Dust Mitigation Plan Rule 427.a pursuant to Rule 304.c.(5)

ELU M12-496

W2SW Section 12, T4S R97W

Rio Blanco County, Colorado

December 2023

Caerus Piceance LLC
ELU M12-496
W2SW Section 12 T4S R96W
Lat/Long: 39.712962/-108.123663
Rio Blanco County, CO

Dust Mitigation Plan

Introduction

Caerus Piceance LLC has developed the Dust Mitigation Plan in order to address Energy Carbon Management Commission's ("ECMC") Rule 427 pursuant to Rule 304.c.5. This Dust Mitigation Plan describes methods Caerus will utilize to minimize/mitigate fugitive dust generated from the development of oil and gas wells on the ELU M12-496 Well Pad (Well Pad). Fugitive dust can be generated during the construction and drilling and completion phases when vehicles are traversing gravel or dirt road or during high wind events.

The ELU M12-496 Well Pad is located in W2SW Section 12 T4S R96W in Rio Blanco County, Colorado. The Well Pad is approximately 23.6 miles, by road, north from Parachute, Colorado. The Well Pad, the existing access road and the proposed new lease access road are all situated on private surface in order to access and develop unitized federal minerals from thirty-four (34) oil and gas wells, that will produce primarily natural gas. The location will be accessed from CR 215 and CR 401 where an existing lease road will lead to the point where a new lease access road will be constructed in the W2SE of Section 12, T4S R96W, which will be built approximately 1,791-feet in length. Caerus will also construct an emergency access road which will be approximately 1208-feet in length off of the north end of the Well Pad. Once interim reclamation commences approximately 0.971 acres of the emergency access road will be reclaimed. The new lease access road long-term disturbance will be 1.439 acres. The Well Pad's short-term disturbance will be 5.30 acres and the long-term disturbance will be 2.40 acres after interim reclamation. The pipeline corridor will be co-located with the new lease access road which will be approximately 4500-feet in length and will connect to the ELU G13-496 CDP in the SWNE of Section 13, T4S R96W. The entire pipeline corridor will be reclaimed and seeded during interim reclamation. The pipeline will have a short-term disturbance of 6.715 acres which will be fully reclaimed and seeded at interim reclamation. Please reference Table 1.1 for surface disturbance acreage.

In order to minimize and mitigate fugitive dust, Caerus has incorporated several best management practices. For instance, speed limits will be designated for vehicles on unpaved roadways. And no construction or land disturbance will occur during high-wind days (e.g. +35mph). Field employees are tasked with notifying construction and drilling and completion personnel of high wind days. Freshwater will be applied via trucks are utilized to wet roadways, as needed. When necessary, trucks may apply magnesium chloride depending on location when freshwater alone is insufficient to control fugitive dust.

Soil Type - Rule 427.a.(1):

Soil types found within the Project disturbance area include:

Map Unit Symbol	Map Unit Name	Description
42	Irigul channery loam, 5 to 50 percent slopes	Soils are formed from residuum weathered from sandstone and shale. Occurs on mountainsides and ridges.
43	Irigul-Parachute complex, 5 to 30 percent slopes	Soils are formed from residuum weathered from sandstone and shale. Occurs on mountainsides and ridges and is well drained.
58	Parachute loam, 25-75 percent slopes	Soils are formed from residuum weathered from sandstone. Occurs on mountainsides and ridges.

Vehicle Speed Limit – Rule 427.a.(2)

Caerus personnel will abide by the local speed limits, when accessing the Well Pad on the newly built lease access road, which is unpaved, the speed limit will be 25 miles per hour (mph). During dry conditions or when dust is visible, personnel will be instructed to reduce speeds based on conditions. Field personnel will notify construction and drilling and completion personnel of dust observed and high wind days.

Total Area of Soil Disturbance – Rule 427.a.(3)

The total area of short-term, initial disturbance, is estimated to be 23.025 acres for the Well Pad, new lease access road and pipeline. The working pad surface will be 5.3 acres. Please reference Table 1-1 for more disturbance information. The estimated earthwork will occur in phases which include the following:

Construction Phase:
- Initial grading activities

Drilling & Completion Phase:
- Drill rig mobilization
- Drilling, completions and flowback
- Production

Interim Reclamation Phase:
- Final grading, reclamation and seeding

Table 1.1

Feature	Short-term Disturbance Acreage	Interim Reclaimed Acreage	Long-term Disturbance Acreage
Well Pad	13.90 (note WPS: 5.3)	2.900	2.400
Access Road	2.410	.971	1.439
Pipeline	6.715	6.715	0
TOTAL	**23.025**	**19.185**	**3.839**

During interim reclamation the cut and fill slopes will be reshaped and contoured leaving approximately 3.839 acres of long-term disturbance during the life of the wells.

