

**003DB—Dennis silt loam, 1 to 4 percent slopes****Map Unit Composition**

Dennis: 85 percent  
 Minor components: 15 percent

**Component Descriptions****Dennis**

*MLRA:* 112 - Cherokee Prairies  
*Landform:* Hillslope on upland  
*Hillslope position:* Summit, footslope  
*Parent material:* Silty and clayey residuum weathered from shale, unspecified  
*Slope:* 1 to 4 percent  
*Depth to restrictive feature:* 40 to 60 inches to bedrock (paralithic)  
*Drainage class:* Moderately well drained  
*Slowest permeability:* Slow (About 0.06 in/hr)  
*Available water capacity:* Moderate (About 8.8 inches)  
*Shrink-swell potential:* High (About 7.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* About 12 to 18 inches  
*Runoff class:* High  
*Ecological site:* Loamy Upland (pe35-42)  
*Land capability (nonirrigated):* 2e

*Typical Profile:*

H1—0 to 10 inches; silt loam  
 H2—10 to 14 inches; silty clay loam  
 H3—14 to 56 inches; silty clay  
 Cr—56 to 60 inches;

**Minor Components****Eram**

*Composition:* About 5 percent  
*Geomorphic Position:* hillslope on upland  
*Slope:* 1 to 4 percent  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (paralithic)  
*Drainage class:* Moderately well drained  
*Ecological site:* Clay Upland (pe35-42)

**Kenoma**

*Composition:* About 4 percent  
*Slope:* 1 to 4 percent  
*Drainage class:* Moderately well drained  
*Ecological site:* Clay Upland (pe35-42)

**Talihina**

*Composition:* About 3 percent  
*Slope:* 1 to 4 percent  
*Depth to restrictive feature:* 10 to 20 inches to bedrock (paralithic)  
*Drainage class:* Moderately well drained

*Ecological site:* Clay Upland (pe35-42)

**Okemah**

*Composition:* About 3 percent  
*Slope:* 1 to 4 percent  
*Drainage class:* Moderately well drained  
*Ecological site:* Loamy Upland (pe35-42)

**003EC—Eram silty clay loam, 4 to 7 percent slopes****Map Unit Composition**

Eram: 90 percent

**Component Descriptions****Eram**

*MLRA:* 112 - Cherokee Prairies  
*Landform:* Hillslope on upland  
*Hillslope position:* Backslope  
*Parent material:* Silty and clayey residuum weathered from shale, unspecified  
*Slope:* 4 to 7 percent  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (paralithic)  
*Drainage class:* Moderately well drained  
*Slowest permeability:* Slow (About 0.06 in/hr)  
*Available water capacity:* Low (About 4.9 inches)  
*Shrink-swell potential:* High (About 7.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* About 6 to 18 inches  
*Runoff class:* Very high  
*Ecological site:* Clay Upland (pe30-36)  
*Land capability (nonirrigated):* 4e

*Typical Profile:*

H1—0 to 10 inches; silty clay loam  
 H2—10 to 33 inches; silty clay  
 Cr—33 to 37 inches; weathered bedrock

**003LA—Lanton silty clay loam, occasionally flooded****Map Unit Composition**

Lanton: 85 percent  
 Minor components: 15 percent

**Component Descriptions****Lanton**

*MLRA:* 112 - Cherokee Prairies  
*Landform:* Flood plain on river valley  
*Parent material:* Silty and clayey alluvium  
*Slope:* 0 to 1 percent  
*Drainage class:* Somewhat poorly drained  
*Slowest permeability:* Very slow (About 0.00 in/hr)  
*Available water capacity:* High (About 10.6 inches)  
*Shrink-swell potential:* High (About 7.5 LEP)  
*Flooding hazard:* Occasional  
*Depth to seasonal water saturation:* About 12 to 24 inches  
*Runoff class:* Low  
*Ecological site:* Loamy Lowland (pe35-42)  
*Land capability (nonirrigated):* 2w

*Typical Profile:*

H1—0 to 8 inches; silty clay loam  
 H2—8 to 36 inches; silty clay loam  
 H3—36 to 48 inches; silty clay  
 H4—48 to 60 inches; silty clay

**Minor Components**

**Mason**

*Composition:* About 10 percent  
*Slope:* 0 to 1 percent  
*Drainage class:* Well drained  
*Ecological site:* Loamy Lowland (pe35-42)

**Osage**

*Composition:* About 5 percent  
*Slope:* 0 to 1 percent  
*Drainage class:* Poorly drained  
*Ecological site:* Clay Lowland (pe35-42)

**031EC—Eram silt loam, 3 to 7 percent slopes**

**Map Unit Composition**

Eram: 90 percent  
 Minor components: 10 percent

**Component Descriptions**

**Eram**

*MLRA:* -  
*Landform:* Hillslope on upland  
*Hillslope position:* Backslope  
*Parent material:* Silty and clayey residuum weathered from shale, unspecified  
*Slope:* 3 to 7 percent  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (paralithic)  
*Drainage class:* Moderately well drained

*Slowest permeability:* Slow (About 0.06 in/hr)  
*Available water capacity:* Low (About 4.8 inches)  
*Shrink-swell potential:* High (About 7.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* About 6 to 18 inches  
*Runoff class:* Very high  
*Ecological site:* Clay Upland (pe35-42)  
*Land capability (nonirrigated):* 4e

*Typical Profile:*

H1—0 to 9 inches; silt loam  
 H2—9 to 32 inches; silty clay  
 Cr—32 to 36 inches; weathered bedrock

**Minor Components**

**Ringo**

*Composition:* About 5 percent  
*Slope:* 3 to 15 percent  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (paralithic)  
*Drainage class:* Moderately well drained  
*Ecological site:* Clay Upland (pe35-42)

**Bates**

*Composition:* About 5 percent  
*Slope:* 3 to 7 percent  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (paralithic)  
*Drainage class:* Well drained  
*Ecological site:* Loamy Upland (pe35-42)

**139CM—Clareson-Eram complex, 3 to 15 percent slopes**

**Map Unit Composition**

Clareson: 55 percent  
 Eram: 30 percent  
 Minor components: 15 percent

**Component Descriptions**

**Clareson**

*MLRA:* 112 - Cherokee Prairies  
*Landform:* Hillslope on upland  
*Parent material:* Silty and clayey residuum weathered from limestone  
*Slope:* 3 to 15 percent  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Slowest permeability:* Slow (About 0.06 in/hr)  
*Available water capacity:* Low (About 3.2 inches)  
*Shrink-swell potential:* High (About 7.5 LEP)  
*Flooding hazard:* None

*Depth to seasonal water saturation:* More than 6 feet

*Runoff class:* Very high

*Ecological site:* Shallow Flats (pe35-42)

*Land capability (nonirrigated):* 6e

*Typical Profile:*

A—0 to 8 inches; silty clay loam

AB—8 to 16 inches; silty clay loam

Bt—16 to 24 inches; very flaggy silty clay loam

R—24 to 32 inches; unweathered bedrock

**Eram**

*MLRA:* 112 - Cherokee Prairies

*Landform:* Hillslope on upland

*Hillslope position:* Backslope

*Parent material:* Silty and clayey residuum weathered from shale

*Slope:* 3 to 12 percent

*Depth to restrictive feature:* 20 to 40 inches to bedrock (paralithic)

*Drainage class:* Moderately well drained

*Slowest permeability:* Slow (About 0.06 in/hr)

*Available water capacity:* Low (About 4.3 inches)

*Shrink-swell potential:* High (About 7.5 LEP)

*Flooding hazard:* None

*Depth to seasonal water saturation:* About 9 to 14 inches

*Runoff class:* Very high

*Ecological site:* Clay Upland (pe35-42)

*Land capability (nonirrigated):* 6e

*Typical Profile:*

Ap—0 to 9 inches; silty clay loam

Bt—9 to 28 inches; silty clay

Cr—28 to 32 inches; weathered bedrock

**Minor Components**

**Rock outcrop**

*Composition:* About 10 percent

**Bates**

*Composition:* About 5 percent

*Slope:* 3 to 7 percent

*Depth to restrictive feature:* 20 to 40 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Ecological site:* Loamy Upland (pe35-42)

## 602CB—Catoosa silt loam, 1 to 3 percent slopes

### Map Unit Composition

Catoosa: 85 percent

Minor components: 8 percent

### Component Descriptions

**Catoosa**

*MLRA:* 112 - Cherokee Prairies

*Landform:* Ridge on upland

*Parent material:* Silty and clayey residuum weathered from limestone and shale

*Slope:* 1 to 3 percent

*Depth to restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Well drained

*Slowest permeability:* Moderate (About 0.60 in/hr)

*Available water capacity:* Low (About 4.9 inches)

*Shrink-swell potential:* Moderate (About 4.5 LEP)

*Flooding hazard:* None

*Depth to seasonal water saturation:* More than 6 feet

*Runoff class:* Medium

*Ecological site:* Loamy Upland (pe35-42)

*Land capability (nonirrigated):* 2e

*Typical Profile:*

H1—0 to 12 inches; silt loam

H2—12 to 25 inches; silty clay loam

R—25 to 29 inches; unweathered bedrock

**Minor Components**

**Clareson**

*Composition:* About 4 percent

*Geomorphic Position:* hillslope on upland

*Slope:* 3 to 15 percent

*Depth to restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Well drained

*Ecological site:* Shallow Flats (pe35-42)

**Eram**

*Composition:* About 4 percent

*Geomorphic Position:* hillslope on upland

*Slope:* 3 to 12 percent

*Depth to restrictive feature:* 20 to 40 inches to bedrock (paralithic)

*Drainage class:* Moderately well drained

*Ecological site:* Clay Upland (pe35-42)

