

Objective Criteria Review Memo - Extraction Oil and Gas Inc.

VIC 20W-20-12N -- Form 2 Application for Permit to Drill (APD) Doc# 401652594

VIC 20-E PAD -- Form 4 Sundry to update Location BMPs Doc# 402138102

Approved Form 2A Oil & Gas Location Assessment (Doc# 401652454, approved 10/19/2018)

Location ID# 458215

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 22 of the 25 wells proposed for this Oil & Gas Location were submitted and approved. Extraction has since submitted this subject APD for a horizontal boundary well on this approved Oil & Gas Location.

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 #1** - *The Location is within 1500' of a Building Unit (BU).* There is a single Building Unit approximately 1150' south of the edge of this Location's disturbed area.
2. **Criteria #5.c** - *The Location is within a Sensitive Area for water resources.* The Form 2A indicates the nearest downgradient surface water feature is an irrigation ditch 22' from the eastern edge of the Location. There are also mapped ponds approximately 200' east of the location.

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: There is a single Building Unit approximately 1150' south of the edge of this Location's disturbed area.

Site Specific Measures to Address Criteria 1: This Location is in an agricultural field. The single BU is farther than 1,000 feet from the proposed well and production facilities, therefore this is not a Buffer Zone location. The owner of the BU is also the surface owner of this Location, and has signed a Surface Use Agreement with the Operator for this Location. The Form 2A was approved with BMPs to minimize potential site degradation, impacts to quality of life, reduce emissions, reduce fugitive dust, and minimize light pollution, noise, and odors. Per request from COGCC staff, the Operator submitted a Sundry Form 4 to improve existing BMPs and add additional BMPs to this Location. These updated BMPs include: the development of an emergency response plan coordinated with the local fire department and emergency management office; outreach and pre-operational notifications to all BU owners within ½ mile, including access to a 24-hour hotline for emergencies or questions; an ambient noise survey to

ensure noise abatement requirements per Rule 802 are met; the installation of a temporary 32' sound wall on the south side of the location during drilling and completions operations; low-profile tanks; use of a metering system that automatically transfers oil into trucks such that vapors are combusted with an ECD; closed flowback tanks during completion operations; enclosed flares during drilling operations; interim reclamation practices that include topsoil protection, noxious weed control, and reseeding/recontouring that meets the surface owner's specifications.

Determination: Given the improvement of existing BMPs and addition of new BMPs to reduce nuisance issues, and the existence of the SUA between the Operator and the BU/surface owner, the Director determined Criteria 1 was sufficiently analyzed.

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 surface water. An irrigation ditch is directly adjacent to and downgradient of this Location, approximately 22' from the edge of the disturbed area. In addition, mapped ponds are approximately 200' east of the Location, on the east side of Hwy 257.

Site Specific Measures to Address Criteria 5.c: The approved Form 2A has a single BMP that addresses protection of the sensitive environment through general stormwater and erosion engineering controls. To further ensure the protection of water resources, and particularly the nearby irrigation ditch, COGCC staff requested the Operator submit additional BMPs via the subject Sundry. New BMPs include: weekly visual inspections of production facilities, including wellheads, tanks, and fittings; installation of an impermeable, lined containment system (with steel-ringed berms) at the tank battery; elimination of potential ignition sources from secondary containment areas unless a closed fired vessel is used; additional berms, diversion dikes, and/or site grading installed to protect the nearby ditch from any potential spills or releases. These stormwater, erosion, and containment controls will also provide effective protection of the ponds located on the opposite side of Hwy 257.

Determination: 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.

Additional Information:

- The subject APD includes a request for this horizontal boundary well to be completed in a wellbore spacing unit (WSU) as designated per Rule 318A.a.(4).D. Per Rule 318A.e.(5), the operator notified all mineral owners within the proposed WSU at least 30 days prior to submitting the Form 2 APD. No valid objections were received, or, any valid objections received have been resolved and are no longer ongoing. The Form 2 APD does not require a hearing for

the approval of the spacing unit; a WSU is approved administratively with the approval of the Form 2 APD.

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# 402138102 to improve existing BMPs and add additional BMPs to the Location, ensuring maximum protection of the nearby Building Unit and water resources. 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.