

Objective Criteria Review Summary - Verdad Resources LLC, County Line, Form 2A 402092786

This summary explains how COGCC staff conducted its technical review of the Verdad Resources LLC (Verdad), County Line Pad, Form 2A, doc no 402092786 within the context of SB19-181 and for the required Objective Criteria. This proposed Location is a new build for 32 wells, 32 separators, 32 oil tanks, and 16 water tanks. The Form 2A permit application met the following Objective Criteria

1. (Criteria #1) The proposed Location lies within 1,500 feet of a Building Unit or High Occupancy Building, which include Urban Mitigation Area (UMA) and Large UMA Facility (LUMAF) location. (the closest Building Unit is an estimated 550 feet from the Oil and Gas Location);
2. (Criteria #3) The proposed Location is within 1,500 feet of a municipal boundary, platted subdivision or county boundary (Adams County and Lochbuie);
3. (Criteria #5.c) The proposed Location lies within a Sensitive Area for water resources (within an area of potential shallow groundwater and proximity to surface water);
4. (Criteria #6) Oil and Gas Location within a Colorado Parks and Wildlife (CPW) mapped Restricted Surface Occupancy Area (RSO) or Sensitive Wildlife Habitat (SWH), or location receiving site-or species specific CPW comments; and
5. (Criteria #8) Oil and Gas Location with storage of hydrocarbon or produced liquid in more than 18 tanks or an excess of 5,200 barrels.

COGCC staff met with the Director to discuss the Objective Criteria for the Form 2A with the proposed Best Management Practices (BMPs) and applied Conditions of Approval (COAs). 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 or High Occupancy Building, which include Urban Mitigation Area (“UMA”) and Large UMA Facility (“LUMAF”) locations.

Site Specific Description of Applicability of Criteria 1: Based on the technical review and desktop evaluation, staff identified one residential Building Unit located approximately 550 feet to the southeast of the Oil and Gas Location (the Location). A second Building Unit is approximately 850 feet to the north of the Location. A residential development on acreages is located to the north with nine Building Units between 1,000 feet and 1,500 feet. To the northwest of the Location is a higher density housing development with approximately 85 Building Units between 1,000 feet and 2,000 feet from the Location. Within 2,000 feet of the Location there are approximately 105 Building Units.

Site Specific Measures to Address Criteria 1: One Building Unit is located within 1,000 feet of the planned wells, making this a Buffer Zone Location and requiring Verdad to provide all of the 604.c.(2) mitigation measures. There are two Building Units within 1,000 feet of the planned

Location boundary; a total of 16 Building Units within 1,500 feet of the planned Location boundary; and a total of 105 Building Units within 2,000 feet of the planned Location boundary.

Verdad held a community meeting inviting Building Unit owners located to the north and east of the Location were invited. Original plans were to have two well pad Locations. After discussions with the Building Unit owners, Verdad consolidated to one Location with both wells and production. Verdad also reduced the production equipment count in half from 64 to 32 and 32 oil tanks and 32 to 16 produced water tanks. Verdad has had continuous communication with Building Unit owners in the area. The CDPHE Health Notification was sent to all residents within 2,000 feet of the proposed Location. Two people contacted Verdad in regards to the notification; one individual was requesting clarification, which Verdad provided; the second individual was over 1,800 feet to the west of the Location and expressed concern pre-existing health conditions being exacerbated by oil and gas activities in the area.

Verdad provided BMPs to address nuisance conditions such as noise, odor, dust, and lights. Sound walls will be on the north and east sides of the Location. Verdad is using a quiet frac fleet for completions operations and a MLVT to minimize truck traffic. County Line road is paved, minimizing dust and Verdad will use water trucks for dust suppression; tracking pad and a cattle guard will be used to minimize mud and dirt from leaving the Location. Low VOC oil based mud (OBM) will be used and no cuttings will be stored on Location. Emissions during the drilling and completions process will be controlled with an enclosed combustor. During normal production, Verdad plans to pipe the oil and gas. Tank count is based on any upset conditions that may occur on the pipeline, requiring back up tanks to be used. Produced water will be trucked off site. All tanks will have automated tank gauges for loading fluids to minimize emissions from tanks by not opening hatches. All wells have remote shut-in capabilities for emergency situations.

Verdad has sent the CDPHE health study information to all residents within 2,000 feet of the Location. Two individuals contacted Verdad regarding the health study, one individual was 1,800 feet to the west and the second was within 1,000 feet of the Location. Verdad has agreed to a Condition of Approval (COA) for air monitoring program during the drilling and completions activities to be approved by the Director prior to commencement of drilling.