## 602CM—Clareson-Rock outcrop complex, 2 to 15 percent slopes

### Map Unit Composition

Clareson: 60 percent  
 Rock outcrop: 20 percent  
 Minor components: 20 percent

### Component Descriptions

#### Clareson

*MLRA:* 112 - Cherokee Prairies  
*Landform:* Hillslope on upland  
*Hillslope position:* Backslope  
*Parent material:* Silty and clayey residuum weathered from limestone, unspecified  
*Slope:* 7 to 15 percent  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Slowest permeability:* Slow (About 0.06 in/hr)  
*Available water capacity:* Low (About 3.7 inches)  
*Shrink-swell potential:* High (About 7.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* Very high  
*Ecological site:* Shallow Flats (pe35-42)  
*Land capability (nonirrigated):* 6e

#### Typical Profile:

H1—0 to 11 inches; silty clay loam  
 H2—11 to 15 inches; very flaggy silty clay loam  
 H3—15 to 32 inches; extremely flaggy silty clay  
 R—33 to 37 inches;

#### Rock outcrop

*MLRA:* 112 - Cherokee Prairies  
*Landform:* Ridge on upland  
*Hillslope position:* Shoulder  
*Drainage class:* Well drained  
*Depth to seasonal water saturation:* More than 6 feet  
*Land capability (nonirrigated):* 8

### Minor Components

#### Catoosa

*Composition:* About 10 percent  
*Geomorphic Position:* hillslope on upland  
*Slope:* 1 to 3 percent  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Ecological site:* Loamy Upland (pe35-42)

#### Eram

*Composition:* About 6 percent  
*Geomorphic Position:* hillslope on upland  
*Slope:* 4 to 8 percent  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (paralithic)  
*Drainage class:* Moderately well drained  
*Ecological site:* Clay Upland (pe35-42)

#### Lebo

*Composition:* About 4 percent  
*Geomorphic Position:* hillslope on upland  
*Slope:* 15 to 30 percent  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (paralithic)  
*Drainage class:* Well drained  
*Ecological site:* Loamy Upland (pe35-42)

## 602LA—Lanton silt loam, occasionally flooded

### Map Unit Composition

Lanton: 90 percent  
 Minor components: 10 percent

### Component Descriptions

#### Lanton

*MLRA:* 112 - Cherokee Prairies  
*Landform:* Flood plain on valley  
*Parent material:* Silty and clayey alluvium  
*Slope:* 0 to 1 percent  
*Drainage class:* Somewhat poorly drained  
*Slowest permeability:* Slow (About 0.06 in/hr)  
*Available water capacity:* High (About 11.5 inches)  
*Shrink-swell potential:* Moderate (About 4.5 LEP)  
*Flooding hazard:* Occasional  
*Depth to seasonal water saturation:* About 9 to 14 inches  
*Runoff class:* High  
*Ecological site:* Loamy Lowland (pe35-42)  
*Land capability (nonirrigated):* 2w

#### Typical Profile:

H1—0 to 14 inches; silt loam  
 H2—14 to 53 inches; silt loam  
 H3—53 to 60 inches; silty clay loam

### Minor Components

#### Osage

*Composition:* About 10 percent  
*Slope:* 0 to 1 percent  
*Drainage class:* Poorly drained  
*Ecological site:* Clay Lowland (pe35-42)

**602VC—Verdigris silt loam, 0 to 2 percent slopes, frequently flooded****Map Unit Composition**

Verdigris: 85 percent  
 Minor components: 15 percent

**Component Descriptions****Verdigris**

*MLRA:* 112 - Cherokee Prairies  
*Landform:* Flood plain on river valley  
*Parent material:* Fine-silty alluvium  
*Slope:* 0 to 2 percent  
*Drainage class:* Well drained  
*Slowest permeability:* Moderate (About 0.60 in/hr)  
*Available water capacity:* High (About 11.9 inches)  
*Shrink-swell potential:* Moderate (About 4.5 LEP)  
*Flooding hazard:* Frequent  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* Low  
*Ecological site:* Loamy Lowland (pe35-42)  
*Land capability (nonirrigated):* 5w

*Typical Profile:*

H1—0 to 9 inches; silt loam  
 H2—9 to 32 inches; silt loam  
 H3—32 to 52 inches; silt loam  
 H4—52 to 60 inches; silt loam

**Minor Components****Osage**

*Composition:* About 10 percent  
*Slope:* 0 to 1 percent  
*Drainage class:* Poorly drained  
*Ecological site:* Loamy Lowland (pe35-42)

**Summit**

*Composition:* About 5 percent  
*Slope:* 1 to 4 percent  
*Drainage class:* Moderately well drained  
*Ecological site:* Clay Upland (pe35-42)

**1366—Clareson-Rock outcrop complex, 2 to 15 percent slopes****Map Unit Composition**

Clareson: 60 percent  
 Rock outcrop: 20 percent  
 Minor components: 20 percent

**Component Descriptions****Clareson**

*MLRA:* -  
*Landform:* Hillslope on upland  
*Hillslope position:* Shoulder, backslope  
*Parent material:* Clayey residuum weathered from limestone  
*Slope:* 2 to 15 percent  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Slowest permeability:* Impermeable (About 0.00 in/hr)  
*Available water capacity:* Low (About 3.9 inches)  
*Shrink-swell potential:* Moderate (About 4.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* Very high  
*Ecological site:* Shallow Flats (pe35-42)  
*Land capability (nonirrigated):* 6e

*Typical Profile:*

A—0 to 11 inches; silty clay loam  
 BA—11 to 16 inches; flaggy silty clay loam  
 Bt—16 to 28 inches; flaggy silty clay  
 BC—28 to 33 inches; flaggy silty clay  
 R—33 to 37 inches; unweathered bedrock

**Rock outcrop**

*MLRA:* -  
*Landform:* Hillslope on upland  
*Hillslope position:* Backslope, shoulder  
*Parent material:* Residuum weathered from limestone  
*Slope:* 2 to 15 percent  
*Depth to restrictive feature:* 0 inches to bedrock (lithic)  
*Available water capacity:* Very low (About 0.0 inches)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* High  
*Land capability (nonirrigated):* 8s

**Minor Components****Lebo**

*Composition:* About 5 percent  
*Geomorphic Position:* hillslope on upland  
*Slope:* 2 to 15 percent  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (paralithic)  
*Drainage class:* Well drained  
*Ecological site:* Loamy Upland (pe35-42)

**Summit**

*Composition:* About 5 percent  
*Geomorphic Position:* hillslope on upland  
*Slope:* 2 to 15 percent  
*Drainage class:* Moderately well drained  
*Ecological site:* Clay Upland (pe35-42)

**Wagstaff**

*Composition:* About 5 percent  
*Geomorphic Position:* hillslope on upland  
*Slope:* 2 to 15 percent  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (lithic)  
*Drainage class:* Moderately well drained  
*Ecological site:* Loamy Upland (pe35-42)

**Eram**

*Composition:* About 5 percent  
*Geomorphic Position:* hillslope on upland  
*Slope:* 2 to 15 percent  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (paralithic)  
*Drainage class:* Moderately well drained  
*Ecological site:* Clay Upland (pe35-42)

*General Considerations:* Most areas of this map unit are rangeland. They are suited to rangeland. The major concerns of management are erosion and low available water holding capacity. The depth to bedrock and large stones limits the suitability of this map unit for many engineering uses. The land capability classification is VIe.

## **2326—Kenoma silt loam, 1 to 4 percent slopes**

### **Map Unit Composition**

Kenoma: 90 percent  
 Minor components: 10 percent

**Component Descriptions****Kenoma**

*MLRA:* -  
*Landform:* Hillslope on upland  
*Hillslope position:* Backslope  
*Parent material:* Silty and clayey sediments  
*Slope:* 1 to 4 percent

*Drainage class:* Moderately well drained  
*Slowest permeability:* Very slow (About 0.00 in/hr)  
*Available water capacity:* Moderate (About 8.7 inches)  
*Shrink-swell potential:* High (About 7.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* About 9 to 14 inches  
*Runoff class:* Very high  
*Ecological site:* Clay Upland (pe35-42)  
*Land capability (nonirrigated):* 3e

*Typical Profile:*

Ap—0 to 4 inches; silt loam  
 A—4 to 10 inches; silt loam  
 Bt1—10 to 18 inches; silty clay  
 Bt2—18 to 27 inches; silty clay  
 Bt3—27 to 41 inches; silty clay  
 Bt4—41 to 59 inches; silty clay  
 Bt5—59 to 73 inches; silty clay loam

**Minor Components****Woodson**

*Composition:* About 5 percent  
*Geomorphic Position:* hillslope on upland  
*Slope:* 1 to 4 percent  
*Drainage class:* Somewhat poorly drained  
*Ecological site:* Clay Upland (pe35-42)

**Eram**

*Composition:* About 5 percent  
*Geomorphic Position:* hillslope on upland  
*Slope:* 1 to 4 percent  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (paralithic)  
*Drainage class:* Moderately well drained  
*Ecological site:* Clay Upland (pe35-42)

*General Considerations:* Most areas of this soil is used for cultivated crops and pasture. It is suited to most crops grown in the watershed. Erosion is a serious hazard that can be controlled by contour farming, terraces, or conservation tillage. This soil is well suited to tame grass pasture. The wetness limits the suitability of this soil for engineering uses. The land capability classification is IIIe.

