



DITTMER PAD ODOR MITIGATION PLAN

Contents

Article I. Introduction.....2

Location Information.....2

Article II. Potentially Impacted Parties2

Article III. Mitigation Measures and Best Management Practices3

Identify Sources3

Odor Sources3

Best Management Practices.....3

Drilling Mud5

Monitoring.....5

Cuttings.....5

Idling5

Complaints.....5

Article IV. Cumulative Odors.....6

Article V. Exhibits/References/Appendices.....6



Article I. Introduction

Location Information

This document provides site-specific information for the Dittmer Pad as 1041WOGLA22-0042 and within the Dittmer Pad OGD. The information in this document relates specifically to the time during the construction, drilling, completion, and production of the sixteen (16) proposed horizontal wells on this location.

The proposed location is dry cropland approximately 1,712' Southeast of the intersection of WCR 4 and North Main Street (WCR 27). The Pad will be in the NWNW Section 32, Township 1 North, Range 66 West, zoned agricultural within Weld County's Near-Urban planning area. An OGD is being filed concurrently with the 1041WOGLA22-0042 as COGCC 2A doc #403185947.

The proposed Pad will be 10.1 acres, reduced to 7 acres for interim reclamation. The working pad surface will be 6.2 acres. The Pad is on parcel #147132000026 owned by Dittmer Farm LLC and Blue Pill LLC. The location is currently used for grazing.

The proposed facility equipment for the Dittmer Pad will be located within the working pad surface adjacent to the wells consisting of oil tanks, water tanks, compressors, meters, LACT unit, separators, vapor recovery towers (VRT), vapor recovery units (VRU), emission control devices (ECD), instrument air skid, and proposed electrical and/or solar equipment.

Phase	Duration (Days)	Estimated Start Date
Construction	14	1st Quarter (February) 2024
Drilling	106	1st Quarter (March) 2024
Completions (Prep and Frac)	115	2nd Quarter (June) 2024
Flowback (Drill Out and flowback)	60	3rd Quarter (September) 2024
Production	25 Years	4th Quarter (November) 2024
Interim Reclamation*	10	4th Quarter (November) 2024

**or the first favorable growing season.*

Article II. Potentially Impacted Parties

The Dittmer Pad Working Pad Surface is within 2,000 feet of the following Building Units or Designated Outside Activity Areas (none):

Name	Distance & Direction
Michael V Aberle	756' NW
Rock X Inc	1462' NW
Rock X Inc	1510' NW
Jeffery A Elms & Karen J Carter	1636' NW
Ted W Crim	993' NE
Kayleen & Daniel Dittmer	1012' NE
Dittmer Farm LLC & Blue Pill LLC	1227' NE
Sakata Land Co	1452' S
Monaghan Farm Inc	1747' SW



Monaghan Farm Inc	1785' SW
Sakata Land Co	1970' SW

Article III. Mitigation Measures and Best Management Practices

Identify Sources

Operator will identify all 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
 - Perforating guns
 - Toilets & Dumpsters
- Operations
 - Separators
 - Tanks
 - Compressors
 - Knockouts
 - Dehydrators
 - ECD
 - Generators
 - Chemical Storage
 - Diesel Fuel Tanks
 - Sumps & Scrubbers
 - Toilets & Dumpsters

Best Management Practices



- Oil and gas operations shall 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 and dust do not constitute a nuisance or hazard to public welfare.
- Operator utilizes a clear, colorless refined distillate derived from petro hydrocarbons that is specifically designed for down hole 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.
- An actual odor neutralizer will be utilized in the OBM mud system during drilling operations to help mitigate odors.
- 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. Automatic tank level sensing equipment will be installed to prevent unnecessary opening of thief hatches on production tanks. 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.
- Operators 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 will 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 during the drilling phase.
- 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 Dittmer Pad will utilize a water-based drilling fluid while drilling the upper 1,750 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

At least 1 wind direction indicator shall be clearly visible from all principal working areas at all times so that wind direction can be easily determined to evaluate the potential migration pathways of odors.

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

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. Operator 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 permanently stored on site.

Idling

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

Complaints

Upon Director request, the Operator(s) of the Oil and Gas Facility or Facilities subject to the complaint will provide within 48 hours the Director, the Relevant or Proximate Local Government, and the complainant (should the complainant request notification) with a complete description of all activities occurring at the facility during the timeframe specified in the complaint.

Operator will take necessary and reasonable actions to reduce odors, including, but not limited to, conducting air sampling to measure volatile organic compounds at Oil and Gas Facility or Facilities subject to the complaint if required by the Director. Operator will conduct at least two measurements made >15 minutes apart outside of property line of property where odors originate.



Article IV. Cumulative Odors

As part of the Cumulative Impacts Analysis, Operator has identified the following Industrial operations and other Oil and Gas Locations as sources of potential odors:

Name/Owner	Type	Distance	Direction	Comment
Michael V Aberle	Construction Company	571'	W	USR-1658
Great Western Operating Company LLC	Oil & Gas Location	655'	E	Loc ID 447013
Copart Inc	Commercial Salvage Yard	1204'	NW	USR-1493AM
12628 Brighton Partners LLC/ Anadarko Petroleum Corporation	Oil & Gas Company Yard	1198'	W	SPR-84, 228
Briarwood Equity LLC/ Nextier Oilfield Solutions	Oil & Gas Support and Service Facility	1397'	W	SPR13-0011
Vestas Nacelles America Inc	Research, Repair, & Manufacturing Facility	1584'	N	USR-1676
Foster & Foster LLC / Precision Drilling	Storage & Maintenance Facility for Oil & Gas equipment	1644'	NW	SPR17-0018
Foster Properties/ Rock & Co	Construction/Masonry Company	2010'	NW	SPR-273
Schack Properties LLC	Trucking Company & Maintenance Facility	2466'	NW	SPR19-0006
Fairmount Brighton LLC/All Recycling Brighton	Commercial Junkyard/Salvage	2955'	W	USR-1744
DH Industrial LLC	Repair & Maintenance of Construction Equipment & Outside Storage	2927'	NW	SPR-429
Rocky Mountain Ready Mix	Concrete Batch Plant	3405'	W	USR-1373
Denis B Clanahan Trustee	Open Cut Gravel Pit and Asphalt Batch Plant	2969'	W	MUSR14-0002
Davis Family Investment Properties LLC/ NOV Tuboscope	Oilfield Equipment Supplier and Storage of stone and construction equipment	1744'	SW	SPR13-0014

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, Incline Operating, LLC will comply with such requirements.

Article V. Exhibits/References/Appendices

None