

Objective Criteria Review Memo Mathis Oil and Gas, Mathis 6HZ Well Pad *Form 2A Document #401968859*

This summary explains how COGCC staff conducted its technical review of the Mathis Oil and Gas LLC (Mathis), Mathis 6HZ well pad and production facility, Form 2A, document # 401968859, within the context of SB 19-181 and for the required Objective Criteria. This proposed new Location includes 12 wells, 12 electric motor driven pump jacks, ten oil tanks, two water tanks, two separators, two cavity pumps, two lease automatic custody transfer (LACT) units, one vapor recovery unit (VRU), one flare, one flare knockout drum, and one heater treater. The proposed Location meets the following Objective Criteria:

OBJECTIVE CRITERIA MET

- (Criteria 1) Location lies within 1,500 feet of Building Units (BU);
- (Criteria 3) Location lies within 1,500 feet of a municipal boundary; and
- (Criteria 5.c) Location lies within a Sensitive Area for water resources.

COGCC staff met with the Director to discuss whether the Objective Criteria were sufficiently addressed and whether the Form 2A could be approved with the proposed Best Management Practices (BMP) and applied Conditions of Approval (COA). The following sections provide details regarding the evaluation of each criterion.

Criteria 1: Oil and Gas Locations within 1,500 feet of a Building Unit

Site Specific Description of Applicability of Criteria 1: Objective Criteria #1 is met since there are three BU within 1,500 feet. It is an Exception Zone Location and a Buffer Zone Location due to proximity of the nearest two BUs (524' SW & 1,100' N) from the nearest well and (272' SW and 1,200' N) from the nearest production facility. The two closest BU are owned by the surface owner. There are a total of eight BU within 0 feet to 2,000 feet. The proximity of this Location to BU within 1,500 feet triggers the Director's Objective Criteria review of the Form 2A permit. The Location is on a former poultry farm and there are 24 poultry barns within 1,500 feet of the proposed Location including some barns on the Location. The poultry barns were not used for the cultural setback distances since they will be demolished prior to construction of the Location.

The Oak Meadows subdivision in the Town of Firestone lies more than 2,000 feet west of the Location. The BU on the east side of Ebony Street and a BU at 6474 County Road 26 owned by Dragonfly 12 LLC are the closest BU in the subdivision to the proposed Mathis 6HZ Location. Mathis will drill directional borings beneath these properties from the Location.

Site Specific Measures to Address Criteria 1: Mathis provided the following information and BMP pertaining to the Buffer Zone and Exception Zone. Mathis and the surface owner have signed a surface use agreement (SUA). The surface owner owns the only buildings and two closest BU within 1,500 feet of the proposed Mathis 6HZ pad. According to Mathis both of the closest BU will be vacated 30 days prior to construction. The owner waived the 305.a, 305.c, 306.a, and 306.e notifications and meetings in a 305.a.(2) Waiver Form 2A attachment. Additionally all poultry barns will be demolished prior to well pad construction and were not used to calculate setback distances. The surface owner will obtain demolition permits once the Form 2A and APDs are

approved. Staff added a COA that all buildings within 200 feet would be removed prior to initiating construction of the Location or the operator would obtain a 502.b variance from Rule 605.a.(3).

Mathis provided the following BMP to address Objective Criteria #1 and mitigate concerns for persons living within 1,500 feet from the edge of the proposed Location disturbance.

- Mathis provided BMPs to comply with applicable Rules 604.c.(2) A through W including using a closed-loop drilling system and no pits will be used on location.
- Lights will be turned downward and away from the nearest BU outside the surface owner's parcel. There will not be any permanent lighting installed.
- Oil-based drilling fluids (OBDF) will be Gibson D822 as the distillate base fluid which has lower volatiles and less odor than traditional OBDF. Drying shakers will be used to minimize residual oil on cuttings which will then be temporarily stored in steel bins. Cuttings will be separated from the OBDF at the surface for reuse or return to the OBDF vendor. Four or five loads of cuttings per day will be hauled off site to a licensed commercial disposal facility to avoid stockpiling cuttings on Location.
- Mathis will operate in accordance with permissible noise levels per COGCC Rule 604.c.(2) A and Rule 802, as applicable. The two closest BU will be vacated 30 days prior to construction activities. During drilling and completions the operator will construct sound/visual walls around the pad perimeter. Access is off of Weld County Road (WCR) 15 and away from the building units which will reduce noise impacts from truck traffic. Rig generators will be oriented away from and located as far as possible from the next nearest BU between 1,100 feet and 1,200 feet away so as to not exceed 65 decibels (db). Mathis will continue to evaluate noise levels.
- Dust mitigation on gravel roads will be coordinated with Weld County. Mathis will place road base where allowed by surface owner around tanks and wellheads to minimize dust, and will water the roads and locations when dry. Mathis will use trucks to haul oil from the facility until the field is proven and connect to a LACT and a single-phase hydrocarbon liquid line. Automation will be used to minimize truck traffic.
- The nearest well to an aboveground utility is 200 feet; however, this service pole is no longer in use and the landowner has agreed to remove the pole if necessary.
- Mathis will send out notices to BU owners within 1,500 feet to 2,000 feet with a summary of the Colorado Department of Public Health and Environment (CDPHE) health study information and COGCC fact sheet once the Form 2A is approved.

