



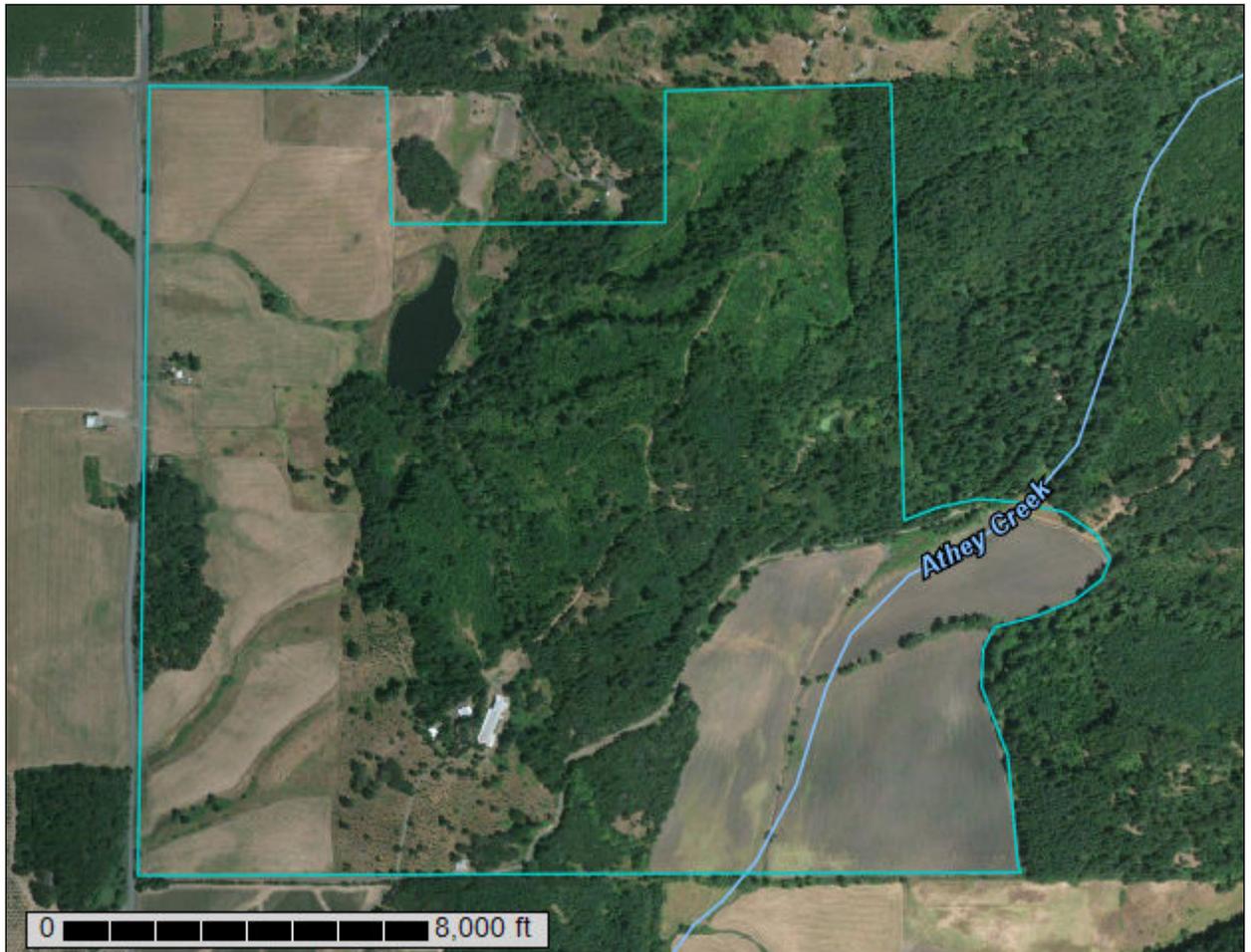
United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for **Polk County, Oregon**



