

Legend

- Proposed Working Pad Surface
- Proposed Pad Disturbance Area
- Proposed Pipeline
- Proposed Access Road
- One Mile Buffer

Soil Types

- | | |
|--|--|
| BaA | MnB |
| CD | Rc |
| CpB | WC |
| DaE | WeB |
| Dv | |

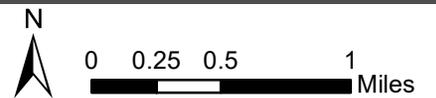
SOURCE: NRCS July 2020
Date: 3/15/2022

Project Location



BNL (ENTERPRISE) INC.
STATE 16 SWSE 3054
SEC 16 T30S R54W (SW/4 SE/4)
LAS ANIMAS COUNTY, CO

SOIL TYPES



Prepared By: Pioneer Environmental Consultants, LLC

Las Animas County Area, Colorado, Parts of Huerfano and Las Animas Counties

BaA—Baca silt loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2rh1c
Elevation: 3,610 to 6,230 feet
Mean annual precipitation: 14 to 16 inches
Mean annual air temperature: 50 to 54 degrees F
Frost-free period: 130 to 170 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

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

Description of Baca

Setting

Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loess

Typical profile

A - 0 to 3 inches: silt loam
AB - 3 to 6 inches: silty clay loam
Bt1 - 6 to 13 inches: silty clay
Bt2 - 13 to 21 inches: silty clay
Btk - 21 to 27 inches: silty clay loam
Bk1 - 27 to 47 inches: silty clay loam
Bk2 - 47 to 79 inches: silt 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 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: 15 percent
Gypsum, maximum content: 5 percent
Maximum salinity: Nonsaline to slightly saline (0.5 to 4.0
mmhos/cm)

Sodium adsorption ratio, maximum: 5.0
Available water capacity: High (about 11.7 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 4c
Hydrologic Soil Group: C
Ecological site: R067BY002CO - Loamy Plains
Forage suitability group: Clayey (G067BW001CO)
Other vegetative classification: Clayey (G067BW001CO), Loamy
Plains #2 (067XY002CO_2)
Hydric soil rating: No

Minor Components

Manzanst

Percent of map unit: 5 percent
Landform: Interfluves, fan remnants
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R067BY042CO - Clayey Plains
Other vegetative classification: Clayey (G067BW001CO), Clayey
Plains #42 (067XY042CO_2)
Hydric soil rating: No

Wiley

Percent of map unit: 5 percent
Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R067BY002CO - Loamy Plains
Other vegetative classification: Loamy (G067BW017CO), Loamy
Plains #2 (067XY002CO_2)
Hydric soil rating: No

Data Source Information

Soil Survey Area: Las Animas County Area, Colorado, Parts of Huerfano and
Las Animas Counties
Survey Area Data: Version 23, Jun 5, 2020



Las Animas County Area, Colorado, Parts of Huerfano and Las Animas Counties



Map unit symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		<i>Lb/ac</i>	<i>Lb/ac</i>	<i>Lb/ac</i>		<i>Pct</i>
BaA—Baca silt loam, 0 to 3 percent slopes						
Baca	R067BY002CO: Loamy Plains	1,800	1,300	600	Blue grama	30
					Western wheatgrass	25
					Green needlegrass	10
					Buffalograss	5
					Winterfat	5
					American vetch	3
					Scarlet globemallow	2
					Purple prairieclover	2
					Sand dropseed	2
					Sun sedge	2

Las Animas County Area, Colorado, Parts of Huerfano and Las Animas Counties

CD—Chacuaco-Dalerose complex, 2 to 7 percent slopes

Map Unit Setting

National map unit symbol: vvjn
Elevation: 5,000 to 6,000 feet
Mean annual precipitation: 14 to 17 inches
Mean annual air temperature: 50 to 54 degrees F
Frost-free period: 125 to 150 days
Farmland classification: Not prime farmland

Map Unit Composition

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

Description of Chacuaco

Setting

Landform: Plains, interfluves, ridges
Landform position (two-dimensional): Summit, footslope
Landform position (three-dimensional): Side slope, rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Eolian deposits over residuum weathered from sandstone

