



Extraction Oil & Gas, Inc.

Draco Pad
Odor Mitigation Plan

Section 21, Township 1 North, Range 68 West
Weld County, CO

Potential Receptors

Operator will strive to minimize or eliminate odor from being a nuisance to the Residential Building Units (RBUs) within 2000' of the proposed working pad. Prevailing wind direction is coming from the west at this location (source: [*Western Regional Climate Center, Boulder-Jefferson City Airport*](#)). The highest risk for odor nuisances would be for the residential building units to the east of the pad.

Development Phase

Operator will comply with the requirements of Colorado Energy and Carbon Management Commission (ECMC) Rule 426 and Weld County Code Sec 21-5-420 during development through the mitigation methods outlined below. In addition to what is being proposed, Operator reserves the right to incorporate evolving technologies aimed at reducing odor during operations should conditions warrant additional controls. The Operator will endeavor to prevent odors from emanating from the Oil and Gas Location by proactively addressing known sources of odor – i.e., drilling mud.

The Operator will use a filtration system and additives to the drilling and fracturing fluids to minimize odors. Use of fragrance to mask odors is prohibited. In order to meet the requirements of ECMC Rule 426, Operator shall implement the following measures:

- Operator shall utilize a closed-loop, pit-less mud system for managing drilling fluids.
- Operator shall employ the use of drilling fluids with low to negligible aromatic content (IOGP Group III) during drilling operations after the surface casing is set and freshwater aquifers are protected.
- Operator shall remove drill cuttings daily and as soon as waste containers are full.
- Operator shall employ pipe cleaning procedures when removing drill pipe from the hole; these procedures may include “wiping” the pipe before racking it in the derrick.

In the event a person living in a residential Building Unit within 2000' or in the direction of prevailing winds from the Oil & Gas Location's working pad surface complains of odor, Operator shall assess current operations and atmospheric conditions at the time of the complaint to determine whether the odor may have been caused by the Operator's operations. Once a preliminary determination is made, the Operator will provide its findings to the complainant, the Director, and Relevant or Proximate Local Government within 24 hours. If the complaint is justified and unable to be resolved, Operator will work with the Director on necessary and reasonable actions to reduce odor including but not limited to the following:

- Operator may increase concentration of odor-mitigating additives in mud system.

Production Phase

Operator will comply with the requirements of ECMC Rule 426 and Weld County Code Sec 21-5-420 during development by utilizing the following best management practices outlined below. The primary source of odors during the production phase is gas that is vented during maintenance or normal production operations.

- Operator will utilize compressed air pneumatics, thereby eliminating the venting of gas that would normally occur during production operations.
- Operator will utilize a pressurized maintenance vessel system which will eliminate the need for venting during maintenance operations.
- Operator will install a tankless facility which reduces the potential for odor originating from production tanks.
- Operator will utilize utility powered facilities to eliminate odor originating from internal combustion engines.

Additional Air Quality Requirements

Operator will submit an Air Monitoring plan to the Colorado Department of Public Health and Environment which will be approved prior to construction. The air monitoring will be in place prior to construction through 6 months of production.

Proposed Best Management Practices

1. Operator will use a filtration system and additives in the drilling and fracturing fluids that minimize odors.
2. Operator shall utilize a closed-loop, pit-less mud system for managing drilling fluids.
3. Operator shall employ the use of drilling fluids with low to negligible aromatic content (IOGP Group III) during drilling operations after the surface casing is set and freshwater aquifers are protected.
4. Operator shall remove drill cuttings daily and as soon as waste containers are full.
5. Operator shall employ pipe cleaning procedures when removing drill pipe from the hole; these procedures may include “wiping” the pipe before racking it in the derrick.
6. If a justified complaint is received, Operator will increase concentration of odor-mitigating additives in mud system.
7. Operator will utilize compressed air pneumatics.
8. Operator will utilize a pressurized maintenance vessel system.
9. Operator will install a tankless facility.
10. Operator will utilize utility powered facilities.