Down-slope shape: Linear Across-slope shape: Convex Ecological site: R042AE281TX - Shallow, Mixed Prairie Hydric soil rating: No

BrF—Brewster-Rock outcrop association, steep

Map Unit Setting

National map unit symbol: 1ytw Elevation: 300 to 8,700 feet Mean annual precipitation: 10 to 35 inches Mean annual air temperature: 52 to 73 degrees F Frost-free period: 120 to 320 days Famland classification: Not prime farmland

Map Unit Composition

Brewster and similar soils: 45 percent Rock outcrop: 35 percent Minor components: 20 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Brewster

Setting

Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainflank Down-slope shape: Linear Across-slope shape: Convex Parent material: Gravelly residuum weathered from trachyte

Typical profile

H1 - 0 to 7 inches: stony loam H2 - 7 to 79 inches: bedrock

Properties and qualities

Slope: 20 to 45 percent
Depth to restrictive feature: 4 to 20 inches to lithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.06 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water supply, 0 to 60 inches: Very low (about 0.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7s Hydrologic Soil Group: D Ecological site: R042AE277TX - Igneous Hill and Mountain, Mixed Prairie Hydric soil rating: No

Description of Rock Outcrop

Setting

Landform: Mountain slopes Landform position (three-dimensional): Mountaintop Down-slope shape: Convex Across-slope shape: Convex Parent material: Trachyte

Typical profile

H1 - 0 to 80 inches: bedrock

Properties and qualities

Slope: 20 to 45 percent Depth to restrictive feature: 0 to 2 inches to lithic bedrock Runoff class: Low Capacity of the most limiting layer to transmit water (Ksat): Moderately low to very high (0.06 to 19.98 in/hr)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 8 Hydrologic Soil Group: D Hydric soil rating: No

Minor Components

Unnamed

Percent of map unit: 20 percent Hydric soil rating: No

BsE—Brewster association, hilly

Map Unit Setting

National map unit symbol: 1ytx Elevation: 4,000 to 6,200 feet Mean annual precipitation: 12 to 20 inches Mean annual air temperature: 57 to 64 degrees F Frost-free period: 210 to 240 days Famland classification: Not prime farmland

Map Unit Composition

Brewster and similar soils: 60 percent Rock outcrop: 30 percent Minor components: 10 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Brewster

Setting

Landform: Hills Landform position (two-dimensional): Shoulder, backslope Landform position (three-dimensional): Side slope Down-slope shape: Linear Across-slope shape: Convex Parent material: Gravelly residuum weathered from trachyte

Typical profile

A1 - 0 to 7 inches: gravelly clay loam R - 7 to 79 inches: bedrock

Properties and qualities

Slope: 10 to 30 percent
Depth to restrictive feature: 4 to 20 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.06 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water supply, 0 to 60 inches: Very low (about 0.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7s Hydrologic Soil Group: D Ecological site: R042AE277TX - Igneous Hill and Mountain, Mixed Prairie Hydric soil rating: No

Description of Rock Outcrop

Setting

Parent material: Trachyte

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 8 Hydrologic Soil Group: D Hydric soil rating: No

Minor Components

Unnamed

Percent of map unit: 10 percent Hydric soil rating: No

Ga—Bigetty association

Map Unit Setting

National map unit symbol: 1yv2 Elevation: 3,100 to 4,500 feet Mean annual precipitation: 10 to 14 inches Mean annual air temperature: 61 to 64 degrees F Frost-free period: 190 to 215 days Familand classification: Not prime farmland

Map Unit Composition

Bigetty and similar soils: 100 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bigetty

Setting

Landform: Flood plains Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Tread Down-slope shape: Linear Across-slope shape: Linear Parent material: Holocene-age fine-silty alluvium derived from igneous rock

Typical profile

H1 - 0 to 15 inches: silt loam *H2 - 15 to 58 inches:* clay loam *H3 - 58 to 68 inches:* loam

Properties and qualities

Slope: 0 to 1 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 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: OccasionalNone
Frequency of ponding: None
Calcium carbonate, maximum content: 30 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 5.0
Available water supply, 0 to 60 inches: High (about 11.7 inches)

Interpretive groups

Land capability classification (irrigated): 1 Land capability classification (nonirrigated): 7c Hydrologic Soil Group: C Ecological site: R042AE273TX - Draw, Mixed Prairie Hydric soil rating: No

GP—Pits, gravel

Map Unit Composition

Pits, gravel: 100 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pits, Gravel

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 8 Hydrologic Soil Group: D Hydric soil rating: No

KbB—Kokernot-Brewster association, gently sloping

Map Unit Setting

National map unit symbol: 1yv7 Elevation: 4,000 to 6,200 feet Mean annual precipitation: 12 to 20 inches Mean annual air temperature: 57 to 70 degrees F Frost-free period: 200 to 240 days Farmland classification: Not prime farmland

Map Unit Composition

Kokernot and similar soils: 60 percent Brewster and similar soils: 35 percent Minor components: 5 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kokernot

Setting

Landform: Mesas Landform position (three-dimensional): Interfluve Down-slope shape: Concave Across-slope shape: Linear Parent material: Clayey residuum weathered from trachyte

Typical profile

H1 - 0 to 3 inches: gravelly sandy loam H2 - 3 to 18 inches: gravelly clay loam H3 - 18 to 79 inches: bedrock

Properties and qualities

Slope: 1 to 5 percent Depth to restrictive feature: 12 to 20 inches to lithic bedrock Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.06 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 2.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6s Hydrologic Soil Group: D Ecological site: R042AE281TX - Shallow, Mixed Prairie Hydric soil rating: No

Description of Brewster

Setting

Landform: Hills Landform position (two-dimensional): Shoulder, backslope Landform position (three-dimensional): Side slope Down-slope shape: Linear Across-slope shape: Convex Parent material: Gravelly residuum weathered from trachyte

Typical profile

H1 - 0 to 7 inches: very gravelly loam H2 - 7 to 79 inches: bedrock

Properties and qualities

Slope: 5 to 8 percent
Depth to restrictive feature: 4 to 20 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.06 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water supply, 0 to 60 inches: Very low (about 0.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7s Hydrologic Soil Group: D Ecological site: R042AE277TX - Igneous Hill and Mountain, Mixed Prairie Hydric soil rating: No

Minor Components

Unnamed

Percent of map unit: 5 percent Hydric soil rating: No

LmB—Limpia and Mitre soils, gently sloping

Map Unit Setting

National map unit symbol: 1yv8 Elevation: 3,500 to 4,500 feet Mean annual precipitation: 10 to 20 inches Mean annual air temperature: 61 to 66 degrees F Frost-free period: 210 to 240 days Familand classification: Not prime farmland

Map Unit Composition

Limpia and similar soils: 60 percent Mitre and similar soils: 20 percent Minor components: 20 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Limpia

Setting

Landform: Fans Landform position (two-dimensional): Backslope Landform position (three-dimensional): Tread Down-slope shape: Linear Across-slope shape: Convex Parent material: Pleistocene-age gravelly alluvium derived from igneous rock

Typical profile

H1 - 0 to 12 inches: very gravelly loarn *H2 - 12 to 60 inches:* very cobbly clay

Properties and qualities

Slope: 1 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: High
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
Available water supply, 0 to 60 inches: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6s Hydrologic Soil Group: C Ecological site: R042AC243TX - Foothill Slope, Desert Grassland Hydric soil rating: No

Description of Mitre

Setting

Landform: Fan remnants Landform position (two-dimensional): Backslope Landform position (three-dimensional): Tread Down-slope shape: Linear Across-slope shape: Convex Parent material: Pleistocene-age gravelly alluvium derived from igneous rock

Typical profile

H1 - 0 to 4 inches: gravelly loam

H2 - 4 to 14 inches: very gravelly clay loam

- H3 14 to 22 inches: cemented material
- H4 22 to 40 inches: extremely gravelly loam

Properties and qualities

Slope: 1 to 5 percent
Depth to restrictive feature: 10 to 20 inches to petrocalcic
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 80 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 1.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6s Hydrologic Soil Group: D Ecological site: R042AC243TX - Foothill Slope, Desert Grassland Hydric soil rating: No

Minor Components

Unnamed

Percent of map unit: 20 percent Hydric soil rating: No

LrF—Liv-Mainstay-Rock outcrop association, steep

Map Unit Setting

National map unit symbol: 1yv9 Elevation: 5,000 to 6,500 feet Mean annual precipitation: 18 to 26 inches Mean annual air temperature: 56 to 59 degrees F Frost-free period: 160 to 200 days Farmland classification: Not prime farmland

Map Unit Composition

Liv and similar soils: 31 percent Rock outcrop: 29 percent Mainstay and similar soils: 15 percent Minor components: 25 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Liv

Setting

Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope Down-slope shape: Linear Across-slope shape: Convex Parent material: Thick pleistocene-age gravelly colluvium derived from trachyte

Typical profile

A1 - 0 to 9 inches: very cobbly silt loam Bt - 9 to 38 inches: very cobbly clay Cr - 38 to 80 inches: bedrock

Properties and qualities

Slope: 20 to 45 percent
Surface area covered with cobbles, stones or boulders: 2.0 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 25 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 2.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7s Hydrologic Soil Group: C Ecological site: R042AF286TX - Igneous Hill and Mountain, Mountain Savannah Hydric soil rating: No

Description of Rock Outcrop

Setting

Landform: Mountain slopes Landform position (three-dimensional): Mountaintop Down-slope shape: Convex Across-slope shape: Convex Parent material: Trachyte

Typical profile

R - 0 to 80 inches: bedrock

Properties and qualities

Slope: 20 to 45 percent
Depth to restrictive feature: 0 to 2 inches to lithic bedrock
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to very high (0.06 to 19.98 in/hr)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 8 Hydrologic Soil Group: D Hydric soil rating: No

Description of Mainstay

Setting

Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope Down-slope shape: Linear Across-slope shape: Convex Parent material: Pleistocene-age gravelly colluvium derived from trachyte

Typical profile

A1 - 0 to 5 inches: very gravelly loam Bt - 5 to 18 inches: extremely gravelly clay R - 18 to 80 inches: bedrock

Properties and qualities

Slope: 20 to 45 percent
Surface area covered with cobbles, stones or boulders: 3.0 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.57 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 low (about 1.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7s Hydrologic Soil Group: D Ecological site: R042AF286TX - Igneous Hill and Mountain, Mountain Savannah Hydric soil rating: No

Minor Components

Unnamed

Percent of map unit: 25 percent

Hydric soil rating: No

MbE—Mainstay-Brewster association, hilly

Map Unit Setting

National map unit symbol: 1yvf Elevation: 4,000 to 6,500 feet Mean annual precipitation: 12 to 26 inches Mean annual air temperature: 56 to 64 degrees F Frost-free period: 180 to 240 days Farmland classification: Not prime farmland

Map Unit Composition

Mainstay and similar soils: 30 percent Brewster and similar soils: 25 percent Minor components: 45 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Mainstay

Setting

Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope Down-slope shape: Linear Across-slope shape: Convex Parent material: Pleistocene-age gravelly colluvium derived from trachyte