## **2540—Leanna silt loam, 0 to 2 percent slopes, occasionally flooded**

**Map Unit Composition**

Leanna: 85 percent

Minor components: 15 percent

### Component Descriptions

#### Leanna

*MLRA:* -

*Landform:* Flood plain on valley

*Hillslope position:* Toeslope

*Parent material:* Silty and clayey alluvium

*Slope:* 0 to 2 percent

*Drainage class:* Somewhat poorly drained

*Slowest permeability:* Very slow (About 0.00 in/hr)

*Available water capacity:* High (About 10.6 inches)

*Shrink-swell potential:* High (About 7.5 LEP)

*Flooding hazard:* Occasional

*Depth to seasonal water saturation:* About 4 to 9 inches

*Runoff class:* Low

*Ecological site:* Clay Lowland (pe35-42)

*Land capability (nonirrigated):* 2w

#### Typical Profile:

Ap—0 to 10 inches; silt loam

E—10 to 22 inches; silt loam

Bt—22 to 40 inches; silty clay

BC—40 to 55 inches; silty clay

C—55 to 78 inches; silty clay

### Minor Components

#### Mason

*Composition:* About 5 percent

*Slope:* 0 to 2 percent

*Drainage class:* Well drained

*Ecological site:* Loamy Lowland (pe35-42)

#### Verdigris

*Composition:* About 5 percent

*Slope:* 0 to 2 percent

*Drainage class:* Moderately well drained

*Ecological site:* Loamy Lowland (pe35-42)

#### Osage

*Composition:* About 5 percent

*Slope:* 0 to 2 percent

*Drainage class:* Somewhat poorly drained

*Ecological site:* Clay Lowland (pe35-42)

*General Considerations:* Most areas of this soil are cultivated. Some areas are pasture or trees. It is suited to all crops grown in the watershed. Erosion is a serious hazard that can be controlled by conservation tillage or no-till. This soil is well suited for hay land and pasture. Flooding and wetness limits the suitability of this soil for many engineering uses. The land capability classification is Illw.

## 3494—Summit silty clay loam, 1 to 4 percent slopes

### Map Unit Composition

Summit: 85 percent

Minor components: 15 percent

### Component Descriptions

#### Summit

*MLRA:* -

*Landform:* Hillslope on upland

*Hillslope position:* Backslope, footslope

*Parent material:* Silty and clayey residuum weathered from acid shale

*Slope:* 1 to 4 percent

*Drainage class:* Moderately well drained

*Slowest permeability:* Slow (About 0.06 in/hr)

*Available water capacity:* High (About 9.6 inches)

*Shrink-swell potential:* High (About 7.5 LEP)

*Flooding hazard:* None

*Depth to seasonal water saturation:* About 24 to 36 inches

*Runoff class:* High

*Ecological site:* Clay Upland (pe35-42)

*Land capability (nonirrigated):* 2e

#### Typical Profile:

A—0 to 9 inches; silty clay loam

Bt1—9 to 17 inches; silty clay

Bt2—17 to 24 inches; silty clay

Bt3—24 to 41 inches; silty clay

Bt4—41 to 61 inches; silty clay

Bt5—61 to 73 inches; silty clay

### Minor Components

#### Kenoma

*Composition:* About 10 percent

*Slope:* 1 to 4 percent

*Drainage class:* Moderately well drained

*Ecological site:* Clay Upland (pe35-42)

#### Wagstaff

*Composition:* About 5 percent

*Geomorphic Position:* hillslope on upland

*Slope:* 1 to 3 percent

*Depth to restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Moderately well drained

*Ecological site:* Loamy Upland (pe35-42)

*General Considerations:* Most areas of this soil are cultivated. It is well suited to all crops commonly grown in the watershed. Erosion is a serious hazard that can be controlled by

terraces, contour farming, or conservation tillage. This soil has good potential for hay, tame grasses, and trees. The wetness limits the suitability of this soil for many engineering uses. The land capability classification is IIe.

### **3815—Verdigris silt loam, 0 to 2 percent slopes, frequently flooded**

#### **Map Unit Composition**

Verdigris: 85 percent  
Minor components: 15 percent

#### **Component Descriptions**

##### **Verdigris**

*MLRA:* -

*Landform:* Flood plain on valley

*Parent material:* Fine-silty alluvium

*Slope:* 0 to 2 percent

*Drainage class:* Moderately well drained

*Slowest permeability:* Moderate (About 0.60 in/hr)

*Available water capacity:* High (About 12.0 inches)

*Shrink-swell potential:* Moderate (About 4.5 LEP)

*Flooding hazard:* Frequent

*Depth to seasonal water saturation:* More than 6 feet

*Runoff class:* Low

*Ecological site:* Loamy Lowland (pe35-42)

*Land capability (nonirrigated):* 5w

##### *Typical Profile:*

Ap—0 to 9 inches; silt loam

A1—9 to 27 inches; silt loam

A2—27 to 32 inches; silt loam

AC—32 to 52 inches; silt loam

C—52 to 60 inches; silt loam

##### **Minor Components**

###### **Summit**

*Composition:* About 10 percent

*Geomorphic Position:* hillslope on upland

*Slope:* 2 to 8 percent

*Drainage class:* Moderately well drained

*Ecological site:* Clay Upland (pe35-42)

###### **Osage**

*Composition:* About 5 percent

*Geomorphic Position:* flood plain on valley

*Slope:* 0 to 2 percent

*Drainage class:* Somewhat poorly drained

*Ecological site:* Clay Lowland (pe35-42)

*General Considerations:* Most areas of this soil are pasture and trees. This soil is suited for pasture or trees. This soil is suited to tall fescue and reed canarygrass. Flooding limits the suitability of this soil for many engineering uses. The land capability classification is Vw.

### **3816—Verdigris silt loam, 0 to 2 percent slopes, occasionally flooded**

#### **Map Unit Composition**

Verdigris: 90 percent  
Minor components: 10 percent

#### **Component Descriptions**

##### **Verdigris**

*MLRA:* -

*Landform:* Flood plain on valley

*Parent material:* Fine-silty alluvium

*Slope:* 0 to 2 percent

*Drainage class:* Moderately well drained

*Slowest permeability:* Moderate (About 0.60 in/hr)

*Available water capacity:* High (About 12.0 inches)

*Shrink-swell potential:* Moderate (About 4.5 LEP)

*Flooding hazard:* Occasional

*Depth to seasonal water saturation:* More than 6 feet

*Runoff class:* Low

*Ecological site:* Loamy Lowland (pe35-42)

*Land capability (nonirrigated):* 2w

##### *Typical Profile:*

Ap—0 to 9 inches; silt loam

A1—9 to 27 inches; silt loam

A2—27 to 32 inches; silt loam

AC—32 to 52 inches; silt loam

C—52 to 60 inches; silt loam

##### **Minor Components**

###### **Osage**

*Composition:* About 10 percent

*Geomorphic Position:* flood plain on valley

*Slope:* 0 to 2 percent

*Drainage class:* Somewhat poorly drained

*Ecological site:* Clay Lowland (pe35-42)

*General Considerations:* Most areas of this soil are cultivated. Some areas are pasture or



trees. It is well suited to all crops grown in the watershed. Erosion is a serious hazard that can be controlled by conservation tillage or no-till. This soil is well suited for hay land and pasture. Flooding and wetness limits the suitability of this soil for many engineering uses. The land capability classification is IIw.

### 3951—Woodson silt loam, 1 to 3 percent slopes

#### Map Unit Composition

Woodson: 85 percent  
Minor components: 15 percent

#### Component Descriptions

##### Woodson

*MLRA:* -

*Landform:* Paleoterrace on upland

*Hillslope position:* Summit

*Parent material:* Silty and clayey sediments

*Slope:* 1 to 3 percent

*Drainage class:* Somewhat poorly drained

*Slowest permeability:* Very slow (About 0.00 in/hr)

*Available water capacity:* Moderate (About 8.7 inches)

*Shrink-swell potential:* High (About 7.5 LEP)

*Flooding hazard:* None

*Depth to seasonal water saturation:* About 4 to 9 inches

*Runoff class:* Medium

*Ecological site:* Clay Upland (pe35-42)

*Land capability (nonirrigated):* 3e

##### Typical Profile:

A—0 to 10 inches; silt loam

Bt1—10 to 21 inches; silty clay

Bt2—21 to 30 inches; silty clay

BC—30 to 48 inches; silty clay

C—48 to 60 inches; silty clay

#### Minor Components

##### Kenoma

*Composition:* About 10 percent

*Slope:* 1 to 4 percent

*Drainage class:* Moderately well drained

*Ecological site:* Clay Upland (pe35-42)

##### Summit

*Composition:* About 5 percent

*Geomorphic Position:* hillslope on upland

*Slope:* 1 to 3 percent

*Drainage class:* Moderately well drained

*Ecological site:* Clay Upland (pe35-42)

*General Considerations:* Most areas of this soil are cultivated. This soil is suited to most crops grown in the watershed. Wetness and seasonal droughtiness can limit crops in some years. Erosion is a slight hazard that can be controlled by conservation tillage or no-tills. This soil is well suited to tame grasses. The wetness limits the suitability of this soil for engineering uses. The land capability classification is IIs.