Typical profile

A - 0 to 5 inches: loam
AB - 5 to 10 inches: loam
Bt - 10 to 20 inches: clay loam
Bk - 20 to 30 inches: very gravelly loam
R - 30 to 60 inches: bedrock

Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.01 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: 40 percent
Gypsum, maximum content: 2 percent

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

Sodium adsorption ratio, maximum: 2.0

Available water capacity: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): 3e

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: C

Ecological site: R067BY002CO - Loamy Plains

Forage suitability group: Loamy, Dry (G070XW019CO)

Other vegetative classification: Loamy, Dry (G070XW019CO),
Loamy Plains #2 (067XY002CO_2)

Hydric soil rating: No

Description of Dalerose

Setting

Landform: Scarps

Landform position (two-dimensional): Summit, shoulder

Landform position (three-dimensional): Crest

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Slope alluvium and residuum weathered from sandstone

Typical profile

A - 0 to 5 inches: gravelly fine sandy loam

Bk - 5 to 10 inches: gravelly loam

R - 10 to 60 inches: bedrock

Properties and qualities

Slope: 3 to 7 percent

Depth to restrictive feature: 6 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 moderately high (0.01 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: 15 percent

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

Available water capacity: Very low (about 1.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7s

Hydrologic Soil Group: D

Ecological site: R067BY056CO - Sandstone Breaks

Forage suitability group: Needs Field Review (G070XW050CO)

Other vegetative classification: Needs Field Review
(G070XW050CO), Sandstone Breaks #56 (067XY056CO_2)

Hydric soil rating: No

Minor Components

Rock outcrop

Percent of map unit: 10 percent

Landform: Scarps

Hydric soil rating: No

Data Source Information

Soil Survey Area: Las Animas County Area, Colorado, Parts of Huerfano and
Las Animas Counties

Survey Area Data: Version 23, Jun 5, 2020



Las Animas County Area, Colorado, Parts of Huerfano and Las Animas Counties



Map unit symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		<i>Lb/ac</i>	<i>Lb/ac</i>	<i>Lb/ac</i>		<i>Pct</i>
CD—Chacuaco-Dalerosé complex, 2 to 7 percent slopes						
Chacuaco	R067BY002CO: Loamy Plains	1,700	1,150	500	Blue grama	30
					Western wheatgrass	20
					Green needlegrass	7
					Fourwing saltbush	5
					Winterfat	5
					Bottlebrush squirreltail	3
					Sand dropseed	3
					Little bluestem	3
					Sideoats grama	2
					Purple prairieclover	2
					Scarlet globemallow	2
					American vetch	2
Dalerosé	R067BY056CO: Sandstone Breaks	1,550	1,050	650	Little bluestem	15
					Prairie sandreed	15
					Sideoats grama	12
					Sand bluestem	10
					Blue grama	10
					Needleandthread	5
					Big bluestem	3
					Chokecherry	3
					Prairie junegrass	2
					Purple prairieclover	2
					Western wheatgrass	2
					Golden currant	2
					Spreading buckwheat	1

Las Animas County Area, Colorado, Parts of Huerfano and Las Animas Counties

CpB—Calemore silt loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 3jlv
Elevation: 5,000 to 6,500 feet
Mean annual precipitation: 14 to 16 inches
Mean annual air temperature: 50 to 53 degrees F
Frost-free period: 130 to 155 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

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

Description of Calemore

Setting

Landform: Plains
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loess and/or silty alluvium

Typical profile

A - 0 to 7 inches: silt loam
Bt1 - 7 to 11 inches: silty clay loam
Bt2 - 11 to 20 inches: silty clay loam
Btk1 - 20 to 36 inches: clay loam
Btk2 - 36 to 42 inches: silty clay loam
Bk - 42 to 65 inches: silt 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 (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: 35 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0
mmhos/cm)
Available water supply, 0 to 60 inches: High (about 10.9 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 4c
Hydrologic Soil Group: C
Ecological site: R067BY002CO - Loamy Plains
Forage suitability group: Loamy (G067BW017CO)
Other vegetative classification: Loamy Plains #2
(067XY002CO_2), Loamy (G067BW017CO)
Hydric soil rating: No