Typical profile

H1 - 0 to 3 inches: stony silt loam H2 - 3 to 16 inches: stony clay H3 - 16 to 79 inches: bedrock

Properties and qualities

Slope: 10 to 30 percent
Depth to restrictive feature: 10 to 20 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Very high
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
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 low (about 1.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7s Hydrologic Soil Group: D Ecological site: R042AE277TX - Igneous Hill and Mountain, Mixed Prairie Hydric soil rating: No

Description of Brewster

Setting

Landform: Hills Landform position (two-dimensional): Shoulder, backslope Landform position (three-dimensional): Side slope Down-slope shape: Linear Across-slope shape: Convex Parent material: Gravelly residuum weathered from trachyte

Typical profile

H1 - 0 to 7 inches: very gravelly loam *H2 - 7 to 79 inches:* bedrock

Properties and qualities

Slope: 10 to 30 percent
Depth to restrictive feature: 4 to 20 inches to lithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.06 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water supply, 0 to 60 inches: Very low (about 0.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7s Hydrologic Soil Group: D Ecological site: R042AE277TX - Igneous Hill and Mountain, Mixed Prairie Hydric soil rating: No

Minor Components

Unnamed

Percent of map unit: 20 percent Hydric soil rating: No

Liv

Percent of map unit: 20 percent Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope Down-slope shape: Linear Across-slope shape: Convex Ecological site: R042AF286TX - Igneous Hill and Mountain, Mountain Savannah Hydric soil rating: No

Rock outcrop

Percent of map unit: 5 percent Landform: Mountain slopes Landform position (three-dimensional): Mountaintop Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Mu—Musquiz clay loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2q8cd Elevation: 4,500 to 6,700 feet Mean annual precipitation: 14 to 20 inches Mean annual air temperature: 59 to 61 degrees F Frost-free period: 180 to 220 days Farmland classification: Not prime farmland

Map Unit Composition

Musquiz and similar soils: 80 percent *Minor components:* 20 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Musquiz

Setting

Landform: Fan remnants Down-slope shape: Linear Across-slope shape: Linear Parent material: Loamy alluvium derived from igneous rock

Typical profile

A - 0 to 7 inches: clay loam Bt - 7 to 35 inches: clay Btk - 35 to 79 inches: clay

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
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
Calcium carbonate, maximum content: 25 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6c Hydrologic Soil Group: C Ecological site: R042AE758TX - Clay Loam, Mixed Prairie Hydric soil rating: No

Minor Components

Berrend

Percent of map unit: 10 percent Landform: Fan remnants Landform position (three-dimensional): Tread Down-slope shape: Linear Across-slope shape: Convex Ecological site: R042AE694TX - Loamy Slope, Mixed Prairie Hydric soil rating: No

Murray

Percent of map unit: 5 percent Landform: Fan remnants Landform position (three-dimensional): Riser Down-slope shape: Convex Across-slope shape: Convex Ecological site: R042AE694TX - Loamy Slope, Mixed Prairie Hydric soil rating: No

Phantom

Percent of map unit: 5 percent Landform: Fan skirts Landform position (three-dimensional): Talf Down-slope shape: Linear Across-slope shape: Linear Ecological site: R042AE272TX - Clay Flat, Mixed Prairie Hydric soil rating: No

Re—Redona association

Map Unit Setting

National map unit symbol: 1yvm Elevation: 3,600 to 5,300 feet Mean annual precipitation: 12 to 16 inches Mean annual air temperature: 57 to 72 degrees F Frost-free period: 180 to 220 days Famland classification: Not prime farmland

Map Unit Composition

Redona and similar soils: 100 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Redona

Setting

Landform: Plains Landform position (two-dimensional): Footslope Landform position (three-dimensional): Tread Down-slope shape: Linear Across-slope shape: Linear Parent material: Pleistocene-age loamy alluvium derived from igneous rock

Typical profile

H1 - 0 to 6 inches: sandy loam H2 - 6 to 80 inches: sandy clay 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 (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 25 percent
Gypsum, maximum content: 1 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 5.0
Available water supply, 0 to 60 inches: High (about 10.5 inches)

Interpretive groups

Land capability classification (irrigated): 3e Land capability classification (nonirrigated): 6e Hydrologic Soil Group: B Ecological site: R042AC250TX - Loamy, Desert Grassland Hydric soil rating: No

Rh—Rockhouse association

Map Unit Setting

National map unit symbol: 1yvn Elevation: 3,500 to 5,500 feet Mean annual precipitation: 8 to 20 inches Mean annual air temperature: 61 to 70 degrees F Frost-free period: 210 to 240 days Familand classification: Not prime farmland

Map Unit Composition

Rockhouse and similar soils: 75 percent Minor components: 25 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rockhouse

Setting

Landform: Arroyos, drainageways Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Tread Down-slope shape: Linear Across-slope shape: Linear, concave Parent material: Gravelly alluvium of quaternary age derived from igneous bedrock

Typical profile

A - 0 to 12 inches: gravelly loam C - 12 to 60 inches: very cobbly loamy sand

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Negligible
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: OccasionalNone
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: Low (about 3.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6s Hydrologic Soil Group: B Ecological site: R042AC242TX - Draw, Desert Grassland Hydric soil rating: No

Minor Components

Gageby

Percent of map unit: 15 percent Ecological site: R042AE273TX - Draw, Mixed Prairie Hydric soil rating: No

Unnamed

Percent of map unit: 10 percent Hydric soil rating: No

Rk—Rockhouse-Bigetty association

Map Unit Setting

National map unit symbol: 1yvp Elevation: 3,100 to 5,500 feet Mean annual precipitation: 8 to 20 inches Mean annual air temperature: 61 to 70 degrees F Frost-free period: 190 to 240 days Famland classification: Not prime farmland

Map Unit Composition

Rockhouse and similar soils: 50 percent Bigetty and similar soils: 30 percent Minor components: 20 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rockhouse

Setting

Landform: Flood plains Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Tread Down-slope shape: Linear Across-slope shape: Linear Parent material: Holocene-age gravelly alluvium derived from igneous rock

Typical profile

H1 - 0 to 12 inches: sandy loam *H2 - 12 to 60 inches:* very cobbly loamy sand

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Negligible
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: OccasionalNone
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: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6s Hydrologic Soil Group: B Ecological site: R042AE760TX - Arroyo, Mixed Prairie Hydric soil rating: No

Description of Bigetty

Setting

Landform: Flood plains Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Tread Down-slope shape: Linear Across-slope shape: Linear Parent material: Holocene-age fine-silty alluvium derived from igneous rock

Typical profile

H1 - 0 to 15 inches: silt loam *H2 - 15 to 58 inches:* clay loam *H3 - 58 to 68 inches:* loam

Properties and qualities

Slope: 0 to 1 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 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: OccasionalNone
Frequency of ponding: None
Calcium carbonate, maximum content: 30 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 5.0
Available water supply, 0 to 60 inches: High (about 11.7 inches)

Interpretive groups

Land capability classification (irrigated): 1 Land capability classification (nonirrigated): 7c Hydrologic Soil Group: C Ecological site: R042AE273TX - Draw, Mixed Prairie Hydric soil rating: No

Minor Components

Unnamed

Percent of map unit: 20 percent Hydric soil rating: No

RoF-Rock outcrop-Brewster association, steep

Map Unit Setting

National map unit symbol: 1yvq Elevation: 300 to 8,700 feet Mean annual precipitation: 10 to 35 inches Mean annual air temperature: 52 to 73 degrees F Frost-free period: 120 to 320 days Farmland classification: Not prime farmland

Map Unit Composition

Rock outcrop: 70 percent Brewster and similar soils: 25 percent Minor components: 5 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rock Outcrop

Setting

Landform: Mountain slopes Landform position (three-dimensional): Mountaintop Down-slope shape: Convex Across-slope shape: Convex Parent material: Trachyte

Typical profile

H1 - 0 to 79 inches: bedrock

Properties and qualities

Slope: 20 to 45 percent Depth to restrictive feature: 0 to 2 inches to lithic bedrock Runoff class: Low Capacity of the most limiting layer to transmit water (Ksat): Moderately low to very high (0.06 to 19.98 in/hr)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 8 Hydrologic Soil Group: D Hydric soil rating: No

Description of Brewster

Setting

Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainflank Down-slope shape: Linear Across-slope shape: Convex Parent material: Gravelly residuum weathered from trachyte

Typical profile

H1 - 0 to 7 inches: stony loam H2 - 7 to 79 inches: bedrock

Properties and qualities

Slope: 20 to 45 percent
Depth to restrictive feature: 4 to 20 inches to lithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.06 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water supply, 0 to 60 inches: Very low (about 0.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7s Hydrologic Soil Group: D Ecological site: R042AE277TX - Igneous Hill and Mountain, Mixed Prairie Hydric soil rating: No

Minor Components

Unnamed

Percent of map unit: 5 percent Hydric soil rating: No

SmB—Sanmoss-Medley complex, 1 to 5 percent slopes

Map Unit Setting

National map unit symbol: 2q8cj Elevation: 4,500 to 6,700 feet Mean annual precipitation: 14 to 20 inches Mean annual air temperature: 59 to 61 degrees F Frost-free period: 180 to 220 days Famland classification: Not prime farmland

Map Unit Composition

Sanmoss and similar soils: 55 percent Medley and similar soils: 30 percent Minor components: 15 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sanmoss

Setting

Landform: Alluvial fans Down-slope shape: Convex Across-slope shape: Convex Parent material: Gravelly alluvium derived from igneous rock

Typical profile

A1 - 0 to 10 inches: very gravelly loam A2 - 10 to 24 inches: very gravelly loam Bk - 24 to 60 inches: very gravelly loam BCk - 60 to 79 inches: very gravelly loam

Properties and qualities

Slope: 1 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 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)

Sodium adsorption ratio, maximum: 1.0 Available water supply, 0 to 60 inches: Low (about 3.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6c Hydrologic Soil Group: A Ecological site: R042AE275TX - Gravelly, Mixed Prairie Hydric soil rating: No

Description of Medley

Setting

Landform: Alluvial fans Down-slope shape: Linear Across-slope shape: Convex Parent material: Loamy alluvium derived from igneous rock

Typical profile

A1 - 0 to 10 inches: gravelly sandy loam A2 - 10 to 24 inches: gravelly loam Bk1 - 24 to 58 inches: loam Bk2 - 58 to 79 inches: gravelly loam

Properties and qualities

Slope: 1 to 5 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 (0.57 to 1.98 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)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Moderate (about 8.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6c Hydrologic Soil Group: B Ecological site: R042AE275TX - Gravelly, Mixed Prairie Hydric soil rating: No

Minor Components

Musquiz

Percent of map unit: 7 percent Landform: Fan remnants Down-slope shape: Linear Across-slope shape: Linear Ecological site: R042AE758TX - Clay Loam, Mixed Prairie Hydric soil rating: No

Hurds, dry

Percent of map unit: 5 percent

Landform: Fan remnants Landform position (two-dimensional): Summit Landform position (three-dimensional): Tread Down-slope shape: Linear Across-slope shape: Convex Ecological site: R042AE274TX - Mountain Valley Foothill Slope, Mixed Prairie Hydric soil rating: No