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

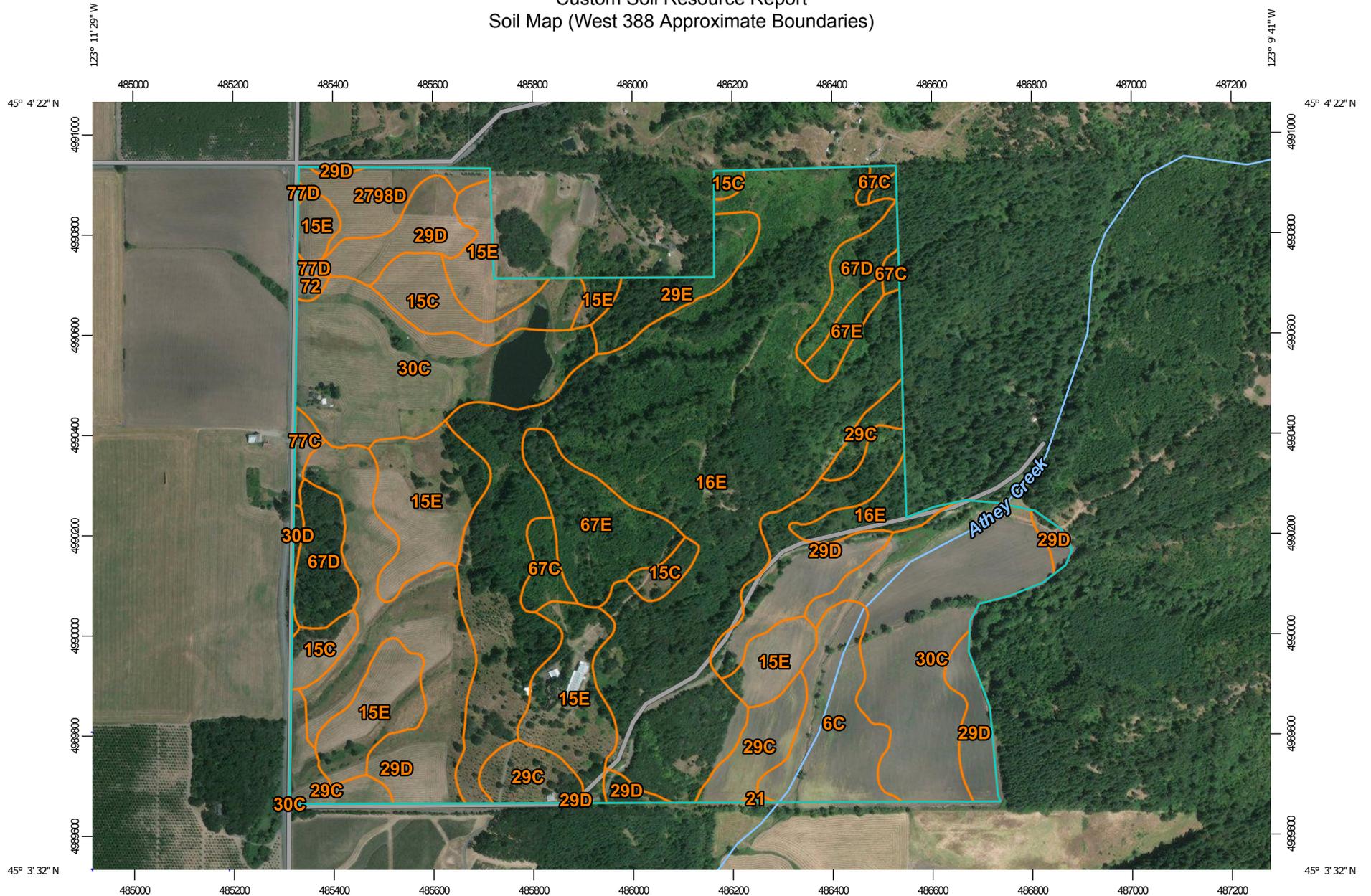
Preface	2
Soil Map	5
Soil Map (West 388 Approximate Boundaries).....	6
Legend.....	7
Map Unit Legend (West 388 Approximate Boundaries).....	8
Map Unit Descriptions (West 388 Approximate Boundaries).....	9
Polk County, Oregon.....	11
6C—Bashaw silty clay, 3 to 12 percent slopes.....	11
15C—Chehulpum silt loam, 3 to 12 percent slopes.....	12
15E—Chehulpum silt loam, 12 to 40 percent slopes.....	13
16E—Chehulpum-Steiwer complex, 12 to 40 percent slopes.....	14
21—Cove silty clay loam.....	15
29C—Hazelair silt loam, 3 to 12 percent slopes.....	16
29D—Hazelair silt loam, 12 to 20 percent slopes.....	18
29E—Hazelair silt loam, 20 to 30 percent slopes.....	19
30C—Helmick silt loam, 3 to 12 percent slopes.....	20
30D—Helmick silt loam, 12 to 20 percent slopes.....	21
67C—Steiwer silt loam, 3 to 12 percent slopes.....	22
67D—Steiwer silt loam, 12 to 20 percent slopes.....	23
67E—Steiwer silt loam, 20 to 50 percent slopes.....	24
72—Waldo silty clay loam.....	25
77C—Woodburn silt loam, 3 to 12 percent slopes.....	26
77D—Woodburn silt loam, 12 to 20 percent slopes.....	27
2798D—Witham silty clay loam, hummocky, 2 to 25 percent slopes.....	28