### AED—Arents, Earthen Dam

### Bc—Bates loam, 1 to 4 percent slopes

#### Map Unit Composition

Bates: 90 percent  
Minor components: 10 percent

#### Component Descriptions

##### Bates

*MLRA:* 112 - Cherokee Prairies

*Landform:* Hillslope on upland

*Parent material:* Sandy and silty residuum weathered from sandstone, unspecified over sandy and

silty residuum weathered from sandstone-shale

*Slope:* 1 to 4 percent

*Depth to restrictive feature:* 20 to 40 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Slowest permeability:* Moderate (About 0.60 in/hr)

*Available water capacity:* Moderate (About 6.1 inches)

*Shrink-swell potential:* Low (About 1.5 LEP)

*Flooding hazard:* None

*Depth to seasonal water saturation:* More than 6 feet

*Runoff class:* Low

*Ecological site:* Loamy Upland (pe35-42)

*Land capability (nonirrigated):* 2e

##### Typical Profile:

H1—0 to 19 inches; loam

H2—19 to 34 inches;

H3—34 to 38 inches;

H4—38 to 42 inches;

#### Minor Components

**Dennis**

*Composition:* About 5 percent  
*Geomorphic Position:* hillslope on upland  
*Slope:* 2 to 6 percent  
*Drainage class:* Moderately well drained  
*Ecological site:* Loamy Upland (pe35-42)

**Kenoma**

*Composition:* About 5 percent  
*Geomorphic Position:* hillslope on upland  
*Slope:* 1 to 4 percent  
*Drainage class:* Moderately well drained  
*Ecological site:* Clay Upland (pe35-42)

## **Bd—Bates-Collinsville loams, 3 to 7 percent slopes**

### **Map Unit Composition**

Bates: 50 percent  
 Collinsville: 35 percent  
 Minor components: 15 percent

### **Component Descriptions**

**Bates**

*MLRA:* 112 - Cherokee Prairies  
*Landform:* Hillslope on upland  
*Parent material:* Sandy and silty residuum weathered from sandstone, unspecified over sandy and silty residuum weathered from sandstone-shale  
*Slope:* 3 to 7 percent  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (paralithic)  
*Drainage class:* Well drained  
*Slowest permeability:* Moderate (About 0.60 in/hr)  
*Available water capacity:* Low (About 5.4 inches)  
*Shrink-swell potential:* Low (About 1.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* Medium  
*Ecological site:* Loamy Upland (pe35-42)  
*Land capability (nonirrigated):* 4e

*Typical Profile:*

H1—0 to 15 inches; loam  
 H2—15 to 23 inches; clay loam  
 H3—23 to 28 inches; gravelly clay loam  
 Cr—28 to 32 inches; unweathered bedrock

**Collinsville**

*MLRA:* 112 - Cherokee Prairies  
*Landform:* Hillslope on upland

*Hillslope position:* Backslope  
*Parent material:* Sandstone residuum  
*Slope:* 3 to 7 percent  
*Depth to restrictive feature:* 4 to 20 inches to bedrock (lithic)

*Drainage class:* Well drained  
*Slowest permeability:* Moderately rapid (About 2.00 in/hr)  
*Available water capacity:* Very low (About 2.2 inches)  
*Shrink-swell potential:* Low (About 1.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* Medium  
*Ecological site:* Shallow Sandstone (pe35-42)  
*Land capability (nonirrigated):* 6s

*Typical Profile:*

H1—0 to 6 inches; loam  
 H2—6 to 14 inches; fine sandy loam  
 R—14 to 18 inches; unweathered bedrock

**Minor Components****Dennis**

*Composition:* About 8 percent  
*Slope:* 4 to 7 percent  
*Drainage class:* Moderately well drained  
*Ecological site:* Loamy Upland (pe35-42)

**Eram**

*Composition:* About 7 percent  
*Geomorphic Position:* hillslope on upland  
*Slope:* 3 to 7 percent  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (paralithic)  
*Drainage class:* Moderately well drained  
*Ecological site:* Clay Upland (pe35-42)

## **Bh—Bates-Collinsville loams, 7 to 12 percent slopes**

### **Map Unit Composition**

Bates: 50 percent  
 Collinsville: 35 percent  
 Minor components: 15 percent

### **Component Descriptions**

**Bates**

*MLRA:* 112 - Cherokee Prairies  
*Landform:* Hillslope on upland  
*Hillslope position:* Backslope

*Parent material:* Sandy and silty residuum weathered from sandstone over sandy and silty residuum weathered from sandstone and shale  
*Slope:* 7 to 8 percent  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (paralithic)  
*Drainage class:* Well drained  
*Slowest permeability:* Moderate (About 0.60 in/hr)  
*Available water capacity:* Moderate (About 6.5 inches)  
*Shrink-swell potential:* Low (About 1.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* Medium  
*Ecological site:* Loamy Upland (pe35-42)  
*Land capability (nonirrigated):* 6s

*Typical Profile:*

H1—0 to 19 inches; loam  
 H2—19 to 26 inches; loam  
 H3—26 to 34 inches; gravelly loam  
 Cr—34 to 38 inches; unweathered bedrock

**Collinsville**

*MLRA:* 112 - Cherokee Prairies  
*Landform:* Hillslope on upland  
*Hillslope position:* Backslope  
*Parent material:* Loamy residuum weathered from sandstone  
*Slope:* 7 to 12 percent  
*Depth to restrictive feature:* 4 to 20 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Slowest permeability:* Moderately rapid (About 2.00 in/hr)  
*Available water capacity:* Very low (About 2.7 inches)  
*Shrink-swell potential:* Low (About 1.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* Low  
*Ecological site:* Shallow Sandstone (pe35-42)  
*Land capability (nonirrigated):* 7s

*Typical Profile:*

H1—0 to 11 inches; loam  
 H2—11 to 17 inches; channery loam  
 R—17 to 21 inches; unweathered bedrock

**Minor Components**

**Dennis**

*Composition:* About 5 percent  
*Geomorphic Position:* hillslope on upland  
*Slope:* 2 to 6 percent

*Drainage class:* Moderately well drained  
*Ecological site:* Loamy Upland (pe35-42)

**Eram**

*Composition:* About 5 percent  
*Geomorphic Position:* hillslope on upland  
*Slope:* 7 to 12 percent  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (paralithic)  
*Drainage class:* Moderately well drained  
*Ecological site:* Clay Upland (pe35-42)

**Olpe**

*Composition:* About 5 percent  
*Geomorphic Position:* paleoterrace on upland  
*Slope:* 1 to 5 percent  
*Drainage class:* Well drained  
*Ecological site:* Loamy Upland (pe35-42)

**Bo—Bolivar-Hector loams, 2 to 6 percent slopes**

**Map Unit Composition**

Bolivar: 65 percent  
 Hector: 25 percent  
 Minor components: 10 percent

**Component Descriptions**

**Bolivar**

*MLRA:* 112 - Cherokee Prairies  
*Landform:* Hillslope on upland  
*Hillslope position:* Summit, backslope  
*Parent material:* Loamy residuum weathered from sandstone  
*Slope:* 2 to 6 percent  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (paralithic)  
*Drainage class:* Well drained  
*Slowest permeability:* Moderate (About 0.60 in/hr)  
*Available water capacity:* Low (About 5.3 inches)  
*Shrink-swell potential:* Moderate (About 4.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* Low  
*Ecological site:* Savannah (pe35-42)  
*Land capability (nonirrigated):* 4e

*Typical Profile:*

H1—0 to 13 inches; loam  
 H2—13 to 28 inches; sandy clay loam

H3—28 to 34 inches; channery sandy clay loam  
Cr—34 to 38 inches; unweathered bedrock

**Hector**

*MLRA:* 112 - Cherokee Prairies

*Landform:* Hillslope on upland

*Hillslope position:* Backslope

*Parent material:* Loamy residuum weathered from sandstone

*Slope:* 2 to 6 percent

*Depth to restrictive feature:* 10 to 20 inches to bedrock (lithic)

*Drainage class:* Well drained

*Slowest permeability:* Moderately rapid (About 2.00 in/hr)

*Available water capacity:* Very low (About 2.2 inches)

*Shrink-swell potential:* Low (About 1.5 LEP)

*Flooding hazard:* None

*Depth to seasonal water saturation:* More than 6 feet

*Runoff class:* Very low

*Ecological site:* Shallow Savannah (pe35-42)

*Typical Profile:*

H1—0 to 9 inches; loam

H2—9 to 18 inches; fine sandy loam

R—18 to 22 inches; unweathered bedrock

**Minor Components****Welda**

*Composition:* About 10 percent

*Geomorphic Position:* hillslope on upland

*Slope:* 2 to 5 percent

*Drainage class:* Well drained

*Ecological site:* Savannah (pe35-42)

**Bs—Bolivar-Hector loams, 6 to 12 percent slopes****Map Unit Composition**

Bolivar: 50 percent

Hector: 40 percent

Minor components: 10 percent

**Component Descriptions****Bolivar**

*MLRA:* 112 - Cherokee Prairies

*Landform:* Hillslope on upland

*Hillslope position:* Backslope

*Parent material:* Loamy residuum weathered from sandstone

*Slope:* 6 to 12 percent

*Depth to restrictive feature:* 20 to 40 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Slowest permeability:* Moderate (About 0.60 in/hr)

*Available water capacity:* Low (About 5.3 inches)

*Shrink-swell potential:* Moderate (About 4.5 LEP)

*Flooding hazard:* None

*Depth to seasonal water saturation:* More than 6 feet

*Runoff class:* Medium

*Ecological site:* Savannah (pe35-42)

*Land capability (nonirrigated):* 6e

*Typical Profile:*

H1—0 to 13 inches; loam

H2—13 to 28 inches; sandy clay loam

H3—28 to 34 inches; channery sandy clay loam

Cr—34 to 38 inches; unweathered bedrock

**Hector**

*MLRA:* 112 - Cherokee Prairies

*Landform:* Hillslope on upland

*Hillslope position:* Backslope

*Parent material:* Loamy residuum weathered from sandstone

*Slope:* 6 to 12 percent

*Depth to restrictive feature:* 10 to 20 inches to bedrock (lithic)

*Drainage class:* Well drained

*Slowest permeability:* Moderately rapid (About 2.00 in/hr)

*Available water capacity:* Very low (About 2.2 inches)

*Shrink-swell potential:* Low (About 1.5 LEP)