Brewster

Percent of map unit: 3 percent Landform: Hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Interfluve, base slope Down-slope shape: Convex Across-slope shape: Convex Ecological site: R042AE277TX - Igneous Hill and Mountain, Mixed Prairie Hydric soil rating: No

Ve—Verhalen clay

Map Unit Setting

National map unit symbol: 1yvw Elevation: 2,500 to 4,250 feet Mean annual precipitation: 6 to 14 inches Mean annual air temperature: 63 to 70 degrees F Frost-free period: 210 to 240 days Famland classification: Not prime farmland

Map Unit Composition

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

Description of Verhalen

Setting

Landform: Alluvial flats Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Rise Down-slope shape: Linear Across-slope shape: Convex Parent material: Clayey alluvium derived from igneous rock

Typical profile

- H1 0 to 4 inches: clay
- H2 4 to 26 inches: clay
- H3 26 to 75 inches: clay

Properties and qualities

Slope: 0 to 1 percent

Custom Soil Resource Report

Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: High
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: More than 80 inches
Frequency of flooding: RareNone
Frequency of ponding: None
Calcium carbonate, maximum content: 35 percent
Gypsum, maximum content: 10 percent
Maximum salinity: Very slightly saline to moderately saline (2.0 to 8.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water supply. 0 to 60 inches: Moderate (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): 2s Land capability classification (nonirrigated): 6s Hydrologic Soil Group: D Ecological site: R042AC241TX - Clay Flat, Desert Grassland Hydric soil rating: No

Minor Components

Unnamed, hydric Percent of map unit: 5 percent Landform: Depressions Hydric soil rating: Yes

Unnamed

Percent of map unit: 5 percent Hydric soil rating: No

Vm—Verhalen-Dalby association

Map Unit Setting

National map unit symbol: 1yvy Elevation: 1,700 to 4,250 feet Mean annual precipitation: 6 to 16 inches Mean annual air temperature: 61 to 70 degrees F Frost-free period: 210 to 240 days Famland classification: Not prime farmland

Map Unit Composition

Verhalen and similar soils: 65 percent Dalby and similar soils: 25 percent Minor components: 10 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Verhalen

Setting

Landform: Alluvial flats Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Talf Down-slope shape: Linear Across-slope shape: Convex Parent material: Clayey alluvium derived from igneous rock

Typical profile

H1 - 0 to 4 inches: clay

H2 - 4 to 26 inches: clay

H3 - 26 to 75 inches: clay

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: High
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: More than 80 inches
Frequency of flooding: NoneRare
Frequency of ponding: None
Calcium carbonate, maximum content: 35 percent
Gypsum, maximum content: 10 percent
Maximum salinity: Very slightly saline to moderately saline (2.0 to 8.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water supply, 0 to 60 inches: Moderate (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): 2s Land capability classification (nonirrigated): 6s Hydrologic Soil Group: D Ecological site: R042AC241TX - Clay Flat, Desert Grassland Hydric soil rating: No

Description of Dalby

Setting

Landform: Alluvial flats Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Rise Down-slope shape: Convex Across-slope shape: Convex Parent material: Clayey alluvium derived from igneous rock

Typical profile

H1 - 0 to 4 inches: clay H2 - 4 to 36 inches: clay H3 - 36 to 70 inches: silty clay

Properties and qualities

Slope: 0 to 1 percent Depth to restrictive feature: More than 80 inches Drainage class: Well drained Runoff class: High

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: More than 80 inches Frequency of flooding: RareNone Frequency of ponding: None Calcium carbonate, maximum content: 40 percent Gypsum, maximum content: 10 percent Maximum salinity: Slightly saline to strongly saline (4.0 to 16.0 mmhos/cm) Sodium adsorption ratio, maximum: 10.0 Available water supply, 0 to 60 inches: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): 2s Land capability classification (nonirrigated): 6s Hydrologic Soil Group: D Ecological site: R042AC241TX - Clay Flat, Desert Grassland Hydric soil rating: No

Minor Components

Unnamed

Percent of map unit: 5 percent Hydric soil rating: No

Unnamed, hydric

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

Soil Information for All Uses

Suitabilities and Limitations for Use

The Suitabilities and Limitations for Use section includes various soil interpretations displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each interpretation.

Building Site Development

Building site development interpretations are designed to be used as tools for evaluating soil suitability and identifying soil limitations for various construction purposes. As part of the interpretation process, the rating applies to each soil in its described condition and does not consider present land use. Example interpretations can include corrosion of concrete and steel, shallow excavations, dwellings with and without basements, small commercial buildings, local roads and streets, and lawns and landscaping.

Corrosion of Concrete

ENG

Engineering

AGR

Agronomy

"Risk of corrosion" pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens concrete. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the concrete in installations that are entirely within one kind of soil or within one soil layer.

Custom Soil Resource Report

The risk of corrosion is expressed as "low," "moderate," or "high."



Area of Interes	st (AOI) Background ea of Interest (AOI) Aerial Photograph	The soil surveys that comprise your AOI were mapped at 1:31,700.
Soils Soil Rating I Hi	Polygons gh	Please rely on the bar scale on each map sheet for map measurements.
— Ma	oderate	Source of Map: Natural Resources Conservation Service Web Soil Survey URL: Coordinate System: Web Mercator (EPSG:3857)
Soil Rating	ot rated or not available	Maps from the Web Soil Survey are based on the Web Mercator
Hig مرسمر Mig مربع	gh pderate	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
,⊶⇒,≁ Lo ,∗ No	w pt rated or not available	This product is generated from the USDA-NRCS certified data as
Soil Rating F	Points gh	Soil Survey Area: Jeff Davis County, Texas
	oderate w	Survey Area Data: Version 24, Sep 5, 2023 Soil map units are labeled (as space allows) for map scales
— □ ^{No} Water Feature	ot rated or not available s	1:50,000 or larger. Date(s) aerial images were photographed: Jan 1, 1999—Dec 31.
Stransportation	reams and Canals	2003
t i i Ra 🛹 Int	ails Ierstate Highways	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
US Tain Ma	5 Routes ajor Roads	
Lo	cal Roads	

Table—Corrosion of Concrete

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BeB	Boracho-Espy complex, 1 to 8 percent slopes	Low	10,827.1	13.8%
BrF	Brewster-Rock outcrop association, steep		4,478.0	5.7%
BsE	Brewster association, hilly	Low	12,583.0	16.1 %
Ga	Bigetty association	Moderate	3,513.0	4.5%
GP	Pits, gravel		11.5	0.0%
КЬВ	Kokernot-Brewster association, gently sloping	Low	88.1	0.1%
LmB	Limpia and Mitre soils, gently sloping	Low	1,481.1	1. 9%
LrF	Liv-Mainstay-Rock outcrop association, steep		546.8	0.7%
MbE	Mainstay-Brewster association, hilly	Low	5,367.7	6.9%
Mu	Musquiz clay loam, 0 to 3 percent slopes	Low	25,580.8	32.7%
Re	Redona association	Low	2,715.4	3.5%
Rh	Rockhouse association	Low	9.5	0.0%
Rk	Rockhouse-Bigetty association	Low	623.2	0.8%
RoF	Rock outcrop-Brewster association, steep		1,448.7	1. 8%
SmB	Sanmoss-Medley complex, 1 to 5 percent slopes	Low	8,208.0	10.5%
Ve	Verhalen clay	High	83.8	0.1%
Vm	Verhalen-Dalby association	High	748.8	1.0%
Totals for Area of Inter	est	78,325.3	100.0%	

Rating Options—Corrosion of Concrete

Aggregation Method: Dominant Condition Component Percent Cutoff: None Specified Tie-break Rule: Higher

Corrosion of Steel

ENG

Engineering

AGR

Agronomy

"Risk of corrosion" pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel in installations that are entirely within one kind of soil or within one soil layer.

The risk of corrosion is expressed as "low," "moderate," or "high."



м	AP LEGEND	MAP INFORMATION		
Area of Interest (AOI) Area of Interest (Background AOI) Aerial Photography	The soil surveys that comprise your AOI were mapped at 1:31,700.		
Soils Soil Rating Polygons [] High		Please rely on the bar scale on each map sheet for map measurements.		
Moderate		Source of Map: Natural Resources Conservation Service Web Soil Survey URL: Coordinate System: Web Mercator (EPSG:3857)		
Not rated or not a Soil Rating Lines	availa ble	Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts		
ان ا		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.		
بدي المعنية المحمد ا المحمد المحمد	available	This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.		
Soil Rating Points High		Soil Survey Area: Jeff Davis County, Texas Survey Area Data: Version 24, Sep 5, 2023		
☐ Moderate ☐ Low		Soil map units are labeled (as space allows) for map scales		
☐ Not rated or not a Water Features	available	Date(s) aerial images were photographed: Jan 1, 1999—Dec 31, 2003.		
Streams and Car	als	2005		
+++ Rails		The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background		
Interstate Highwa	iys	imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident		
🖂 US Routes				
– Major Roads				
Local Roads				

Table—Corrosion of Steel

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BeB	Boracho-Espy complex, 1 to 8 percent slopes	Low	10,827.1	13.8%
BrF	Brewster-Rock outcrop association, steep		4,478.0	5.7%
BsE	Brewster association, hilly	Moderate	12,583.0	16.1%
Ga	Bigetty association	Moderate	3,513.0	4.5%
GP	Pits, gravel		11.5	0.0%
КЬВ	Kokernot-Brewster association, gently sloping	Moderate	88.1	0.1%
LmB	Limpia and Mitre soils, gently sloping	High	1,481.1	1. 9%
LrF	Liv-Mainstay-Rock outcrop association, steep		546.8	0.7%
MbE	Mainstay-Brewster association, hilly	High	5,367.7	6.9%
Mu	Musquiz clay loam, 0 to 3 percent slopes	High	25,580.8	32.7%
Re	Redona association	Moderate	2,715.4	3.5%
Rh	Rockhouse association	Moderate	9.5	0.0%
Rk	Rockhouse-Bigetty association	Moderate	623.2	0.8%
RoF	Rock outcrop-Brewster association, steep		1,448.7	1. 8%
SmB	Sanmoss-Medley complex, 1 to 5 percent slopes	Low	8,208.0	10.5%
Ve	Verhalen clay	High	83.8	0.1%
Vm	Verhalen-Dalby association	High	748.8	1.0%
Totals for Area of Interest			78,325.3	100.0%

Rating Options—Corrosion of Steel

Aggregation Method: Dominant Condition Component Percent Cutoff: None Specified Tie-break Rule: Higher

Land Classifications

Land Classifications are specified land use and management groupings that are assigned to soil areas because combinations of soil have similar behavior for specified practices. Most are based on soil properties and other factors that directly influence the specific use of the soil. Example classifications include ecological site classification, farmland classification, irrigated and nonirrigated land capability classification, and hydric rating.

Hydric Rating by Map Unit

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.


