

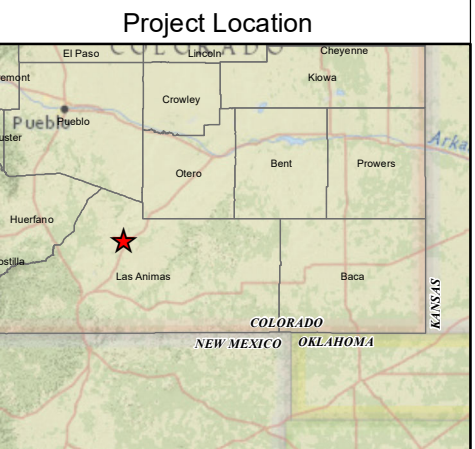
**Legend**

- Proposed Disturbance Area
- Proposed Working Pad Surface
- Proposed Pipeline
- Proposed Access Road

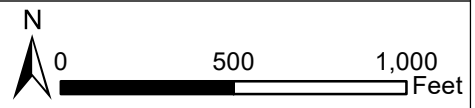
**Soil Types**

- TsD
- WV

SOURCE: NRCS July 2020  
Date: 4/23/2022



BNL (ENTERPRISE) INC.  
BBB 33 SESE 2860  
SEC 33 T28S R60W (SE/4 SE/4)  
LAS ANIMAS COUNTY, CO  
SOIL TYPES



Prepared By: Redhawk GIS, LLC

## 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):* Interfluvial, 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:* Interfluvial, 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

### WV—Almagre-Villedry complex, 1 to 4 percent slopes

#### Map Unit Setting

*National map unit symbol:* 2rgqf  
*Elevation:* 4,500 to 6,500 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:* Prime farmland if irrigated

#### Map Unit Composition

*Almagre and similar soils:* 47 percent  
*Villedry and similar soils:* 35 percent  
*Minor components:* 18 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Almagre

##### Setting

*Landform:* Interfluves  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Convex  
*Across-slope shape:* Linear  
*Parent material:* Loess over residuum weathered from sandstone

##### Typical profile

*A - 0 to 5 inches:* silt loam  
*BA - 5 to 9 inches:* silt loam  
*Bt - 9 to 23 inches:* silty clay loam  
*Btk - 23 to 30 inches:* silty clay loam  
*Bk1 - 30 to 40 inches:* silt loam  
*Bk2 - 40 to 50 inches:* loam  
*R - 50 to 79 inches:* bedrock

##### Properties and qualities

*Slope:* 1 to 4 percent  
*Depth to restrictive feature:* 40 to 59 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 (0.06 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:* 40 percent  
*Gypsum, maximum content:* 4 percent

*Maximum salinity:* Nonsaline to slightly saline (1.0 to 4.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 6.0  
*Available water supply, 0 to 60 inches:* High (about 9.2 inches)

#### **Interpretive groups**

*Land capability classification (irrigated):* 3e  
*Land capability classification (nonirrigated):* 4c  
*Hydrologic Soil Group:* C  
*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

#### **Description of Villedry**

##### **Setting**

*Landform:* Interfluves  
*Landform position (two-dimensional):* Shoulder, backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Convex  
*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 70 inches:* bedrock

##### **Properties and qualities**

*Slope:* 1 to 4 percent  
*Depth to restrictive feature:* 20 to 39 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 (1.0 to 3.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 5.0  
*Available water supply, 0 to 60 inches:* Moderate (about 6.6 inches)

### **Interpretive groups**

*Land capability classification (irrigated):* 3e

*Land capability classification (nonirrigated):* 4c

*Hydrologic Soil Group:* C

*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**

#### **Wilid**

*Percent of map unit:* 10 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 and B  
10-14 Inches, P.Z.

*Other vegetative classification:* Loamy Plains #6 (069XY006CO\_2),  
Loamy (G069XW017CO)

*Hydric soil rating:* No

#### **Travessilla**

*Percent of map unit:* 6 percent

*Landform:* Scarps

*Landform position (two-dimensional):* Summit, shoulder

*Landform position (three-dimensional):* Crest

*Down-slope shape:* Convex

*Across-slope shape:* Convex

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

*Other vegetative classification:* Needs Field Review  
(G069XW050CO), Sandstone Breaks #53 (069XY053CO\_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 24, Aug 31, 2021