*Flooding hazard:* None

*Depth to seasonal water saturation:* More than 6 feet

*Runoff class:* Low

*Ecological site:* Shallow Savannah (pe35-42)

*Land capability (nonirrigated):* 7e

*Typical Profile:*

H1—0 to 9 inches; loam

H2—9 to 18 inches; loam

R—18 to 22 inches; unweathered bedrock

**Minor Components****Welda**

*Composition:* About 10 percent

*Geomorphic Position:* hillslope on upland

*Slope:* 2 to 5 percent

*Drainage class:* Well drained

*Ecological site:* Savannah (pe35-42)

## **Cm—Clareson-Eram silty clay loams, 3 to 15 percent slopes**

### **Map Unit Composition**

Clareson: 55 percent  
 Eram: 30 percent  
 Minor components: 15 percent

### **Component Descriptions**

#### **Clareson**

*MLRA:* 112 - Cherokee Prairies  
*Landform:* Hillslope on upland  
*Hillslope position:* Backslope  
*Parent material:* Silty and clayey residuum weathered from limestone  
*Slope:* 3 to 15 percent  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Slowest permeability:* Slow (About 0.06 in/hr)  
*Available water capacity:* Low (About 3.2 inches)  
*Shrink-swell potential:* High (About 7.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* Very high  
*Ecological site:* Shallow Flats (pe35-42)  
*Land capability (nonirrigated):* 6e

#### *Typical Profile:*

A—0 to 7 inches; silty clay loam  
 BA—7 to 15 inches; silty clay loam  
 Bt—15 to 26 inches; flaggy silty clay loam  
 R—26 to 30 inches; unweathered bedrock

#### **Eram**

*MLRA:* 112 - Cherokee Prairies  
*Landform:* Hillslope on upland  
*Hillslope position:* Backslope  
*Parent material:* Silty and clayey residuum weathered from shale  
*Slope:* 3 to 12 percent  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (paralithic)  
*Drainage class:* Moderately well drained  
*Slowest permeability:* Slow (About 0.06 in/hr)  
*Available water capacity:* Low (About 5.6 inches)  
*Shrink-swell potential:* High (About 7.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* About 9 to 14 inches  
*Runoff class:* Very high  
*Ecological site:* Clay Upland (pe35-42)  
*Land capability (nonirrigated):* 6e

#### *Typical Profile:*

H1—0 to 7 inches; silty clay loam  
 H2—7 to 38 inches; silty clay  
 Cr—38 to 42 inches; weathered bedrock

### **Minor Components**

#### **Bates**

*Composition:* About 10 percent  
*Geomorphic Position:* hillslope on upland  
*Slope:* 3 to 7 percent  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (paralithic)  
*Drainage class:* Well drained  
*Ecological site:* Loamy Upland (pe35-42)

#### **Rock outcrop**

*Composition:* About 5 percent  
*Geomorphic Position:* hillslope on upland

## **Dc—Dennis silt loam, 2 to 5 percent slopes**

### **Map Unit Composition**

Dennis: 90 percent  
 Minor components: 10 percent

### **Component Descriptions**

#### **Dennis**

*MLRA:* 112 - Cherokee Prairies  
*Landform:* Hillslope on upland  
*Hillslope position:* Summit, backslope  
*Parent material:* Silty and clayey residuum weathered from shale, unspecified  
*Slope:* 2 to 5 percent  
*Drainage class:* Moderately well drained  
*Slowest permeability:* Slow (About 0.06 in/hr)  
*Available water capacity:* High (About 9.3 inches)  
*Shrink-swell potential:* High (About 7.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* About 9 to 14 inches  
*Runoff class:* High  
*Ecological site:* Loamy Upland (pe35-42)  
*Land capability (nonirrigated):* 3e

#### *Typical Profile:*

H1—0 to 10 inches; silt loam  
 H2—10 to 15 inches; silty clay loam  
 H3—15 to 60 inches; silty clay

### **Minor Components**

#### **Bates**

*Composition:* About 5 percent  
*Geomorphic Position:* hillslope on upland  
*Slope:* 3 to 7 percent  
*Depth to restrictive feature:* 20 to 40 inches  
 to bedrock (paralithic)  
*Drainage class:* Well drained  
*Ecological site:* Loamy Upland (pe35-42)

#### **Woodson**

*Composition:* About 5 percent  
*Slope:* 0 to 1 percent  
*Drainage class:* Somewhat poorly drained  
*Ecological site:* Clay Upland (pe35-42)

### **Dn—Dennis-Bates complex, 2 to 6 percent slopes**

#### **Map Unit Composition**

Dennis: 60 percent  
 Bates: 30 percent  
 Minor components: 10 percent

#### **Component Descriptions**

##### **Dennis**

*MLRA:* 112 - Cherokee Prairies  
*Landform:* Hillslope on upland  
*Hillslope position:* Backslope  
*Parent material:* Silty and clayey residuum  
 weathered from shale  
*Slope:* 2 to 6 percent  
*Drainage class:* Moderately well drained  
*Slowest permeability:* Slow (About 0.06 in/hr)  
*Available water capacity:* High (About 10.6 inches)  
*Shrink-swell potential:* High (About 7.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* About 12 to 18 inches  
*Runoff class:* High  
*Ecological site:* Loamy Upland (pe35-42)  
*Land capability (nonirrigated):* 3e

##### *Typical Profile:*

H1—0 to 10 inches; silt loam  
 H2—10 to 15 inches; silty clay loam  
 H3—15 to 60 inches; silty clay

##### **Bates**

*MLRA:* 112 - Cherokee Prairies  
*Landform:* Hillslope on upland  
*Hillslope position:* Backslope  
*Parent material:* Sandy and silty residuum  
 weathered from sandstone over sandy and silty residuum

weathered from sandstone and shale  
*Slope:* 2 to 6 percent  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (paralithic)  
*Drainage class:* Well drained  
*Slowest permeability:* Moderate (About 0.60 in/hr)  
*Available water capacity:* Moderate (About 6.5 inches)  
*Shrink-swell potential:* Low (About 1.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* Low  
*Ecological site:* Loamy Upland (pe35-42)  
*Land capability (nonirrigated):* 3e

##### *Typical Profile:*

H1—0 to 19 inches; loam  
 H2—19 to 26 inches; loam  
 H3—26 to 34 inches; gravelly loam  
 Cr—34 to 38 inches; unweathered bedrock

#### **Minor Components**

##### **Eram**

*Composition:* About 5 percent  
*Geomorphic Position:* hillslope on upland  
*Slope:* 7 to 12 percent  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (paralithic)  
*Drainage class:* Moderately well drained  
*Ecological site:* Clay Upland (pe35-42)

##### **Osage**

*Composition:* About 5 percent  
*Slope:* 0 to 1 percent  
*Drainage class:* Poorly drained  
*Ecological site:* Clay Lowland (pe35-42)

### **Do—Dennis-Bates complex, 3 to 6 percent slopes, eroded**

#### **Map Unit Composition**

Dennis: 60 percent  
 Bates: 30 percent  
 Minor components: 10 percent

#### **Component Descriptions**

##### **Dennis**

*MLRA:* 112 - Cherokee Prairies  
*Landform:* Hillslope on upland  
*Hillslope position:* Backslope  
*Parent material:* Silty and clayey residuum  
 weathered from shale, unspecified

*Slope:* 3 to 6 percent  
*Drainage class:* Moderately well drained  
*Slowest permeability:* Slow (About 0.06 in/hr)  
*Available water capacity:* High (About 10.6 inches)  
*Shrink-swell potential:* High (About 7.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* About 12 to 18 inches  
*Runoff class:* High  
*Ecological site:* Loamy Upland (pe35-42)  
*Land capability (nonirrigated):* 4e

*Typical Profile:*

H1—0 to 6 inches; silt loam  
 H2—6 to 15 inches; silty clay loam  
 H3—15 to 60 inches; silty clay

**Bates**

*MLRA:* 112 - Cherokee Prairies  
*Landform:* Hillslope on upland  
*Hillslope position:* Backslope  
*Parent material:* Sandy and silty residuum weathered from sandstone, unspecified over sandy and silty residuum weathered from sandstone-shale  
*Slope:* 3 to 6 percent  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (paralithic)  
*Drainage class:* Well drained  
*Slowest permeability:* Moderate (About 0.60 in/hr)  
*Available water capacity:* Low (About 5.1 inches)  
*Shrink-swell potential:* Moderate (About 4.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* Medium  
*Ecological site:* Loamy Upland (pe35-42)  
*Land capability (nonirrigated):* 4e

*Typical Profile:*

H1—0 to 6 inches; clay loam  
 H2—6 to 26 inches; clay loam  
 H3—26 to 30 inches; clay loam  
 Cr—30 to 34 inches; unweathered bedrock

**Minor Components**

**Eram**

*Composition:* About 10 percent  
*Geomorphic Position:* hillslope on upland  
*Slope:* 7 to 12 percent  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (paralithic)  
*Drainage class:* Moderately well drained  
*Ecological site:* Clay Upland (pe35-42)

**Ea—Eram-Lebo silty clay loams, 7 to 12 percent slopes**

**Map Unit Composition**

Eram: 55 percent  
 Lebo: 35 percent  
 Minor components: 10 percent

**Component Descriptions**

**Eram**

*MLRA:* 112 - Cherokee Prairies  
*Landform:* Hillslope on upland  
*Hillslope position:* Backslope  
*Parent material:* Silty and clayey residuum weathered from shale  
*Slope:* 7 to 12 percent  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (paralithic)  
*Drainage class:* Moderately well drained  
*Slowest permeability:* Slow (About 0.06 in/hr)  
*Available water capacity:* Low (About 5.6 inches)  
*Shrink-swell potential:* High (About 7.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* About 9 to 14 inches  
*Runoff class:* Very high  
*Ecological site:* Clay Upland (pe35-42)  
*Land capability (nonirrigated):* 6e

