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| **Sample ID** | **Coarse Fraction** | **Microstructure** | **Voids** | **c/f dist** | **Micromasss and b-fabric** | **Pedofeatures** | **Organic matter** |
| SVF87-9 | Very well sorted quartz grains (5%) | Weak subangular blocky | Channels, vughs, planes | Open porphyric | Calcitic speckled | Illuvial clay, iron staining and hypocoatings | Dark stains, large phytoclasts and phytoliths |
| Gilcrease 1 | Well sorted silt sized quartz grains (37%), feldspar and mica rare | Granular | Complex packing, channel | Chitonic | Brown, weak granostriated |  | Polymorphic o.m.\*  |
| CS81Carb6 | Silt sized quartz grains rare (<1%) | Granular to subangular blocky | Compound packing, channels, vughs, planes | Fine monic | Calcitic,(dull tan), very weakly speckled  | Transported micrite grains, rounded  | Lath shaped phytoclasts dispersed through matrix |
| Pah Carb20 | Well sorted silt sized quartz grains (6%), mica rare  | Strong subangular blocky | Channels and intrapedal planes | Open porphyric | Micrite with visible crystals. Tan to brown with patchy o.m. stains | Iron impregnations and hypocoatings,  | Large phytoclasts with visible structure, fragmented gastropod shells |
| Calc Spr Mol31 | Well sorted silt sized quartz grains (10%), mica rare | Granular to massive with channels | Complex packing, channel | Single to fine equal enaulic | Inhomogeneous, calcitic, | Rounded, transported, micrite grains | Gastropod shells, small phytoclasts, also stains  |
| Pahcarb26 | Very well sorted silt sized quartz (9%) | Massive/channel | Channel and cracks | Open porphyric | Inhomogeneous, calcitic, brown-tan, weak speckled | Rounded calcite clasts, Iron impregnations | Large phytoclasts, rare fragmented shell |
| MS13-1A |  Very well sorted, silt and fine sand quartz (4%) | Angular blocky |  Channels, intrapedal planes |  Open porphyric |  Opaque black, very weak speckled |  Needle calcite in voids, mite feces, iron impregnations | Opaque phytoclasts, phytoliths:~1% |
| MS13-1B |  Very well sorted, silt and fine sand quartz (5%) | Angular blocky |  Channels, intrapedal planes |  Open porphyric |  Opaque black, very weak speckled |   Needle calcite in voids, mite feces |   Opaque phytoclasts, phytoliths |
| MS13-2B1 | Well sorted silt to fine sand sized quartz grains (8%). | Massive layered, channel | Channel, planes | Open porphyric | Layered, black organic rich and tan, micrite  |  Root channels | Fragmented shells, bone, opaque phytoclasts |
| MS13-2B2 | Moderately sorted silt to medium sand sized quartz grains (2-7%) varies in different layers. | Sub-angular blocky to massive layered | Channel, intrapedal planes | Open porphyric  | Layered, black organic rich and tan, micrite | Root channels with needle calcite | Fragmented shells, bone, opaque phytoclasts |
| MS14-4 | Very poorly sorted rounded to subrounded, gravel to medium sand sized quartz grains (49%) | Crumb | Complex packing | Double spaced equal enaulic | Dark brown-brown , grano and parallel striated, speckled in layered area | Modern root and mite feces | Phytoliths rare, stains  |
| SP13-1B | Poorly sorted, rounded, fine gravel to silt sized quartz grains (32%), feldspar (2%) | Massive with channels | Channel, vughs | Open porphyric | Patchy dark brown to grey, weak poro, grano and crossstriated |   | Phytoliths: 2-5%, polymorphic o.m., dark stains  |
| SP13-2A | Poorly sorted subrounded coarse sand to silt sized quartz grains (19%) feldspar (1%) | Subangular blocky | Planes, cracks, some channels | Double spaced porphyric |  Brown, weak speckled, some mono and porostriated |   | Phytoliths rare, small phytoclasts |
| SP13-2B | Moderately sorted, fine gravel to silt sized rounded quartz grains (14%), mica (1%) | Subangular blocky to angular blocky | Planes, cracks, complex packing | Double to open porphyric | Brown-light brown, grano, poro and crossstriated and speckled | Iron staining, root bioturbation | Phytoliths rare, small phytoclasts |
| SP14-3 | Poor- moderately sorted, medium sand to silt sized particles, abundance increases (6-11%)upwards, graded bedding | Highly separated subangular blocky, some massive | Planar, vughs, channels | Double spaced porphyric | Brown to black, Weakly speckled | bioturbation | Phytoliths:2%, opaque phytoclasts, polymorphic o.m. |
| SP14-4 | Well sorted, fine sand to silt sized quartz grains (11%), mica grains rare | Well-developed subangular blocky to columnar | Planar, channels | Double spaced porphyric | Light-brown grano, poro, crossstriated, and weak speckled | Iron stains, burrows and mite feces | Phytoclasts, polymorphic o.m.  |
| BM1 | Poor-moderate sorted coarse sand to silt sized quartz grains (35%), feldspar and mica rare | Intergrain microaggregate to subangular blocky | Complex packing, channels | Chitonic and single to double fine enaulic | Dark brown-black o.m. aggregates | Thick Needle calcite, clay clasts | Phytoliths:2%, polymorphic o.m.  |
| BM2 | Poorly sorted very coarse sand to silt sized quartz grains (32%), mica and feldspar rare | Massive with cracks | Channels, cracks (slickensides) | Double spaced porphyric | Light-Dark brown, o.m. stains. Strong monostriated and speckled, some grano/porostriated | Clay clasts | Phytoliths .5%, polymorphic o.m., large phytoclasts with cell structure rare |
| BM3 |  Well sorted, dominantly silt sized with medium and fine sand sized quartz grains (13%) | Well-developed subangular blocky with highly separated peds | Planes, cracks | Double spaced porphyric | Homogeneous dark brown, weak speckled | Clay clasts, iron staining | Phytoliths 1%, large phytoclasts with cell structure and polymorphic o.m. rare |
| BM6 | Very well sorted fine sand to silt sized quartz grains (9%), rounded micrite fragments rare | Well developed-moderate angular blocky, moderate to well separated | Cracks (slickensides), planes channels, | Double spaced porphyric | Brown-light brown, Strong mono, grano, crossstriated and speckled | Micrite clasts, iron staining | phytoclasts |
| CS-14-1 | Well sorted fine sand to silt sized quartz grains (13%), some layering | Massive with channels | Channels | Massive layered | Light grey to tan, very weak speckled, monostriated rare | Root channels | Phytoliths, diatoms, phytoclasts all abundant |
| LL13-1 | Silt sized quartz grains (3%), distinct layering  | Massive with channels | Channels, complex packing | Massive layered | Light grey, weak speckled | Root channels,Phosphate staining | Phytoliths, diatoms, phytoclasts all abundant |

\*organic matter