



United States
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NRCS

Natural
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Conservation
Service

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participants

Custom Soil Resource Report for **Rice County, Kansas**



February 27, 2024

Custom Soil Resource Report Soil Map



Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
3561	Hobbs silt loam, occasionally flooded	29.5	9.6%
3801	Crete silt loam, 1 to 3 percent slopes, loess plains and breaks	221.0	71.9%
3829	Crete silty clay loam, 1 to 3 percent slopes, eroded	37.4	12.2%
3921	Smolan silty clay loam, 1 to 3 percent slopes	19.6	6.4%
Totals for Area of Interest		307.4	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

Rice County, Kansas

3561—Hobbs silt loam, occasionally flooded

Map Unit Setting

National map unit symbol: 2wtv4
Elevation: 1,310 to 1,640 feet
Mean annual precipitation: 27 to 34 inches
Mean annual air temperature: 54 to 57 degrees F
Frost-free period: 165 to 200 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Hobbs, occasionally flooded, and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hobbs, Occasionally Flooded

Setting

Landform: Drainageways
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

A - 0 to 7 inches: silt loam
C1 - 7 to 24 inches: silt loam
C2 - 24 to 39 inches: silt loam
C3 - 39 to 79 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Calcium carbonate, maximum content: 2 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very high (about 13.2 inches)

Interpretive groups

Land capability classification (irrigated): 2w
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B
Ecological site: R074XY113KS - Loamy Floodplain
Hydric soil rating: No

Minor Components

Sutphen, occasionally flooded

Percent of map unit: 3 percent

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Landform: Flood plains
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: R074XY104KS - Clay Lowland
Hydric soil rating: No

Muir, very rarely flooded

Percent of map unit: 3 percent
Landform: Stream terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R074XY114KS - Loamy Terrace
Hydric soil rating: No

Detroit, very rarely flooded

Percent of map unit: 3 percent
Landform: Stream terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R074XY114KS - Loamy Terrace
Hydric soil rating: No

Geary

Percent of map unit: 3 percent
Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R074XY115KS - Loamy Hills
Hydric soil rating: No

Tobin, occasionally flooded

Percent of map unit: 2 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R074XY113KS - Loamy Floodplain
Hydric soil rating: No

Aquolls, occasionally ponded

Percent of map unit: 1 percent
Landform: Depressions on flood plains
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Ecological site: R074XY132KS - Subirrigated
Hydric soil rating: Yes

3801—Crete silt loam, 1 to 3 percent slopes, loess plains and breaks

Map Unit Setting

National map unit symbol: 2r9c7
Elevation: 1,310 to 1,640 feet
Mean annual precipitation: 27 to 34 inches
Mean annual air temperature: 52 to 57 degrees F
Frost-free period: 165 to 200 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Crete and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Crete

Setting

Landform: Interfluves
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loess

Typical profile

Ap - 0 to 6 inches: silt loam
BA - 6 to 12 inches: silty clay loam
Bt1 - 12 to 23 inches: silty clay
Bt2 - 23 to 31 inches: silty clay
Bk - 31 to 39 inches: silty clay loam
C - 39 to 79 inches: silty clay loam

Properties and qualities

Slope: 1 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 10.6 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 2e

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Hydrologic Soil Group: C
Ecological site: R074XY107KS - Clay Hills
Hydric soil rating: No

Minor Components

Geary

Percent of map unit: 4 percent
Landform: Interfluves
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: R074XY115KS - Loamy Hills
Hydric soil rating: No

Hobbs, occasionally flooded

Percent of map unit: 3 percent
Landform: Drainageways
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: R074XY113KS - Loamy Floodplain
Hydric soil rating: No

Hastings

Percent of map unit: 1 percent
Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: R074XY115KS - Loamy Hills
Hydric soil rating: No

Butler

Percent of map unit: 1 percent
Landform: Swales
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: R074XY107KS - Clay Hills
Hydric soil rating: No

Aquolls, occasionally ponded

Percent of map unit: 1 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R074XY132KS - Subirrigated
Hydric soil rating: Yes