*Typical Profile:*

H1—0 to 7 inches; silty clay loam  
 H2—7 to 38 inches; silty clay  
 Cr—38 to 42 inches; weathered bedrock

**Lebo**

*MLRA:* 112 - Cherokee Prairies  
*Landform:* Hillslope on upland  
*Hillslope position:* Backslope  
*Parent material:* Loamy residuum weathered from sandstone and shale  
*Slope:* 8 to 12 percent  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (paralithic)  
*Drainage class:* Well drained  
*Slowest permeability:* Moderate (About 0.60 in/hr)  
*Available water capacity:* Low (About 5.5 inches)  
*Shrink-swell potential:* Moderate (About 4.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* Medium

*Ecological site:* Loamy Upland (pe35-42)

*Land capability (nonirrigated):* 6e

**Typical Profile:**

H1—0 to 14 inches; silty clay loam  
H2—14 to 28 inches; very channery silty clay loam  
Cr—28 to 36 inches; weathered bedrock

**Minor Components**

**Clareson**

*Composition:* About 5 percent  
*Geomorphic Position:* hillslope on upland  
*Slope:* 3 to 15 percent  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Ecological site:* Shallow Flats (pe35-42)

**Dennis**

*Composition:* About 5 percent  
*Geomorphic Position:* hillslope on upland  
*Slope:* 2 to 6 percent  
*Drainage class:* Moderately well drained  
*Ecological site:* Loamy Upland (pe35-42)

**Ec—Eram-Lula complex, 3 to 7 percent slopes**

**Map Unit Composition**

Eram: 60 percent

Lula: 25 percent

Minor components: 15 percent

**Component Descriptions**

**Eram**

*MLRA:* 112 - Cherokee Prairies  
*Landform:* Hillslope on upland  
*Hillslope position:* Backslope  
*Parent material:* Silty and clayey residuum weathered from shale  
*Slope:* 3 to 7 percent  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (paralithic)  
*Drainage class:* Moderately well drained  
*Slowest permeability:* Slow (About 0.06 in/hr)  
*Available water capacity:* Low (About 5.6 inches)  
*Shrink-swell potential:* High (About 7.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* About 9 to 14 inches  
*Runoff class:* High  
*Ecological site:* Clay Upland (pe35-42)  
*Land capability (nonirrigated):* 4e

**Typical Profile:**

H1—0 to 7 inches; silty clay loam  
H2—7 to 38 inches; silty clay  
Cr—38 to 42 inches; weathered bedrock

**Lula**

*MLRA:* 112 - Cherokee Prairies  
*Landform:* Hillslope on upland  
*Hillslope position:* Summit, backslope  
*Parent material:* Fine-silty residuum weathered from limestone  
*Slope:* 3 to 5 percent  
*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Slowest permeability:* Moderate (About 0.60 in/hr)  
*Available water capacity:* Moderate (About 7.9 inches)  
*Shrink-swell potential:* High (About 7.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* High  
*Ecological site:* Loamy Upland (pe35-42)  
*Land capability (nonirrigated):* 3e

**Typical Profile:**

H1—0 to 7 inches; silt loam  
H2—7 to 12 inches; silty clay loam  
H3—12 to 44 inches; silty clay loam  
R—44 to 52 inches; unweathered bedrock

**Minor Components**

**Bates**

*Composition:* About 5 percent  
*Geomorphic Position:* hillslope on upland  
*Slope:* 3 to 7 percent  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (paralithic)  
*Drainage class:* Well drained  
*Ecological site:* Loamy Upland (pe35-42)

**Kenoma**

*Composition:* About 5 percent  
*Geomorphic Position:* hillslope on upland  
*Slope:* 1 to 4 percent  
*Drainage class:* Moderately well drained  
*Ecological site:* Clay Upland (pe35-42)

**Olpe**

*Composition:* About 5 percent  
*Geomorphic Position:* paleoterrace on upland  
*Slope:* 1 to 5 percent  
*Drainage class:* Well drained  
*Ecological site:* Loamy Upland (pe35-42)



**INT—Aquolls****Map Unit Composition**

Aquolls: 100 percent

**Component Descriptions****Aquolls**

*MLRA:* 112 - Cherokee Prairies

*Landform:* Depression on terrace on river valley

*Parent material:* Alluvium

*Slope:* 0 to 1 percent

*Drainage class:* Very poorly drained

*Flooding hazard:* None

*Ponding hazard:* Occasional

*Depth to seasonal water saturation:* About 0 to 0 inches

*Runoff class:* Negligible

*Land capability (nonirrigated):* 5w

**Typical Profile:**

H1—0 to 72 inches; variable

*General Considerations:* This map unit was formerly labeled as an Intermittent Water spot symbol. These depressional areas contain soils that are occasionally ponded for long duration.

*Flooding hazard:* None

*Depth to seasonal water saturation:* More than 6 feet

*Runoff class:* Very high

*Ecological site:* Clay Upland (pe35-42)

*Land capability (nonirrigated):* 3e

**Typical Profile:**

H1—0 to 11 inches; silt loam

H2—11 to 34 inches; silty clay

H3—34 to 60 inches; silty clay

**Minor Components****Olpe**

*Composition:* About 5 percent

*Geomorphic Position:* paleoterrace on upland

*Slope:* 1 to 5 percent

*Drainage class:* Well drained

*Ecological site:* Loamy Upland (pe35-42)

**Lula**

*Composition:* About 5 percent

*Geomorphic Position:* hillslope on upland

*Slope:* 1 to 3 percent

*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)

*Drainage class:* Well drained

*Ecological site:* Loamy Upland (pe35-42)

**Le—Leanna silt loam, occasionally flooded****Map Unit Composition**

Leanna: 90 percent

Minor components: 10 percent

**Component Descriptions****Leanna**

*MLRA:* 112 - Cherokee Prairies

*Landform:* Flood plain on river valley

*Parent material:* Silty and clayey alluvium

*Slope:* 0 to 1 percent

*Drainage class:* Somewhat poorly drained

*Slowest permeability:* Very slow (About 0.00 in/hr)

*Available water capacity:* High (About 10.2 inches)

*Shrink-swell potential:* High (About 7.5 LEP)

*Flooding hazard:* Occasional

*Depth to seasonal water saturation:* About 6 to 24 inches

*Runoff class:* High

*Ecological site:* Clay Lowland (pe35-42)

**Ke—Kenoma silt loam, 1 to 4 percent slopes****Map Unit Composition**

Kenoma: 90 percent

Minor components: 10 percent

**Component Descriptions****Kenoma**

*MLRA:* 112 - Cherokee Prairies

*Landform:* Hillslope on upland

*Parent material:* Silty and clayey residuum weathered from limestone-shale

*Slope:* 1 to 4 percent

*Drainage class:* Moderately well drained

*Slowest permeability:* Very slow (About 0.00 in/hr)

*Available water capacity:* High (About 10.3 inches)

*Shrink-swell potential:* High (About 7.5 LEP)

*Land capability (nonirrigated):* 2w

*Typical Profile:*

H1—0 to 16 inches; silt loam  
H2—16 to 52 inches; silty clay  
H3—52 to 60 inches; silty clay loam

**Minor Components**

**Osage**

*Composition:* About 5 percent  
*Slope:* 0 to 1 percent  
*Drainage class:* Poorly drained  
*Ecological site:* Clay Lowland (pe35-42)

**Hepler**

*Composition:* About 5 percent  
*Slope:* 0 to 1 percent  
*Drainage class:* Somewhat poorly drained  
*Ecological site:* Loamy Lowland (pe35-42)

**Ln—Lebo-Rock outcrop complex,  
20 to 40 percent slopes**

**Map Unit Composition**

Lebo: 75 percent  
Rock outcrop: 15 percent  
Minor components: 10 percent

**Component Descriptions**

**Lebo**

*MLRA:* 112 - Cherokee Prairies  
*Landform:* Hillslope on upland  
*Hillslope position:* Backslope  
*Parent material:* Residuum weathered from shale-sandstone  
*Slope:* 20 to 40 percent  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (paralithic)  
*Drainage class:* Well drained  
*Slowest permeability:* Moderate (About 0.60 in/hr)  
*Available water capacity:* Low (About 3.4 inches)  
*Shrink-swell potential:* Moderate (About 4.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* High  
*Ecological site:* Loamy Upland (pe35-42)  
*Land capability (nonirrigated):* 7e

*Typical Profile:*

H1—0 to 7 inches; stony silty clay loam  
H2—7 to 14 inches; channery silty clay loam

H3—14 to 28 inches; very channery silty clay loam

Cr—28 to 36 inches; weathered bedrock

**Rock outcrop**

*MLRA:* 112 - Cherokee Prairies  
*Landform:* Ridge on upland  
*Hillslope position:* Summit  
*Parent material:* Limestone  
*Drainage class:* Well drained  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* Very high  
*Land capability (nonirrigated):* 8e

**Minor Components**

**Clareson**

*Composition:* About 10 percent  
*Geomorphic Position:* hillslope on upland  
*Slope:* 3 to 15 percent  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Ecological site:* Shallow Flats (pe35-42)

**Lo—Lula silt loam, 0 to 2 percent slopes**

**Map Unit Composition**

Lula: 90 percent  
Minor components: 10 percent

**Component Descriptions**

**Lula**

*MLRA:* 112 - Cherokee Prairies  
*Landform:* Hillslope on upland  
*Hillslope position:* Summit  
*Parent material:* Fine-silty residuum weathered from limestone  
*Slope:* 0 to 2 percent  
*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Slowest permeability:* Moderate (About 0.60 in/hr)  
*Available water capacity:* High (About 10.3 inches)  
*Shrink-swell potential:* Moderate (About 4.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* Low

