

## All Soils

### **A1. Histosol or Histel**

Classifies as a Histosol (except Folist) or as a Histel (except Folistel).

### **A2. Histic Epipedon**

A histic epipedon underlain by mineral soil material with chroma of 2 or less.

### **A3. Black Histic**

A layer of peat, mucky peat, or muck 20 cm (8 inches) or more thick starting at a depth of 15 cm (6 inches) or less from the soil surface with a hue of 10YR or yellower, value of 3 or less, and chroma of 1 or less and underlain by mineral soil material with chroma of 2 or less.

### **A4. Hydrogen Sulfide**

A hydrogen sulfide odor starting at a depth of 30 cm (12 inches) or less from the soil surface.

### **A5. Stratified Layers (for testing)**

Several stratified layers starting at a depth of 15 cm (6 inches) or less from the soil surface. At least one of the layers has value of 3 or less and chroma of 1 or less, or it is muck, mucky peat, peat, or a mucky modified mineral texture. The remaining layers have chroma of 2 or less. For any sandy material that constitutes the layer with value of 3 or less and chroma of 1 or less, at least 70 percent of the visible soil particles must be masked with organic material when viewed through a 10x or 15x hand lens.

### **A9. 1 cm Muck**

A layer of muck of 1 cm (0.5 inch) or more thick with value of 3 or less and chroma of 1 or less starting at a depth of 15 cm (6 inches) or less from the soil surface.

### **A11. Depleted Below Dark Surface**

A layer with a depleted or gleyed matrix that has 60 percent or more chroma of 2 or less, starting at a depth of 30 cm (12 inches) or less from the soil surface and having a minimum thickness of either:

1. 15 cm (6 inches), or
2. 5 cm (2 inches) if the 5 cm consists of fragmental soil material.

Organic, loamy, or clayey layer(s) above the depleted or gleyed matrix must have value of 3 or less and chroma of 2 or less starting at a depth of 15 cm (6 inches) or less from the soil surface and extend to the depleted or gleyed matrix. Any loamy fine sand and coarser material above the depleted matrix must have value of 3 or less and chroma of 1 or less starting at a depth of 15 cm (6 inches) or less from the soil surface and extend to the depleted or gleyed matrix. When viewed through a 10x or 15x hand lens, at least 70 percent of the visible sand particles must be masked with organic material.

### **A12. Thick Dark Surface**

A layer 15 cm (6 inches) or more thick with a depleted or gleyed matrix that has 60 percent or more chroma of 2 or less starting at a depth below 30 cm (12 inches) from the soil surface. The layer(s) above the depleted or gleyed matrix and starting at a depth of less than 15 cm (6 inches) from the soil surface must have value of 2.5 or less and chroma of 1 or less to a depth of 30 cm (12 inches) or more and a value of 3 or less and chroma of 1 or less in any remaining

### **A18. Iron Monosulfide**

Positive identification of dark-gray or black iron monosulfide concentrations with value of 4 or

less and chroma of 2 or less, starting at a depth of 25 cm (10 inches) or less from the soil surface.

## Sandy Soils

### **S1. Sandy Mucky Mineral**

A layer of mucky modified sandy soil material 5 cm (2 inches) or more thick starting at a depth of 15 cm (6 inches) or less from the soil surface.

### **S2. 2.5 cm Mucky Peat or Peat**

A layer of mucky peat or peat 2.5 cm (1 inch) or more thick with value of 4 or less and chroma of 3 or less, starting at a depth of 15 cm (6 inches) or less from the soil surface, and underlain by sandy soil material.

### **S4. Sandy Gleyed Matrix**

A gleyed matrix that occupies 60 percent or more of a layer starting at a depth of 15 cm (6 inches) or less from the soil surface.

### **S5. Sandy Redox**

A layer starting at a depth of 15 cm (6 inches) or less from the soil surface that is 10 cm (4 inches) or more thick and has a matrix with 60 percent or more chroma of 2 or less and 2 or more percent distinct or prominent redox concentrations occurring as soft masses and/or pore linings.