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report

Soil Map (West 388 Approximate Boundaries)



Map Scale: 1:10,800 if printed on A landscape (11" x 8.5") sheet.



Custom Soil Resource Report

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals

Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Polk County, Oregon

Survey Area Data: Version 14, Sep 19, 2016

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 16, 2015—Feb 12, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend (West 388 Approximate Boundaries)

Polk County, Oregon (OR053)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
6C	Bashaw silty clay, 3 to 12 percent slopes	14.5	3.7%
15C	Chehulpum silt loam, 3 to 12 percent slopes	14.7	3.8%
15E	Chehulpum silt loam, 12 to 40 percent slopes	47.2	12.1%
16E	Chehulpum-Steiwer complex, 12 to 40 percent slopes	127.5	32.8%
21	Cove silty clay loam	0.2	0.0%
29C	Hazelair silt loam, 3 to 12 percent slopes	17.5	4.5%
29D	Hazelair silt loam, 12 to 20 percent slopes	55.7	14.3%
29E	Hazelair silt loam, 20 to 30 percent slopes	7.3	1.9%
30C	Helmick silt loam, 3 to 12 percent slopes	63.0	16.2%
30D	Helmick silt loam, 12 to 20 percent slopes	0.6	0.2%
67C	Steiwer silt loam, 3 to 12 percent slopes	4.2	1.1%
67D	Steiwer silt loam, 12 to 20 percent slopes	12.0	3.1%
67E	Steiwer silt loam, 20 to 50 percent slopes	15.3	3.9%
72	Waldo silty clay loam	0.6	0.2%
77C	Woodburn silt loam, 3 to 12 percent slopes	1.3	0.3%
77D	Woodburn silt loam, 12 to 20 percent slopes	0.6	0.1%
2798D	Witham silty clay loam, hummocky, 2 to 25 percent slopes	6.7	1.7%
Totals for Area of Interest		388.9	100.0%

Map Unit Descriptions (West 388 Approximate Boundaries)

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.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the

Custom Soil Resource Report

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.

Polk County, Oregon

6C—Bashaw silty clay, 3 to 12 percent slopes

Map Unit Setting

National map unit symbol: 22yl
Elevation: 100 to 450 feet
Mean annual precipitation: 40 to 60 inches
Mean annual air temperature: 52 to 54 degrees F
Frost-free period: 165 to 210 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

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

Description of Bashaw

Setting

Landform: Fans
Landform position (three-dimensional): Tread, riser
Down-slope shape: Linear, concave
Across-slope shape: Linear
Parent material: Clayey alluvium

Typical profile

H1 - 0 to 11 inches: silty clay
H2 - 11 to 60 inches: clay

Properties and qualities

Slope: 3 to 12 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Available water storage in profile: Moderate (about 6.3 inches)

Interpretive groups

Land capability classification (irrigated): 4w
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: D
Other vegetative classification: Poorly Drained (G002XY006OR)
Hydric soil rating: Yes

Minor Components

Cove

Percent of map unit: 5 percent
Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear

Custom Soil Resource Report

Hydric soil rating: Yes

Waldo

Percent of map unit: 5 percent

Landform: Flood plains

Landform position (three-dimensional): Tread

Down-slope shape: Linear

Across-slope shape: Linear

Other vegetative classification: Poorly Drained (G002XY006OR)

