



# **BISON IV OPERATING, LLC**

**FRIENDLY SKIES OGD**

**747 PAD**

# **ODOR MITIGATION PLAN**



**Bison IV Operating, LLC  
747 PAD ODOR MITIGATION PLAN**

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**Article I. Introduction**

*Location Information*

This document provides site-specific information for the 747 Pad within the Friendly Skies OGD. The information in this document relates specifically to the time during the construction, drilling, completion, interim reclamation, and production of the eighteen (18) proposed horizontal wells on this location.

The 747 Pad will utilize an access point approximately 0.2 miles south of the intersection of E 64<sup>th</sup> Ave and Jackson Gap Street, on the west side of the road. The 747 Pad will be in the W2NW of Section 8, Township 3 South, Range 65 West, and is located on parcel 0181908200014 owned by ACP DIA 1287 Investors, LLC. The 747 Pad is in a zoned Airport District with the City of Aurora and is currently used for agriculture. A permit with the City of Aurora will be obtained for the 747 Pad.

Construction of the proposed 747 Location, with associated cut and fill slopes, would initially disturb approximately 18.24 acres. Following interim reclamation, long-term working pad disturbance would be reduced to approximately 7.04 acres.

The proposed production facility equipment for the 747 Pad will be located within the Working Pad Surface adjacent to the wells and will consist of separators, oil polishers, produced water tanks, oil surge vessels, produced water surge vessels, blowers, scrubbers, vapor recovery units (VRU), oil and produced water LACTs, instrument air skids, compressors, meter skids, knockouts, emission control devices (ECDs), an electrical skid, product coolers, and pumps.

**TIMELINE**

Pending approval from ECMC and City of Aurora, the project schedule is as follows:

Phase	Duration (days)	Estimated Start Date
Construction	+/- 30 days	2 <sup>nd</sup> Quarter 2026
Drilling	+/- 108 days	2 <sup>nd</sup> Quarter 2026
Completion	+/- 75 days	3 <sup>rd</sup> Quarter 2026
Flowback	+/- 10 days	1 <sup>st</sup> Quarter 2027
Production	Ongoing +/- 30 years	1 <sup>st</sup> Quarter 2027

\*or the first favorable weather/growing season.

**Article II. Potentially Impacted Parties**

The 747 Working Pad Surface is 513 feet from the nearest Building Unit and 5,280 feet from a Residential Building Unit. The pad is located within a Disproportionately Impacted Community but over 5,280 feet from a Residential Building Unit, High Occupancy Building Unit, School Facility, and Designated Outside Activity Area.

**Article III. Mitigation Measures and Best Management Practices**

*Identify Sources*

Bison will identify potential sources of odors and emission points and conduct emission or leak monitoring for all tanks, compressors, knockout, and oil/water separation vessels, including any pressure relief devices or vacuum devices attached to the vessels, and keep records of any releases from such devices.



## *Odor Sources*

### Potential Odor Sources by Phase of Operations:

- Drilling
  - Engines
    - Drilling Rig Gen Sets
    - Third Party Vendor Trucks
  - Diesel Fuel Storage
  - Oil Based Drilling Mud & Storage
  - Drill cuttings across shale shakers
  - Drill cuttings haul off to disposal facility
  - Toilets & Dumpsters
- Completions
  - Engines
    - Workover or Coiled Tubing Rig
    - Pump & Sand Trucks
    - Generators
    - Acid Transports
  - Toilets & Dumpsters
- Operations
  - Separators
  - Tanks
  - Compressors
  - Dehydrators
  - ECDs
  - Generators
  - Chemical Storage
  - Diesel Fuel Tanks
  - Sumps & Scrubbers
  - Toilets & Dumpsters

### *Best Management Practices*

- Oil and gas operations will be in compliance with the Department of Public Health and Environment, Air Quality Control Commission, Regulation No. 2 Odor Emission, 5 C.C.R. 1001-4, Regulation No. 3 (5 C.C.R. 1001-5), and Regulation No. 7 Section XVII.B.1 (a-c) and Section XII.
- Oil and gas facilities and equipment shall be operated in such a manner that odors do not constitute a nuisance or hazard to public welfare.
- Bison utilizes a refined distillate derived from petro hydrocarbons that are specifically designed for downhole OBM drilling purposes. This product provides a higher aniline point and a lower BTEX than straight diesel which should reduce the odor associated with the OBM system. The refined distillate is generally classified as a Group II fluid per the manufacturer as it is not a diesel nor is it a synthetic mineral oil or an additive/odor neutralizer.



