

Legend

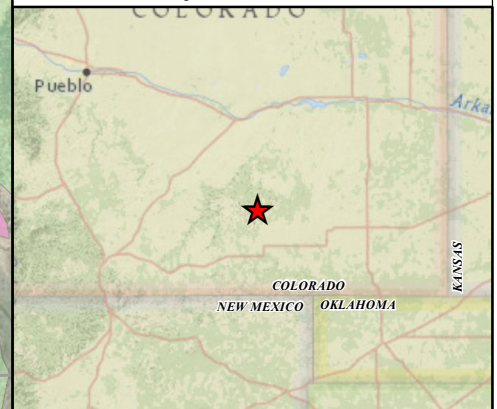
- Proposed Disturbance Area
- Proposed Working Pad Surface
- One Mile Buffer
- Proposed Pipeline
- Proposed Access Road
- Proposed Access Road/Pipeline
- Proposed Pad 36 2954

Soil Types

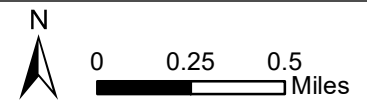
- CD
- TsF
- FcD
- VT
- MoB
- WC
- TsD

SOURCE: NRCS July 2020
Date: 3/31/2022

Project Location



BNL (ENTERPRISE) INC.
STATE 35 NENW 2954
SEC 35 T29S R54W (NE/4 NW/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

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-Dalerose 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
Dalerose	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

FcD—Fort sandy loam, 1 to 8 percent slopes, cool

Map Unit Setting

National map unit symbol: 2t50n
Elevation: 4,500 to 6,000 feet
Mean annual precipitation: 12 to 14 inches
Mean annual air temperature: 48 to 54 degrees F
Frost-free period: 125 to 170 days
Farmland classification: Not prime farmland

Map Unit Composition

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

Description of Fort, Cool

Setting

Landform: Hills, interfluves
Landform position (two-dimensional): Footslope, backslope
Landform position (three-dimensional): Head slope, side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium and/or eolian deposits

Typical profile

A - 0 to 5 inches: sandy loam
Bt - 5 to 13 inches: clay loam
Btk - 13 to 28 inches: clay loam
Bk1 - 28 to 36 inches: loam
Bk2 - 36 to 79 inches: sandy loam

Properties and qualities

Slope: 1 to 8 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
Calcium carbonate, maximum content: 25 percent
Maximum salinity: Nonsaline to very slightly saline (0.1 to 2.0
mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water capacity: Moderate (about 8.2 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: B
Ecological site: R069XY026CO - Sandy Plains LRU's A & B
Forage suitability group: Loamy (G069XW017CO)
Other vegetative classification: Loamy (G069XW017CO), Sandy
Plains #26 (069XY026CO_2)
Hydric soil rating: No

Minor Components

Wilid

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: R069XY006CO - Loamy Plains, LRU's A & B 10-14
Inches, P.Z.
Other vegetative classification: Loamy (G069XW017CO), Loamy
Plains #6 (069XY006CO_2)
Hydric soil rating: No

Kimera

Percent of map unit: 5 percent
Landform: Interfluves, fan remnants
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Interfluve, side slope
Down-slope shape: Convex, linear
Across-slope shape: Linear
Ecological site: R069XY006CO - Loamy Plains, LRU's A & B 10-14
Inches, P.Z.
Other vegetative classification: Loamy (G069XW017CO)
Hydric soil rating: No

Vonid

Percent of map unit: 5 percent
Landform: Ridges, hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex, linear
Across-slope shape: Convex
Ecological site: R069XY026CO - Sandy Plains LRU's A & B
Other vegetative classification: Loamy, Dry (G069XW019CO)

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>
FcD—Fort sandy loam, 1 to 8 percent slopes, cool						
Fort, cool	R069XY026CO: Sandy Plains LRU's A & B	1,700	1,200	650	Blue grama	30
					Prairie sandreed	15
					Sand bluestem	10
					Sideoats grama	8
					Little bluestem	5
					Western wheatgrass	5
					Sand dropseed	5
					Needleandthread	5
					Fourwing saltbush	3
					American vetch	2