Hydric soil rating: Yes

15C—Chehulpum silt loam, 3 to 12 percent slopes

Map Unit Setting

National map unit symbol: 22tx

Elevation: 300 to 500 feet

Mean annual precipitation: 40 to 50 inches

Mean annual air temperature: 52 to 54 degrees F

Frost-free period: 165 to 210 days

Farmland classification: Not prime farmland

Map Unit Composition

Chehulpum and similar soils: 90 percent

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

Description of Chehulpum

Setting

Landform: Low hills

Landform position (two-dimensional): Summit, shoulder

Landform position (three-dimensional): Nose slope, interfluvium

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Residuum weathered from siltstone

Typical profile

H1 - 0 to 6 inches: silt loam

H2 - 6 to 16 inches: silty clay loam

H3 - 16 to 26 inches: weathered bedrock

Properties and qualities

Slope: 3 to 12 percent

Depth to restrictive feature: 10 to 20 inches to paralithic bedrock

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water storage in profile: Low (about 3.2 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Other vegetative classification: Well drained < 15% Slopes (G002XY002OR)
Hydric soil rating: No

15E—Chehulpum silt loam, 12 to 40 percent slopes

Map Unit Setting

National map unit symbol: 22ty
Elevation: 300 to 500 feet
Mean annual precipitation: 40 to 50 inches
Mean annual air temperature: 52 to 54 degrees F
Frost-free period: 165 to 210 days
Farmland classification: Not prime farmland

Map Unit Composition

Chehulpum and similar soils: 90 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Chehulpum

Setting

Landform: Low hills
Landform position (two-dimensional): Shoulder, summit, backslope
Landform position (three-dimensional): Interfluve, nose slope, side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Residuum weathered from siltstone

Typical profile

H1 - 0 to 6 inches: silt loam
H2 - 6 to 16 inches: silty clay loam
H3 - 16 to 26 inches: weathered bedrock

Properties and qualities

Slope: 12 to 40 percent
Depth to restrictive feature: 10 to 20 inches to paralithic bedrock
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 3.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Other vegetative classification: Well Drained > 15% Slopes (G002XY001OR)

Hydric soil rating: No

16E—Chehulpum-Steiwer complex, 12 to 40 percent slopes

Map Unit Setting

National map unit symbol: 22tz
Elevation: 300 to 500 feet
Mean annual precipitation: 40 to 60 inches
Mean annual air temperature: 52 to 54 degrees F
Frost-free period: 165 to 210 days
Farmland classification: Not prime farmland

Map Unit Composition

Chehulpum and similar soils: 50 percent
Steiwer and similar soils: 35 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Chehulpum

Setting

Landform: Low hills
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Nose slope, side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium and colluvium derived from sedimentary rock

Typical profile

H1 - 0 to 6 inches: silt loam
H2 - 6 to 16 inches: silty clay loam
H3 - 16 to 26 inches: weathered bedrock

Properties and qualities

Slope: 12 to 40 percent
Depth to restrictive feature: 10 to 20 inches to paralithic bedrock
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 3.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Other vegetative classification: Well Drained > 15% Slopes (G002XY001OR)
Hydric soil rating: No

Description of Steiwer

Setting

Landform: Low hills

Landform position (two-dimensional): Backslope, shoulder, summit

Landform position (three-dimensional): Base slope, side slope, interfluve

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Alluvium and colluvium derived from sedimentary rock

Typical profile

H1 - 0 to 15 inches: silt loam

H2 - 15 to 26 inches: silty clay loam

H3 - 26 to 36 inches: weathered bedrock

Properties and qualities

Slope: 12 to 40 percent

Depth to restrictive feature: 20 to 40 inches to paralithic bedrock

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water storage in profile: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: C

Other vegetative classification: Well Drained > 15% Slopes (G002XY001OR)

Hydric soil rating: No

21—Cove silty clay loam

Map Unit Setting

National map unit symbol: 22v7

Elevation: 90 to 1,000 feet

Mean annual precipitation: 30 to 60 inches

Mean annual air temperature: 50 to 55 degrees F

Frost-free period: 160 to 235 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Cove and similar soils: 90 percent

Minor components: 10 percent

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

Description of Cove

Setting

Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed, recent, clayey alluvium

Typical profile

H1 - 0 to 8 inches: silty clay loam
H2 - 8 to 60 inches: clay

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Available water storage in profile: High (about 9.9 inches)

Interpretive groups

Land capability classification (irrigated): 4w
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: D
Hydric soil rating: Yes

Minor Components

Bashaw

Percent of map unit: 5 percent
Landform: Flood plains
Hydric soil rating: Yes

Waldo

Percent of map unit: 5 percent
Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Other vegetative classification: Poorly Drained (G002XY006OR)
Hydric soil rating: Yes