- Aromatics will also be mitigated during completion operations by virtue of the utilization of closed flowback tanks with all water/gas vapors being sent to a temporary ECD during the flowback period.
- Hydrocarbon odors from production facilities are minimized and eliminated by keeping produced fluid hydrocarbons and natural gas contained within pipes, separators, tanks, and combustors.
- All tanks will be sealed with thief hatches and gaskets. Tank vapors are captured with properly sized piping and combustors.
- If drilling mud is to sit stagnant for any lengthy period of time, biocides will be added to prevent the build-up of nuisance odors.
- Bison shall utilize appropriate biocide treatments to control bacterial growth and related odors as needed.
- The moisture content of water/bentonite-based mud (WBM) generated cuttings managed onsite must be kept as low as practicable to prevent accumulation of liquids greater than de minimis amounts.
- A closed-loop system is used for both water-based and oil-based mud. All drilling mud and waste will be hauled off for disposal. Oil-based mud will only be used in drilling the producing portion of the wellbore.
- All odor-emitting substances are hauled off location as quickly as possible. Cuttings are hauled off daily when the facility is open.
- Any stored mud additives are contained in sealed sacks or drums prior to removal or use.
- Water-based mud is a gypsum/water clear fluid that typically carries the odor profile of fresh dirt and is not normally susceptible to odor-causing bacterial degradation.

*Drilling Mud*

The 747 Pad will utilize a water-based drilling fluid while drilling the upper 1,900 ft of the wellbore that will be covered by surface casing. Once below surface casing an Oil Based drilling fluid will be used.

<u>Name</u>	<u>Type</u>	<u>Group</u>	<u>Aromatic Content</u>	<u>Additives</u>
Fresh Water	Water Based	N/A	N/A	Gel sweeps for viscosity
D822	Distillate	II	N/A	If applicable

*Monitoring*

A wind direction indicator will be utilized so that wind direction can be easily determined to evaluate the potential migration pathways of odors.

Bison will conduct odor surveillance downwind at the perimeter of the property during drilling, well completion, or rework, repair, or maintenance, as required.



A Leak Detection and Repair ("LDAR") program along with an audio, visual, olfactory ("AVO") program is planned for this location as part of an overall leak and spill detection program.

*Cuttings*

To reduce odors during drilling and completion, the rig will be washed of oily debris before moving in. Bison will utilize drying shakers to minimize residual oil on cuttings prior to transport and will promptly remove cuttings during drilling operations. Cuttings will not be stored on site.

*Idling*

Trucks will be prohibited from prolonged idling on location when not in use to prevent the accumulation of odors from exhaust.

*Complaints*

In the event of an odor complaint, Bison would determine the source of the odor, and employ mitigation measures accordingly, including, but not limited to, conducting air sampling to measure volatile organic compounds at the Location if required by the Director. If determined to be appropriate, Bison would conduct at least two measurements made >15 minutes apart outside of the property line of property where odors originate.

**Article IV. Cumulative Odors**

Bison has identified the following industrial and commercial operations and other Oil and Gas Locations as sources of potential odors:

<b>Name/Owner</b>	<b>Type</b>	<b>Distance</b>	<b>Direction</b>	<b>Comment</b>
Kroger OZ3 LLC	Building Unit	513'	E	
SFG Aurora CO LLC	Building Unit	1215'	SE	
Pacific Ent LLC	Building Unit	1676'	E	

If the Commission or Director applies additional Best Management Practices, conditions of approval, or guidance requiring additional measures to minimize odors in areas with high concentrations of oil and gas activities that may expose one or more Building Units or Designated Outside Activity Areas to odors from oil and gas sources, Bison will comply with such requirements.

**Article V. Exhibits/References/Appendices**

None