

Objective Criteria Review Memo *Verdad Resources, KBL 02N-63-19, Form 2A 402098683*

This summary explains how COGCC staff conducted its technical review of the Verdad Resources (Verdad), KBL 02N-63-19, Form 2A, doc no 402098683 within the context of SB 19-181 and for the required Objective Criteria. This proposed Location is for twelve wells, twelve separators, seven oil tanks, ten produced water tanks, and meets 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 1,020 feet from the Oil and Gas Location);
2. (Criteria #3) The proposed Location lies within 1,500 feet of a municipal boundary.
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); and
4. (Criteria #8) The proposed Location contains hydrocarbon or produced liquid storage in 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 Building Unit within 1,500 feet of the location, which is 1,020 feet west of the location and on the far side of the railroad tracks.

Site Specific Measures to Address Criteria 1: There is one Building Unit within 1,500 feet of the proposed Location. Verdad committed to sound walls or a hay bale wall along the west side of the proposed Location to minimize noise impacts to the Building Unit. Verdad will minimize dust on the access road by applying water where needed. Verdad will not produce gas if a pipeline is not available. The wells have remote shut in capability and the tank battery has automated tank gauges. Verdad also committed to daily site inspections by the operator.

Summary: During the technical review process, COGCC staff requested clarification regarding several of Verdad’s proposed BMPs, which Verdad provided. The information received has been added to the application materials.

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

Site Specific Description of Applicability of Criteria 3: The Location is located approximately 390 feet southwest of Keenesburg's control of the Interstate 76 Frontage Road. There are no Building Units within Keenesburg's jurisdiction within 1,500 feet of the Location.

Site Specific Measures to Address Criteria 3: Verdad notified Keenesburg as part of their WOGLA application. Keenesburg responded with no concerns or comments.

Summary: The municipality within 1,500 feet of the proposed Location, Keenesburg, was notified of the proposed Location and expressed no concerns or comments.

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 potential for shallow groundwater, distance to surface water, and the Location's presence in the Lost Creek Designated Groundwater Management Area. Estimated depth to groundwater is at 23 feet based on the average of the two closest shallow groundwater wells. These wells are located north and southeast of the Location. The nearest surface water is an intermittent pond located 190 feet north of the Location.

Site Specific Measures to Address Criteria 5.c: Verdad placed BMPs on the Form 2A for protection of the shallow groundwater and nearby surface water at the Location. BMPs include secondary containment for above-ground tanks that will include steel-walled containment with a liner as well as a steel berm around the separators. Verdad also provided a BMP to install cement under the rig, surrounding the rig with a compacted earthen berm, and providing the drilling mud tanks with secondary containment. The Location will be inspected daily for leaks or spills. Stormwater controls will include perimeter berms which will be installed to prevent run-on and perimeter ditches will be used to divert runoff to sediment traps.

Summary: Verdad provided BMPs that address ground water resource and environmental protections. The BMPs include engineering controls (construction and containment) and administrative controls (inspections and a leak detection plan).

Criteria 8: Oil and Gas Locations with storage of hydrocarbon or produced liquid in excess of 5,200 barrels.

Site Specific Description of Applicability of Criteria 8: There will be seven oil tanks and ten water tanks on the proposed Location. Verdad confirmed that the tanks will be 400 barrels each, for a total storage of 6,800 barrels.

Site Specific Measures to Address Criteria 8: Verdad placed BMPs on the Form 2A for controls at the Location. These controls have been discussed above, related to the receptors that they more

directly relate to. Verdad has committed to green completions and agrees that once salable gas is achieved, the well will either be shut in or the gas will be diverted to a sales line.

Summary: Verdad provided BMPs that address ground water resource protection, environmental protection, and public nuisance mitigation. The BMPs include engineering controls (construction, secondary containment, stormwater management, nuisance mitigation) and administrative controls (inspections and contacts with nearby residents and the nearby municipality).

Director 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.