Surface of Access Road – Rule 427.a.(4)

The proposed lease access road will be installed from the south end of the ELU M12-496 Well Pad and extend to the ELU G13-496 CDP where all mineral and hydrocarbon production will be processed. Additionally, remote stimulation operations will occur at the ELU G13-496 CDP for the development of the wells for the ELU M12-496. The access road is 1791-feet in length. For safety reasons, Caerus will build an emergency exit road on the northern end of the pad that will be 1208-feet in length which will be fully reclaimed at interim reclamation. Initial gravel application to the main lease access road shall be a minimum of 6-inches. Caerus will provide year-round road maintenance and clean-up on the access roads. Such maintenance may include blading, ditch and culvert cleaning, road surface replacement and dust abatement.

The unpaved road will be watered daily during initial construction to reduce fugitive dust emissions.

Number of Anticipated Truck Trips – Rule 427.a.(5)

Please reference Table 1-2 which provides a summary of expected vehicles per day (VPD) and maximum trips per activity/phase for the operational life of the ELU M12-496 Well Pad.

Table 1-2

Activity	Duration (Days)	No. of Semi Trucks	No. of Pickup Trucks	Total Truck Trips
Construction	60-75 days	150	135	285
Drilling	180-270 days (overlaps with completions)	220	1870	2090
Completions	180-270 days (overlaps with drilling)	0	850	850
Production	96/year (for 25 years)	0	2400	2400
Interim Reclamation	60-75 days	40	160	200
Inspections	12/year (for 25 years)	0	300	300
TOTAL		**410**	**5715**	**6125**

Suppressing Fugitive Dust – Rule 427.a.(6)

During construction earthwork employees and contractors will report to Caerus operations and construction personnel if wind speeds have increased and dust is observed. This reporting measure will also be utilized during weather events that may promote fugitive dust. Caerus will implement dust abatement measures to reduce and prevent dust caused by winds by using freshwater. Excavated soil and topsoil will be sufficiently watered or sprayed with a soil stabilizer to create a surface crust or the piles shall be covered.

Summary of Fugitive Dust Best Management Practices (BMPs) – Rule 427.a(.7)

The following BMPs will be implemented to mitigate dust during construction and vehicle transportation activities:

- Speed limit of 25 mph on unpaved roads

- During extremely dry conditions or when dust is visible, vehicular speeds will be reduced
- No construction will occur during high wind days
- Field personnel will notify construction and operations personnel of high wind days
- Water trucks will be utilized to wet roadways as needed to prevent fugitive dust
    - Magnesium chloride or freshwater may be used depending on the circumstance
- Construction activities that occur on unpaved surfaces shall be discontinued in periods when activities are causing dust plumes that cannot be abated with dust suppression methods
- Visual vehicle inspections will occur to assess presence of dirt and any action needed to suppress dust Caerus will primarily use freshwater.
- All major surface disturbance will occur outside of seasonal winter migration for mule deer and elk, and sage grouse lekking and breeding seasons.

Fugitive Dust Minimization from Operations – Rule 427.b

Caerus will implement fugitive dust controls throughout all phases of the ELU M12-496 as stated in this DMP.

Applying Dust Suppressant – Rule 427.c

The application of freshwater or magnesium chloride is highly dependent on the location, surface owner preference and weather conditions. Any chemical-based dust suppressant will be applied per manufacturer's recommendations in sufficient quantities for suppression.

Dust Suppressant Restrictions – Rule 427.c.(1)

Caerus will not utilize the following fluids for dust suppression:

- Produced water
- E&P Waste or Hazardous Waste
- Crude oil or oil not specifically designated for road maintenance
- Solvents
- Any process fluids

Ordinary High-Water Mark (OHWM) Fresh Water Use – Rule 427.c.(2)

As a practice, Caerus will only use freshwater to conduct dust suppression when application within 300-feet of an OHWM or body of water. The closes spring or seep is 570-feet away from the location, so Caerus may utilize mag-chloride with the permission of the surface owner. Note this location is more than 5280' from waters of the state.

Safety Data Sheet for Chemical Based Dust Suppressants – Rule 427.c.(3)

Caerus will maintain applicable safety data sheets (SDS) for any chemical based dust suppressant used within the ELU M12-496 Well Pad area. Records will be maintained and made available upon request.

Additional Dust Control Measures as Conditions of Approval

This DMP was designed to mitigate and minimize dust impacts to any wildlife and vegetation in the surrounding area. The ELU M12-496 Well Pad is not located within 2,000 feet of any building units. The Well Pad is located within 2,000 feet of a High Priority Habitat (HPH).

Dust generated during project construction and project-related vehicle traffic on associated access roads has the potential to impact adjacent vegetation. Dust deposition may reduce plant numbers or plant vigor as a result of respiratory and reproductive suppression. However, the short duration of the construction phase and the implementation of the DMP prescribed dust control measures during these related activities will mitigate long-term impacts on nearby vegetation.

Cumulative Dust Impacts – Rule 427.e

Caerus will implement dust abatement measures as needed to prevent cumulative dust impacts from vehicular traffic, equipment operations and/or wind events. BMPs were employed at the outset of planning the development of the Well Pad in selecting the most efficient vehicle travel routes. Speed limits and internal reporting for dust events will prevent further dust plumes. Impacts to wildlife would be minimal as all major surface disturbance will occur outside of seasonal winter migration for mule deer and elk, and sage grouse lekking and breeding seasons.