United States Department of Agriculture

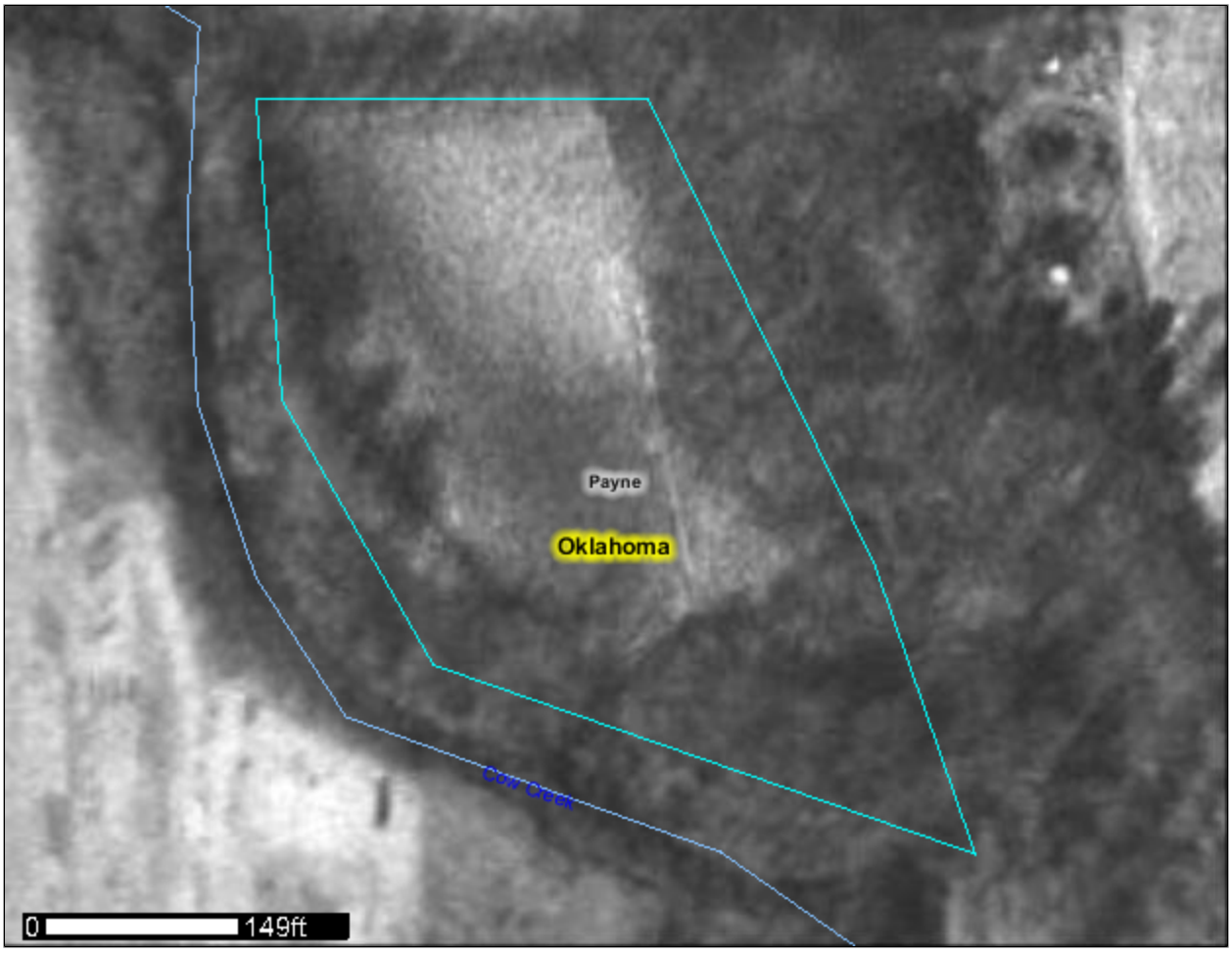
NRCS

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 Payne County, Oklahoma

Across Cow Creek



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.

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.