МАР	LEGEND)	MAP INFORMATION
Area of Interest (AOI) Area of Interest (AOI)	Transport + 	tation Rails	The soil surveys that comprise your AOI were mapped at 1:31,700.
Area of Interest (AOI) Soils Soil Rating Polygons Hydric (100%) Hydric (66 to 99%) Hydric (33 to 65%) Hydric (1 to 32%) Not Hydric (0%) Not rated or not availa Soil Rating Lines Hydric (100%) Hydric (66 to 99%) Hydric (33 to 65%) Hydric (1 to 32%) Not rated or not availa Soil Rating Points Hydric (100%) Hydric (66 to 99%) Hydric (100%) Hydric (66 to 99%) Hydric (100%) Hydric (66 to 99%) Hydric (1 to 32%) Hydric (1 to 32%) Not Hydric (0%) Hydric (0%) Not rated or not availa	ble	Rails Interstate Highways US Routes Major Roads Local Roads Ind Aerial Photography	 1:31,700. 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: Jeff Davis County, Texas Survey Area Data: Version 24, Sep 5, 2023 Soil map units are labeled (as space allows) for map scales 1:50,000 or larger. Date(s) aerial images were photographed: Jan 1, 1999—Dec 31, 2003 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.
Water Features Streams and Canals			

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BeB	Boracho-Espy complex, 1 to 8 percent slopes	0	10,827.1	13.8%
BrF	Brewster-Rock outcrop association, steep	0	4,478.0	5.7%
BsE	Brewster association, hilly	0	12,583.0	16.1 %
Ga	Bigetty association	0	3,513.0	4.5%
GP	Pits, gravel	0	11.5	0.0%
КЬВ	Kokernot-Brewster association, gently sloping	0	88.1	0.1%
LmB	Limpia and Mitre soils, gently sloping	0	1,481.1	1.9%
LrF	Liv-Mainstay-Rock outcrop association, steep	0	546.8	0.7%
MbE	Mainstay-Brewster association, hilly	0	5,367.7	6.9%
Mu	Musquiz clay loam, 0 to 3 percent slopes	0	25,580.8	32.7%
Re	Redona association	0	2,715.4	3.5%
Rh	Rockhouse association	0	9.5	0.0%
Rk	Rockhouse-Bigetty association	0	623.2	0.8%
RoF	Rock outcrop-Brewster association, steep	0	1,448.7	1.8%
SmB	Sanmoss-Medley complex, 1 to 5 percent slopes	0	8,208.0	10.5%
Ve	Verhalen clay	5	83.8	0.1%
Vm	Verhalen-Dalby association	5	748.8	1. 0%
Totals for Area of Inter	est		78,325.3	100.0%

Rating Options—Hydric Rating by Map Unit

Aggregation Method: Percent Present Component Percent Cutoff: None Specified Tie-break Rule: Lower

Land Management

Land management interpretations are tools designed to guide the user in evaluating existing conditions in planning and predicting the soil response to various land management practices, for a variety of land uses, including cropland, forestland, hayland, pastureland, horticulture, and rangeland. Example interpretations include suitability for a variety of irrigation practices, log landings, haul roads and major skid trails, equipment operability, site preparation, suitability for hand and mechanical planting, potential erosion hazard associated with various practices, and ratings for fencing and waterline installation.

Water Erosion Potential (TX)

"Water Erosion Potential (TX)" is a qualitative interpretation that evaluates a soil's potential to erode through the action of water. The potential assumes that the area being affected is bare, smooth, and exposed to the water erosion processes. The interpretation provides the user with a qualitative rating of the vulnerability of the soil to the action of water; it is not a measure of actual soil loss from erosion.

The water erosion potential of the soil is based on those soil properties or a combination of soil properties and landscape characteristics that contribute to runoff and have low resistance to water erosion processes. Soil features that contribute to water erosivity are surface-layer particle size, saturated hydraulic conductivity, and high runoff landscapes. Conversely, soil features that resist the erosive effect of water are high organic matter content in the surface layer and low runoff landscapes. The water erosion potential is a function of the interaction between those soil features that make the soil susceptible to water erosion and those that resist the water erosion process.

The ratings are both verbal and numerical. Numerical ratings indicate the soil's relative water erosion potential. They are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil has the greatest water erosion potential (1.00) and the point at which a soil has very low water erosion potential (0.00).

Verbal soil rating classes are based on the highest numerical rating for the most limiting soil feature(s) considered in the rating process. "Very high" (numerical values less than or equal to 1.0 to greater than 0.9) indicates that the soil has the greatest relative water erosion vulnerability. "High" (numerical value less than or equal to 0.9 to greater than 0.65) indicates that the soil has large relative water erosion vulnerability. "Moderate" (numerical value less than or equal to 0.65 to greater than 0.35) indicates that the soil has medium relative water erosion vulnerability. "Low" (numerical value less than or equal to 0.35 to greater than 0.1) indicates that the soil has small relative water erosion vulnerability. "Very low" (numerical value less than or equal to 0.10) indicates that the soil has little or no relative water erosion vulnerability.

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen, which is displayed on the report. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the Selected Soil Interpretations report with this interpretation included from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.



MAP LEGEND			MAP INFORMATION		
Area of Interest (AOI) Area of Interest (AOI)		Very high water erosion potential	The soil surveys that comprise your AOI were mapped at 1:31,700.		
Soils		High water erosion potential	Please rely on the bar scale on each map sheet for map		
Soil Rating Polygons		Moderate water erosion potential	measurements.		
potential High water erosion		Low water erosion potential	Source of Map: Natural Resources Conservation Service		
potential Moderate water erosion		Very low water erosion potential	Coordinate System: Web Mercator (EPSG:3857)		
potential		Not rated or not available	Maps from the Web Soil Survey are based on the Web Mercato		
potential	Water Fea	tures Streams and Canals	projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the		
potential	Transport	ation	Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.		
Not rated or not available	+++	Rails			
Soil Rating Lines	and the second second	Interstate Highways	This product is generated from the USDA-NRCS certified data a of the version date(s) listed below.		
potential	5759 ⁰	US Routes	Pail Current Areas - Jeff Davis County Taxas		
potential	: All A	Major Roads	Survey Area Data: Version 24, Sep 5, 2023		
Moderate water erosion potential	Backgrou	Local Roads	Soil map units are labeled (as space allows) for map scales		
Low water erosion potential	Backgrou	Aerial Photography	1:50,000 or larger.		
very low water erosion potential			Date(s) aerial images were photographed: Jan 1, 1999—Dec		
🖌 🥒 Not rated or not available			2003		
Soil Rating Points			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.		

Tables—Water Erosion Potential (TX)

Máp unit symból	Map unit name	Rating	Component name (percent)	Rating reasons (numerić valuës)	Acrës in AOI	Percent of AOI										
BeB	Boracho-Espy complex, 1 to 8	Moderate water erosion	Boracho (60%)	Percs slowly (1.00)	10,827.1	13.8%										
	percent slopes	potential		Organic matter (0.97)												
				LS factor (0.70)												
				Silt content (0.69)												
			Espy (20%)	Organic matter (0.97)												
				Percs slowly (0.92)												
				LS factor (0.70)												
				Silt content (0.69)												
BrF	Brewster-Rock outcrop	Not rated	Rock outcrop (35%)		4,478.0	5.7%										
	association, steep		Unnamed (20%)													
BsE	Brewster	High water	Brewster (60%)	LS factor (1.00)	12,583.0	16.1%										
	association, hilly	erosion potential		Percs slowly (1.00)												
				Organic matter (0.98)												
					Silt content (0.66)											
Ga	Bigetty	Very low water Bigetty (100%) n erosion potential	Silt content (1.00)	3,513.0	4.5%											
	association		1	Organic matter (0.98)												
															Percs slowly (0.92)	
GP	Pits, gravel	Not rated	Pits, gravel (100%)		11.5	0.0%										
KbB	Kokernot- Brewster	Low water erosion	water Kokernot (60%) osion tential	Organic matter (0.96)	88.1	0.1%										
	association, gently sloping	potential		Percs slowly (0.92)												
				Silt content (0.58)												
				LS factor (0.35)												
Lm B	Limpia and Mitre soils, gently	Low water erosion	Limpia (60%)	Percs slowly (1.00)	1,481.1	1.9%										
	sioping	potential		Organic matter (0.97)												
				Silt content (0.73)												
				LS factor (0.35)												

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
		1	Mitre (20%)	Organic matter (0.94)		
				Percs slowly (0.94)		
				Silt content (0.63)		
				LS factor (0.35)		
LrF	Liv-Mainstay- Rock outcrop	Not rated	Rock outcrop (29%)		546.8	0.7%
	steep		Unnamed (25%)			
MbE	Mainstay-	High water	Mainstay (30%)	LS factor (1.00)	5,367.7	6.9%
	association, hilly	potential		Percs slowly (0.99)		
				Organic matter (0.95)		
				Silt content (0.50)		
			Brewster (25%)	LS factor (1.00)		
				Organic matter (0.99)		
				Percs slowly (0.92)		
				Silt content (0.71)		
Mu	Musquiz clay Ioam, 0 to 3	Very low water erosion potential	Musquiz (80%)	Percs slowly (0.99)	25,580.8	32.7%
	percent slopes		polential	Organic matter (0.97)		
				Silt content (0.44)		
				LS factor (0.10)		
Re	Redona association	tona Very low water ssociation erosion potential	na Very low water Redona (100%) ociation erosion	Organic matter (0.94)	2,715.4	3.5%
				Percs slowly (0.92)		
				Silt content (0.22)		
				LS factor (0.10)		
Rh	Rockhouse association	Very low water erosion	Rockhouse (75%)	Organic matter (0.95)	9.5	0.0%
		potential		Percs slowly (0.92)		
				Silt content (0.84)		
Rk	Rockhouse- Bigetty	Very low water erosion	Rockhouse (50%)	Organic matter (0.95)	623.2	0.8%
	association	potential		Percs slowly (0.92)		
				Silt content (0.23)		
			Bigetty (30%)	Silt content (1.00)		

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
				Organic matter (0.98)		
				Percs slowly (0.92)		
RoF	Rock outcrop- Brewster	Not rated	Rock outcrop (70%)		1,448.7	1.8%
	association, steep		Unnamed (5%)			
SmB	Sanmoss-Medley complex, 1 to 5	Low water erosion	Sanmoss (55%)	Organic matter (0.98)	8,208.0	10.5%
	percent slopes	potential		Silt content (0.75)		
				LS factor (0.35)		
				Percs slowly (0.23)		
			Medley (30%)	Organic matter (0.98)		
				Percs slowly (0.92)		
				Silt content (0.41)		
				LS factor (0.35)		
Ve	Verhalen clay	Very low water Verhalen (90%) erosion potential	Verhalen (90%)	Percs slowly (1.00)	83.8	0.1%
			Organic matter (0.95)			
				Silt content (0.33)		
Vm	Verhalen-Dalby association	Very low water erosion	Verhalen (65%)	Percs slowly (1.00)	748.8	1. 0%
		potential		Organic matter (0.95)		
				Silt content (0.33)		
			Dalby (25%)	Percs slowly (1.00)		
				Organic matter (0.95)		
				Silt content (0.34)		

Totals for Area of Interest

78,325.3 100.0%

Rating	Acres in AOI	Percent of AOI
Very low water erosion potential	33,274.4	42.5%
High water erosion potential	17,950.7	22.9%
Moderate water erosion potential	10,82 7.1	13.8%
Low water erosion potential	9,777.2	12.5%
Null or Not Rated	6,484.9	8.3%
Totals for Area of Interest	78,325.3	100.0%

Rating Options—Water Erosion Potential (TX)

Aggregation Method: Dominant Condition Component Percent Cutoff: None Specified Tie-break Rule: Higher

Wind Erosion Potential (TX)

The higher the numerical rating the greater the vulnerability rating class. The "very high" potential class (numerical values less than or equal to 1.0 to greater than 0.9) indicates that the soil has the greatest relative wind erosion vulnerability. The "high" class (numerical value less than or equal to 0.9 to greater than 0.65) indicates that the soil has large relative wind erosion vulnerability. The "moderate" class (numerical value less than or equal to 0.65 to greater than 0.4) indicates that the soil has medium relative wind erosion vulnerability. The "low" class (numerical value less than or equal to 0.65 to greater than 0.4) indicates that the soil has medium relative wind erosion vulnerability. The "low" class (numerical value less than or equal to 0.4 to greater than 0.2) indicates that the soil has small relative wind erosion vulnerability. The "soil has small relative wind erosion vulnerability. The "low" class than or equal to 0.20) indicates that the soil has little or no relative wind erosion vulnerability.