Minor Components

Baca

Percent of map unit: 5 percent
Landform: Plains
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R067BY002CO - Loamy Plains
Other vegetative classification: Loamy Plains #2 (067XY002CO_2),
Clayey (G067BW001CO)
Hydric soil rating: No

Raku

Percent of map unit: 5 percent
Landform: Depressions, drainageways, plains
Landform position (three-dimensional): Dip, talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R067BY002CO - Loamy Plains
Other vegetative classification: Loamy Plains #2 (067XY002CO_2),
Loamy (G067BW017CO)
Hydric soil rating: No

Wiley

Percent of map unit: 5 percent
Landform: Plains
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R067BY002CO - Loamy Plains
Other vegetative classification: Loamy Plains #2 (067XY002CO_2),
Loamy (G067BW017CO)
Hydric soil rating: No

Data Source Information

Soil Survey Area: Las Animas County Area, Colorado, Parts of Huerfano and
Las Animas Counties

Survey Area Data: Version 24, Aug 31, 2021



Las Animas County Area, Colorado, Parts of Huerfano and Las Animas Counties



Map unit symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		<i>Lb/ac</i>	<i>Lb/ac</i>	<i>Lb/ac</i>		<i>Pct</i>
CpB—Calemore silt loam, 0 to 3 percent slopes						
Calemore	R067BY002CO: Loamy Plains	1,900	1,350	600	Blue grama	30
					Western wheatgrass	25
					Green needlegrass	10
					Winterfat	5
					Buffalograss	3
					American vetch	3
					Purple prairieclover	2
					Scarlet globemallow	2
					Sedge	2

Las Animas County Area, Colorado, Parts of Huerfano and Las Animas Counties

DaE—Dalerose-Rock outcrop complex, 3 to 25 percent slopes

Map Unit Setting

National map unit symbol: 3jly
Elevation: 5,000 to 6,000 feet
Mean annual precipitation: 14 to 16 inches
Mean annual air temperature: 50 to 53 degrees F
Frost-free period: 125 to 155 days
Farmland classification: Not prime farmland

Map Unit Composition

Dalerose and similar soils: 75 percent
Rock outcrop: 15 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dalerose

Setting

Landform: Scarps
Landform position (two-dimensional): Backslope, summit
Landform position (three-dimensional): Head slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Slope alluvium and residuum weathered from sandstone

Typical profile

A - 0 to 5 inches: gravelly fine sandy loam
Bk - 5 to 10 inches: gravelly loam
R - 10 to 60 inches: bedrock

Properties and qualities

Slope: 3 to 25 percent
Depth to restrictive feature: 6 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 moderately high (0.01 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: 15 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water capacity: Very low (about 1.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: R067BY056CO - Sandstone Breaks
Forage suitability group: Needs Field Review (G070XW050CO)
Other vegetative classification: Needs Field Review (G070XW050CO), Sandstone Breaks #56 (067XY056CO_2)
Hydric soil rating: No

Description of Rock Outcrop

Setting

Landform: Scarps
Parent material: Sandstone

Typical profile

R - 0 to 60 inches: bedrock

Properties and qualities

Slope: 3 to 25 percent
Depth to restrictive feature: 0 inches to lithic bedrock
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydric soil rating: No

Minor Components

Chacuaco

Percent of map unit: 10 percent
Landform: Interfluves, ridges
Landform position (two-dimensional): Shoulder, summit
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R067BY002CO - Loamy Plains
Other vegetative classification: Loamy, Dry (G070XW019CO), Loamy Plains #2 (067XY002CO_2)
Hydric soil rating: No

Data Source Information

Soil Survey Area: Las Animas County Area, Colorado, Parts of Huerfano and Las Animas Counties