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

MoB—Mauricanyon loam, 0 to 2 percent slopes, dry

Map Unit Setting

National map unit symbol: 3jnj
Elevation: 4,500 to 5,500 feet
Mean annual precipitation: 12 to 14 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

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

Description of Mauricanyon, Dry

Setting

Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy alluvium derived from sandstone and shale

Typical profile

A1 - 0 to 10 inches: loam
A2 - 10 to 21 inches: loam
Bw1 - 21 to 28 inches: loam
Bw2 - 28 to 40 inches: loam
Bk - 40 to 68 inches: 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 high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Calcium carbonate, maximum content: 6 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water supply, 0 to 60 inches: High (about 9.4 inches)

Interpretive groups

Land capability classification (irrigated): 2c

Land capability classification (nonirrigated): 6c

Hydrologic Soil Group: B

Ecological site: R069XY006CO - Loamy Plains, LRU's A and B
10-14 Inches, P.Z.

Forage suitability group: Loamy (G069XW017CO)

Other vegetative classification: Loamy Plains #6
(069XY006CO_2), Loamy (G069XW017CO)

Hydric soil rating: No

Minor Components

Trementina, dry

Percent of map unit: 10 percent

Landform: Terraces

Landform position (three-dimensional): Tread

Down-slope shape: Linear

Across-slope shape: Linear

Ecological site: R069XY006CO - Loamy Plains, LRU's A and B
10-14 Inches, P.Z.

Other vegetative classification: Loamy (G069XW017CO), Loamy
Plains #6 (069XY006CO_2)

Hydric soil rating: No

Glenberg

Percent of map unit: 5 percent

Landform: Flood plains, terraces

Landform position (three-dimensional): Tread

Down-slope shape: Linear

Across-slope shape: Linear

Ecological site: R069XY031CO - Sandy Bottomland LRU's A and B

Other vegetative classification: Sandy Bottomland #31
(069XY031CO_2), Loamy, Dry (G069XW019CO)

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>
MoB—Mauricanyon loam, 0 to 2 percent slopes, dry						
Mauricanyon, dry	R069XY006CO: Loamy Plains, LRU's A and B 10-14 Inches, P.Z.	2,000	1,450	650	Western wheatgrass	35
					Green needlegrass	20
					Blue grama	10
					Sand dropseed	5
					Winterfat	5
					Buffalograss	3
					American vetch	3
					Purple prairieclover	2
					Scarlet globemallow	2
					Sun sedge	2

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

TsD—Travessilla sandy loam, 1 to 9 percent slopes

Map Unit Setting

National map unit symbol: 2q08y
Elevation: 4,700 to 6,500 feet
Mean annual precipitation: 11 to 16 inches
Mean annual air temperature: 48 to 54 degrees F
Frost-free period: 130 to 170 days
Farmland classification: Not prime farmland

Map Unit Composition

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

Description of Travessilla

Setting

Landform: Scarps
Landform position (two-dimensional): Shoulder, summit
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Slope alluvium and/or residuum weathered from sandstone

Typical profile

A - 0 to 5 inches: sandy loam
AC - 5 to 11 inches: sandy loam
Bk - 11 to 14 inches: sandy loam
R - 14 to 79 inches: bedrock

Properties and qualities

Slope: 1 to 9 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
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
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water capacity: Very low (about 1.6 inches)

Interpretive groups

Land capability classification (irrigated): 6s
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: D
Ecological site: R069XY053CO - Sandstone Breaks LRU's A & B
Forage suitability group: Needs Field Review (G069XW050CO)
Other vegetative classification: Needs Field Review (G069XW050CO), Sandstone Breaks #53 (069XY053CO_2)
Hydric soil rating: No

