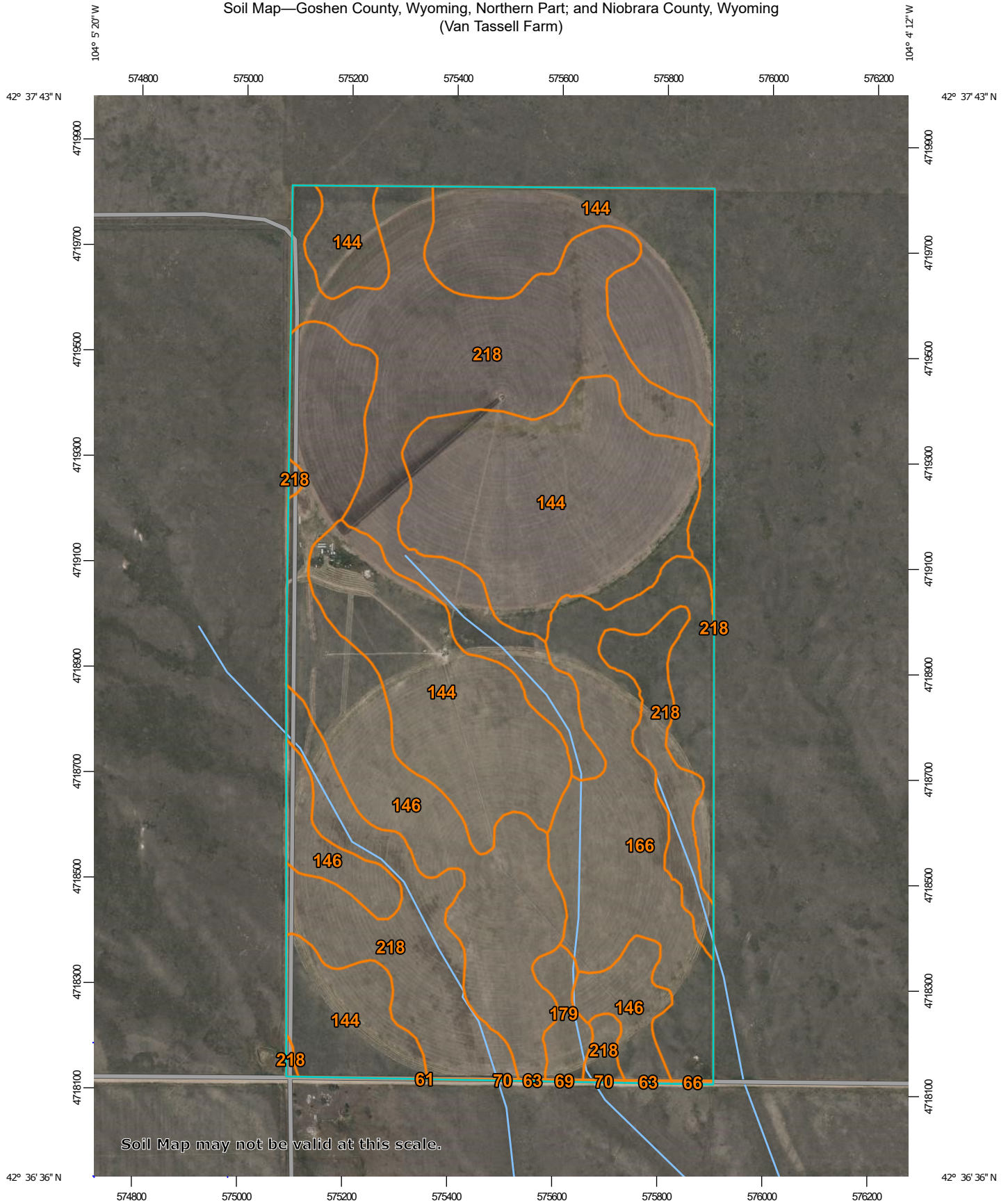
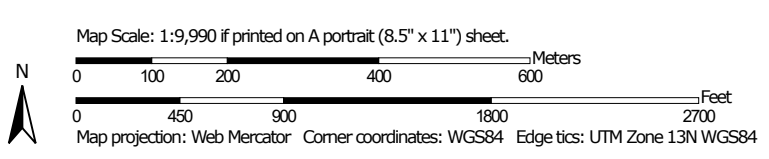


Soil Map—Goshen County, Wyoming, Northern Part; and Niobrara County, Wyoming
(Van Tassell Farm)




Soil Map may not be valid at this scale.