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen, which is displayed on the report. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the Selected Soil Interpretations report with this interpretation included from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site. The Wind Erosion Potential (TX) is a qualitative interpretation which evaluates a soil's potential to erode through the action of wind. The potential assumes that the area being affected is bare, smooth, and has a long distance exposed to the wind. The soil wind erosion potential provides the user with a qualitative rating of the vulnerability of the soil to the action of the wind and is not a measure of actual soil loss from erosion.

The wind erosion potential of the soil is based on those surface soil properties that by themselves or in combination with others contribute to the soil's potential wind erosivity. Those surface soil features that contribute to wind erosivity are particle size and carbonate content. Conversely, surface features that resist the erosive effect of wind are organic matter content and coarse fragments. The soil wind erosion potential is a function of the interaction between surface soil features that make the soil susceptible to wind erosion and those that resist the wind erosion process. Numerical ratings or values indicate the soil's relative wind erosion potential. Ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil has the greatest wind erosion potential (1.00), and the point at which a soil has very low wind erosion potential (0.00).

The ratings are both verbal and numerical. The potential degree to which a soil is susceptible to wind erosion will range from "very high" to "very low" (from 1.0 to 0.0). Soils that have favorable surface particle size, high organic matter content, or protective coarse fragments will have "very low" wind erosion potential. Soils that have "very high" wind erosion potential are those with a surface layer that has a sandy particle size, high carbonate content, low organic matter content, or no coarse fragment protection.

The higher the numerical rating the greater the vulnerability rating class. The "very high" potential class (numerical values less than or equal to 1.0 to greater than 0.9) indicates that the soil has the greatest relative wind erosion vulnerability. The "high" class (numerical value less than or equal to 0.9 to greater than 0.65) indicates that the soil has large relative wind erosion vulnerability. The "moderate" class (numerical value less than or equal to 0.65 to greater than 0.4) indicates that the soil has medium relative wind erosion vulnerability. The "low" class (numerical value less than or equal to 0.65 to greater than 0.4) indicates that the soil has medium relative wind erosion vulnerability. The "low" class (numerical value less than or equal to 0.4 to greater than 0.2) indicates that the soil has small relative wind erosion vulnerability. The "soil has small relative wind erosion vulnerability. The "low" class than or equal to 0.20) indicates that the soil has little or no relative wind erosion vulnerability.

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation



MAP L	EGEND	MAP INFORMATION		
Area of Interest (AOI) Area of Interest (AOI)	Transportation +++ Rails	The soil surveys that comprise your AOI were mapped at 1:31,700.		
Soils Soil Rating Polygons Very high	مع Interstate Highways سیع US Routes	Please rely on the bar scale on each map sheet for map measurements.		
High Moderate	Local Roads	Source of Map: Natural Resources Conservation Service Web Soil Survey URL: Coordinate System: Web Mercator (EPSG:3857)		
Low Very low	Background Aerial Photography	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		
Not rated or not available Soil Rating Lines		Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.		
ہمیں High ہ ہ Moderate		This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.		
ب×⇔ية Low سيجيمط Very low		Soil Survey Area: Jeff Davis County, Texas Survey Area Data: Version 24, Sep 5, 2023		
		Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.		
Very high High		Date(s) aerial images were photographed: Jan 1, 1999—Dec 31, 2003		
Moderate Low		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		
Very lowNot rated or not available		shifting of map unit boundaries may be evident.		
Water Features				

Tables—Wind Erosion Potential (TX)

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric valuës)	Acrës in AOI	Percent of AOI
BeB	Boracho-Espy complex, 1 to 8 percent slopes	Very low wind erosion potential	Boracho (60%)	Rock fragment content of surface (0.60)	10,827.1	13.8%
				Carbonate content of surface (0.59)		
				Sand content of surface (0.51)		
				Clay content of surface (0.22)		
				Silt content of surface (0.05)		
			Espy (20%)	Sand content of surface (0.51)		
				Rock fragment content of surface (0.44)		
				Clay content of surface (0.22)		
				Silt content of surface (0.05)		
				Organic matter content of surface (0.01)		
BrF	Brewster-Rock outcrop association,	Not rated	Rock outcrop (35%)		4,478.0	5.7%
BsE	steep Brewster association,	Very low wind erosion potential	Brewster (60%)	Clay content of surface (0.54)	12,583.0	16.1%
	hilly			Rock fragment content of surface (0.46)		
				Sand content of surface (0.33)		
				Silt content of surface (0.05)		
				Organic matter content of surface (0.01)		
Ga	Bigetty association	Moderate wind erosion	Bigetty (100%)	Silt content of surface (0.45)	3,513.0	4.5%
		potential		Clay content of surface (0.29)		

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
				Rock fragment content of surface (0.02)		
				Organic matter content of surface (0.01)		
GP	Pits, gravel	Not rated	Pits, gravel (100%)		11.5	0.0%
КрВ	Kokernot- Brewster	High wind erosion	Kokernot (60%)	Sand content of surface (0.94)	88.1	0.1%
	association, gently sloping	potential		Rock fragment content of surface (0.19)		
				Clay content of surface (0.01)		
LmB	Limpia and Mitre soils, gently sloping	Very low wind erosion potential	Limpia (60%)	Rock fragment content of surface (0.60)	1,4 81.1	1. 9%
				Clay content of surface (0.43)		
				Sand content of surface (0.31)		
				Silt content of surface (0.08)		
LrF	Liv-Mainstay- Rock outcrop	Not rated	Rock outcrop (29%)		546.8	0.7%
	steep		Unnamed (25%)			
MbE	Mainstay- Brewster	Very low wind erosion	Mainstay (30%)	Silt content of surface (0.31)	5,367.7	6.9%
	hilly	potential		Rock fragment content of surface (0.16)		
				Clay content of surface (0.12)		
				Sand content of surface (0.04)		
			Brewster (25%)	Rock fragment content of surface (0.57)		
				Clay content of surface (0.43)		
				Sand content of surface (0.33)		
				Silt content of surface (0.07)		
				Organic matter content of surface (0.05)		

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI																				
Mu	Musquiz clay Ioam, 0 to 3	Moderate wind erosion	Musquiz (80%)	Clay content of surface (0.67)	25,580.8	32.7%																				
	percent slopes	potential		Sand content of surface (0.33)																						
				Silt content of surface (0.03)																						
				Organic matter content of surface (0.03)																						
				Rock fragment content of surface (0.03)																						
Re	Redona association	Very high wind erosion	Redona (100%)	Sand content of surface (0.95)	2,715.4	3.5%																				
		potential		Clay content of surface (0.00)																						
Rh	Rockhouse association	khouse Moderate wind ssociation erosion potential	Rockhouse (75%)	Sand content of surface (0.50)	9.5	0.0%																				
			prentral	Silt content of surface (0.12)																						
				Rock fragment content of surface (0.05)																						
						Clay content of surface (0.02)																				
Rk	Rockhouse- Bigetty	e- High wind erosion tion potential	use- High wind Rockhouse y erosion (50%)	Sand content of surface (0.95)	623.2	0.8%																				
	association			Rock fragment content of surface (0.05)																						
																									Clay content of surface (0.00)	
RoF	Rock outerop- Brewster	Not rated	Rock outcrop (70%)		1,448.7	1.8%																				
	association, steep		Unnamed (5%)																							
SmB	Sanmoss-Medley complex, 1 to 5 percent slopes	Very low wind erosion potential	Sanmoss (55%)	Rock fragment content of surface (0.58)	8,208.0	10.5%																				
				Sand content of surface (0.51)																						
				Silt content of surface (0.11)																						
				Clay content of surface (0.02)																						
				Organic matter content of surface (0.01)																						

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
Ve	Verhalen clay	High wind erosion	Verhalen (90%)	Clay content of surface (0.85)	83.8	0.1%
		potential		Silt content of surface (0.02)		
				Rock fragment content of surface (0.00)		
Vm	Verhalen-Dalby association	High wind erosion	Verhalen (65%)	Clay content of surface (0.85)	748.8	1. 0%
		potential		Silt content of surface (0.02)		
				Rock fragment content of surface (0.00)		
			Dalby (25%)	Clay content of surface (0.85)		
				Silt content of surface (0.02)		
				Rock fragment content of surface (0.00)		
Totals for Area	ofInterest		I		78.325.3	100.0%

Rating	Acres in AOI	Percent of AOI
Very low wind erosion potential	38,466.9	49.1%
Moderate wind erosion potential	29,103.2	37.2%
Very high wind erosion potential	2,715.4	3.5%
High wind erosion potential	1,543.9	2.0%
Null or Not Rated	6,484.9	8.3%
Totals for Area of Interest	78,325.3	100.0%

Rating Options—Wind Erosion Potential (TX)

Aggregation Method: Dominant Condition Component Percent Cutoff: None Specified Tie-break Rule: Higher

Soil Reports

The Soil Reports section includes various formatted tabular and narrative reports (tables) containing data for each selected soil map unit and each component of each unit. No aggregation of data has occurred as is done in reports in the Soil Properties and Qualities and Suitabilities and Limitations sections.

The reports contain soil interpretive information as well as basic soil properties and qualities. A description of each report (table) is included.

Soil Qualities and Features

This folder contains tabular reports that present various soil qualities and features. The reports (tables) include all selected map units and components for each map unit. Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

Soil Features

This table gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. The table indicates the hardness and thickness of the restrictive layer, both of which significantly affect the ease of excavation. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

Subsidence is the settlement of organic soils or of saturated mineral soils of very low density. Subsidence generally results from either desiccation and shrinkage, or oxidation of organic material, or both, following drainage. Subsidence takes place gradually, usually over a period of several years. The table shows the expected initial subsidence, which usually is a result of drainage, and total subsidence, which results from a combination of factors.