29C—Hazelair silt loam, 3 to 12 percent slopes

Map Unit Setting

National map unit symbol: 22vm
Elevation: 300 to 500 feet

Custom Soil Resource Report

Mean annual precipitation: 40 to 45 inches
Mean annual air temperature: 52 to 54 degrees F
Frost-free period: 165 to 210 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Hazelair and similar soils: 90 percent
Minor components: 1 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hazelair

Setting

Landform: Low hills
Landform position (two-dimensional): Shoulder, summit
Landform position (three-dimensional): Interfluve, nose slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Clayey colluvium derived from sedimentary rock

Typical profile

H1 - 0 to 10 inches: silt loam
H2 - 10 to 17 inches: silty clay loam
H3 - 17 to 38 inches: clay
H4 - 38 to 48 inches: weathered bedrock

Properties and qualities

Slope: 3 to 12 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Natural drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 5.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Other vegetative classification: Moderately Well Drained < 15% Slopes (G002XY004OR)
Hydric soil rating: No

Minor Components

Aquolls

Percent of map unit: 1 percent
Landform: Hills
Hydric soil rating: Yes

29D—Hazelair silt loam, 12 to 20 percent slopes

Map Unit Setting

National map unit symbol: 22vn

Elevation: 300 to 500 feet

Mean annual precipitation: 40 to 45 inches

Mean annual air temperature: 52 to 54 degrees F

Frost-free period: 165 to 210 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Hazelair and similar soils: 90 percent

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

Description of Hazelair

Setting

Landform: Low hills

Landform position (two-dimensional): Summit, shoulder

Landform position (three-dimensional): Nose slope, interflue

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Clayey colluvium derived from sedimentary rock

Typical profile

H1 - 0 to 10 inches: silt loam

H2 - 10 to 17 inches: silty clay loam

H3 - 17 to 38 inches: clay

H4 - 38 to 48 inches: weathered bedrock

Properties and qualities

Slope: 12 to 20 percent

Depth to restrictive feature: 20 to 40 inches to paralithic bedrock

Natural drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)

Depth to water table: About 12 to 24 inches

Frequency of flooding: None

Frequency of ponding: None

Available water storage in profile: Low (about 5.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: D

Other vegetative classification: Moderately Well Drained >15% Slopes
(G002XY003OR)

Hydric soil rating: No

29E—Hazelair silt loam, 20 to 30 percent slopes

Map Unit Setting

National map unit symbol: 22vp

Elevation: 300 to 500 feet

Mean annual precipitation: 40 to 45 inches

Mean annual air temperature: 52 to 54 degrees F

Frost-free period: 165 to 210 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Hazelair and similar soils: 90 percent

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

Description of Hazelair

Setting

Landform: Low hills

Landform position (two-dimensional): Summit, shoulder

Landform position (three-dimensional): Interfluve, nose slope

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Clayey colluvium derived from sedimentary rock

Typical profile

H1 - 0 to 10 inches: silt loam

H2 - 10 to 17 inches: silty clay loam

H3 - 17 to 38 inches: clay

H4 - 38 to 48 inches: weathered bedrock

Properties and qualities

Slope: 20 to 30 percent

Depth to restrictive feature: 20 to 40 inches to paralithic bedrock

Natural drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)

Depth to water table: About 12 to 24 inches

Frequency of flooding: None

Frequency of ponding: None

Available water storage in profile: Low (about 5.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: D

Hydric soil rating: No

30C—Helmick silt loam, 3 to 12 percent slopes

Map Unit Setting

National map unit symbol: 22vr

Elevation: 250 to 400 feet

Mean annual precipitation: 40 to 60 inches

Mean annual air temperature: 48 to 54 degrees F

Frost-free period: 165 to 210 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Helmick and similar soils: 85 percent

Minor components: 1 percent

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

Description of Helmick

Setting

Landform: Low hills

Landform position (two-dimensional): Footslope

Landform position (three-dimensional): Base slope

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Stratified alluvium and colluvium over residuum weathered from sedimentary rock

Typical profile

H1 - 0 to 10 inches: silt loam

H2 - 10 to 16 inches: silty clay loam

H3 - 16 to 62 inches: clay

Properties and qualities

Slope: 3 to 12 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Somewhat poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)