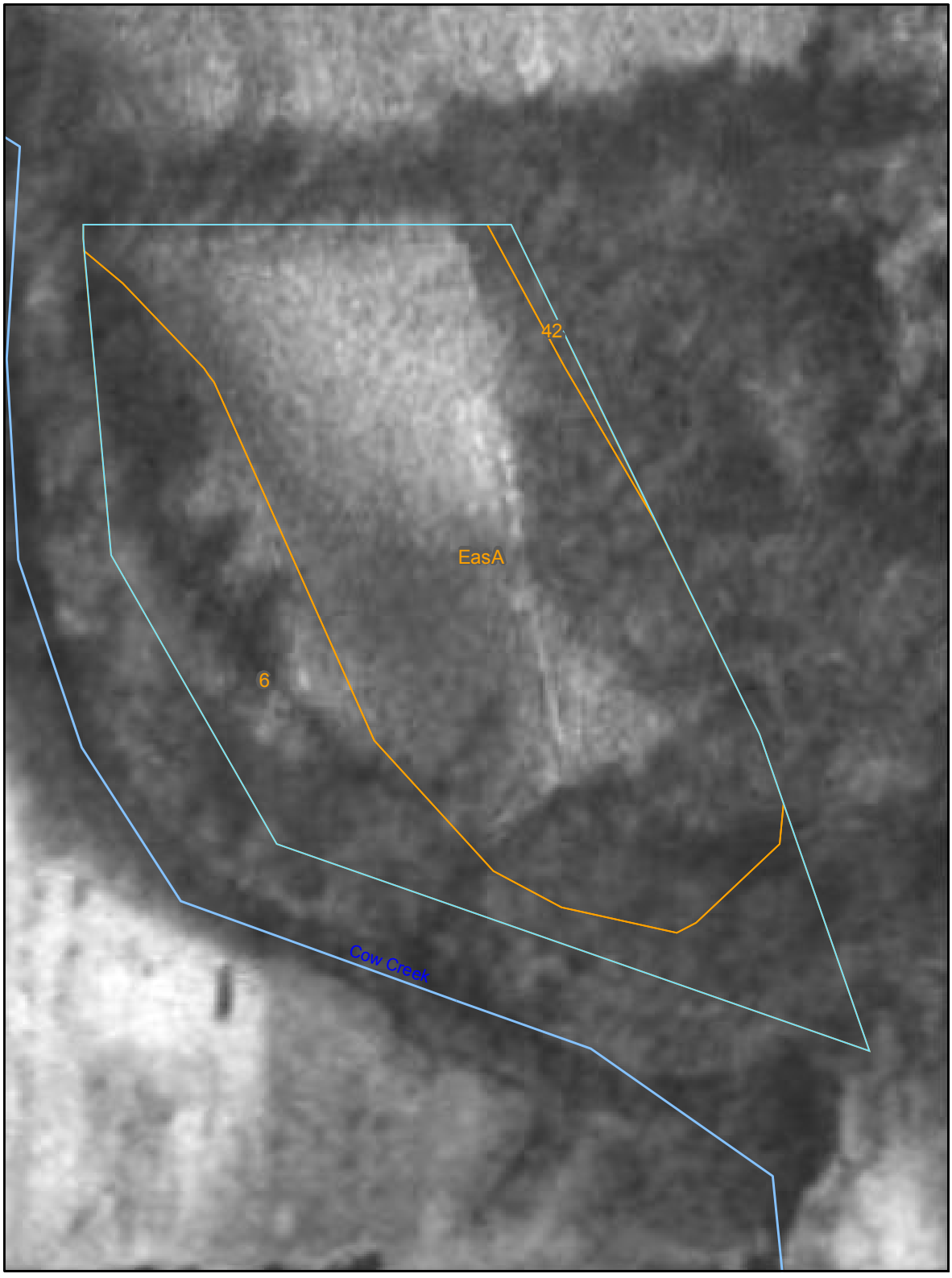
Information about soils is updated periodically. Updated information is available through the NRCS Soil Data Mart Web site or the NRCS Web Soil Survey. The Soil Data Mart is the data storage site for the official soil survey information.

Contents

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 (Across Cow Creek)



N

Meters
0 15 30 60 90

Feet
0 50 100 200 300

Custom Soil Resource Report
Legend (Across Cow Creek)

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Units

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh
- 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
- Gully
- Short Steep Slope
- Other

Political Features

Municipalities
- Cities
- Urban Areas

Water Features
- Oceans
- Streams and Canals

Transportation
- Rails

Roads
- Interstate Highways
- US Routes
- State Highways
- Local Roads
- Other Roads

MAP INFORMATION

Original soil survey map sheets were prepared at publication scale. Viewing scale and printing scale, however, may vary from the original. Please rely on the bar scale on each map sheet for proper map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 14N

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

Soil Survey Area: Payne County, Oklahoma
Survey Area Data: Version 9, Dec 12, 2007

Date(s) aerial images were photographed: 2/17/1995

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 (Across Cow Creek)

Payne County, Oklahoma (OK119)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
6	Pulaski fine sandy loam, 0 to 1 percent slopes, frequently flooded	1.3	32.1%
42	Ashport silty clay loam, 0 to 1 percent slopes, occasionally flooded	0.0	1.1%
EasA	Easpur loam, 0 to 1 percent slopes, occasionally flooded	2.8	66.8%
Totals for Area of Interest (AOI)		4.2	100.0%

Map Unit Descriptions (Across Cow Creek)

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 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.

