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# DUST MITIGATION PLAN

**BNL** | ENTERPRISE

**Bolling 09 NWNW 2960**

Sec. 9 T29S R60W (NW/4 NW/4)

Las Animas County, Colorado

Surface: Fee

Submitted as an accompaniment to the Form 2A Application  
and consistent with the requirements of Rule 427.a.

May 17, 2023

# **BNL (Enterprise) Inc. Las Animas County, Colorado**

## **Dust Mitigation Plan**

### **Project Summary:**

BNL (Enterprise) Inc.'s ("BNL's") proposed Bolling 09 NWNW 2960 "Location" is in Sec. 9 T29S R60W in Las Animas County, Colorado. BNL plans to drill and test one *helium* well. If the well produces commercial quantities of helium the well will be shut-in until helium production/processing facilities can be constructed at an offsite facility location. The helium facility will be on lands outside of the Oil and Gas Development Plan. The facility will be constructed on private surface. The landowner agreement provides for the installation of the gas gathering line. The production/processing facilities will not require an Oil and Gas Development Plan. The well will be drilled vertically and will not require hydraulic fracturing. The proposed location is fee surface and fee minerals with a total pad disturbance of ±1.2 acres. The graded site elevation is expected to be approximately 5,455'. No federal surface or minerals are involved in this project. All operations would be conducted in compliance with all federal, state, and local applicable laws, rules, and regulations.

### **Plan**

#### **Project Overview:**

BNL's Dust Mitigation Plan is intended to facilitate compliance with the applicable regulations of the Colorado Oil and Gas Conservation Commission, the Colorado Department of Public Health and Environment and Las Animas County.

BNL's development of the Bolling 09 NWNW 2960 wellpad ("Location") requires earth disturbing activities and travel on unpaved roads which has the potential to produce fugitive dust emissions.

Dust associated with the Location activities and traffic on roads will be minimized throughout all phases such that there are minimal visible dust emissions from the Location or associated roads to the maximum extent practicable given wind and other weather conditions.

No proppant will be used in completion operations.

Any chemical application will have Safety Data Sheets on location.

#### **Compliance with Rule 427.a.**

1. Wellpad soil types:

WM – Minnequa-Wilid silt loam, 1 to 6 percent slopes

Access Road soil types:

WM – Minnequa-Wilid silt loam, 1 to 6 percent slopes

WV – Almagre-Villedry complex, 1 to 4 percent slopes

Flowline soil types:

WM – Minnequa-Wilid silt loam, 1 to 6 percent slopes

WV – Almagre-Villedry complex, 1 to 4 percent slopes

2. Proposed vehicle speed limit: 20 MPH or less on roads; 5 MPH or less on the Location.
  
3. Total disturbed area: 3.3 acres
  - Wellpad: 1.2 acres
  - Access Road: 1.8 acres (a portion of the flowlines will be installed in the access road ROW and is included in this disturbance calculation).
  - Flowline: 0 acres (all disturbance of flowlines is contained in the common access road construction).
  - **Total Acres of disturbance: 3.0 acres**
  
4. Access roads will not be paved. During the drilling and testing phase, the existing access road will be minimally upgraded, if necessary, to allow for construction and if needed emergency vehicles. If the well proves to be commercial, road will be crowned (with a minimum of four inches of gravel) and ditched, as agreed to by the private surface owner. Road surfacing material will consist of limestone, scoria or river rock or as agreed upon by the private surface owner and will be sourced as locally as possible to minimize travel distance.
  
5. Number of truck trips during the Construction, Drilling, Completion and Production stages:

Phase of Development	Monthly Truck Trips	Yearly Truck Trips
Construction (Wellpad & Access)	96	96
Drilling/Testing/Completion	104	104
Production/Daily Operations	30	365
<b>Total Truck Trips</b>	<b>230</b>	<b>565</b>

*Traffic counts are approximate, based on round trips, and may vary due to circumstances.*

6. Plan for Suppressing Fugitive Dust Caused by Wind:
  - Stop work orders will be issued during high wind conditions, when possible, with contiguous activities on location (sustained winds of 25 MPH or greater).
  - Regular road maintenance will be implemented to mitigate fugitive dust.
  - Avoid unnecessary work on dust generating on high wind days.
  - Natural or artificial windbreaks may be utilized as appropriate.
  - Utilize gravel in high wind areas on specific portions of roads and wellpads.

