

NRCS SOILS KEY:

MAP SYMBOL	SERIES NAME
3	Arvada loam (1-6% slopes)
4	Arvada loam (6-20% slopes)
34	Ildefonso stony loam (25-45%)
51	Olney loam, (6-12% slopes)
55	Potts loam (3-6% slopes)
56	Potts loam (6-12% slopes)
58	Potts-Ildefonso complex (12-25%)
65	Torrifluvents (nearly level)
72	Wann sandy loam (1-3% slopes)
73	Wann sandy loam (3-6% slopes)

Notes / Comments:



Ursa | OPERATING COMPANY

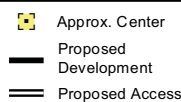
Form 2A - Attachment H

NRCS Soils Map

BMC D

39.44145 -108.04075

Section 18, Township 7 South, Range 95 West



County Roads
Local Roads



HR1 COMPLIANCE SOLUTIONS, INC.
Environmental Consultants

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0 500 1,000
Feet

Attachment H – NRCS Soil Survey, Rifle Area

Map Symbol 56 – Potts loam (6-12% slopes)	
Deep, well drained, moderately sloping to rolling soils found on mesas, benches and valley sides.	
Elevation	5,000 to 7,000 feet
Average Annual Precipitation	Approximately 14 inches
Average Annual Air Temp	Approximately 46 degrees F
Frost Free Days	Approximately 120 days
Permeability	Moderate
Available Water Capacity	High
Effective Rooting Depth	60+ inches
Surface Runoff	Medium
Erosion Hazard	Severe
Native Vegetation: Mainly wheatgrass, needleandthread, and sagebrush.	
Development is limited by low strength, shrink-swell potential, and slope. This soil is in capability subclass IVE, irrigated and nonirrigated.	

Map Symbol 58 – Potts-Ildefonso complex (12-25% slopes)	
Strongly sloping to hilly soils found on mesas, alluvial fans, and valley sides.	
Elevation	5,000 to 6,500 feet
Average Annual Precipitation	Approximately 14 inches
Average Annual Air Temp	Approximately 46 degrees F
Frost Free Days	Approximately 120 days
Permeability	Moderate
Available Water Capacity	Low
Effective Rooting Depth	60+ inches
Surface Runoff	Medium
Erosion Hazard	Moderate
Native Vegetation: Mainly wheatgrass, needleandthread, and sagebrush.	
Development is limited by steep slopes and structures are needed to divert runoff. This soil is in capability subclass VIe, nonirrigated.	

Rifle Area, Colorado, Parts of Garfield and Mesa Counties

56—Potts loam, 6 to 12 percent slopes

Map Unit Setting

National map unit symbol: jnys

Elevation: 5,000 to 7,000 feet

Farmland classification: Farmland of statewide importance

Map Unit Composition

Potts and similar soils: 85 percent

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

Description of Potts

Setting

Landform: Benches, mesas, valley sides

Down-slope shape: Linear, convex

Across-slope shape: Linear, convex

Parent material: Alluvium derived from basalt and/or alluvium derived from sandstone and shale

Typical profile

H1 - 0 to 4 inches: loam

H2 - 4 to 28 inches: clay loam

H3 - 28 to 60 inches: loam

Properties and qualities

Slope: 6 to 12 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Runoff class: High

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 in profile: 15 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water storage in profile: High (about 10.3 inches)

Interpretive groups

Land capability classification (irrigated): 4e

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: C

Ecological site: Rolling Loam (R048AY298CO)

Data Source Information

Soil Survey Area: Rifle Area, Colorado, Parts of Garfield and Mesa Counties
Survey Area Data: Version 9, Sep 22, 2015

Rifle Area, Colorado, Parts of Garfield and Mesa Counties

58—Potts-Ildefonso complex, 12 to 25 percent slopes

Map Unit Setting

National map unit symbol: jnyv

Elevation: 5,000 to 6,500 feet

Farmland classification: Not prime farmland

Map Unit Composition

Potts and similar soils: 60 percent

Ildefonso and similar soils: 30 percent

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

Description of Potts

Setting

Landform: Alluvial fans, mesas, valley sides

Down-slope shape: Linear, convex

Across-slope shape: Linear, convex

Parent material: Alluvium derived from basalt and/or alluvium
derived from sandstone and shale

Typical profile

H1 - 0 to 4 inches: loam

H2 - 4 to 28 inches: clay loam

H3 - 28 to 60 inches: loam

Properties and qualities

Slope: 12 to 25 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Runoff class: High

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 in profile: 15 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to
2.0 mmhos/cm)

Available water storage in profile: High (about 10.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: C

Ecological site: Rolling Loam (R048AY298CO)

Description of Ildefonso

Setting

Landform: Alluvial fans, mesas, valley sides

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Alluvium derived from basalt and/or alluvium
derived from sandstone and shale

Typical profile

H1 - 0 to 8 inches: stony loam

H2 - 8 to 60 inches: very stony loam

Properties and qualities

Slope: 12 to 25 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat):

Moderately high to high (0.60 to 6.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum in profile: 35 percent

Salinity, maximum in profile: Nonsaline to slightly saline (0.0 to 4.0
mmhos/cm)

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

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: A

Data Source Information

Soil Survey Area: Rifle Area, Colorado, Parts of Garfield and Mesa Counties

Survey Area Data: Version 9, Sep 22, 2015