



## Harambe 2920

### 304.c.(5) Dust Mitigation Plan

In accordance with Rule 427, the Operator provides the following information outlining existing conditions at the proposed Oil and Gas location.

- (1)** Soil Type on Pad and Road
  - A.** NRCS 15 Colby Loam, 1 to 3 percent Slope (Pad and Road)
  - B.** NRCS 16 Colby Loam, 3 to 5 percent Slope (Pad and Road)
  
- (2)** Vehicle speed limit be under 25 mph to minimize dust;
  
- (3)** Total Area of Soil Disturbance
  - A.** NRCS 15 Colby loam, 1 to 3 percent Slope (6.74 acres)
  - B.** NRCS 16 Colby loam, 3 to 5 percent Slope (5.026 acres)
  
- (4)** The existing and proposed access road is/will be gravel.
  
- (5)** Number of anticipated truck trips for a 10 acre well pad and the drilling, completion and production of 9 horizontal wells.
  - Construction: 728 Trips
  - Drilling: 2230 Trips
  - Completion: 2689 Trips
  - Interim Reclamation: 96 Trips
  - Production: 1081\* (monthly trips- reducing over time as water volumes decrease)
  
- (6)** A plan for suppressing fugitive dust caused solely by wind;

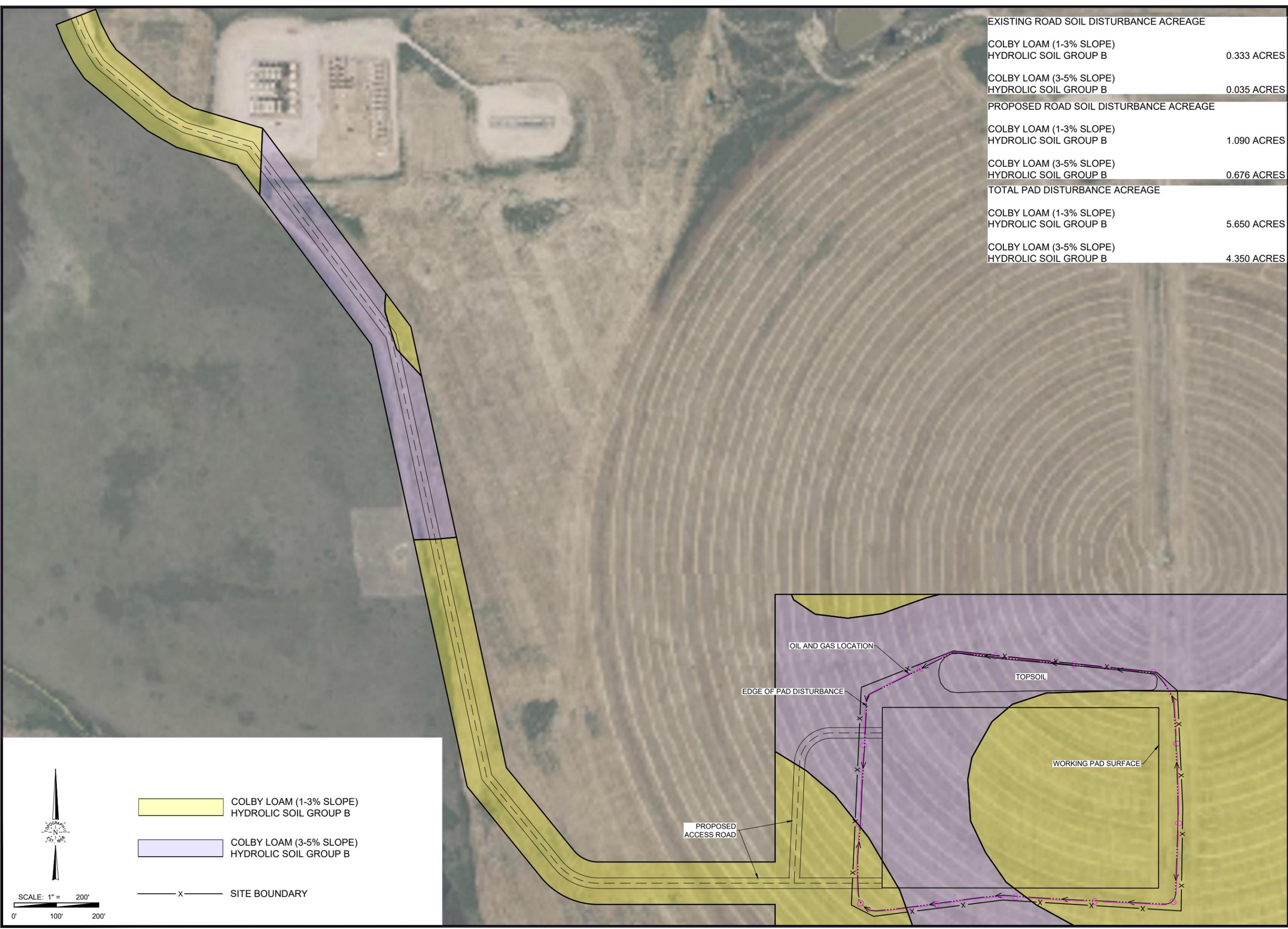
Restriction of construction activity during high-wind days. On windy days or days when dust becomes fugitive (leaves or threatens to leave the site) construction or activities will be halted until either fresh water can suppress dust or dust is no longer visible.