Survey Area Data: Version 23, Jun 5, 2020



Las Animas County Area, Colorado, Parts of Huerfano and Las Animas Counties



Map unit symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		<i>Lb/ac</i>	<i>Lb/ac</i>	<i>Lb/ac</i>		<i>Pct</i>
DaE—Dalerose-Rock outcrop complex, 3 to 25 percent slopes						
Dalerose	R067BY056CO: Sandstone Breaks	1,550	1,050	650	Prairie sandreed	15
					Little bluestem	15
					Sideoats grama	12
					Blue grama	10
					Sand bluestem	10
					Needleandthread	5
					Big bluestem	3
					Chokecherry	3
					Prairie junegrass	2
					Purple prairieclover	2
					Golden currant	2
					Western wheatgrass	2
					Spreading buckwheat	1
Rock outcrop	—	—	—	—	—	—

Las Animas County Area, Colorado, Parts of Huerfano and Las Animas Counties

Dv—Feterita silt loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 3jks
Elevation: 4,800 to 6,100 feet
Mean annual precipitation: 14 to 16 inches
Mean annual air temperature: 50 to 53 degrees F
Frost-free period: 135 to 155 days
Farmland classification: Not prime farmland

Map Unit Composition

Feterita and similar soils: 95 percent
Minor components: 5 percent
*Estimates are based on observations, descriptions, and transects of
the mapunit.*

Description of Feterita

Setting

Landform: Playas
Landform position (three-dimensional): Talf
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Clayey alluvium

Typical profile

A - 0 to 3 inches: silt loam
Bt - 3 to 8 inches: silty clay loam
Btss - 8 to 21 inches: silty clay
Btkss - 21 to 35 inches: silty clay
Bkss - 35 to 72 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Negligible
*Capacity of the most limiting layer to transmit water
(Ksat):* Moderately low to moderately high (0.01 to 0.20 in/hr)
Depth to water table: About 0 to 10 inches
Frequency of flooding: None
Frequency of ponding: Occasional
Calcium carbonate, maximum content: 15 percent
Gypsum, maximum content: 2 percent
Maximum salinity: Nonsaline to moderately saline (0.0 to 8.0
mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: High (about 10.7 inches)

Interpretive groups

Land capability classification (irrigated): 3c
Land capability classification (nonirrigated): 4c
Hydrologic Soil Group: C/D
Ecological site: R067BY010CO - Closed Upland Depression
Forage suitability group: Clayey (G067BW001CO)
Other vegetative classification: Clayey (G067BW001CO), Clayey
Plains #42 (067XY042CO_2)
Hydric soil rating: No

Minor Components

Manzanst

Percent of map unit: 5 percent
Landform: Fans, plains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R067BY042CO - Clayey Plains
Other vegetative classification: Clayey Plains #42
(067XY042CO_2), Clayey (G067BW001CO)
Hydric soil rating: No

Data Source Information

Soil Survey Area: Las Animas County Area, Colorado, Parts of Huerfano and
Las Animas Counties

Survey Area Data: Version 24, Aug 31, 2021



Las Animas County Area, Colorado, Parts of Huerfano and Las Animas Counties



Map unit symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		<i>Lb/ac</i>	<i>Lb/ac</i>	<i>Lb/ac</i>		<i>Pct</i>
Dv—Feterita silt loam, 0 to 2 percent slopes						
Feterita	R067BY010CO: Closed Upland Depression	1,900	1,300	800	Western wheatgrass	65
					Blue grama	10
					Green needlegrass	7
					Sun sedge	5
					Buffalograss	3
					American vetch	3
					Winterfat	2

Las Animas County Area, Colorado, Parts of Huerfano and Las Animas Counties

MnB—Manzanst silty clay loam, 1 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2w4nw
Elevation: 3,870 to 6,660 feet
Mean annual precipitation: 14 to 16 inches
Mean annual air temperature: 50 to 54 degrees F
Frost-free period: 130 to 170 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

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

Description of Manzanst

Setting

Landform: Drainageways, terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Concave, linear
Parent material: Clayey alluvium derived from shale

Typical profile

A - 0 to 3 inches: silty clay loam
Bt1 - 3 to 6 inches: silty clay loam
Bt2 - 6 to 20 inches: silty clay
Btk - 20 to 28 inches: silty clay
Bk1 - 28 to 40 inches: silty clay loam
Bk2 - 40 to 79 inches: silty clay loam