3829—Crete silty clay loam, 1 to 3 percent slopes, eroded

Map Unit Setting

National map unit symbol: 2r9cp
Elevation: 1,310 to 1,640 feet
Mean annual precipitation: 27 to 34 inches
Mean annual air temperature: 52 to 57 degrees F
Frost-free period: 165 to 200 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Crete, eroded, and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Crete, Eroded

Setting

Landform: Interfluves
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loess

Typical profile

Ap - 0 to 8 inches: silty clay loam
Bt1 - 8 to 18 inches: silty clay
Bt2 - 18 to 28 inches: silty clay
Bk - 28 to 37 inches: silty clay loam
C - 37 to 79 inches: silty clay loam

Properties and qualities

Slope: 1 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 10.5 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C

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Ecological site: R074XY107KS - Clay Hills

Hydric soil rating: No

Minor Components

Geary

Percent of map unit: 4 percent

Landform: Interfluves

Landform position (two-dimensional): Shoulder

Landform position (three-dimensional): Side slope

Down-slope shape: Convex

Across-slope shape: Linear

Ecological site: R074XY115KS - Loamy Hills

Hydric soil rating: No

Hobbs, occasionally flooded

Percent of map unit: 2 percent

Landform: Drainageways

Down-slope shape: Concave

Across-slope shape: Linear

Ecological site: R074XY113KS - Loamy Floodplain

Hydric soil rating: No

Longford

Percent of map unit: 2 percent

Landform: Interfluves.

Landform position (two-dimensional): Shoulder

Landform position (three-dimensional): Interfluve

Down-slope shape: Convex

Across-slope shape: Linear

Ecological site: R074XY115KS - Loamy Hills

Hydric soil rating: No

Aquolls, occasionally ponded

Percent of map unit: 1 percent

Landform: Depressions

Down-slope shape: Concave

Across-slope shape: Concave

Ecological site: R074XY132KS - Subirrigated

Hydric soil rating: Yes

Lancaster

Percent of map unit: 1 percent

Landform: Hillslopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Convex

Across-slope shape: Linear

Ecological site: R074XY115KS - Loamy Hills

Hydric soil rating: No

3921—Smolan silty clay loam, 1 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2tpwr
Elevation: 1,310 to 1,640 feet
Mean annual precipitation: 27 to 34 inches
Mean annual air temperature: 54 to 57 degrees F
Frost-free period: 165 to 200 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Smolan and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Smolan

Setting

Landform: Paleoterraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loess

Typical profile

Ap - 0 to 7 inches: silty clay loam
A - 7 to 12 inches: silty clay loam
BA - 12 to 16 inches: silty clay loam
Bt1 - 16 to 28 inches: silty clay
Bt2 - 28 to 37 inches: silty clay loam
BC - 37 to 53 inches: silty clay loam
C - 53 to 79 inches: silty clay loam

Properties and qualities

Slope: 1 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 2 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 11.1 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C

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Ecological site: R076XY115KS - Loamy Hills

Hydric soil rating: No

Minor Components

Geary

Percent of map unit: 5 percent

Landform: Hillslopes

Landform position (two-dimensional): Shoulder

Landform position (three-dimensional): Side slope

Down-slope shape: Convex

Across-slope shape: Linear

Ecological site: R074XY115KS - Loamy Hills

Hydric soil rating: No

Longford

Percent of map unit: 4 percent

Landform: Interfluves

Landform position (two-dimensional): Shoulder

Landform position (three-dimensional): Interfluve

Down-slope shape: Convex

Across-slope shape: Linear

Ecological site: R074XY115KS - Loamy Hills

Hydric soil rating: No

Edalgo

Percent of map unit: 2 percent

Landform: Hillslopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Linear

Across-slope shape: Linear

Ecological site: R074XY107KS - Clay Hills

Hydric soil rating: No

Wells

Percent of map unit: 2 percent

Landform: Hillslopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Linear

Across-slope shape: Linear

Ecological site: R074XY115KS - Loamy Hills

Hydric soil rating: No

Aquolls, occasionally ponded

Percent of map unit: 1 percent

Landform: Depressions

Down-slope shape: Concave

Across-slope shape: Concave

Ecological site: R074XY132KS - Subirrigated

Hydric soil rating: Yes

Hobbs, occasionally flooded

Percent of map unit: 1 percent

Landform: Drainageways

Down-slope shape: Concave