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, saturated hydraulic conductivity (Ksat), content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly,

or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low*, *moderate*, or *high*, is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low, moderate*, or *high.* It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

			Sc	oil Features–Jeff Davi	s County, 1	exas.				
Map symbol and		Re	strictive Layer		Subs	idence	Potential for frost	Risk of corresion		
soli name	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete	
		Low-RV- High	Range		Low- High	Low- High				
BeB—Boracho- Espy complex, 1 to 8 percent slopes		IN	In		in	IN				
Boracho	Petrocalcic	7- 12-20	4-39	Strongly coherent	0	0	None	Low	Low	
Espý	Petrocalcic	10- 14-20	4-49	Strongly coherent	0	0	None	Low	Low	
BrF—Brewster- Rock outcrop association, steep										
Brewster	Lithic bedrock	4- 7-20	—	Indurated	0		None	Low	Low	
Rock:outcrop	Lithic bedrock	0-0-2	:	Indurated	.0	,—				
BsE—Brewster association, hilly										
Brewster	Lithic bedrock	4- 7-20	_	Indurated	0		None	Moderate	Low	
Rock outcrop	Lithic bedrock	- 0-	·	Indurated	_					
Ga—Bigetty association										
Bigetty		_	_		0		None	Moderate	Moderate	
GP—Pits, gravel										
Pits, gravel		_	_		_	_				

			Soil	Features-Jeff Davis	County, T	exas			
Map symbol and		Re	strictive Layer		Subsi	idence	Potential for frost	Risk of a	orrosion
soli name	Kind	Depth to top	Thickness	Hardness	Initial	Total	action	Uncoated steel	Concrețe
		Low-RV- High	Range		Low- High	Low- High			
KbB—Kokernot- Brewster association, gently sloping									
Kokernot	Lithic bedrock	12- 18-20	-	Indurated	0	—	None	Moderate	Low
Brewster	Lithic bedrock	4- 7-20	 	Indurated	0	_	None	Low	Low
LmB—Limpia and Mitre soils, gently sloping									
Limpia		_	_		0	_	None	High	Low
Mitre	Petrocalcic	10- 14-20	0-3	Indurated [:]	0	—	None	Moderate	Low
LrF—Liv-Mainstay- Rock outerop association, steep									
Liv	Paralithic bedrock	20- 38-40	_	Weakly coherent	0	_	None	High	Low
Rock outcrop	Lithic bedrock	0-0-2	_	Indurated	0	_			
Mainstay	Lithic bedrock	10- 16-20	-	Indurated	0	_	None	High	Low
MbE—Mainstay- Brewster association, hilly									
Mainstay	Paralithic bedrock	10- 16-20	-	Weakly coherent	0	_	None	High	Low
Brewster	Lithic bedrock	4- 7-20	_	Indurated	0	_	Nòne	Low	Lòw

Soil Features–Jeff Davis County, Texas									
Map symbol and		Re	strictive Layer		Subsi	idence	Potential for frost	Risk of a	orrosion
soli name	Kind	Depth to top	Thickness	Hardness	Initial	Total	action	Uncoated steel	Concrețe
		Low-RV- High	Range		Low- High	Low- High			
Mu—Musquiz clay loam, 0 to 3 percent slopes									
Musquiz		_	_		0	0	None	High	Low
Re—Redona association									
Redona		_	—		0	_	None	Moderate	Low
Rh—Rockhouse association									
Rockhouse		_	—		0	_	None	Moderate	Low
Rk—Rockhouse- Bigetty association									
Rockhouse		_	_		0	_	None	Moderate	Low
Bigetty		—	—		0	_	None	Moderate	Moderate
RoF—Rock outcrop-Brewster association, steep									
Rock outcrop	Lithic bedrock	0- 0-2	—	Indurated	0	_			
Ŗ rewşter	Lithic bedrock	4- 7-20	_	Indurated	0	_	None	Low	Low
SmB—Sanmoss- Medley complex, 1 to 5 percent slopes									
Sanmoss		_	—		0	0	None	Low	Low
Mèdley		<u> </u>	-		0	0	None	Low	Low

Soil Features–Jeff Davis County, Texas									
Map symbol and		Re	strictive Layer		Subsidence		Potential for frost	Risk of c	orrosion
son name	Kind	Depth to top	Thickness	Hardness	Hardness Initial Total			Uncoated steel	Concrețe
		Low-RV- High	Range		Low- High	Low- High			
Ve—Verhalen clay									
Verhalen		_	—		0	_	None	High	High
Vm—Verhalen- Dalby association									
Verhalen		_	—		0		None	High	High
Dalby					0	_	None	High	High

Water Features

This folder contains tabular reports that present soil hydrology information. The reports (tables) include all selected map units and components for each map unit. Water Features include ponding frequency, flooding frequency, and depth to water table.

Water Features

This table gives estimates of various soil water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas.

Surface runoff refers to the loss of water from an area by flow over the land surface. Surface runoff classes are based on slope, climate, and vegetative cover. The concept indicates relative runoff for very specific conditions. It is assumed that the surface of the soil is bare and that the retention of surface water resulting from irregularities in the ground surface is minimal. The classes are negligible, very low, low, medium, high, and very high.

The *months* in the table indicate the portion of the year in which a water table, ponding, and/or flooding is most likely to be a concern.

Water table refers to a saturated zone in the soil. The water features table indicates, by month, depth to the top (*upper limit*) and base (*lower limit*) of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on

observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table. The kind of water table, apparent or perched, is given if a seasonal high water table exists in the soil. A water table is perched if free water is restricted from moving downward in the soil by a restrictive feature, in most cases a hardpan; there is a dry layer of soil underneath a wet layer. A water table is apparent if free water is present in all horizons from its upper boundary to below 2 meters or to the depth of observation. The water table kind listed is for the first major component in the map unit.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. The table indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

Flooding is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Duration and *frequency* are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. *None* means that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of normal weather conditions (the chance of flooding is 0 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of normal weather conditions (the chance of flooding is nore than 50 percent in any year but is less than 50 percent in all months in any year); and *very frequent* that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year).

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

Map unit symbol and soil	Hydrologic	Surface	Most likely		Water table			Ponding		Floo	ding
name	group	runoff	months	Upper limiț	Lower limit	Kind	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	Ft		Ft	1			
BeB—Boracho-Espy comple	ex, 1 to 8 perc	ent slopes									
Boracho	D	High	Jan-Dec	-	_	_	-	_	None	-	None
Espy	D	High	Jan-Dec	_	_	 .	-	.—	None	_	Noņe
BrF—Brewster-Rock outcro	p association,	steep		1							
Brewster	D	High	Jan-Dec	-	_	-	-	_	None	-	None
Rock outcrop	D	Low	Jan-Dec	_	_			_	None	_	None
BsE—Brewster association,	hilly										
Brewster	D	Very high	Jan-Dec	_	_	_	_	_	None	_	None
Rock outcrop	,D			_	_	_ .	_	_	_	_	
Ga—Bigetty association											
Bigetty	С	Low	Jan-Jun	-	_	_	_	_	None	_	
			Jul-Oct	-	_	_	-	_	None	Very brief (4 to 48 hours)	Occasional
			Nov-Dec	_	_	_	_	_	None	_	
GP—Pits, gravel		•								•	
Pits, gravel	D			_	_	_	_	_	_	_	
KbB—Kokernot-Brewster as	ssociation, gen	tly sloping									
Kokernot	D	Low	Jan-Dec	_	_	_	_	_	None	_	None
B rewşter	Ď	Medium	Jan-Dec	—	_	—	—	_	None	_	None
LmB—Limpia and Mitre soil	s, gently slopir	ng									
Limpia	С	High	Jan-Dec	-	_	-	-	_	None	-	None
Mitre	D	Medium	Jan-Dec	_	_	_	_	_	None	_	None

Map unit symbol and soil	Hydrologic	Surface	Most likely		Water table			Ponding		Floo	ding
name	group	runon	montas	Upper limit	Lower limit	Kind	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	Ft		Ft	•	•		
LrF-Liv-Mainstay-Rock out	crop associati	on, steep	•								
Liv	С	High	Jan-Dec	_	_	_	-	_	None	_	None
Rock outcrop	D	Low	Jan-Dec	_	_	— .	—	.—	None	_	Noņe
Mainstay	D	Very high	Jan-Dec	—	_	_	-	_	None	_	None
MbE—Mainstay-Brewster as	ssociation, hilly	ý	·								•
Mainstay	D	Very high	Jan-Dec	-	_	_	-	_	None	_	None
Brewster	Ď	High	Jan-Dec	_			_	_	None	_	None
Mu—Musquiz clay loam, 0 t	o 3 percent sid	opes	·	•							•
Musquiz	С	Medium	Jan-Dec	-	_	_	-	_	None	_	None
Re—Redona association											
Redona	В	Low	Jan-Dec	_	_	_	-	_	None	_	None
Rh-Rockhouse association	1		·								•
Rockhouse	в	Negligible	Jan-Jun	_	_	_	-	_	None	_	
			Jul-Oct	_	_	_	-	_	None	Very brief (4 to 48 hours)	Occasional
			Nov-Dec	_	_	_	_	_	None	_	

Map unit symbol and soil	Hydrologic	Surface	Most likely		Water table			Ponding		Floo	ding
пате	group	гипоп	months	Upper limiț	Lower limit	Kind	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	Ft		Ft	•			
Rk—Rockhouse-Bigetty ass	ociation		•				•				•
Rockhouse	в	Negligible	Jan-Jun	_	_	—	_	_	None	_	
			Jul-Oct	_	-	_	_	-	None	Very brief (4 to 48 hours)	Occasional
			Nov-Dec	—	_	_	—	_	None	_	
Bigetty	Ç	Low	Jan-Jun	-	_	_	_	_	None	_	
			Jul-Oct	_	_	_	_	_	None	Very brief (4 to 48 hours)	Òccasional
			Nov-Dec	_	_	_	_	_	None	_	
RoF—Rock outcrop-Brewste	er association,	steep									
Rock outcrop	D	Low	Jan-Dec	-	_	-	-	_	None	_	None
Brewster	D	High	Jan-Dec		_	_	_	_	None	_	None
SmB—Sanmoss-Medley co	mplex, 1 to 5 p	ercent slopes									
Sanmoss	А	Very low	Jan-Dec	_	_	_	—	_	None	_	None
Medley	в	Low	Jan-Dec	_	—	_	_	_	None	_	None
Ve—Verhalen clay			•								
Verhalen	D	High	Jan-May	_	_	_	—	_	None	_	
			Jun-Sep	_	_	—	_	_	None	_	Rare
			Oct-Dec	_	_	_	_	_	None		

							-				
Map unit symbol and soil	Hydrologic	Surface	Most likely		Water table Ponding Flooding		oding				
name	group	Tunon	montas	Upper limiț	Lower limit	Kind	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	Ft		Ft				
Vm—Verhalen-Dalby assoc	iation										
Verhalen	D	High	Jan-May	-	_	_	-	_	None	_	
			Jun-Sep	_	—	-	-	—	None	—	Rare
			Oct-Dec	—	_	_	_	_	None	_	
Dalby	D	High	Jan-May	-	·	_	-	—	None	_	
			Jun-Sep	_	_	-	-	_	None	_	Rare
			Oct-Dec	_	_	_	_	_	None		

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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 Jeff Davis County, Texas, and Presidio County, Texas

AEP Texas Alamito Creek to Fort Davis-South_Soil_Report



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.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

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.