Properties and qualities

Slope: 1 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 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: 15 percent
Gypsum, maximum content: 3 percent
Maximum salinity: Nonsaline to slightly saline (0.5 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 10.0
Available water supply, 0 to 60 inches: High (about 10.6 inches)

Interpretive groups

Land capability classification (irrigated): 3e

Land capability classification (nonirrigated): 4c

Hydrologic Soil Group: C

Ecological site: R067BY042CO - Clayey Plains

Hydric soil rating: No

Minor Components

Wiley

Percent of map unit: 5 percent

Landform: Interfluves

Down-slope shape: Linear

Across-slope shape: Linear

Ecological site: R067BY002CO - Loamy Plains

Hydric soil rating: No

Ritoazul

Percent of map unit: 5 percent

Landform: Drainageways, interfluves

Landform position (three-dimensional): Rise

Down-slope shape: Linear

Across-slope shape: Linear

Ecological site: R067BY042CO - Clayey Plains

Hydric soil rating: No

Baca

Percent of map unit: 5 percent

Landform: Interfluves

Landform position (two-dimensional): Summit

Landform position (three-dimensional): Interfluve

Down-slope shape: Convex

Across-slope shape: Linear

Ecological site: R067BY002CO - Loamy Plains

Hydric soil rating: No

Data Source Information

Soil Survey Area: Las Animas County Area, Colorado, Parts of Huerfano and Las Animas Counties

Survey Area Data: Version 24, Aug 31, 2021



Las Animas County Area, Colorado, Parts of Huerfano and Las Animas Counties



Map unit symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		<i>Lb/ac</i>	<i>Lb/ac</i>	<i>Lb/ac</i>		<i>Pct</i>
MnB—Manzanst silty clay loam, 1 to 3 percent slopes						
Manzanst	R067BY042CO: Clayey Plains	1,600	1,000	500	Western wheatgrass	40
					Blue grama	25
					Green needlegrass	15
					Fourwing saltbush	5
					Winterfat	4
					American deervetch	3
					Dotted blazing star	2
					Violet prairieclover	2
					Buffalograss	2
					Scarlet globemallow	2

Las Animas County Area, Colorado, Parts of Huerfano and Las Animas Counties

Rc—Raku silt loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 3jpk
Elevation: 5,000 to 6,500 feet
Mean annual precipitation: 14 to 16 inches
Mean annual air temperature: 50 to 53 degrees F
Frost-free period: 130 to 155 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

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

Description of Raku

Setting

Landform: Plains, drainageways, depressions
Landform position (three-dimensional): Talf, dip
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium and loess

Typical profile

A - 0 to 8 inches: silt loam
Bt1 - 8 to 11 inches: silty clay loam
Bt2 - 11 to 22 inches: silty clay
Bt3 - 22 to 28 inches: silty clay
Btk - 28 to 45 inches: silty clay loam
Bk - 45 to 68 inches: clay loam

Properties and qualities

Slope: 0 to 2 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 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: 30 percent
Available water supply, 0 to 60 inches: High (about 11.0 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 4c

Hydrologic Soil Group: C
Ecological site: R067BY002CO - Loamy Plains
Forage suitability group: Loamy (G067BW017CO)
Other vegetative classification: Loamy (G067BW017CO), Loamy
Plains #2 (067XY002CO_2)
Hydric soil rating: No

Minor Components

Calemore

Percent of map unit: 5 percent
Landform: Plains
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R067BY002CO - Loamy Plains
Other vegetative classification: Loamy Plains #2 (067XY002CO_2),
Loamy (G067BW017CO)
Hydric soil rating: No

Wiley

Percent of map unit: 5 percent
Landform: Plains
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R067BY002CO - Loamy Plains
Other vegetative classification: Loamy (G067BW017CO), Loamy
Plains #2 (067XY002CO_2)
Hydric soil rating: No

Trementina, warm

Percent of map unit: 5 percent
Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R067BY002CO - Loamy Plains
Other vegetative classification: Loamy (G067BW017CO), Loamy
Plains #2 (067XY002CO_2)
Hydric soil rating: No

Data Source Information

Soil Survey Area: Las Animas County Area, Colorado, Parts of Huerfano and
Las Animas Counties

