizons. Colour is thus not diagnostic for the horizon but is used to differentiate within the form. In marshy situations the vertic horizon overlies a G horizon; otherwise it most commonly overlies either basic igneous rocks or soil material with a very strong structure. Vertic horizons always pose a hazard for buildings.