

S.T.P.
28



New criteria for describing disturbed soil conditions

International Committee for the
Classification of Anthropogenic
Soils (ICOMANTH)

New Terms

- Anthropogenic soil – human-transported, manufactured, and excavated areas
- Artifacts – something created by humans: asphalt, coal ashes, bricks, steel, glass, etc.

New Terms cont.

- Human transported materials (HTM) – artifacts, organic materials, soil, rock, sediments placed by human activity
- Manufactured horizon – asphalt, concrete, plastic, geotextiles, and rubber

New Horizon nomenclature for disturbed soils

- Star symbol (*) is used as a prefix to identify fill material (human transported material).
- Capital “M” is used as a master horizon to identify manufactured materials.
- The suffix “u” is to identify a horizon with artifacts.





Buried Horizon

The suffix “b” is used to identify buried horizons with major genetic features (e.g. Ob, Ab, Eb, Bb, etc.)



Mechanically Compacted Zones

The suffix “d” is used to indicate
root restricting layers in
compacted soil.





Combination Horizons

Horizons that have distinct parts of two kinds of master horizons are designated by placing a “/” between the two horizon designations (e. g. A/B horizon).





Optimal conditions for forming redoximorphic features in fill material

- Mix of organic matter (food for microorganisms) and Mineral material (source of iron).
- Water table that is very slow moving with significant periods of soil saturation and reduction followed by aerobic conditions.

Sequence of formation of redox features

- Pore linings (oxidized rhizospheres)
- Soft masses (redox concentrations)
- Redox depletions
- Depleted or gleyed matrix







SOIL TEST Pit

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HULL, MA.

1/9/03

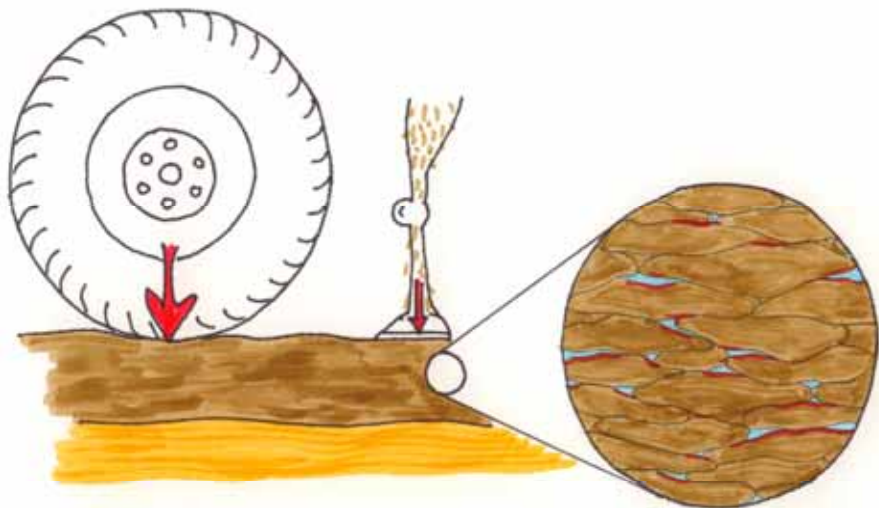
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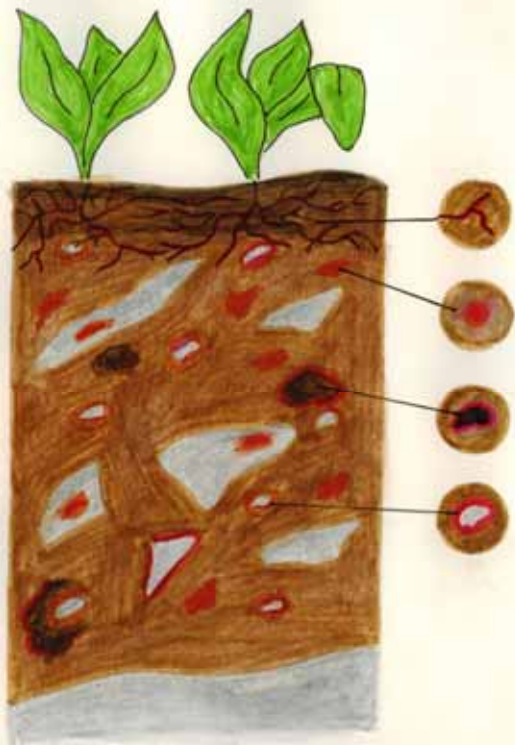


Under optimal conditions, redox concentrations, as pore linings and soft masses, can form within one growing season.

Redox features in mechanically compacted soils are often not a reliable indicator when used by themselves and should only be used in combination with other features



Interpreting redox features within
mechanically mixed soil material



There are many variables at a disturbed and altered sites.

- There are guidelines but no set criteria.
- Some features are more reliable than others.
- Hydric soil determinations are best made using a combination of different factors.
- Professional interpretation and judgment are a major component.

The End

Section F. used only when positive indicators of vegetation, soils, and/or wetland hydrology could not be found due to the effects of recent human activities or natural events.

Step 3 – Characterize soils that previously occurred

- a. Published soil survey
- b. Characterization of buried soils
- c. Removal of surface layers

Step 2 – Describe effects on soils

- a. Has soil been buried?
- b. Has soil been mixed?
- c. Has soil been sufficiently altered?

Guides user through a series of steps – tried and tested process

Step 1 - Describe the type of alteration

- a. Fill material
- b. Presence of nonwoody debris
- c. Subsurface plowing
- d. Removal of surface layers
- e. Man-made structures