

Soils that have profiles that are almost alike make up a *soil series*. All the soils of a series have major horizons that are similar in composition, thickness, and arrangement. Soils of a given series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Additional information about the map units described in this report is available in other soil reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the soil reports define some of the properties included in the map unit descriptions.

Cheyenne County, Colorado

19—Keith-Richfield silt loams, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2s7w6

Elevation: 3,940 to 4,590 feet

Mean annual precipitation: 15 to 24 inches

Mean annual air temperature: 50 to 57 degrees F

Frost-free period: 140 to 190 days

Farmland classification: Prime farmland if irrigated

Map Unit Composition

Keith and similar soils: 50 percent

Richfield and similar soils: 30 percent

Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Keith

Setting

Landform: Plains

Landform position (two-dimensional): Summit

Landform position (three-dimensional): Interfluve

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Loess

Typical profile

Ap - 0 to 6 inches: silt loam

Bt1 - 6 to 10 inches: silty clay loam

Bt2 - 10 to 25 inches: silty clay loam

C - 25 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 (0.20 to 0.60 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 10 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 12.6 inches)

Interpretive groups

Land capability classification (irrigated): 2e

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: C

Ecological site: R067BY002CO - Loamy Plains

Hydric soil rating: No

Description of Richfield

Setting

Landform: Plains

Landform position (two-dimensional): Summit

Landform position (three-dimensional): Interfluve

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

Typical profile

Ap - 0 to 6 inches: silt loam
Bt1 - 6 to 18 inches: silty clay loam
Bt2 - 18 to 24 inches: silty clay loam
Bk - 24 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 (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 14 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 12.6
inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Ecological site: R067BY002CO - Loamy Plains
Hydric soil rating: No

Minor Components

Goshen

Percent of map unit: 10 percent
Landform: Swales
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R067BY002CO - Loamy Plains
Hydric soil rating: No

Satanta

Percent of map unit: 5 percent
Landform: Plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: R067BY002CO - Loamy Plains
Hydric soil rating: No

Ulysses

Percent of map unit: 5 percent

Landform: Rises

Landform position (two-dimensional): Summit

Landform position (three-dimensional): Crest

Down-slope shape: Convex

Across-slope shape: Linear

Ecological site: R067BY002CO - Loamy Plains

Hydric soil rating: No

Data Source Information

Soil Survey Area: Cheyenne County, Colorado

Survey Area Data: Version 24, Sep 1, 2022

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Cheyenne County, Colorado

54—Wiley complex, 0 to 3 percent slopes, eroded

Map Unit Setting

National map unit symbol: 355d

Elevation: 4,500 to 6,500 feet

Mean annual precipitation: 12 to 15 inches

Mean annual air temperature: 48 to 54 degrees F

Frost-free period: 140 to 170 days

Farmland classification: Prime farmland if irrigated

Map Unit Composition

Wiley, eroded, and similar soils: 80 percent

Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wiley, Eroded

Setting

Landform: Plains

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Calcareous loess

Typical profile

A - 0 to 3 inches: silt loam

Bt - 3 to 23 inches: silt loam

Ck - 23 to 60 inches: silt loam

Properties and qualities

Slope: 0 to 3 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: None

Frequency of ponding: None

Calcium carbonate, maximum content: 15 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: High (about 11.5 inches)

Interpretive groups

Land capability classification (irrigated): 2e

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: B

Ecological site: R067BY002CO - Loamy Plains

Hydric soil rating: No

Minor Components

Colby

Percent of map unit: 10 percent

Baca

Percent of map unit: 6 percent

Stoneham

Percent of map unit: 4 percent

Hydric soil rating: No

Data Source Information

Soil Survey Area: Cheyenne County, Colorado
Survey Area Data: Version 24, Sep 1, 2022