

Objective Criteria Review Memo - Edge Energy II LLC

Simpson 36-1H -- Form 2 Application for Permit to Drill (APD) Doc# 402085608

Refile for API# 123-48072

Simpson 26 Pad -- Sundry to update Location BMPs (Doc# 402190139)

Approved Form 2A Oil & Gas Location Assessment (Doc# 401687545, approved 10/3/2018)

Location ID# 457767

This memo summarizes COGCC's technical review of the subject well within the context of SB 19-181 and the required Objective Criteria. Prior to the implementation of SB 19-181, the Form 2A and APDs for 11 of the 12 wells proposed for this Oil & Gas Location were submitted and approved. One of those approved permits (API# 123-48072) was later abandoned by the operator via Sundry. Edge Energy has submitted this Refile APD to re-permit the formerly abandoned planned horizontal well on this approved Oil & Gas Location, with substantial changes to the wellbore's configuration. The Location has not yet been built; construction is planned to begin in early October, 2019.

For Oil & Gas Locations approved prior to SB 19-181, the Objective Criteria apply to any wells proposed on those approved or existing Oil & Gas Locations. This APD meets the following Objective Criteria:

1. **Criteria #5.a** - *The Location is within a Floodplain or Floodway.* COGCC's GIS map and the approved Form 2A indicate the Location lies within FEMA's mapped 100-year floodplain for Spring Creek.
2. **Criteria #5.c** - *The Location is within a Sensitive Area for water resources.* The approved Form 2A indicates the nearest downgradient surface water feature is an irrigation ditch 51 feet from the eastern edge of the Location. Depth to groundwater is estimated at 12 feet based on nearest water well.
3. **Criteria #8** - *The Location has more than 18 tanks.* The Form 2A was approved for 24 oil tanks, 12 produced water tanks, and one temporary Modular Large Volume Tank (MLVTs).

The following sections provide details regarding the evaluation of each criterion. Criteria 5.a and 5.c have been combined into one section here as many of the updated BMPs are applicable to both.

Criteria 5.a: Oil and Gas Locations within a Floodplain or Floodway.

Site Specific Description of Applicability of Criteria 5.a: The Location lies within the 100-year floodplain of Spring Creek as mapped by FEMA and identified using COGIS map layers.

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 its proximity to surface water and potential shallow groundwater: an irrigation ditch is approximately 51 feet east of the edge of the disturbed area and depth to groundwater is estimated at 12 feet based on nearest water well.

Site Specific Measures to Address Criteria 5.a and 5.c:

The Location lies at the edge of the mapped 100-year floodplain. The Form 2A was approved in 2018 with BMPs to mitigate potential impacts due to flooding per Rule 603, but staff determined additional BMPs were necessary to ensure adequate protection from flooding and protection of groundwater/surface water. Edge submitted Sundry Doc# 402190139 to update BMPs for this Location, including enhanced stormwater control and spill protection measures:

- A ditch and berm system will be constructed around the location perimeter to funnel potential floodwater around the location to a sediment trap constructed at the southeast corner of the location;
- The location surface will be graded and contoured to direct flood flow and runoff toward the sediment trap at the southeast corner of the pad; trap will include riprap and waddles for soil stabilization and to decrease flow energy;
- Clay-lined secondary containment (earthen berm) will be installed around tanks and separators; berm shall be sized to contain 110% of the volume of the largest tank;
- All production equipment will be anchored to the extent necessary to resist flotation, collapse, lateral movement, or subsidence;
- Structures will be placed on fill compacted to 95% of the maximum density obtainable to minimize erosion and potential spills from penetrating into the subsurface;
- Wells will have remote shut in and tanks will have remote tank valve shut off capabilities;
- Stormwater inspections will occur every 14 days during construction; monthly after construction; and within 24 hours after every storm event;
- Inspections for spills and releases will be performed daily;
- AVO (audio, visual, olfactory) inspections will be performed every time liquids are loaded out from tanks; an oil pipeline is currently under construction; the operator intends for all oil to be piped off location once the line is in service.

The Operator has obtained a Weld County Flood Hazard Development permit (approved 8/26/2019).

The operator also provided (upon COGCC request) an Alternative Site Analysis (attached to Sundry Doc# 402190139 as "Other") to describe alternative locations that were ultimately not chosen. Other potential sites considered, and rejected, include surfaces owned by the City of Thornton and private parties who would not allow a Surface Use Agreement; a location near the Bonnie Plant Farm which was determined to be an Urban Mitigation Area (UMA); locations within irrigated crop areas; locations near building units or where housing development was planned. The operator determined the current location best allowed them to develop the State mineral lease with a minimum of disruption, nuisance, or risk.

Determination - 5.a: Given the improvement of existing BMPs and addition of new BMPs to further reduce potential flood impacts, the thorough alternative site analysis, and the approved Weld County Flood Hazard Development permit, the Director determined Criteria 5a was sufficiently analyzed.

Determination - 5.c: The Director determined that Criteria 5.c was sufficiently analyzed based on the application of additional BMPs that address the protection of ground and surface 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: The Form 2A was approved for 24 oil tanks, 12 produced water tanks, and one temporary Modular Large Volume Tank (MLVTs).

Site Specific Measures to Address Criteria 8: The operator submitted an Emergency Response Plan (ERP) to Weld County's Office of Emergency Management and the Ault Fire Protection District as part of the WOGLA process. The ERP was approved with the approval of the WOGLA permit; the Ault Fire District had no objection. An LDAR BMP was also included on the Sundry.

Determination: Given the coordination of an Emergency Response Plan with the local Fire District, and the location's distance from the nearest building unit (>2000'), and the addition of a Leak Detection and Repair (LDAR) BMP on the Sundry, the Director determined Criteria 8 was sufficiently analyzed.

Additional Information:

- The subject APD requests this horizontal well to be permitted under statewide spacing per Rule 318.a. The proposed well meets all applicable setback requirements. No Drilling and Spacing Unit (DSU) is required for this well.
- The subject APD will develop Colorado State Land Board (SLB) minerals through State Lease # OG-107228. The SLB has authorized this well and has no objection.
- The operator acquired the lease from another operator in December 2018; the lease expires in November 2019.

Final Determination: COGCC staff met with the Director to discuss whether the Objective Criteria were sufficiently addressed and whether the subject APD could be approved with the proposed Best Management Practices (BMPs) and applied Conditions of Approval (COAs) on the APD and the already-approved Form 2A. Per staff request, the Operator submitted Sundry doc# 402190139 to improve existing BMPs and add additional BMPs to the Location, ensuring maximum protection from potential flood risk, protection of water resources, and minimization of tank-related risks. The Director determined that following the application of the additional analysis from the Objective Criteria, the Sundry and the permit application meet the standard for protection of public health, safety, welfare, the environment and wildlife resources set by SB 19-181.