Payne County, Oklahoma

6—Pulaski fine sandy loam, 0 to 1 percent slopes, frequently flooded

Map Unit Setting

Elevation: 700 to 1,300 feet
Mean annual precipitation: 33 to 40 inches
Mean annual air temperature: 57 to 60 degrees F
Frost-free period: 200 to 215 days

Map Unit Composition

Pulaski and similar soils: 70 percent
Minor components: 30 percent

Description of Pulaski

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-loamy alluvium

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Available water capacity: High (about 9.3 inches)

Interpretive groups

Land capability (nonirrigated): 5w
Ecological site: Loamy Bottomland PE 48-64 (R084AY050OK)

Typical profile

0 to 8 inches: Fine sandy loam
8 to 20 inches: Loam
20 to 37 inches: Fine sandy loam
37 to 47 inches: Loam
47 to 80 inches: Stratified loamy fine sand to loam

Minor Components

Ashport

Percent of map unit: 5 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Loamy Bottomland PE 44-64 (R080AY050OK)

Easpur

Percent of map unit: 5 percent

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Loamy Bottomland PE 44-64 (R080AY050OK)

Gowen
Percent of map unit: 5 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Loamy Bottomland PE 44-64 (R080AY050OK)

Harrah
Percent of map unit: 5 percent
Landform: Hillslopes
Landform position (two-dimensional): Backslope
Down-slope shape: Concave
Across-slope shape: Convex
Ecological site: Sandy Savannah (West) PE 44-64 (R084AY075OK)

Port
Percent of map unit: 5 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Loamy Bottomland PE 44-64 (R080AY050OK)

Tribbey
Percent of map unit: 5 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Subirrigated PE 48-64 (R084AY095OK)

42—Ashport silty clay loam, 0 to 1 percent slopes, occasionally flooded

Map Unit Setting
Elevation: 700 to 1,300 feet
Mean annual precipitation: 33 to 40 inches
Mean annual air temperature: 57 to 60 degrees F
Frost-free period: 200 to 215 days

Map Unit Composition
Ashport and similar soils: 80 percent
Minor components: 20 percent

Description of Ashport

Setting
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Fine-silty alluvium

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
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: 1 percent
Available water capacity: High (about 11.8 inches)

Interpretive groups

Land capability (nonirrigated): 2w
Ecological site: Loamy Bottomland PE 44-64 (R080AY050OK)

Typical profile

0 to 16 inches: Silty clay loam
16 to 36 inches: Silty clay loam
36 to 52 inches: Loam
52 to 80 inches: Loam

Minor Components

Easpur

Percent of map unit: 4 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Loamy Bottomland PE 44-64 (R080AY050OK)

Port

Percent of map unit: 4 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Loamy Bottomland PE 44-64 (R080AY050OK)

Pulaski

Percent of map unit: 4 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Loamy Bottomland PE 48-64 (R084AY050OK)

Oscar, saline

Percent of map unit: 4 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Alkali Bottomland PE 44-64 (R080AY001OK)

Gowen

Percent of map unit: 4 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear

Ecological site: Loamy Bottomland PE 44-64 (R080AY050OK)

EasA—Easpur loam, 0 to 1 percent slopes, occasionally flooded

Map Unit Setting

Elevation: 700 to 1,300 feet
Mean annual precipitation: 33 to 40 inches
Mean annual air temperature: 57 to 60 degrees F
Frost-free period: 200 to 215 days

Map Unit Composition

Easpur and similar soils: 85 percent
Minor components: 15 percent

Description of Easpur

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy alluvium

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
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
Available water capacity: High (about 10.8 inches)

Interpretive groups

Land capability (nonirrigated): 2w
Ecological site: Loamy Bottomland PE 44-64 (R080AY050OK)

Typical profile

0 to 11 inches: Loam
11 to 29 inches: Clay loam
29 to 41 inches: Stratified fine sandy loam to clay loam
41 to 72 inches: Silty clay loam

Minor Components

Port

Percent of map unit: 4 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Loamy Bottomland PE 44-64 (R080AY050OK)

Pulaski

Percent of map unit: 4 percent
Landform: Flood plains
Down-slope shape: Linear

Across-slope shape: Linear
Ecological site: Loamy Bottomland PE 48-64 (R084AY050OK)

Oscar, saline
Percent of map unit: 3 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Alkali Bottomland PE 44-64 (R080AY001OK)

Ashport
Percent of map unit: 2 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Loamy Bottomland PE 44-64 (R080AY050OK)

Gowen
Percent of map unit: 2 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Loamy Bottomland PE 44-64 (R080AY050OK)