Summary: During the technical review process, COGCC staff reviewed the existing BMPs and new BMPs provided by Verdad. Staff worked with Verdad for clarification on BMPs related to noise, odor, and dust. Verdad provided the information requested by COGCC which was added to the application.

Criteria 3: The proposed Location is within 1,500 feet of a municipal boundary, platted subdivision or county boundary (Adams County and Lochbuie);

Site Specific Description of Applicability of Criteria 3: Adams County is located approximately 100 feet to the south of the Location. Lochbuie has jurisdiction over Highway 76

and a portion of County Road leading to the Location. Residential area of Lochbuie is approximately 1,700 feet from the proposed Location.

Site Specific Measures to Address Criteria 3: Verdad reached out to Adams County and Lochbuie as part of the Weld County Process. Adams County provided comments regarding landscaping, road use not under their jurisdiction, and tank paint color in August 2019. Lochbuie did not provide comments. Both Adams County and Lochbuie were invited to the public meeting in May, but did not attend.

Summary: Adams County and Lochbuie were contacted regarding the proposed Location. Adams County has communicated to Verdad.

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 in a sensitive area due to the proximity of shallow groundwater and proximity to surface water. Estimated depth to groundwater is at 8 feet based shallow wells on monitoring wells to the southwest of the Location. A pond is 80 feet to the west of the Location.

Site Specific Measures to Address Criteria 5.c: The Location is directly north and upgradient of the East Cherry Creek Valley (ECCV) watershed. Depth to groundwater is estimated at approximately eight feet below ground surface based on a monitoring well southwest of the Location. Verdad has worked with ECCV for groundwater protection of the Location. Verdad has all tanks in a lined and bermed containment. Daily inspections of the Location will be conducted. Verdad has a BMP to install two monitoring wells on the downgradient sides of the Location and will collect water samples on a quarterly basis to monitor for potential impacts to groundwater.

Surface water is a pond approximately 80 feet to the west of the Location. Additional water bodies and wetlands are located to the south of the Location. Verdad has provided BMPs for tertiary containment of ditch and berms with sediment traps around the location. Stormwater controls will be inspected.

COGCC has placed a COA on the Form 2A for three monitoring wells to be placed at the Location. One monitoring well will be up gradient and two will be downgradient of the proposed Location and sampled on a routine basis in order to monitor groundwater in the area.

Summary: During the technical review, COGCC staff requested additional information regarding stormwater controls and timing of inspections and clarification on the groundwater monitoring program. Verdad provided the information which was added to the BMP section of the Form 2A.

Criteria 6: The proposed Oil and Gas Location within a Colorado Parks and Wildlife (CPW) mapped Restricted Surface Occupancy Area (RSO) or Sensitive Wildlife Habitat (SWH), or location receiving site-or species specific CPW comments

Site Specific Description of Applicability of Criteria 6: The Location is within a mapped RSO and SWH for a Bald Eagles Nest.

Site Specific Measures to Address Criteria 6: Verdad, COGCC, and CPW met at the proposed Location in October 2018. At that time, a dilapidated Eagles nest was observed directly south of the Location. CPW has documented a new nest further south. CPW commented on the Form 2A their observations and did not have any concerns.

Summary: The mapped Bald Eagles nest placing the proposed Location in a RSO and SWH is not active. CPW has visited the proposed Location and did not have concerns.

Criteria 8: Oil and Gas Location with storage of hydrocarbon or produced liquid in more than 18 tanks or an excess of 5,200 barrels.

Site Specific Description of Applicability of Criteria 8: The proposed Location is for 32 wells, 32 oil tanks, and 16 water tanks, and 32 separators.

Site Specific Measures to Address Criteria 8: Verdad has placed a maximum case scenario on the Form 2A. Verdad decreased the tank count by half and is able to transport oil off-location via pipeline. The number of oil tanks will potentially decrease based on production. Produced water will continue to be stored on Location and trucked off-site. An emergency response plan has been submitted with the WOGLA which includes an address for the Location for emergency responders. Verdad will use an auto-gauging system for the tanks for truck loading to minimize emission sources. Remote shut-in capabilities will be used at this Location.

Summary: During the technical review of the Form 2A application, COGCC staff requested additional information regarding emergency response plans, plans for reducing tank count, emissions controls and shut-in capabilities at the Location. Verdad provided information regarding the third party oil pipeline, the auto-gauging system, and the remote shut-in capabilities for the Location. The information was added to the appropriate sections of the Form 2A application.

Determination: Based on the Objective Criteria review. The Director has determined that this permit application meets the standard for protection of public health, safety, welfare, the environment and wildlife resources set by SB 19-181.