- (7)** A list of Best Management Practices that will be used. Such practices may include, but are not limited to:



- Operator will reduce traffic and dust associated with transporting completions water and produced liquids through the use of pipelines, large tanks, and other measures.
- Operator will stabilize the topsoil stockpiles utilizing vehicle tracking perpendicular to slope angle for short term stabilization and drill seed/crimped straw mulch application for longer term stabilization measures to suppress fugitive dust caused by wind.
- The access road will be covered with a minimum of 2" of road base material for stabilization and to mitigate dust. Per the approved 1041WOGA, water or magnesium chloride will be used to mitigate dust impacts during initial construction of the drill site and may be restricted or limited during high-wind days. To control dust, we will reduce speed on unpaved public roads. If there is any additional dust after the above measures have been taken, we will employ water trucks to mitigate dust. Dust control on unpaved county roads will be conducted in coordination with Public Works.
- Restriction of construction activity during high-wind days. On windy days or days when dust becomes fugitive (leaves or threatens to leave the site) construction or activities will be halted until either fresh water can suppress dust or dust is no longer visible.
- Use of a gravity fed box proppant delivery system that meets OSHA standards, rather than the historic pneumatic trailer proppant transfer system that blows sand out of the trailer into frac sand silos on the location; a method that required supplemental dust control to meet OSHA requirements. With a gravity fed proppant delivery system, the delivery container is also a well pad storage container, eliminating the need for frac sand silos on location. Storing frac sand in containers reduces sand dust during fracing operations by dropping sand directly from the container into the blender sand hopper.
- To prevent dust from becoming a nuisance to the public, Mag Chloride will be utilized before construction on access road. To control dust, we will reduce speed on unpaved public roads. If there is any additional dust after the above measures have been taken, we will employ water trucks to mitigate dust. Dust control on unpaved county roads will be conducted in coordination with Public Works
- Verdad will have a gathering line for gas transmission. Verdad is working on an agreement with Taproot and plan to also have a crude gathering line by the time we are on location.
- Verdad will be utilizing centralized storage facilities for fresh water, allowing us to limit the number of truck trips on and off location. During drilling operations all continuous operations personnel live on location. During completions operations a Verdad supervisor lives on location, a majority of the frac crews travel via bus. All of the above will substantially reduce truck traffic. In addition, logistical traffic management will be conducted in a manner that loads will be minimized as the opportunity allows.
- Maximum speed on all roads constructed and maintained by the operator will not exceed 25 mph.





EXISTING ROAD SOIL DISTURBANCE ACREAGE	
COLBY LOAM (1-3% SLOPE) HYDROLOGIC SOIL GROUP B	0.333 ACRES
COLBY LOAM (3-5% SLOPE) HYDROLOGIC SOIL GROUP B	0.035 ACRES
PROPOSED ROAD SOIL DISTURBANCE ACREAGE	
COLBY LOAM (1-3% SLOPE) HYDROLOGIC SOIL GROUP B	1.090 ACRES
COLBY LOAM (3-5% SLOPE) HYDROLOGIC SOIL GROUP B	0.676 ACRES
TOTAL PAD DISTURBANCE ACREAGE	
COLBY LOAM (1-3% SLOPE) HYDROLOGIC SOIL GROUP B	5.650 ACRES
COLBY LOAM (3-5% SLOPE) HYDROLOGIC SOIL GROUP B	4.350 ACRES

**TOPOGRAPHIC**  
LOYALTY INNOVATION LEGACY

1400 EVERMAN PARKWAY, STE. 146  
FORT WORTH, TEXAS 76140  
TELEPHONE: (817) 744-7512  
FAX: (817) 744-7548  
WWW.TOPOGRAPHIC.COM

NCRS MAP UNIT DESCRIPTION
HARAMBE 2920
VERDAD



DATE:	02/17/22
DRAWN BY:	TJM
REVIEWED BY:	CCC
SCALE:	1" = 200'
SHEET:	19 OF 23
REVISION:	
	XXX XXX XXX
	XXX XXX XXX
	XXX XXX XXX