Criteria 1 Summary:

Mathis provided BMPs for avoiding or minimizing nuisance issues from odor, noise, light, traffic, and dust. Mathis will use Gibson DB822, a low volatile distillate, as a base OBDF to mitigate odor complaints. Mathis provided additional information regarding their proposal and BMPs for addressing siting conditions imposed by Weld County and information pertaining to communication with BU owners outside the Buffer Zone Location. Poultry barns will be demolished once a Form 2A is approved. A power pole located on the property 200 feet from the Location is not in service and will be removed. Mathis agreed to provide CDPHE Health Study Information and COGCC fact sheet to BU owner/occupants out to 2,000 feet from the Location. The BU along Ebony Street in the Oak Meadows subdivision and a BU at 6474 WCR 26 owned by Dragonfly 12 LLC are more than 2,000 feet west of the Location. Directional well

borings from the Location will extend beneath these properties.

Criteria 3: Oil and Gas Locations within 1,500 feet of a municipal boundary.

Site Specific Description of Applicability of Criteria 3: Objective Criteria #3 is met since the Location is in an unincorporated area of Weld County within 1,500 feet of the Firestone Municipal boundary which triggers the Director's Objective Criteria review of the Form 2A permit. Site-specific BMPs to address Objective Criteria #1 also will address Objective Criteria #3.

Site Specific Measures to Address Criteria 3: Mathis received Weld Oil and Gas Location Assessment (WOGLA) permit WOGLA19-0199 approval on October 24, 2019, and is in communication with the Town of Firestone. Mathis provided the following BMPs to address impacts pertaining to the proximity to the Firestone municipal boundary.

- Mathis will control mud tracking off Location and maintain access roads by filling potholes, ruts, and puddles with fill material on the pad and access road. Vehicle tracking controls will be the road and pad road-base.
- A lease access road will be used off of WCR 15 for drilling operations and maintenance equipment. The access road, and the well pad surface not used for equipment, will be covered with a six inch layer of road base for protection of the soil surface and minimize tracking of mud off-site. Regular road maintenance will be performed. Dust mitigation will be used as-needed. Operator will maintain the access road. A traffic access plan has been coordinated with Weld County through the approved WOGLA permit.
- Mathis plans to truck oil offsite initially, but will pursue a contract to pipe all produced hydrocarbons from the oil and gas location to an existing oil pipeline. In the event a deal is not made produced hydrocarbons and water will be trucked from location.
- Tanks will be designed, constructed, and maintained in accordance with National Fire Protection Association (NFPA) Code 30 (2008 version). Mathis will maintain records to verify proper design, construction, and maintenance and will be available for inspection.
- Materials deemed a fire hazard will remain no less than 25 feet from the wellheads, tanks, and separators. Flammable liquids will not be stored within 50 feet of the wellbore, except for fuel in the tanks of operating equipment or supply for injection pumps. A County approved Emergency Response Plan has been created for this site.

Criteria 3 Summary:

Mathis provided BMPs to control mud tracking off location and will maintain access road in good condition. Mathis will pursue a contract to pipe all produced hydrocarbons from the Location to an existing oil pipeline and use automation to reduce truck traffic. Tanks will be properly designed, constructed, and maintained in accordance with NFPA Code 30 and Mathis will maintain records available for inspection. An approved Emergency Response Plan was created and approved by Weld County for this Location.

Criteria 5.c: Oil and Gas Locations within a Sensitive Area for water resources.

Site Specific Description of Applicability of Criteria 5.c: The Location is within a Sensitive Area for water resources which triggers the Director's review of the Form 2A permit. The closest surface water feature is Lupton Bottom Ditch located 778 feet east-northeast. There were 13 permitted water

wells within ½-mile of the Location. The nearest downgradient water well is 1,055 feet north. Shallow groundwater is estimated to be 23 feet below ground surface (bgs) based on review of area permitted water well records.

Site Specific Measures to Address Criteria 5.c: Mathis proposes the following BMPs to protect sensitive water resources:

- Prepare a stormwater plan and comply with a construction stormwater discharge permit during construction, drilling, completion, and interim reclamation, including installation, inspection, and maintenance of stormwater BMPs to control sediment and erosion at the Location.
- Contain or cover dry bulk chemicals, miscellaneous fluids to prevent impacting stormwater runoff. Upon termination of the stormwater permit, Mathis will implement a Rule 1002.f Post-Construction Stormwater Program compliant stormwater plan.
- BMPs will be implemented to minimize erosion, transport of sediment offsite, and site degradation from produced fluids, materials, and chemicals stored on Location.
- Secondary containment planned for 150% volume of fluids contained during drilling/completion.
- Drip pans used during fueling to contain spills/leaks. Visual inspections of pipe and connections performed frequently.
- Install a geosynthetic liner under the tanks and connect to a metal containment constructed around the tanks.
- Prepare a Leak Detection Plan to conduct weekly Audio, Visual, Olfactory (AVO) inspections of wellheads, separators, tanks, valves, fittings, and thief hatches to identify potential leaks.
- Permanent BMPs will be maintained until final reclamation in accordance with Rule 1004.

Criteria 5.c Summary:

Mathis will prepare a stormwater plan to install and maintain control measures including BMPs to prevent degradation of stormwater runoff and minimize erosion, and will contain or cover chemicals and bulk materials. Mathis will install permanent BMPs to be maintained for the life of the Location. Mathis will install secondary containment consisting of a geosynthetic liner under tanks on this location with the liner connected to metal containment. The secondary containment will contain 150 percent of the volume of the fluids contained at the well site during drilling and completion. Weekly AVO inspections will be conducted in accordance with the operator's Leak Detection plan.