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at scales ranging from 1:20,000 to 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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: Goshen County, Wyoming, Northern Part
Survey Area Data: Version 22, Sep 4, 2025

Soil Survey Area: Niobrara County, Wyoming
Survey Area Data: Version 22, Sep 4, 2025

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: Jun 11, 2022—Jul 21, 2022

MAP LEGEND

MAP INFORMATION

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
61	Jayem-Julesburg fine sandy loams, 0 to 6 percent slopes	0.0	0.0%
63	Jayem-Phiferson-Trelona fine sandy loams, 3 to 10 percent slopes	0.2	0.0%
66	Noden fine sandy loam, 0 to 3 percent slopes	0.1	0.0%
69	Recluse-Cedak loams, 6 to 10 percent slopes	0.1	0.0%
70	Vetal fine sandy loam, 0 to 3 percent slopes	0.1	0.0%
Subtotals for Soil Survey Area		0.5	0.1%
Totals for Area of Interest		341.1	100.0%

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
144	Jayem-Julesburg fine sandy loams, 0 to 6 percent slopes	128.7	37.7%
146	Jayem-Phiferson-Trelona fine sandy loams, 3 to 10 percent slopes	63.1	18.5%
166	Noden fine sandy loam, 0 to 3 percent slopes	44.8	13.1%
179	Recluse-Cedak loams, 6 to 10 percent slopes	4.1	1.2%
218	Vetal fine sandy loam, 0 to 3 percent slopes	100.0	29.3%
Subtotals for Soil Survey Area		340.6	99.9%
Totals for Area of Interest		341.1	100.0%

Niobrara County, Wyoming

144—Jayem-Julesburg fine sandy loams, 0 to 6 percent slopes

Map Unit Setting

National map unit symbol: 2tvv7

Elevation: 3,200 to 5,000 feet

Mean annual precipitation: 15 to 17 inches

Mean annual air temperature: 46 to 50 degrees F

Frost-free period: 120 to 150 days

Farmland classification: Prime farmland if irrigated

Map Unit Composition

Jayem and similar soils: 41 percent

Julesburg and similar soils: 39 percent

Minor components: 20 percent

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

Description of Jayem

Setting

Landform: Alluvial fans

Landform position (two-dimensional): Backslope, footslope

Landform position (three-dimensional): Base slope

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Sandy and loamy eolian deposits derived from sandstone

Typical profile

A - 0 to 10 inches: fine sandy loam

Bw - 10 to 22 inches: fine sandy loam

C - 22 to 79 inches: fine sandy loam

Properties and qualities

Slope: 0 to 6 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
(2.00 to 6.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 1 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 7.9 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: A
Ecological site: R064XY011NE - Sandy 14-17" PZ
Forage suitability group: Droughty Loam (G064XY120NE)
Other vegetative classification: Droughty Loam (G064XY120NE)
Hydric soil rating: No

Description of Julesburg

Setting

Landform: Alluvial fans
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy and loamy eolian deposits derived from sandstone

Typical profile

A - 0 to 5 inches: fine sandy loam
AB - 5 to 16 inches: fine sandy loam
Bt - 16 to 26 inches: fine sandy loam
C - 26 to 79 inches: loamy fine sand

Properties and qualities

Slope: 0 to 6 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 (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 1 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 6.1 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: A
Ecological site: R064XY011NE - Sandy 14-17" PZ
Forage suitability group: Droughty Loam (G064XY120NE)
Other vegetative classification: Droughty Loam (G064XY120NE)
Hydric soil rating: No

Minor Components

Vetal

Percent of map unit: 8 percent
Landform: Hillslopes, swales
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave, linear
Across-slope shape: Linear, concave
Ecological site: R064XY011NE - Sandy 14-17" PZ
Other vegetative classification: Loam (G064XY100NE)
Hydric soil rating: No

Alice

Percent of map unit: 7 percent
Landform: Alluvial fans
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R064XY011NE - Sandy 14-17" PZ
Other vegetative classification: Droughty Loam (G064XY120NE)
Hydric soil rating: No

Phiferson

Percent of map unit: 5 percent
Landform: Hillslopes
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex, linear
Across-slope shape: Linear
Ecological site: R064XY011NE - Sandy 14-17" PZ
Other vegetative classification: Droughty Loam (G064XY120NE)
Hydric soil rating: No

Data Source Information

Soil Survey Area: Goshen County, Wyoming, Northern Part
Survey Area Data: Version 22, Sep 4, 2025

Soil Survey Area: Niobrara County, Wyoming
Survey Area Data: Version 22, Sep 4, 2025

Niobrara County, Wyoming

146—Jayem-Phiferson-Trelona fine sandy loams, 3 to 10 percent slopes

Map Unit Setting

National map unit symbol: 2tvv6
Elevation: 3,200 to 5,000 feet
Mean annual precipitation: 15 to 17 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 150 days
Farmland classification: Not prime farmland

Map Unit Composition

Jayem and similar soils: 30 percent
Phiferson and similar soils: 25 percent
Trelona and similar soils: 25 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Jayem