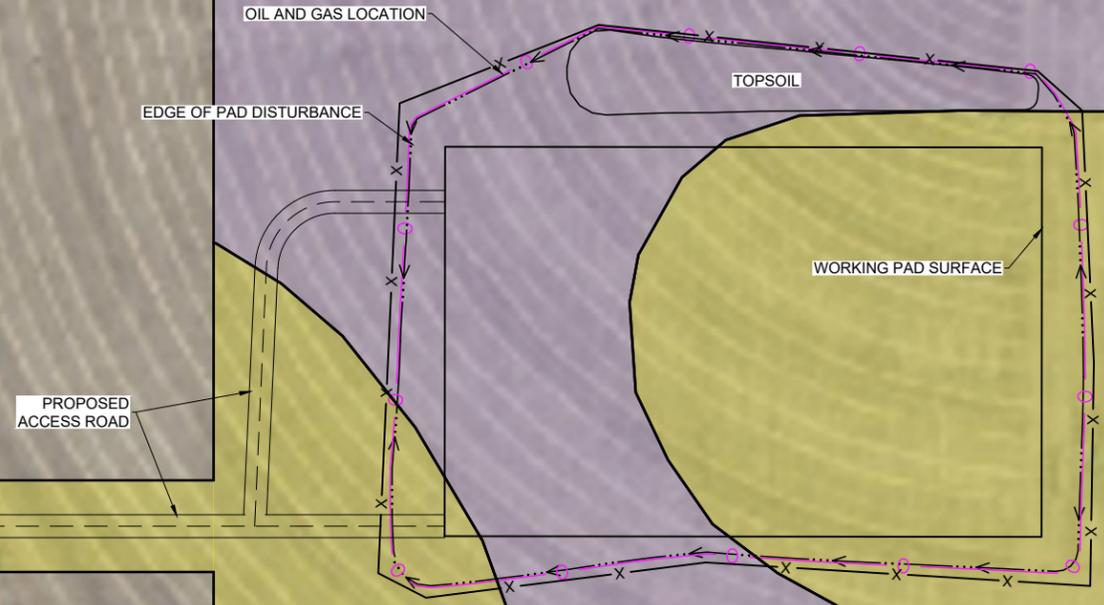
SCALE: 1" = 200'

0' 100' 200'

COLBY LOAM (1-3% SLOPE)  
HYDROLOGIC SOIL GROUP B

COLBY LOAM (3-5% SLOPE)  
HYDROLOGIC SOIL GROUP B

SITE BOUNDARY



## Weld County, Colorado, Southern Part

### 15—Colby loam, 1 to 3 percent slopes

#### Map Unit Setting

*National map unit symbol:* 361q  
*Elevation:* 4,850 to 5,050 feet  
*Mean annual precipitation:* 12 to 16 inches  
*Mean annual air temperature:* 48 to 50 degrees F  
*Frost-free period:* 135 to 155 days  
*Farmland classification:* Prime farmland if irrigated

#### Map Unit Composition

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

#### Description of Colby

##### Setting

*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Calcareous eolian deposits

##### Typical profile

*H1 - 0 to 7 inches:* loam  
*H2 - 7 to 60 inches:* silt loam

##### Properties and qualities

*Slope:* 1 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 to high (0.57 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:* 15 percent  
*Available water supply, 0 to 60 inches:* High (about 10.6 inches)

##### Interpretive groups

*Land capability classification (irrigated):* 3e  
*Land capability classification (nonirrigated):* 4e  
*Hydrologic Soil Group:* B  
*Ecological site:* R067BY002CO - Loamy Plains  
*Hydric soil rating:* No

#### Minor Components

##### Wiley

*Percent of map unit:* 9 percent

*Hydric soil rating:* No

**Keith**

*Percent of map unit:* 6 percent

*Hydric soil rating:* No

## **Data Source Information**

Soil Survey Area: Weld County, Colorado, Southern Part

Survey Area Data: Version 20, Aug 31, 2021

## Weld County, Colorado, Southern Part

### 16—Colby loam, 3 to 5 percent slopes

#### Map Unit Setting

*National map unit symbol:* 361r

*Elevation:* 4,850 to 5,050 feet

*Mean annual precipitation:* 12 to 16 inches

*Mean annual air temperature:* 48 to 50 degrees F

*Frost-free period:* 135 to 155 days

*Farmland classification:* Farmland of statewide importance

#### Map Unit Composition

*Colby and similar soils:* 85 percent

*Minor components:* 15 percent

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

#### Description of Colby

##### Setting

*Landform:* Ridges, hills

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Parent material:* Calcareous eolian deposits

##### Typical profile

*H1 - 0 to 7 inches:* loam

*H2 - 7 to 60 inches:* silt loam

##### Properties and qualities

*Slope:* 3 to 5 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 (0.57 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:* 15 percent

*Available water supply, 0 to 60 inches:* High (about 10.6 inches)

##### Interpretive groups

*Land capability classification (irrigated):* 3e

*Land capability classification (nonirrigated):* 4e

*Hydrologic Soil Group:* B

*Ecological site:* R067BY002CO - Loamy Plains

*Hydric soil rating:* No

### **Minor Components**

#### **Wiley**

*Percent of map unit: 8 percent*

*Hydric soil rating: No*

#### **Keith**

*Percent of map unit: 7 percent*

*Hydric soil rating: No*

## **Data Source Information**

Soil Survey Area: Weld County, Colorado, Southern Part

Survey Area Data: Version 20, Aug 31, 2021