*Ecological site:* Loamy Upland (pe35-42)

*Land capability (nonirrigated):* 2e

**Typical Profile:**

H1—0 to 9 inches; silt loam  
H2—9 to 18 inches; silty clay loam  
H3—18 to 57 inches; silty clay loam  
R—57 to 65 inches; unweathered bedrock

**Minor Components**

**Clareson**

*Composition:* About 5 percent  
*Slope:* 1 to 8 percent  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Ecological site:* Shallow Flats (pe35-42)

**Kenoma**

*Composition:* About 5 percent  
*Slope:* 1 to 2 percent  
*Drainage class:* Moderately well drained  
*Ecological site:* Clay Upland (pe35-42)

**LU—Lula silt loam, 1 to 3 percent slopes**

**Map Unit Composition**

Lula: 85 percent

Minor components: 15 percent

**Component Descriptions**

**Lula**

*MLRA:* 112 - Cherokee Prairies  
*Landform:* Hillslope on upland  
*Hillslope position:* Summit  
*Parent material:* Residuum weathered from limestone  
*Slope:* 1 to 3 percent  
*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Slowest permeability:* Moderate (About 0.60 in/hr)  
*Available water capacity:* Moderate (About 7.9 inches)  
*Shrink-swell potential:* Moderate (About 4.5 LEP)  
*Flooding hazard:* None  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* High  
*Ecological site:* Loamy Upland (pe35-42)  
*Land capability (nonirrigated):* 2e

**Typical Profile:**

A—0 to 8 inches; silt loam  
AB—8 to 14 inches; silty clay loam  
Bt—14 to 44 inches; silty clay loam  
R—44 to 52 inches; unweathered bedrock

**Minor Components**

**Eram**

*Composition:* About 5 percent  
*Slope:* 3 to 7 percent  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (paralithic)  
*Drainage class:* Moderately well drained  
*Ecological site:* Clay Upland (pe35-42)

**Kenoma**

*Composition:* About 5 percent  
*Slope:* 1 to 4 percent  
*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)  
*Drainage class:* Moderately well drained  
*Ecological site:* Clay Upland (pe35-42)

**Dwight**

*Composition:* About 5 percent  
*Slope:* 0 to 3 percent  
*Drainage class:* Moderately well drained  
*Ecological site:* Clay Pan (pe35-42)

**M-W—Miscellaneous Water**

**Mb—Mason silt loam, 0 to 2 percent slopes, rarely flooded**

**Map Unit Composition**

Mason: 90 percent

Minor components: 10 percent

**Component Descriptions**

**Mason**

*MLRA:* 112 - Cherokee Prairies  
*Landform:* Stream terrace on river valley  
*Parent material:* Fine-silty alluvium  
*Slope:* 0 to 1 percent  
*Drainage class:* Well drained  
*Slowest permeability:* Moderately slow (About 0.20 in/hr)  
*Available water capacity:* High (About 10.6 inches)  
*Shrink-swell potential:* Moderate (About 4.5 LEP)  
*Flooding hazard:* Rare

*Depth to seasonal water saturation:* More than 6 feet

*Runoff class:* Low

*Ecological site:* Loamy Lowland (pe35-42)

*Land capability (nonirrigated):* 1

*Typical Profile:*

H1—0 to 7 inches; silt loam

H2—7 to 60 inches; silty clay loam

### Minor Components

#### Welda

*Composition:* About 5 percent

*Geomorphic Position:* hillslope on upland

*Slope:* 2 to 5 percent

*Drainage class:* Well drained

*Ecological site:* Savannah (pe35-42)

#### Osage

*Composition:* About 5 percent

*Slope:* 0 to 2 percent

*Drainage class:* Poorly drained

*Ecological site:* Loamy Lowland (pe35-42)

## Oe—Olpe-Kenoma complex, 1 to 5 percent slopes

### Map Unit Composition

Olpe: 55 percent

Kenoma: 30 percent

Minor components: 15 percent

### Component Descriptions

#### Olpe

*MLRA:* 112 - Cherokee Prairies

*Landform:* Paleoterrace on upland

*Parent material:* Clayey alluvium

*Slope:* 1 to 5 percent

*Drainage class:* Well drained

*Slowest permeability:* Slow (About 0.06 in/hr)

*Available water capacity:* Low (About 3.2 inches)

*Shrink-swell potential:* Moderate (About 4.5 LEP)

*Flooding hazard:* None

*Depth to seasonal water saturation:* More than 6 feet

*Runoff class:* High

*Ecological site:* Loamy Upland (pe35-42)

*Land capability (nonirrigated):* 4e

*Typical Profile:*

A—0 to 7 inches; silty clay loam

B—7 to 50 inches; extremely gravelly silty clay loam

B—50 to 60 inches; silty clay

#### Kenoma

*MLRA:* 112 - Cherokee Prairies

*Landform:* Hillslope on upland

*Parent material:* Silty and clayey residuum weathered from limestone-shale

*Slope:* 1 to 4 percent

*Drainage class:* Moderately well drained

*Slowest permeability:* Very slow (About 0.00 in/hr)

*Available water capacity:* Moderate (About 8.7 inches)

*Shrink-swell potential:* High (About 7.5 LEP)

*Flooding hazard:* None

*Depth to seasonal water saturation:* About 9 to 14 inches

*Runoff class:* Very high

*Ecological site:* Clay Upland (pe35-42)

*Land capability (nonirrigated):* 3e

*Typical Profile:*

Ap—0 to 4 inches; silt loam

A—4 to 10 inches; silt loam

Bt1—10 to 18 inches; silty clay

Bt2—18 to 27 inches; silty clay

Bt3—27 to 41 inches; silty clay

Bt4—41 to 59 inches; silty clay

Bt5—59 to 73 inches; silty clay loam

### Minor Components

#### Bates

*Composition:* About 7 percent

*Slope:* 3 to 7 percent

*Depth to restrictive feature:* 20 to 40 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Ecological site:* Loamy Upland (pe35-42)

#### Eram

*Composition:* About 5 percent

*Geomorphic Position:* hillslope on upland

*Slope:* 3 to 12 percent

*Depth to restrictive feature:* 20 to 40 inches to bedrock (paralithic)

*Drainage class:* Moderately well drained

*Ecological site:* Clay Upland (pe35-42)

#### Lula

*Composition:* About 3 percent

*Slope:* 1 to 3 percent

*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)

*Drainage class:* Well drained

*Ecological site:* Loamy Upland (pe35-42)

## **Os—Osage silty clay loam, 0 to 2 percent slopes, occasionally flooded**

### **Map Unit Composition**

Osage: 85 percent  
Minor components: 15 percent

### **Component Descriptions**

#### **Osage**

*MLRA:* 112 - Cherokee Prairies  
*Landform:* Flood plain on river valley  
*Parent material:* Clayey alluvium  
*Slope:* 0 to 2 percent  
*Drainage class:* Poorly drained  
*Slowest permeability:* Very slow (About 0.00 in/hr)  
*Available water capacity:* Moderate (About 7.6 inches)  
*Shrink-swell potential:* Very high (About 17.0 LEP)  
*Flooding hazard:* Occasional  
*Depth to seasonal water saturation:* About 0 to 12 inches  
*Runoff class:* High  
*Ecological site:* Loamy Lowland (pe35-42)  
*Land capability (nonirrigated):* 2w

#### *Typical Profile:*

H1—0 to 14 inches; silty clay loam  
H2—14 to 60 inches; silty clay

### **Minor Components**

#### **Mason**

*Composition:* About 5 percent  
*Slope:* 0 to 1 percent  
*Drainage class:* Well drained  
*Ecological site:* Loamy Lowland (pe35-42)

#### **Leanna**

*Phase:* Drained  
*Composition:* About 5 percent  
*Slope:* 0 to 2 percent  
*Drainage class:* Somewhat poorly drained  
*Ecological site:* Loamy Lowland (pe35-42)

#### **Verdigris**

*Composition:* About 5 percent  
*Slope:* 0 to 2 percent  
*Drainage class:* Well drained  
*Ecological site:* Loamy Lowland (pe35-42)

## **Ov—Osage silty clay, occasionally flooded**

### **Map Unit Composition**

Osage: 90 percent  
Minor components: 10 percent

### **Component Descriptions**

#### **Osage**

*MLRA:* 112 - Cherokee Prairies  
*Landform:* Flood plain on river valley  
*Parent material:* Clayey alluvium  
*Slope:* 0 to 1 percent  
*Drainage class:* Poorly drained  
*Slowest permeability:* Very slow (About 0.00 in/hr)  
*Available water capacity:* Moderate (About 6.4 inches)  
*Shrink-swell potential:* Very high (About 17.0 LEP)  
*Flooding hazard:* Occasional  
*Ponding hazard:* Occasional  
*Depth to seasonal water saturation:* About 2 to 9 inches  
*Runoff class:* Very high  
*Ecological site:* Clay Lowland (pe35-42)  
*Land capability (nonirrigated):* 3w

#### *Typical Profile:*

H1—0 to 17 inches; silty clay  
H2—17 to 60 inches; silty clay

### **Minor Components**

#### **Verdigris**

*Composition:* About 10 percent  
*Slope:* 0 to 2 percent  
*Drainage class:* Well drained  
*Ecological site:* Loamy Lowland (pe35-42)

## **Pt—Pits, Quarries**

*General Considerations:* Pits are open excavations from which soil and commonly underlying material have been removed, exposing either rock or other material. Kinds include Pits, mine; Pits, gravel; and Pits, quarry. Commonly, pits are closely associated with Dumps.

