Carbonate Pendants, Morphology and Genesis, Pahranagat Valley, Nevada. (S05-brock165904-Oral)

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Abstract:

This study focuses on soil pendants found in five geomorphic surfaces in the northern Pahranagat Valley, Nevada, that range in age from Early Pleistocene to Recent (Q1-Q5) and vary in lithology from dolomite to volcanic tephras. Soils developed upon these surfaces were described and analyzed using classic field methods and laboratory methods including SEM, EDS, XRD, and petrography to examine the genesis of soil pendants. Key features provide evidence for continued precipitation at the clast-pendant contact through time suggesting that newer deposits are not always found at the pendant terminus as other studies have assumed. These features include a void at the clast-pendant contact where precipitates such as calcium carbonate, silica and/or fibrous silicate clays may precipitate. This void remains open despite continued precipitation of minerals. Other features include significant amounts of parent clast grains that are incorporated into the pendant, detrital grain and parent material displacement and/or dissolution and presence of the fibrous clay sepiolite. This new formation process may provide an explanation for inconsistent ages obtained from pendant lamina in other studies.

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