Survey Area Data: Version 24, Aug 31, 2021



Las Animas County Area, Colorado, Parts of Huerfano and Las Animas Counties



Map unit symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		<i>Lb/ac</i>	<i>Lb/ac</i>	<i>Lb/ac</i>		<i>Pct</i>
Rc—Raku silt loam, 0 to 2 percent slopes						
Raku	R067BY002CO: Loamy Plains	1,900	1,350	600	Blue grama	30
					Western wheatgrass	25
					Green needlegrass	10
					Winterfat	5
					Buffalograss	5
					American vetch	3
					Scarlet globemallow	2
					Sun sedge	2
					Purple prairieclover	2

Las Animas County Area, Colorado, Parts of Huerfano and Las Animas Counties

WC—Plughat-Villegreen complex, 1 to 4 percent slopes

Map Unit Setting

National map unit symbol: 2tqxn
Elevation: 4,900 to 5,800 feet
Mean annual precipitation: 14 to 16 inches
Mean annual air temperature: 50 to 54 degrees F
Frost-free period: 130 to 170 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Plughat and similar soils: 43 percent
Villegreen and similar soils: 41 percent
Minor components: 16 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Plughat

Setting

Landform: Interfluves
Landform position (two-dimensional): Shoulder, summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loess over residuum weathered from sandstone

Typical profile

A - 0 to 3 inches: silt loam
Bt1 - 3 to 6 inches: silty clay loam
Bt2 - 6 to 13 inches: silty clay loam
Btk - 13 to 27 inches: silty clay loam
Bk1 - 27 to 34 inches: silt loam
2Bk2 - 34 to 48 inches: loam
2R - 48 to 79 inches: bedrock

Properties and qualities

Slope: 1 to 4 percent
Depth to restrictive feature: 43 to 51 inches to lithic bedrock
Drainage class: Well drained
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: 40 percent
Gypsum, maximum content: 2 percent

Maximum salinity: Nonsaline to very slightly saline (0.5 to 3.0 mmhos/cm)

Available water capacity: High (about 9.6 inches)

Interpretive groups

Land capability classification (irrigated): 4e

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: C

Ecological site: R067BY002CO - Loamy Plains

Hydric soil rating: No

Description of Villegreen

Setting

Landform: Interfluves

Landform position (two-dimensional): Shoulder, summit

Landform position (three-dimensional): Interfluve

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Loess over residuum weathered from sandstone

Typical profile

A - 0 to 6 inches: loam

BA - 6 to 9 inches: silty clay loam

Bt - 9 to 15 inches: silty clay loam

Btk - 15 to 24 inches: silty clay loam

2Bk - 24 to 32 inches: channery loam

2R - 32 to 79 inches: bedrock

Properties and qualities

Slope: 1 to 4 percent

Depth to restrictive feature: 30 to 33 inches to lithic bedrock

Drainage class: Well drained

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: 30 percent

Gypsum, maximum content: 2 percent

Maximum salinity: Nonsaline to very slightly saline (0.5 to 3.0 mmhos/cm)

Available water capacity: Low (about 6.0 inches)

Interpretive groups

Land capability classification (irrigated): 3e

Land capability classification (nonirrigated): 4c

Hydrologic Soil Group: C

Ecological site: R067BY002CO - Loamy Plains

Hydric soil rating: No

Minor Components

Baca

Percent of map unit: 5 percent
Landform: Interfluves
Landform position (two-dimensional): Summit
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R067BY002CO - Loamy Plains
Hydric soil rating: No

Wiley

Percent of map unit: 5 percent
Landform: Interfluves
Landform position (two-dimensional): Summit
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R067BY002CO - Loamy Plains
Hydric soil rating: No

Boxcanyon

Percent of map unit: 5 percent
Landform: Interfluves
Landform position (two-dimensional): Toeslope
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R067BY002CO - Loamy Plains
Hydric soil rating: No

Rock outcrop

Percent of map unit: 1 percent
Landform: Scarps
Down-slope shape: Linear
Across-slope shape: Linear