## **Sn—Summit silty clay loam, 1 to 3 percent slopes**

### **Map Unit Composition**

Summit: 100 percent

### **Component Descriptions**

#### **Summit**

*MLRA:* 112 - Cherokee Prairies

*Landform:* Hillslope on upland

*Hillslope position:* Footslope

*Parent material:* Silty and clayey residuum weathered from shale, calcareous

*Slope:* 1 to 3 percent

*Drainage class:* Moderately well drained

*Slowest permeability:* Slow (About 0.06 in/hr)

*Available water capacity:* Moderate (About 8.5 inches)

*Shrink-swell potential:* High (About 7.5 LEP)

*Flooding hazard:* None

*Depth to seasonal water saturation:* About 24 to 36 inches

*Runoff class:* High

*Ecological site:* Loamy Upland (pe35-42)

*Land capability (nonirrigated):* 2e

#### *Typical Profile:*

H1—0 to 6 inches; silty clay loam

H2—6 to 14 inches; silty clay loam

H3—14 to 57 inches; silty clay

H4—57 to 60 inches; silty clay loam

*Available water capacity:* Moderate (About 8.6 inches)

*Shrink-swell potential:* High (About 7.5 LEP)

*Flooding hazard:* None

*Depth to seasonal water saturation:* About 21 to 26 inches

*Runoff class:* High

*Ecological site:* Loamy Upland (pe35-42)

*Land capability (nonirrigated):* 3e

#### *Typical Profile:*

A—0 to 8 inches; silty clay loam

AB—8 to 13 inches; silty clay loam

Bt—13 to 60 inches; silty clay

### **Minor Components**

#### **Clareson**

*Composition:* About 5 percent

*Slope:* 3 to 15 percent

*Depth to restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Well drained

*Ecological site:* Shallow Flats (pe35-42)

#### **Lebo**

*Composition:* About 3 percent

*Geomorphic Position:* hillslope on upland

*Slope:* 8 to 12 percent

*Depth to restrictive feature:* 20 to 40 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Ecological site:* Loamy Upland (pe35-42)

#### **Lula**

*Composition:* About 2 percent

*Slope:* 3 to 5 percent

*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)

*Drainage class:* Well drained

*Ecological site:* Loamy Upland (pe35-42)

## **So—Summit silty clay loam, 3 to 7 percent slopes**

### **Map Unit Composition**

Summit: 90 percent

Minor components: 10 percent

### **Component Descriptions**

#### **Summit**

*MLRA:* 112 - Cherokee Prairies

*Landform:* Hillslope on upland

*Hillslope position:* Backslope

*Parent material:* Silty and clayey residuum weathered from calcareous shale

*Slope:* 3 to 7 percent

*Drainage class:* Moderately well drained

*Slowest permeability:* Slow (About 0.06 in/hr)

## **Vb—Verdigris silt loam, 0 to 2 percent slopes, occasionally flooded**

### **Map Unit Composition**

Verdigris: 85 percent

Minor components: 15 percent

### **Component Descriptions**

#### **Verdigris**

*MLRA:* 112 - Cherokee Prairies

*Landform:* Flood plain on river valley

*Parent material:* Fine-silty alluvium

*Slope:* 0 to 2 percent

*Drainage class:* Well drained  
*Slowest permeability:* Moderate (About 0.60 in/hr)  
*Available water capacity:* Very high (About 12.1 inches)  
*Shrink-swell potential:* Moderate (About 4.5 LEP)  
*Flooding hazard:* Occasional  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* Low  
*Ecological site:* Loamy Lowland (pe35-42)  
*Land capability (nonirrigated):* 2w

*Typical Profile:*

H1—0 to 16 inches; silt loam  
 H2—16 to 60 inches;

**Minor Components**

**Mason**

*Composition:* About 5 percent  
*Slope:* 0 to 1 percent  
*Drainage class:* Well drained  
*Ecological site:* Loamy Lowland (pe35-42)

**Osage**

*Composition:* About 5 percent  
*Slope:* 0 to 2 percent  
*Drainage class:* Poorly drained  
*Ecological site:* Loamy Lowland (pe35-42)

**Leanna**

*Phase:* Drained  
*Composition:* About 5 percent  
*Slope:* 0 to 2 percent  
*Drainage class:* Somewhat poorly drained  
*Ecological site:* Loamy Lowland (pe35-42)

**Vc—Verdigris silt loam, channeled**

**Map Unit Composition**

Verdigris: 88 percent  
 Minor components: 12 percent

**Component Descriptions**

**Verdigris**

*MLRA:* 112 - Cherokee Prairies  
*Landform:* Flood plain on valley  
*Parent material:* Silty alluvium  
*Slope:* 0 to 2 percent  
*Drainage class:* Well drained  
*Slowest permeability:* Moderate (About 0.60 in/hr)

*Available water capacity:* High (About 12.0 inches)  
*Shrink-swell potential:* Moderate (About 4.5 LEP)  
*Flooding hazard:* Frequent  
*Depth to seasonal water saturation:* More than 6 feet  
*Runoff class:* Low  
*Ecological site:* Loamy Lowland (pe35-42)  
*Land capability (nonirrigated):* 5w

*Typical Profile:*

A—0 to 7 inches; silt loam  
 Bw—7 to 60 inches; silt loam

**Minor Components**

**Bates**

*Composition:* About 3 percent  
*Slope:* 3 to 7 percent  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (paralithic)  
*Drainage class:* Well drained  
*Ecological site:* Loamy Upland (pe35-42)

**Eram**

*Composition:* About 3 percent  
*Geomorphic Position:* hillside on upland  
*Slope:* 3 to 7 percent  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (paralithic)  
*Drainage class:* Moderately well drained  
*Ecological site:* Clay Upland (pe35-42)

**Osage**

*Composition:* About 3 percent  
*Slope:* 0 to 1 percent  
*Drainage class:* Poorly drained  
*Ecological site:* Clay Lowland (pe35-42)

**Rock outcrop**

*Composition:* About 3 percent  
*Slope:* 20 to 40 percent  
*Depth to restrictive feature:* 0 inches to bedrock (lithic)

**W—Water**

**Wb—Welda silt loam, 2 to 6 percent slopes**

**Map Unit Composition**

Welda: 90 percent  
 Minor components: 10 percent

## Component Descriptions

### Welda

*MLRA:* 112 - Cherokee Prairies

*Landform:* Hillslope on upland

*Parent material:* Fine-silty loess

*Slope:* 2 to 6 percent

*Drainage class:* Well drained

*Slowest permeability:* Moderately slow (About 0.20 in/hr)

*Available water capacity:* High (About 11.0 inches)

*Shrink-swell potential:* Moderate (About 4.5 LEP)

*Flooding hazard:* None

*Depth to seasonal water saturation:* More than 6 feet

*Runoff class:* Medium

*Ecological site:* Savannah (pe35-42)

*Land capability (nonirrigated):* 2e

#### Typical Profile:

H1—0 to 11 inches; silt loam

H2—11 to 50 inches; silty clay

H3—50 to 60 inches; silty clay loam

### Minor Components

#### Bolivar

*Composition:* About 5 percent

*Geomorphic Position:* hillslope on upland

*Slope:* 2 to 6 percent

*Depth to restrictive feature:* 20 to 40 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Ecological site:* Savannah (pe35-42)

#### Mason

*Composition:* About 5 percent

*Slope:* 0 to 1 percent

*Drainage class:* Well drained

*Ecological site:* Loamy Lowland (pe35-42)

## Wo—Woodson silt loam, 0 to 1 percent slopes

### Map Unit Composition

Woodson: 90 percent

Minor components: 10 percent

## Component Descriptions

### Woodson

*MLRA:* 112 - Cherokee Prairies

*Landform:* Divide on upland

*Parent material:* Silty and clayey alluvium over silty and clayey residuum weathered from clayey

shale

*Slope:* 0 to 1 percent

*Drainage class:* Somewhat poorly drained

*Slowest permeability:* Very slow (About 0.00 in/hr)

*Available water capacity:* Moderate (About 8.8 inches)

*Shrink-swell potential:* High (About 7.5 LEP)

*Flooding hazard:* None

*Depth to seasonal water saturation:* About 6 to 24 inches

*Runoff class:* High

*Ecological site:* Clay Upland (pe35-42)

*Land capability (nonirrigated):* 2s

#### Typical Profile:

H1—0 to 8 inches; silt loam

H2—8 to 43 inches; silty clay

H3—43 to 60 inches; silty clay

### Minor Components

#### Zaar

*Composition:* About 10 percent

*Slope:* 0 to 1 percent

*Drainage class:* Somewhat poorly drained

*Ecological site:* Clay Upland (pe35-42)

## Wt—Woodson silt loam, 1 to 3 percent slopes

### Map Unit Composition

Woodson: 100 percent

## Component Descriptions

### Woodson

*MLRA:* 112 - Cherokee Prairies

*Landform:* Divide on upland

*Parent material:* Silty and clayey alluvium over silty and clayey residuum weathered from shale,

clayey

*Slope:* 1 to 2 percent

*Drainage class:* Somewhat poorly drained

*Slowest permeability:* Very slow (About 0.00 in/hr)

*Available water capacity:* Moderate (About 8.7 inches)

*Shrink-swell potential:* High (About 7.5 LEP)

*Flooding hazard:* None

*Depth to seasonal water saturation:* About 6 to 24 inches



*Runoff class:* Very high

*Ecological site:* Clay Upland (pe35-42)

*Land capability (nonirrigated):* 3e

*Typical Profile:*

H1—0 to 7 inches; silt loam

H2—7 to 43 inches; silty clay, clay

H3—43 to 60 inches; silty clay