Minor Components

Rock outcrop

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

Olney, bedrock substratum

Percent of map unit: 4 percent
Landform: Ridges
Landform position (three-dimensional): Interfluve, side slope
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R069XY026CO - Sandy Plains LRU's A & B
Other vegetative classification: Sandy Plains (069XY026CO_1)
Hydric soil rating: No

Villedry

Percent of map unit: 4 percent
Landform: Interfluves, plains
Landform position (two-dimensional): Shoulder, summit, backslope
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R069XY006CO - Loamy Plains, LRU's A & B 10-14 Inches, P.Z.
Other vegetative classification: Loamy Plains #6 (069XY006CO_2)
Hydric soil rating: No

Kim

Percent of map unit: 4 percent
Landform: Plains
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R069XY006CO - Loamy Plains, LRU's A & B 10-14 Inches, P.Z.
Hydric soil rating: No

Villegreen

Percent of map unit: 3 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 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>
TsD—Travessilla sandy loam, 1 to 9 percent slopes						
Travessilla	R069XY053CO: Sandstone Breaks LRU's A & B	1,700	1,000	500	Sideoats grama	20
					Blue grama	15
					Little bluestem	15
					Prairie junegrass	5
					Black grama	5
					Needleandthread	5
					Sand dropseed	5
					Western wheatgrass	5
					Big bluestem	5
					True mountain mahogany	3
Twoneedle pinyon	2					
Oneseed juniper	2					

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

TsF—Travessilla-Rock outcrop complex, 25 to 65 percent slopes

Map Unit Setting

National map unit symbol: 2pq42
Elevation: 4,300 to 6,500 feet
Mean annual precipitation: 11 to 16 inches
Mean annual air temperature: 48 to 54 degrees F
Frost-free period: 130 to 170 days
Farmland classification: Not prime farmland

Map Unit Composition

Travessilla and similar soils: 50 percent
Rock outcrop: 35 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Travessilla

Setting

Landform: Scarps, scarps
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Head slope, crest
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Slope alluvium and residuum weathered from sandstone

Typical profile

A - 0 to 5 inches: sandy loam
AC - 5 to 11 inches: sandy loam
Bk - 11 to 14 inches: sandy loam
R - 14 to 60 inches: bedrock

Properties and qualities

Slope: 20 to 45 percent
Depth to restrictive feature: 6 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 0.20 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 1.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: D

Ecological site: R069XY053CO - Sandstone Breaks LRU's A & B

Forage suitability group: Steep Slopes (G070XW049CO)

Other vegetative classification: Steep Slopes (G070XW049CO),
Sandstone Breaks #53 (069XY053CO_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: 25 to 65 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

Ustic haplocalcids

Percent of map unit: 10 percent

Landform: Pediments

Landform position (two-dimensional): Footslope

Landform position (three-dimensional): Base slope

Down-slope shape: Convex

Across-slope shape: Convex

Ecological site: R069XY064CO - Gravel Breaks LRU's A & B

Other vegetative classification: Not Suited (G070XW000CO)

Hydric soil rating: No

Midway

Percent of map unit: 5 percent

Landform: Hills, mesas, pediments

Landform position (two-dimensional): Backslope, footslope

Landform position (three-dimensional): Side slope, rise

Down-slope shape: Linear

Across-slope shape: Convex

Ecological site: R069XY048CO - Shale Breaks LRU's A & B

Other vegetative classification: Needs Field Review
(G069XW050CO), Shaly Plains #46 (069XY046CO_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>
TsF—Travessilla-Rock outcrop complex, 25 to 65 percent slopes						
Travessilla	R069XY053CO: Sandstone Breaks LRU's A & B	1,700	1,000	550	Sideoats grama	15
					Little bluestem	10
					Black grama	10
					Prairie junegrass	5
					Sand dropseed	5
					Needleandthread	5
					True mountain mahogany	3
					Twoneedle pinyon	3
					Oneseed juniper	2
Rock outcrop	—	—	—	—	—	—