MAP LEGEND



MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:31,700.

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: Jeff Davis County, Texas Survey Area Data: Version 24, Sep 5, 2023

Soil Survey Area: Presidio County, Texas Survey Area Data: Version 27, Sep 5, 2023

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

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

Date(s) aerial images were photographed: Mar 5, 2021—Jan 18, 2023

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND

MAP INFORMATION

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

	-		
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BeB	Boracho-Espy complex, 1 to 8 percent slopes	69.5	0.1%
BsE	Brewster association, hilly	153.3	0.3%
Ga	Bigetty association	60.7	0.1%
LmB	Limpia and Mitre soils, gently sloping	34.2	0.1%
Mu	Musquiz clay loam, 0 to 3 percent slopes	414.2	0.7%
Re	Redona association	223.6	0.4%
Vm	Verhalen-Dalby association	153.4	0.3%
Subtotals for Soil Survey Area		1,109.0	2.0%
Totals for Area of Interest		55,532.8	100.0%

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
ANS	Area not surveyed, access denied	140.2	0.3%
BEB	Berrend and Espy soils, 1 to 5 percent slopes	1,637.8	2.9%
BOB	Boracho-Espy complex, 1 to 8 percent slopes	2,766.6	5.0%
BRD	Brewster very gravelly loam, 1 to 12 percent slopes	1.9	0.0%
BRF	Brewster-Rock outcrop complex, 10 to 30 percent slopes	1,135.6	2.0%
СМС	Chilimol-Boracho-Berrend complex, 1 to 8 percent slopes	11,392.4	20.5%
CND	Chinati-Boracho-Berrend association, 1 to 15 percent slopes	5,086.4	9.2%
CVC	Costavar and Volco soils, 1 to 8 percent slopes	301.4	0.5%
EEB	Espy-Eppenauer complex, 1 to 5 percent slopes	264.0	0.5%
MCA	Marfa clay loam, 0 to 2 percent slopes, occasionally flooded	9,573.1	17. 2%
MUB	Murray-Marfa-Boracho association, 1 to 5 percent slopes	9,110.9	16.4%
MZA	Musquiz clay loam, 0 to 3 percent slopes	10,152.7	18.3%

	1		
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
PTA	Phantom clay loam, 0 to 2 percent slopes, occasionally flooded	562.3	1.0%
PZB	Phantom-Musquiz complex, 1 to 5 percent slopes	2,291.1	4.1%
Subtotals for Soil Survey Area		54,416.2	98.0%
Totals for Area of Interest		55,532.8	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.

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.

Jeff Davis County, Texas

BeB—Boracho-Espy complex, 1 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2q8cv Elevation: 4,500 to 6,700 feet Mean annual precipitation: 14 to 20 inches Mean annual air temperature: 59 to 61 degrees F Frost-free period: 180 to 220 days Famland classification: Farmland of statewide importance

Map Unit Composition

Boracho and similar soils: 60 percent Espy and similar soils: 20 percent Minor components: 20 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Boracho

Setting

Landform: Fan remnants Down-slope shape: Linear Across-slope shape: Convex Parent material: Gravelly alluvium derived from igneous rock

Typical profile

A - 0 to 7 inches: very gravelly loam Bk - 7 to 12 inches: very gravelly loam Bkkm - 12 to 22 inches: cemented material BCk - 22 to 79 inches: very gravelly loam

Properties and qualities

Slope: 1 to 8 percent
Depth to restrictive feature: 7 to 20 inches to petrocalcic
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 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: 70 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 3.0
Available water supply, 0 to 60 inches: Very low (about 1.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6c Hydrologic Soil Group: D Ecological site: R042AE281TX - Shallow, Mixed Prairie Hydric soil rating: No

Description of Espy

Setting

Landform: Fan remnants Down-slope shape: Linear Across-slope shape: Linear Parent material: Gravelly alluvium derived from igneous rock

Typical profile

A - 0 to 7 inches: gravelly loam Bk - 7 to 14 inches: gravelly loam Bkkm - 14 to 26 inches: cemented material BCk - 26 to 79 inches: very gravelly loam

Properties and qualities

Slope: 1 to 8 percent
Depth to restrictive feature: 10 to 20 inches to petrocalcic
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 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: 70 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 3.0
Available water supply, 0 to 60 inches: Very low (about 1.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6c Hydrologic Soil Group: D Ecological site: R042AE281TX - Shallow, Mixed Prairie Hydric soil rating: No

Minor Components

Chilimol

Percent of map unit: 10 percent Landform: Fan remnants Down-slope shape: Convex Across-slope shape: Convex Ecological site: R042AE275TX - Gravelly, Mixed Prairie Hydric soil rating: No

Murray

Percent of map unit: 5 percent Landform: Fan remnants Down-slope shape: Convex Across-slope shape: Convex Ecological site: R042AE694TX - Loamy Slope, Mixed Prairie Hydric soil rating: No

Pardo

Percent of map unit: 5 percent Landform: Rock pediments Down-slope shape: Linear Across-slope shape: Convex Ecological site: R042AE281TX - Shallow, Mixed Prairie Hydric soil rating: No

BsE—Brewster association, hilly

Map Unit Setting

National map unit symbol: 1ytx Elevation: 4,000 to 6,200 feet Mean annual precipitation: 12 to 20 inches Mean annual air temperature: 57 to 64 degrees F Frost-free period: 210 to 240 days Farmland classification: Not prime farmland

Map Unit Composition

Brewster and similar soils: 60 percent Rock outcrop: 30 percent Minor components: 10 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Brewster

Setting

Landform: Hills Landform position (two-dimensional): Shoulder, backslope Landform position (three-dimensional): Side slope Down-slope shape: Linear Across-slope shape: Convex Parent material: Gravelly residuum weathered from trachyte

Typical profile

A1 - 0 to 7 inches: gravelly clay loam R - 7 to 79 inches: bedrock

Properties and qualities

Slope: 10 to 30 percent
Depth to restrictive feature: 4 to 20 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.06 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water supply, 0 to 60 inches: Very low (about 0.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7s Hydrologic Soil Group: D Ecological site: R042AE277TX - Igneous Hill and Mountain, Mixed Prairie Hydric soil rating: No

Description of Rock Outcrop

Setting

Parent material: Trachyte

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 8 Hydrologic Soil Group: D Hydric soil rating: No

Minor Components

Unnamed

Percent of map unit: 10 percent Hydric soil rating: No

Ga—Bigetty association

Map Unit Setting

National map unit symbol: 1yv2 Elevation: 3,100 to 4,500 feet Mean annual precipitation: 10 to 14 inches Mean annual air temperature: 61 to 64 degrees F Frost-free period: 190 to 215 days Farmland classification: Not prime farmland

Map Unit Composition

Bigetty and similar soils: 100 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bigetty

Setting

Landform: Flood plains Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Tread Down-slope shape: Linear Across-slope shape: Linear Parent material: Holocene-age fine-silty alluvium derived from igneous rock

Typical profile

H1 - 0 to 15 inches: silt loam *H2 - 15 to 58 inches:* clay loam *H3 - 58 to 68 inches:* loam

Properties and qualities

Slope: 0 to 1 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 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: OccasionalNone
Frequency of ponding: None
Calcium carbonate, maximum content: 30 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 5.0
Available water supply, 0 to 60 inches: High (about 11.7 inches)

Interpretive groups

Land capability classification (irrigated): 1 Land capability classification (nonirrigated): 7c Hydrologic Soil Group: C Ecological site: R042AE273TX - Draw, Mixed Prairie Hydric soil rating: No

LmB—Limpia and Mitre soils, gently sloping

Map Unit Setting

National map unit symbol: 1yv8 Elevation: 3,500 to 4,500 feet Mean annual precipitation: 10 to 20 inches Mean annual air temperature: 61 to 66 degrees F Frost-free period: 210 to 240 days Farmland classification: Not prime farmland

Map Unit Composition

Limpia and similar soils: 60 percent Mitre and similar soils: 20 percent Minor components: 20 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Limpia

Setting

Landform: Fans Landform position (two-dimensional): Backslope Landform position (three-dimensional): Tread Down-slope shape: Linear Across-slope shape: Convex Parent material: Pleistocene-age gravelly alluvium derived from igneous rock

Typical profile

H1 - 0 to 12 inches: very gravelly loam *H2 - 12 to 60 inches:* very cobbly clay

Properties and qualities

Slope: 1 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: High
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
Available water supply, 0 to 60 inches: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6s Hydrologic Soil Group: C Ecological site: R042AC243TX - Foothill Slope, Desert Grassland Hydric soil rating: No

Description of Mitre

Setting

Landform: Fan remnants Landform position (two-dimensional): Backslope Landform position (three-dimensional): Tread Down-slope shape: Linear Across-slope shape: Convex Parent material: Pleistocene-age gravelly alluvium derived from igneous rock

Typical profile

H1 - 0 to 4 inches: gravelly loam
H2 - 4 to 14 inches: very gravelly clay loam
H3 - 14 to 22 inches: cemented material
H4 - 22 to 40 inches: extremely gravelly loam

Properties and qualities

Slope: 1 to 5 percent
Depth to restrictive feature: 10 to 20 inches to petrocalcic
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 80 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 1.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6s Hydrologic Soil Group: D Ecological site: R042AC243TX - Foothill Slope, Desert Grassland Hydric soil rating: No

Minor Components

Unnamed

Percent of map unit: 20 percent Hydric soil rating: No

Mu-Musquiz clay loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2q8cd Elevation: 4,500 to 6,700 feet Mean annual precipitation: 14 to 20 inches Mean annual air temperature: 59 to 61 degrees F Frost-free period: 180 to 220 days Farmland classification: Not prime farmland

Map Unit Composition

Musquiz and similar soils: 80 percent Minor components: 20 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Musquiz

Setting

Landform: Fan remnants Down-slope shape: Linear Across-slope shape: Linear Parent material: Loamy alluvium derived from igneous rock

Typical profile

A - 0 to 7 inches: clay loam Bt - 7 to 35 inches: clay Btk - 35 to 79 inches: clay

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
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
Calcium carbonate, maximum content: 25 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6c Hydrologic Soil Group: C Ecological site: R042AE758TX - Clay Loam, Mixed Prairie Hydric soil rating: No

Minor Components

Berrend

Percent of map unit: 10 percent Landform: Fan remnants Landform position (three-dimensional): Tread Down-slope shape: Linear Across-slope shape: Convex Ecological site: R042AE694TX - Loamy Slope, Mixed Prairie Hydric soil rating: No

Murray

Percent of map unit: 5 percent Landform: Fan remnants Landform position (three-dimensional): Riser Down-slope shape: Convex Across-slope shape: Convex Ecological site: R042AE694TX - Loamy Slope, Mixed Prairie Hydric soil rating: No