Setting

Landform: Hillslopes
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Side slope, base slope
Down-slope shape: Concave, linear
Across-slope shape: Linear, concave
Parent material: Sandy and loamy eolian deposits derived from sandstone

Typical profile

A - 0 to 10 inches: fine sandy loam
Bw - 10 to 22 inches: fine sandy loam
C - 22 to 79 inches: fine sandy loam

Properties and qualities

Slope: 3 to 10 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): High
(2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 1 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 7.9 inches)

Interpretive groups

Land capability classification (irrigated): 4e

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: A

Ecological site: R064XY011NE - Sandy 14-17" PZ

Forage suitability group: Droughty Loam (G064XY120NE)

Other vegetative classification: Droughty Loam (G064XY120NE)

Hydric soil rating: No

Description of Phiferson

Setting

Landform: Hillslopes

Landform position (two-dimensional): Shoulder, backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Convex, linear

Across-slope shape: Linear

Parent material: Residuum weathered from sandstone

Typical profile

A - 0 to 4 inches: fine sandy loam

Bw - 4 to 11 inches: fine sandy loam

C - 11 to 25 inches: fine sandy loam

Cr - 25 to 79 inches: bedrock

Properties and qualities

Slope: 3 to 10 percent

Depth to restrictive feature: 20 to 39 inches to paralithic 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 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 9 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 3.5 inches)

Interpretive groups

Land capability classification (irrigated): 4e

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: B

Ecological site: R064XY011NE - Sandy 14-17" PZ

Forage suitability group: Droughty Loam (G064XY120NE)

Other vegetative classification: Droughty Loam (G064XY120NE)

Hydric soil rating: No

Description of Trelona

Setting

Landform: Ridges, knobs
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Nose slope, crest
Down-slope shape: Convex, linear
Across-slope shape: Linear, convex
Parent material: Residuum weathered from sandstone

Typical profile

A - 0 to 10 inches: fine sandy loam
C - 10 to 19 inches: fine sandy loam
Cr - 19 to 79 inches: bedrock

Properties and qualities

Slope: 3 to 10 percent
Depth to restrictive feature: 10 to 20 inches to paralithic bedrock
Drainage class: Somewhat excessively drained
Runoff class: Low
Capacity of the most limiting layer to transmit water
(Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 2 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: Very low (about 2.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Ecological site: R064XY040NE - Shallow
Forage suitability group: Not suited (G064XY000NE)
Other vegetative classification: Not suited (G064XY000NE)
Hydric soil rating: No

Minor Components

Manter, cool

Percent of map unit: 10 percent
Landform: Hillslopes
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Side slope, base slope
Down-slope shape: Concave, linear
Across-slope shape: Linear, concave
Ecological site: R064XY011NE - Sandy 14-17" PZ
Other vegetative classification: Droughty Loam (G064XY120NE)
Hydric soil rating: No

Vetal

Percent of map unit: 10 percent

Landform: Hillslopes, swales

Landform position (two-dimensional): Backslope, footslope

Landform position (three-dimensional): Base slope

Down-slope shape: Concave, linear

Across-slope shape: Linear, concave

Ecological site: R064XY011NE - Sandy 14-17" PZ

Other vegetative classification: Loam (G064XY100NE)

Hydric soil rating: No

Data Source Information

Soil Survey Area: Goshen County, Wyoming, Northern Part

Survey Area Data: Version 22, Sep 4, 2025

Soil Survey Area: Niobrara County, Wyoming

Survey Area Data: Version 22, Sep 4, 2025

Niobrara County, Wyoming

166—Noden fine sandy loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: cqtx
Elevation: 4,800 to 5,500 feet
Mean annual precipitation: 15 to 17 inches
Mean annual air temperature: 46 to 50 degrees F
Frost-free period: 110 to 130 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

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

Description of Noden

Setting

Landform: Alluvial fans, fan remnants
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Eolian deposits derived from sandstone and/or alluvium derived from sandstone

Typical profile

H1 - 0 to 7 inches: fine sandy loam
H2 - 7 to 32 inches: clay loam
H3 - 32 to 60 inches: fine sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 9.6 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Ecological site: R064XY011NE - Sandy 14-17" PZ
Hydric soil rating: No

Minor Components

Jayem

Percent of map unit: 5 percent

Hydric soil rating: No

Hargreave

Percent of map unit: 5 percent

Hydric soil rating: No

Moskee

Percent of map unit: 5 percent

Hydric soil rating: No

Data Source Information

Soil Survey Area: Goshen County, Wyoming, Northern Part

Survey Area Data: Version 22, Sep 4, 2025

Soil Survey Area: Niobrara County, Wyoming

Survey Area Data: Version 22, Sep 4, 2025

Niobrara County, Wyoming

179—Recluse-Cedak loams, 6 to 10 percent slopes

Map Unit Setting

National map unit symbol: 30wpx

Elevation: 4,790 to 5,580 feet

Mean annual precipitation: 15 to 18 inches

Mean annual air temperature: 46 to 52 degrees F

Frost-free period: 120 to 150 days

Farmland classification: Not prime farmland

Map Unit Composition

Recluse and similar soils: 41 percent

Cedak and similar soils: 39 percent

Minor components: 20 percent

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

Description of Recluse

Setting

Landform: Hillslopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Loamy alluvium derived from sandstone