Depth to water table: About 12 to 24 inches

Frequency of flooding: None

Frequency of ponding: None

Available water storage in profile: Moderate (about 6.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: D

Other vegetative classification: Somewhat Poorly Drained (G002XY005OR)

Hydric soil rating: No

Minor Components

Aquepts

Percent of map unit: 1 percent
Landform: Hills
Hydric soil rating: Yes

30D—Helmick silt loam, 12 to 20 percent slopes

Map Unit Setting

National map unit symbol: 22vs
Elevation: 250 to 400 feet
Mean annual precipitation: 40 to 60 inches
Mean annual air temperature: 48 to 54 degrees F
Frost-free period: 165 to 210 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Helmick and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Helmick

Setting

Landform: Low hills
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Stratified alluvium and colluvium over residuum weathered from sedimentary rock

Typical profile

H1 - 0 to 10 inches: silt loam
H2 - 10 to 16 inches: silty clay loam
H3 - 16 to 62 inches: clay

Properties and qualities

Slope: 12 to 20 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 6.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Custom Soil Resource Report

Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Other vegetative classification: Somewhat Poorly Drained (G002XY005OR)
Hydric soil rating: No

67C—Steiwer silt loam, 3 to 12 percent slopes

Map Unit Setting

National map unit symbol: 22y9
Elevation: 300 to 500 feet
Mean annual precipitation: 40 to 60 inches
Mean annual air temperature: 52 to 54 degrees F
Frost-free period: 165 to 210 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Steiwer and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Steiwer

Setting

Landform: Low hills
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Nose slope, interfluvium
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Residuum weathered from sedimentary rock

Typical profile

H1 - 0 to 15 inches: silt loam
H2 - 15 to 26 inches: silty clay loam
H3 - 26 to 30 inches: weathered bedrock

Properties and qualities

Slope: 3 to 12 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Other vegetative classification: Well drained < 15% Slopes (G002XY002OR)
Hydric soil rating: No

67D—Steiwer silt loam, 12 to 20 percent slopes

Map Unit Setting

National map unit symbol: 22yb

Elevation: 300 to 500 feet

Mean annual precipitation: 40 to 60 inches

Mean annual air temperature: 52 to 54 degrees F

Frost-free period: 165 to 210 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Steiwer and similar soils: 85 percent

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

Description of Steiwer

Setting

Landform: Low hills

Landform position (two-dimensional): Shoulder, summit

Landform position (three-dimensional): Nose slope, interfluve

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Residuum weathered from sedimentary rock

Typical profile

H1 - 0 to 15 inches: silt loam

H2 - 15 to 26 inches: silty clay loam

H3 - 26 to 36 inches: weathered bedrock

Properties and qualities

Slope: 12 to 20 percent

Depth to restrictive feature: 20 to 40 inches to paralithic bedrock

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water storage in profile: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): 4e

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: C

Other vegetative classification: Well Drained > 15% Slopes (G002XY001OR)

Hydric soil rating: No

67E—Steiwer silt loam, 20 to 50 percent slopes

Map Unit Setting

National map unit symbol: 22yc
Elevation: 300 to 500 feet
Mean annual precipitation: 40 to 60 inches
Mean annual air temperature: 52 to 54 degrees F
Frost-free period: 165 to 210 days
Farmland classification: Not prime farmland

Map Unit Composition

Steiwer and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Steiwer

Setting

Landform: Low hills
Landform position (two-dimensional): Shoulder, summit, backslope
Landform position (three-dimensional): Nose slope, interfluve, side slope
Down-slope shape: Linear, convex
Across-slope shape: Linear, convex
Parent material: Residuum weathered from sedimentary rock

Typical profile

H1 - 0 to 15 inches: silt loam
H2 - 15 to 26 inches: silty clay loam
H3 - 26 to 36 inches: weathered bedrock

Properties and qualities

Slope: 20 to 50 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: C
Other vegetative classification: Well Drained > 15% Slopes (G002XY001OR)
Hydric soil rating: No

72—Waldo silty clay loam

Map Unit Setting

National map unit symbol: 22ys

Elevation: 90 to 1,000 feet

Mean annual precipitation: 30 to 60 inches

Mean annual air temperature: 50 to 55 degrees F

Frost-free period: 160 to 235 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Waldo and similar soils: 90 percent

