

Director Objective Criteria Review Memo – PDC Energy’s Stout 7N66W18 1-16, Form 2A #401975344

This summary explains how COGCC staff conducted its technical review of the PDC Energy (PDC) Stout 7N66W18 1-16 location, Form 2A #401975344 within the context of SB 19-181 and for the required Director’s Objective Criteria. This Form 2A permit application met the following Director’s Objective Criteria -

1. (Criteria 1) The proposed Location lies within 1,500 feet of a Building Unit (the closest Building Unit is approximately 1,200 feet east of the location).
2. (Criteria 3) The proposed Location lies within 1,500 feet a municipal boundary (Severance) and a platted Subdivision (Belmont Farms).
3. (Criteria 5.c) The proposed Location lies within a Sensitive Area for water resources (Pierce Lateral irrigation ditch is 56 feet east of the location and the location is within an area of potential shallow groundwater).
4. (Criteria 8) The proposed location will have storage of hydrocarbons or produced liquids in more than 18 tanks (9 oil tanks, 2 buried produced water vaults, and 12 temporary water tanks).

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 (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’ 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 only one building within 1,500 feet of the Oil and Gas Location. This Building Unit is approximately 1,200 feet to the east of the Oil and Gas Location. The nearest well on the Oil and Gas Location will be 1,484 feet from this Building Unit. PDC has indicated the Surface Owner is the owner of this Building Unit and they have a signed Surface Use Agreement in place.

Site Specific Measures to Address Criteria 1: There is a double row of trees and large bushes between the Oil and Gas Location and the nearest Building Unit that will act as a natural screen. Furthermore, the only Building Unit within 1,500 feet of the Oil and Gas Location is owned by the surface owner who has signed a surface use agreement with the operator and has been made aware of the potential impacts resulting from the proximity to the operations.

Determination: Given the foregoing, the Director determined Criteria 1 was sufficiently analyzed.

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 proposed Location lies within 1,500 feet of a municipal boundary (Severance) and within 1,500 feet of a platted subdivision (Belmont Farms). The Belmont Farms subdivision lies within the Severance municipal limits.

Site Specific Measures to Address Criteria 3: Severance and the Belmont Farms subdivision are approximately 1,150 feet west of the Oil & Gas Location. PDC has indicated they have notified both Severance and Belmont Farms of their planned operations. The Severance Town Planner did not have any concerns. The Belmont Farms HOA requested general information on hydraulic fracturing and drilling, which was provided.

PDC will utilize two 53,000 barrel Modular Large Volume Tanks (MLVTs) for the storage of freshwater as part of their well completions operations. These two MLVTs will be placed on the west side of the Oil and Gas Location and are what triggers this Objective Criteria. PDC has indicated the MLVTs will be on the Oil and Gas Location for approximately 180 days. Once these two MLVTs are gone, the western edge of the Oil & Gas Location will then be approximately 1,650 feet from Severance/Belmont Farms. PDC has included a BMP on the Form 2A detailing how they will utilize these MLVTs and that they will comply with the COGCC Policy on the Use of MLVTs.

Determination: The Director determined that Criteria 3 was sufficiently analyzed because there was sufficient communication and coordination between the operator, Severance, and Belmont Farms, and that once the MLVTs are gone from the Oil and Gas Location it will not be within 1,500 feet of Severance and the Belmont Farms subdivision.

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

Site Specific Description of Applicability of Criteria 5.c: The proposed location is in a sensitive area due to its proximity to the Pierce Lateral irrigation ditch and shallow groundwater, which is reported on the Form 2A to be 7 feet below ground surface in the vicinity of the proposed location.

Site Specific Measures to Address Criteria 5.c: PDC included BMPs on the Form 2A that detail how they will provide additional protection to nearby surface water features and shallow groundwater.

- *PDC will implement best management practices in accordance with good engineering practices, including, but not limited to, construction of a 4-5' tall berm sufficient to protect the*

ditch located approximately 56 feet east of the oil and gas location from a release of drilling, completion, produced fluids, and chemical products.

· PDC has opted to use partially buried fiberglass water vaults due to the need for the inlet to the vault being below frost line to keep from creating freezing issues during the cold weather months and prevent environmental releases. As an additional precaution the water vaults are set at 3 to 4 feet below grade keeping 3 to 4 feet of vault above grade with a geo-synthetic liner installed under the vault. The fiberglass vaults that we use are double walled and inspected as part of our integrity testing program. We install our load line at 12 to 18 inches above the bottom of the vault to keep water in the vault at all times as a precaution to keep the vault from floating.

Additionally, PDC agreed to a COA requiring them to line the secondary containment areas for the tanks and separators to protect the potential shallow groundwater from spills and release.

Determination: The Director determined that Criteria 5.c was sufficiently analyzed based on the application of the BMP and COA that address the protection of ground and surface water resources which were sufficient to meet the standard for protection of the sensitive environment and water resources.

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

Site Specific Description of Applicability of Criteria 8: PDC has indicated there will be nine oil tanks, two buried produced water vaults, and 12 temporary water tanks.

Site Specific Measures to Address Criteria 8: PDC has indicated they have an approved traffic plan, haul route, and Emergency Action Plan from Weld County. Also, the temporary water tanks will be on location for approximately 6-9 months. Once gone, the Oil and Gas Location will have less than 18 tanks.

Determination: The Director determined that Criteria 8 was sufficiently analyzed based on the approved traffic plan, haul route, and Emergency Action Plan from Weld County, and that when the temporary water tanks are gone, the Oil and Gas Location will have less than 18 tanks.

Staff met with the Director to discuss Objective Criteria that are met by this Oil and Gas Location. The Director determined that following the application of the additional analysis from the Objective Criteria, the permit application meets the standard for protection of public health, safety, welfare, the environment and wildlife resources set by SB 19-181.