7. Best Management Practices:

- The wellpad will be constructed to a minimum size to accommodate all equipment but allowing for maximum safety precautions. The rig mat will eliminate fugitive dust from the wellpad. See attached product specs.
- Utilize existing vegetation, trees slash or brush piles to cover disturbed areas not used for vehicle traffic.
- Application of fresh water during dry season.
- Operations will be confined to the wellpad working surface.
- Continuous monitoring of disturbed areas to evaluate additional BMPs needed.
- Fresh water application to disturbed areas during construction.
- Fresh water or magnesium chloride application to graveled surfaced of the Location and associated roads.
- Speed limit signs will be posted per surface owner agreement.
- Contractors will be notified of speed limits if no signs are posted.
- Regular road maintenance such as grading and adding additional gravel as needed.

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

### WM—Minnequa-Wilid silt loams, 1 to 6 percent slopes

#### Map Unit Setting

*National map unit symbol:* 2rgqn  
*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:* Not prime farmland

#### Map Unit Composition

*Minnequa and similar soils:* 45 percent  
*Wilid and similar soils:* 40 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Minnequa

##### Setting

*Landform:* Pediments, ridges  
*Landform position (two-dimensional):* Summit, shoulder  
*Landform position (three-dimensional):* Crest  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear, convex  
*Parent material:* Slope alluvium over residuum weathered from limestone and shale

##### Typical profile

*A - 0 to 6 inches:* silt loam  
*Bw - 6 to 18 inches:* silt loam  
*Bky - 18 to 32 inches:* loam  
*Cr - 32 to 60 inches:* bedrock

##### Properties and qualities

*Slope:* 2 to 6 percent  
*Depth to restrictive feature:* 20 to 39 inches to paralithic 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:* 45 percent  
*Gypsum, maximum content:* 5 percent  
*Maximum salinity:* Nonsaline to slightly saline (0.1 to 4.0 mmhos/cm)

*Sodium adsorption ratio, maximum:* 8.0  
*Available water supply, 0 to 60 inches:* Low (about 4.8 inches)

#### **Interpretive groups**

*Land capability classification (irrigated):* 4e  
*Land capability classification (nonirrigated):* 6e  
*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 (G069XW017CO)  
*Hydric soil rating:* No

#### **Description of Wilid**

##### **Setting**

*Landform:* Interfluves  
*Landform position (two-dimensional):* Footslope, toeslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Loess

##### **Typical profile**

*A - 0 to 6 inches:* silt loam  
*Bt - 6 to 10 inches:* silty clay loam  
*Btk - 10 to 30 inches:* silty clay loam  
*Bk1 - 30 to 44 inches:* silty clay loam  
*Bk2 - 44 to 79 inches:* silt loam

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

*Slope:* 1 to 4 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:* 40 percent  
*Gypsum, maximum content:* 2 percent  
*Maximum salinity:* Nonsaline to slightly saline (0.5 to 4.0  
mmhos/cm)  
*Sodium adsorption ratio, maximum:* 4.0  
*Available water supply, 0 to 60 inches:* High (about 10.2 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 and 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

### **Minor Components**

#### **Manzanola**

*Percent of map unit:* 8 percent

*Landform:* Drainageways, fans

*Landform position (two-dimensional):* Toeslope, footslope

*Landform position (three-dimensional):* Base slope, talf

*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:* Saline Overflow #37  
(069XY037CO\_2), Clayey (G069XW001CO)

*Hydric soil rating:* No

#### **Penrose**

*Percent of map unit:* 5 percent

*Landform:* Hills, hogbacks, scarps

*Landform position (two-dimensional):* Shoulder, summit, backslope

*Landform position (three-dimensional):* Crest, side slope

*Down-slope shape:* Linear, convex

*Across-slope shape:* Linear, convex

*Ecological site:* R069XY058CO - Limestone Breaks LRU's A and B

*Other vegetative classification:* Limestone Breaks #58  
(069XY058CO\_2), Not Suited (G069XW000CO)

*Hydric soil rating:* No

#### **Shingle**

*Percent of map unit:* 2 percent

*Landform:* Hills, pediments

*Landform position (two-dimensional):* Shoulder, backslope

*Landform position (three-dimensional):* Head slope, side slope, rise

*Down-slope shape:* Convex

*Across-slope shape:* Linear, convex

*Ecological site:* R069XY046CO - Shaly Plains LRU's A and 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 24, Aug 31, 2021

## 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