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

VT—Villedry-Travessilla complex, 1 to 8 percent slopes

Map Unit Setting

National map unit symbol: 3jql
Elevation: 4,500 to 6,000 feet
Mean annual precipitation: 12 to 14 inches
Mean annual air temperature: 50 to 53 degrees F
Frost-free period: 130 to 155 days
Farmland classification: Not prime farmland

Map Unit Composition

Villedry and similar soils: 50 percent
Travessilla and similar soils: 40 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Villedry

Setting

Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loess over residuum weathered from sandstone

Typical profile

A - 0 to 4 inches: silt loam
BA - 4 to 7 inches: silt loam
Bt - 7 to 15 inches: silty clay loam
Btk - 15 to 25 inches: silty clay loam
Bk1 - 25 to 33 inches: clay loam
2Bk2 - 33 to 38 inches: gravelly loam
R - 38 to 60 inches: bedrock

Properties and qualities

Slope: 1 to 8 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): 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 (0.0 to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum: 5.0

Available water capacity: Moderate (about 6.6 inches)

Interpretive groups

Land capability classification (irrigated): 3e

Land capability classification (nonirrigated): 6c

Hydrologic Soil Group: C

Ecological site: R069XY006CO - Loamy Plains, LRU's A & B 10-14 Inches, P.Z.

Forage suitability group: Loamy (G069XW017CO)

Other vegetative classification: Loamy (G069XW017CO), Loamy Plains #6 (069XY006CO_2)

Hydric soil rating: No

Description of Travessilla

Setting

Landform: Scarps

Landform position (two-dimensional): Summit, shoulder

Landform position (three-dimensional): Crest

Down-slope shape: Convex

Across-slope shape: Linear

Parent material: Slope alluvium and/or residuum weathered from sandstone

Typical profile

A - 0 to 5 inches: sandy loam

AC - 5 to 11 inches: sandy loam

Bk - 11 to 14 inches: sandy loam

R - 14 to 60 inches: bedrock

Properties and qualities

Slope: 1 to 8 percent

Depth to restrictive feature: 6 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 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

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

Available water capacity: Very low (about 1.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6s

Hydrologic Soil Group: D

Ecological site: R069XY053CO - Sandstone Breaks LRU's A & B

Forage suitability group: Needs Field Review (G069XW050CO)

Other vegetative classification: Needs Field Review
(G069XW050CO), Sandstone Breaks #53 (069XY053CO_2)
Hydric soil rating: No

Minor Components

Almagre

Percent of map unit: 8 percent
Landform: Interfluves
Landform position (two-dimensional): Footslope, summit
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R069XY006CO - Loamy Plains, LRU's A & B 10-14 Inches, P.Z.
Other vegetative classification: Loamy (G069XW017CO), Loamy Plains #6 (069XY006CO_2)
Hydric soil rating: No

Rock outcrop

Percent of map unit: 2 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>
VT—Villedry-Travessilla complex, 1 to 8 percent slopes						
Villedry	R069XY006CO: Loamy Plains, LRU's A & B 10-14 Inches, P.Z.	1,200	800	350	Blue grama	35
					Western wheatgrass	20
					Galleta	10
					Sand dropseed	5
					Winterfat	5
					Sideoats grama	5
					Fourwing saltbush	5
					Green needlegrass	4
					American vetch	2
Travessilla	R069XY053CO: Sandstone Breaks LRU's A & B	—	1,000	550	Sideoats grama	20
					Little bluestem	15
					Blue grama	15
					Prairie sandreed	5
					Big bluestem	5
					Sand dropseed	5
					Western wheatgrass	5
					Needleandthread	5
					Black grama	5
					Yellow indiagrass	3
					True mountain mahogany	3
					Skunkbush sumac	3
					Twoneedle pinyon	2
					Oneseed juniper	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

Report — Rangeland Productivity and Plant Composition



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
					Purple prairieclover	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