Data Source Information

Soil Survey Area: Las Animas County Area, Colorado, Parts of Huerfano and Las Animas Counties

Survey Area Data: Version 23, Jun 5, 2020



Las Animas County Area, Colorado, Parts of Huerfano and Las Animas Counties



Map unit symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		<i>Lb/ac</i>	<i>Lb/ac</i>	<i>Lb/ac</i>		<i>Pct</i>
WC—Plughat-Villegreen complex, 1 to 4 percent slopes						
Plughat	R067BY002CO: Loamy Plains	1,800	1,300	600	Blue grama	35
					Western wheatgrass	25
					Green needlegrass	7
					Winterfat	5
					Buffalograss	3
					Sand dropseed	3
					Sun sedge	2
					American vetch	2
					Scarlet globemallow	2
Villegreen	R067BY002CO: Loamy Plains	1,800	1,300	600	Blue grama	40
					Western wheatgrass	20
					Green needlegrass	5
					Winterfat	5
					Sand dropseed	3
					Rubber rabbitbrush	2
					Bottlebrush squirreltail	2
					Broom snakeweed	1
					Red threeawn	1

Las Animas County Area, Colorado, Parts of Huerfano and Las Animas Counties

WeB—Wiley silt loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 3jqx
Elevation: 5,000 to 6,000 feet
Mean annual precipitation: 14 to 16 inches
Mean annual air temperature: 50 to 53 degrees F
Frost-free period: 130 to 155 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

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

Description of Wiley

Setting

Landform: Plains
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loess

Typical profile

A - 0 to 4 inches: silt loam
Bt1 - 4 to 9 inches: silty clay loam
Bt2 - 9 to 15 inches: silty clay loam
Btk - 15 to 26 inches: silty clay loam
Bk1 - 26 to 35 inches: silt loam
Bk2 - 35 to 44 inches: silt loam
Bk3 - 44 to 72 inches: silt 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 (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: 30 percent
Gypsum, maximum content: 3 percent
Maximum salinity: Very slightly saline to slightly saline (2.0 to 4.0
mmhos/cm)

Sodium adsorption ratio, maximum: 7.0
Available water capacity: High (about 11.0 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 4c
Hydrologic Soil Group: C
Ecological site: R067BY002CO - Loamy Plains
Forage suitability group: Loamy (G067BW017CO)
Other vegetative classification: Loamy (G067BW017CO), Loamy
Plains #2 (067XY002CO_2)
Hydric soil rating: No

Minor Components

Plughat

Percent of map unit: 5 percent
Landform: Plains
Landform position (two-dimensional): Backslope, summit, footslope
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R067BY002CO - Loamy Plains
Other vegetative classification: Loamy (G067BW017CO), Loamy
Plains #2 (067XY002CO_2)
Hydric soil rating: No

Baca

Percent of map unit: 5 percent
Landform: Plains
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R067BY002CO - Loamy Plains
Other vegetative classification: Clayey (G067BW001CO), Loamy
Plains #2 (067XY002CO_2)
Hydric soil rating: No

Villegreen

Percent of map unit: 5 percent
Landform: Plains
Landform position (two-dimensional): Backslope, shoulder
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R067BY002CO - Loamy Plains
Other vegetative classification: Loamy, Dry (G067BW019CO),
Loamy Plains #2 (067XY002CO_2)

Hydric soil rating: No

Data Source Information

Soil Survey Area: Las Animas County Area, Colorado, Parts of Huerfano and
Las Animas Counties

Survey Area Data: Version 23, Jun 5, 2020



Las Animas County Area, Colorado, Parts of Huerfano and Las Animas Counties



Map unit symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		<i>Lb/ac</i>	<i>Lb/ac</i>	<i>Lb/ac</i>		<i>Pct</i>
WeB—Wiley silt loam, 0 to 3 percent slopes						
Wiley	R067BY002CO: Loamy Plains	1,800	1,300	600	Blue grama	30
					Western wheatgrass	25
					Green needlegrass	10
					Buffalograss	5
					Winterfat	5
					American vetch	3
					Sun sedge	2
					Sand dropseed	2
					Purple prairieclover	2
					Scarlet globemallow	2