






## Legend

-  Proposed Working Pad Surface
-  Proposed Pad Disturbance Area
-  Proposed Pipeline
-  Proposed Access Road
-  One Mile Buffer1

## Soil Types

-  CD
-  DaE
-  WeB

SOURCE: NRCS July 2020

Date: 3/15/2022

## Project Location



BNL (ENTERPRISE) INC.  
STATE 09 SWSE 3054  
SEC 09 T30S R54W (SW/4 SE/4)  
LAS ANIMAS COUNTY, CO  
SOIL TYPES



0 0.25 0.5  
Miles



## 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

### 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

### 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

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Las Animas Counties

Survey Area Data: Version 23, Jun 5, 2020



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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