Phantom

Percent of map unit: 5 percent Landform: Fan skirts Landform position (three-dimensional): Talf Down-slope shape: Linear Across-slope shape: Linear Ecological site: R042AE272TX - Clay Flat, Mixed Prairie Hydric soil rating: No

Re—Redona association

Map Unit Setting

National map unit symbol: 1yvm Elevation: 3,600 to 5,300 feet Mean annual precipitation: 12 to 16 inches Mean annual air temperature: 57 to 72 degrees F Frost-free period: 180 to 220 days Famland classification: Not prime farmland

Map Unit Composition

Redona and similar soils: 100 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Redona

Setting

Landform: Plains Landform position (two-dimensional): Footslope Landform position (three-dimensional): Tread Down-slope shape: Linear Across-slope shape: Linear Parent material: Pleistocene-age loamy alluvium derived from igneous rock

Typical profile

H1 - 0 to 6 inches: sandy loam H2 - 6 to 80 inches: sandy clay 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 (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 25 percent
Gypsum, maximum content: 1 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 5.0
Available water supply, 0 to 60 inches: High (about 10.5 inches)

Interpretive groups

Land capability classification (irrigated): 3e Land capability classification (nonirrigated): 6e Hydrologic Soil Group: B Ecological site: R042AC250TX - Loamy, Desert Grassland Hydric soil rating: No

Vm—Verhalen-Dalby association

Map Unit Setting

National map unit symbol: 1yvy Elevation: 1,700 to 4,250 feet Mean annual precipitation: 6 to 16 inches Mean annual air temperature: 61 to 70 degrees F Frost-free period: 210 to 240 days Famland classification: Not prime farmland

Map Unit Composition

Verhalen and similar soils: 65 percent Dalby and similar soils: 25 percent Minor components: 10 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Verhalen

Setting

Landform: Alluvial flats Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Talf Down-slope shape: Linear Across-slope shape: Convex Parent material: Clayey alluvium derived from igneous rock

Typical profile

H1 - 0 to 4 inches: clay H2 - 4 to 26 inches: clay H3 - 26 to 75 inches: clay

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: High
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: More than 80 inches
Frequency of flooding: NoneRare
Frequency of ponding: None
Calcium carbonate, maximum content: 35 percent
Gypsum, maximum content: 10 percent
Maximum salinity: Very slightly saline to moderately saline (2.0 to 8.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water supply, 0 to 60 inches: Moderate (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): 2s Land capability classification (nonirrigated): 6s Hydrologic Soil Group: D Ecological site: R042AC241TX - Clay Flat, Desert Grassland Hydric soil rating: No

Description of Dalby

Setting

Landform: Alluvial flats Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Rise Down-slope shape: Convex Across-slope shape: Convex Parent material: Clayey alluvium derived from igneous rock

Typical profile

H1 - 0 to 4 inches: clay H2 - 4 to 36 inches: clay H3 - 36 to 70 inches: silty clay

Properties and qualities

Slope: 0 to 1 percent Depth to restrictive feature: More than 80 inches Drainage class: Well drained
Runoff class: High
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: More than 80 inches
Frequency of flooding: RareNone
Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent
Gypsum, maximum content: 10 percent
Maximum salinity: Slightly saline to strongly saline (4.0 to 16.0 mmhos/cm)
Sodium adsorption ratio, maximum: 10.0
Available water supply, 0 to 60 inches: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): 2s Land capability classification (nonirrigated): 6s Hydrologic Soil Group: D Ecological site: R042AC241TX - Clay Flat, Desert Grassland Hydric soil rating: No

Minor Components

Unnamed

Percent of map unit: 5 percent Hydric soil rating: No

Unnamed, hydric

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

Presidio County, Texas

ANS—Area not surveyed, access denied

Map Unit Composition

Area not surveyed: 100 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Area Not Surveyed

Properties and qualities

Depth to restrictive feature: More than 80 inches Depth to water table: More than 80 inches Frequency of flooding: None Frequency of ponding: None

BEB—Berrend and Espy soils, 1 to 5 percent slopes

Map Unit Setting

National map unit symbol: 17frt Elevation: 4,500 to 6,700 feet Mean annual precipitation: 15 to 20 inches Mean annual air temperature: 59 to 61 degrees F Frost-free period: 180 to 220 days Familand classification: Not prime farmland

Map Unit Composition

Berrend and similar soils: 72 percent Espy and similar soils: 17 percent Minor components: 11 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Berrend

Setting

Landform: Fan piedmonts Landform position (two-dimensional): Summit, backslope Landform position (three-dimensional): Tread Down-slope shape: Linear Across-slope shape: Linear, convex Parent material: Loamy alluvium derived from igneous rock

Typical profile

A - 0 to 2 inches: sandy clay loam Bt - 2 to 19 inches: sandy clay loam Btk - 19 to 38 inches: clay loam Bk - 38 to 60 inches: loam C - 60 to 80 inches: fine sandy loam

Properties and qualities

Slope: 1 to 5 percent Depth to restrictive feature: More than 80 inches Drainage class: Well drained
Runoff class: Medium
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
Calcium carbonate, maximum content: 30 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 10.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 3c Hydrologic Soil Group: C Ecological site: R042AE694TX - Loamy Slope, Mixed Prairie Hydric soil rating: No

Description of Espy

Setting

Landform: Fan piedmonts Landform position (two-dimensional): Summit, shoulder Landform position (three-dimensional): Interfluve, crest Down-slope shape: Linear Across-slope shape: Linear, convex Parent material: Gravelly alluvium derived from igneous rock

Typical profile

A - 0 to 4 inches: fine sandy loam Bk - 4 to 12 inches: fine sandy loam Bkkm - 12 to 18 inches: cemented material CBk - 18 to 80 inches: loam

Properties and qualities

Slope: 1 to 5 percent
Depth to restrictive feature: 10 to 20 inches to petrocalcic
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 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: 75 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 3.0
Available water supply, 0 to 60 inches: Very low (about 1.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6s Hydrologic Soil Group: D Ecological site: R042AE281TX - Shallow, Mixed Prairie Hydric soil rating: No

Minor Components

Musquiz

Percent of map unit: 11 percent Ecological site: R042AE758TX - Clay Loam, Mixed Prairie Hydric soil rating: No

BOB—Boracho-Espy complex, 1 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2q8cv Elevation: 4,500 to 6,700 feet Mean annual precipitation: 14 to 20 inches Mean annual air temperature: 59 to 61 degrees F Frost-free period: 180 to 220 days Famland classification: Not prime farmland

Map Unit Composition

Boracho and similar soils: 60 percent Espy and similar soils: 20 percent Minor components: 20 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Boracho

Setting

Landform: Fan remnants Down-slope shape: Linear Across-slope shape: Convex Parent material: Gravelly alluvium derived from igneous rock

Typical profile

A - 0 to 7 inches: very gravelly loam Bk - 7 to 12 inches: very gravelly loam Bkkm - 12 to 22 inches: cemented material BCk - 22 to 79 inches: very gravelly loam

Properties and qualities

Slope: 1 to 8 percent
Depth to restrictive feature: 7 to 20 inches to petrocalcic
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 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: 70 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum: 3.0 Available water supply, 0 to 60 inches: Very low (about 1.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6c Hydrologic Soil Group: D Ecological site: R042AE281TX - Shallow, Mixed Prairie Hydric soil rating: No

Description of Espy

Setting

Landform: Fan remnants Down-slope shape: Linear Across-slope shape: Linear Parent material: Gravelly alluvium derived from igneous rock

Typical profile

A - 0 to 7 inches: gravelly loam Bk - 7 to 14 inches: gravelly loam Bkkm - 14 to 26 inches: cemented material BCk - 26 to 79 inches: very gravelly loam

Properties and qualities

Slope: 1 to 8 percent
Depth to restrictive feature: 10 to 20 inches to petrocalcic
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 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: 70 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 3.0
Available water supply, 0 to 60 inches: Very low (about 1.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6c Hydrologic Soil Group: D Ecological site: R042AE281TX - Shallow, Mixed Prairie Hydric soil rating: No

Minor Components

Chilimol

Percent of map unit: 10 percent Landform: Fan remnants Down-slope shape: Convex Across-slope shape: Convex Ecological site: R042AE275TX - Gravelly, Mixed Prairie Hydric soil rating: No

Murray

Percent of map unit: 5 percent

Landform: Fan remnants Down-slope shape: Convex Across-slope shape: Convex Ecological site: R042AE694TX - Loamy Slope, Mixed Prairie Hydric soil rating: No

Pardo

Percent of map unit: 5 percent Landform: Rock pediments Down-slope shape: Linear Across-slope shape: Convex Ecological site: R042AE281TX - Shallow, Mixed Prairie Hydric soil rating: No

BRD—Brewster very gravelly loam, 1 to 12 percent slopes

Map Unit Setting

National map unit symbol: 200d Elevation: 4,500 to 6,700 feet Mean annual precipitation: 15 to 20 inches Mean annual air temperature: 59 to 61 degrees F Frost-free period: 180 to 220 days Farmland classification: Not prime farmland

Map Unit Composition

Brewster and similar soils: 75 percent Minor components: 25 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Brewster

Setting

Landform: Mountains, hills Landform position (two-dimensional): Footslope, summit, shoulder, backslope Landform position (three-dimensional): Mountainbase, interfluve Down-slope shape: Convex Across-slope shape: Convex Parent material: Gravelly residuum weathered from trachyte and/or basalt

Typical profile

A - 0 to 4 inches: very gravelly loam

R - 4 to 14 inches: bedrock

Properties and qualities

Slope: 1 to 12 percent Surface area covered with cobbles, stones or boulders: 2.0 percent Depth to restrictive feature: 2 to 20 inches to lithic bedrock Drainage class: Well drained Runoff class: Very high

Custom Soil Resource Report

Capacity of the most limiting layer to transmit water (Ksat): Very low to low (0.00 to 0.01 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water supply, 0 to 60 inches: Very low (about 0.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7s Hydrologic Soil Group: D Ecological site: R042AE277TX - Igneous Hill and Mountain, Mixed Prairie Hydric soil rating: No

Minor Components

Rock outcrop

Percent of map unit: 10 percent Hydric soil rating: No

Mainstay

Percent of map unit: 10 percent Ecological site: R042AE277TX - Igneous Hill and Mountain, Mixed Prairie Hydric soil rating: No

Liv

Percent of map unit: 5 percent *Ecological site:* R042AE277TX - Igneous Hill and Mountain, Mixed Prairie *Hydric soil rating:* No

BRF—Brewster-Rock outcrop complex, 10 to 30 percent slopes

Map Unit Setting

National map unit symbol: 1zzl Elevation: 4,500 to 6,700 feet Mean annual precipitation: 15 to 20 inches Mean annual air temperature: 59 to 61 degrees F Frost-free period: 180 to 220 days Farmland classification: Not prime farmland

Map Unit Composition

Brewster and similar soils: 65 percent Rock outcrop: 15 percent Minor components: 20 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Brewster

Setting

Landform: Hills, mountains