Typical profile

A - 0 to 7 inches: loam

Bt1 - 7 to 16 inches: clay loam

Bt2 - 16 to 24 inches: clay loam

Bk - 24 to 37 inches: loam

C - 37 to 79 inches: loam

Properties and qualities

Slope: 6 to 10 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 low to high (0.06 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 15 percent

Gypsum, maximum content: 3 percent

Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)

Sodium adsorption ratio, maximum: 3.0

Available water supply, 0 to 60 inches: High (about 9.5 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Ecological site: R064XY015NE - Loamy 14-17" PZ
Forage suitability group: Loam (G064XY100NE)
Other vegetative classification: Loam (G064XY100NE)
Hydric soil rating: No

Description of Cedak

Setting

Landform: Hillslopes
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex, linear
Across-slope shape: Linear
Parent material: Loamy alluvium derived from calcareous sandstone

Typical profile

A - 0 to 4 inches: loam
Bt - 4 to 15 inches: loam
Bk - 15 to 29 inches: very fine sandy loam
Cr - 29 to 79 inches: bedrock

Properties and qualities

Slope: 6 to 10 percent
Depth to restrictive feature: 20 to 39 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 20 percent
Gypsum, maximum content: 3 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water supply, 0 to 60 inches: Low (about 4.6 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Ecological site: R064XY015NE - Loamy 14-17" PZ
Forage suitability group: Loam (G064XY100NE)
Other vegetative classification: Loam (G064XY100NE)
Hydric soil rating: No

Minor Components

Phiferson

Percent of map unit: 10 percent

Landform: Hillslopes

Landform position (two-dimensional): Shoulder, backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Convex, linear

Across-slope shape: Linear

Ecological site: R064XY011NE - Sandy 14-17" PZ

Other vegetative classification: Droughty Loam (G064XY120NE)

Hydric soil rating: No

Vetal

Percent of map unit: 10 percent

Landform: Fans

Landform position (two-dimensional): Footslope

Landform position (three-dimensional): Base slope

Down-slope shape: Concave

Across-slope shape: Linear

Ecological site: R064XY011NE - Sandy 14-17" PZ

Other vegetative classification: Loam (G064XY100NE)

Hydric soil rating: No

Data Source Information

Soil Survey Area: Goshen County, Wyoming, Northern Part

Survey Area Data: Version 22, Sep 4, 2025

Soil Survey Area: Niobrara County, Wyoming

Survey Area Data: Version 22, Sep 4, 2025

Niobrara County, Wyoming

218—Vetal fine sandy loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2tzzm

Elevation: 3,200 to 5,000 feet

Mean annual precipitation: 15 to 17 inches

Mean annual air temperature: 46 to 52 degrees F

Frost-free period: 130 to 160 days

Farmland classification: Prime farmland if irrigated

Map Unit Composition

Vetal and similar soils: 90 percent

Minor components: 10 percent

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

Description of Vetal

Setting

Landform: Valleys, fans

Landform position (two-dimensional): Footslope

Down-slope shape: Linear, concave, convex

Across-slope shape: Linear

Parent material: Local sandy and loamy alluvium derived from sandstone

Typical profile

A - 0 to 30 inches: very fine sandy loam

Bw - 30 to 45 inches: very fine sandy loam

C - 45 to 79 inches: very fine sandy loam

Properties and qualities

Slope: 0 to 3 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
(2.00 to 6.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 1 percent

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

Available water supply, 0 to 60 inches: High (about 9.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: A

Ecological site: R064XY011NE - Sandy 14-17" PZ
Forage suitability group: Loam (G064XY100NE)
Other vegetative classification: Loam (G064XY100NE)
Hydric soil rating: No

Minor Components

Jayem

Percent of map unit: 5 percent
Landform: Valleys on fans
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear, concave
Ecological site: R064XY011NE - Sandy 14-17" PZ
Other vegetative classification: Droughty Loam (G064XY120NE)
Hydric soil rating: No

Dailey

Percent of map unit: 5 percent
Landform: Dunes
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R064XY011NE - Sandy 14-17" PZ
Other vegetative classification: Sand (G064XY300NE)
Hydric soil rating: No

Data Source Information

Soil Survey Area: Goshen County, Wyoming, Northern Part
Survey Area Data: Version 22, Sep 4, 2025

Soil Survey Area: Niobrara County, Wyoming
Survey Area Data: Version 22, Sep 4, 2025