Minor components: 5 percent

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

Description of Waldo

Setting

Landform: Flood plains

Landform position (three-dimensional): Tread

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Mixed silty and clayey alluvium

Typical profile

H1 - 0 to 13 inches: silty clay loam

H2 - 13 to 60 inches: silty clay

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Poorly drained

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: About 0 to 6 inches

Frequency of flooding: Occasional

Frequency of ponding: None

Available water storage in profile: High (about 10.1 inches)

Interpretive groups

Land capability classification (irrigated): 3w

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: C/D

Other vegetative classification: Poorly Drained (G002XY006OR)

Hydric soil rating: Yes

Minor Components

Bashaw

Percent of map unit: 5 percent

Landform: Alluvial fans

Hydric soil rating: Yes

77C—Woodburn silt loam, 3 to 12 percent slopes

Map Unit Setting

National map unit symbol: 22z5

Elevation: 170 to 300 feet

Mean annual precipitation: 40 to 45 inches

Mean annual air temperature: 52 to 54 degrees F

Frost-free period: 165 to 210 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Woodburn and similar soils: 85 percent

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

Description of Woodburn

Setting

Landform: Terraces

Landform position (three-dimensional): Tread, riser

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Silty alluvium

Typical profile

H1 - 0 to 17 inches: silt loam

H2 - 17 to 42 inches: silty clay loam

H3 - 42 to 65 inches: silty clay loam

Properties and qualities

Slope: 3 to 12 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Moderately well drained

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: About 25 to 32 inches

Frequency of flooding: None

Frequency of ponding: None

Available water storage in profile: High (about 12.0 inches)

Interpretive groups

Land capability classification (irrigated): 2e

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: C

Other vegetative classification: Moderately Well Drained < 15% Slopes
(G002XY004OR)

Hydric soil rating: No

77D—Woodburn silt loam, 12 to 20 percent slopes

Map Unit Setting

National map unit symbol: 22z6

Elevation: 150 to 300 feet

Mean annual precipitation: 40 to 45 inches

Mean annual air temperature: 52 to 54 degrees F

Frost-free period: 165 to 210 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Woodburn and similar soils: 85 percent

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

Description of Woodburn

Setting

Landform: Terraces

Landform position (three-dimensional): Riser

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Silty alluvium

Typical profile

H1 - 0 to 17 inches: silt loam

H2 - 17 to 42 inches: silty clay loam

H3 - 42 to 65 inches: silty clay loam

Properties and qualities

Slope: 12 to 20 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Moderately well drained

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: About 25 to 32 inches

Frequency of flooding: None

Frequency of ponding: None

Available water storage in profile: High (about 12.0 inches)

Interpretive groups

Land capability classification (irrigated): 3e

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: C

Other vegetative classification: Moderately Well Drained >15% Slopes
(G002XY003OR)

Hydric soil rating: No

2798D—Witham silty clay loam, hummocky, 2 to 25 percent slopes

Map Unit Setting

National map unit symbol: 1vkrf

Elevation: 210 to 1,170 feet

Mean annual precipitation: 40 to 60 inches

Mean annual air temperature: 50 to 54 degrees F

Frost-free period: 165 to 210 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Witham, hummocky, and similar soils: 75 percent

Minor components: 10 percent

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

Description of Witham, Hummocky

Setting

Landform: Earthflows

Landform position (two-dimensional): Footslope

Landform position (three-dimensional): Base slope

Down-slope shape: Linear

Across-slope shape: Linear, convex

Parent material: Loamy earthflow deposits derived from volcanic and sedimentary rock over clayey earthflow deposits derived from sandstone and siltstone

Typical profile

A - 0 to 11 inches: silty clay loam

2Bss1 - 11 to 31 inches: clay

2Bssg2 - 31 to 43 inches: clay

2C - 43 to 61 inches: paragravelly silty clay

Properties and qualities

Slope: 2 to 25 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Somewhat poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)

Depth to water table: About 10 to 20 inches

Frequency of flooding: None

Frequency of ponding: None

Available water storage in profile: High (about 9.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: D

Hydric soil rating: No

Minor Components

Panther, hummocky

Percent of map unit: 10 percent

Landform: Earthflows

Landform position (two-dimensional): Foothlope

Landform position (three-dimensional): Base slope

Down-slope shape: Concave, linear

Across-slope shape: Concave

Hydric soil rating: Yes