### **S6. Stripped Matrix**

A layer starting at a depth of 15 cm (6 inches) or less from the soil surface in which iron-manganese oxides and/or organic matter have been stripped from the matrix and the primary base color of the soil material has been exposed. The stripped areas and translocated oxides and/or organic matter form a faintly contrasting pattern of two or more colors with diffuse boundaries. The stripped zones are 10 percent or more of the volume and are rounded.

## Loamy and Clayey Soils

### F1. Loamy Mucky Mineral

layer of mucky modified loamy or clayey soil material 10 cm (4 inches) or more thick starting at a depth of 15 cm (6 inches) or less from the soil surface.

### F2. Loamy Gleyed Matrix

A gleyed matrix that occupies 60 percent or more of a layer starting at a depth of 30 cm (12 inches) or less from the soil surface.

### F3. Depleted Matrix

A layer that has a depleted matrix with 60 percent or more chroma of 2 or less and that has a minimum thickness of either:

1. 5 cm (2 inches), starting at a depth of 10 cm (4 inches) or less from the soil surface, or
2. 15 cm (6 inches), starting at a depth of 25 cm (10 inches) or less from the soil surface.

### F6. Redox Dark Surface

A layer that is 10 cm (4 inches) or more thick, starting at a depth of 20 cm (8 inches) or less from the mineral soil surface, and has:

1. Matrix value of 3 or less and chroma of 1 or less and 2 percent or more distinct or prominent redox concentrations occurring as soft masses or pore linings, or
2. Matrix value of 3 or less and chroma of 2 or less and 5 percent or more distinct or prominent redox concentrations occurring as soft masses or pore linings.

### F7. Depleted Dark Surface

Redox depletions with value of 5 or more and chroma of 2 or less in a layer that is 10 cm (4 inches) or more thick, starting at a depth of 20 cm

(8 inches) or less from the mineral soil surface, and has:

1. Matrix value of 3 or less and chroma of 1 or less and 10 percent or more redox depletions, or
2. Matrix value of 3 or less and chroma of 2 or less and 20 percent or more redox depletions.

### F8. Redox Depression

In closed depressions subject to ponding, 5 percent or more distinct or prominent redox concentrations occurring as soft masses or pore linings in a layer that is 5 cm (2 inches) or more thick and starts at 10 cm (4 inches) or less from the soil surface.

### F16. High Plains Depressions (for testing)

In closed depressions that are subject to ponding, a mineral soil that has chroma of 1 or less to a depth of 35 cm (13.5 inches) or more from the soil surface and a layer of 10 cm (4 inches) or more thick starting at a depth of 25 cm (10 inches) or less from the mineral soil surface that has either:

1. One percent or more redox concentrations occurring as nodules or concretions, or
2. Redox concentrations occurring as nodules or concretions with distinct or prominent corona.

### F18. Reduced Vertic (for testing)

In Vertisols and Vertic intergrades, a positive reaction to alpha-alpha-dipyridyl that:

1. Is the dominant (60 percent or more) condition of a layer 10 cm (4 inches) or more thick starting at a depth of 30 cm (12 inches) or less; or 5 cm (2 inches) or more thick starting at a depth 15 cm (6 inches) or less from the actual soil surface,

2. Occurs for 7 or more continuous days and 28 cumulative days, and
3. Occurs during a normal or drier season and month.

### F21. Red Parent Material

A layer derived from red parent materials (see “Glossary”) that is 10 cm (4 inches) or more thick, starting at a depth of 25 cm (10 inches) or less from the soil surface with a hue of 7.5YR or redder. The matrix has a value and chroma of more than 2 and 4 or less. The layer must contain 10 or more percent depletions and/or distinct or prominent concentrations occurring as soft masses or pore linings. Redox depletions should differ in color by having:

1. A minimum difference of one value higher and one chroma lower than the matrix, or
2. Value of 4 or more and chroma of 2 or less than the matrix (fig. 41).

## About this Guide

Abbreviated Guide to Field Indicators of Hydric Soil in LRR H, Version 1.0, 2024-9-5

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This abbreviated guide includes the text for each indicator applicable in Land Resource Region H from the *Field Indicators of Hydric Soils of the United States Version 9.0*. User notes are omitted for brevity.

United States Department of Agriculture, Natural Resources Conservation Service. 2024. Field Indicators of Hydric Soils in the United States, Version 9.0.