

Objective Criteria Review Memo - Bison Oil & Gas II LLC

Boomslang Fed 8-60 14A-13-18-1 -- Form 2 Application for Permit to Drill (APD) Doc# 401991717

Boomslang Fed 8-60 14A -- Form 4 Sundry to update Location BMPs Doc# 402188802

Approved Form 2A Oil & Gas Location Assessment (Doc# 401389494, approved 03/29/2018)

Location ID# 454591

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 10 wells proposed for this Oil & Gas Location were submitted and approved. Bison Oil & Gas II LLC has since built the location. Bison Oil & Gas II LLC has now submitted this subject refile APD for this approved, built, 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 5c** - *Oil and Gas Locations within: a Sensitive Area for water resources.* The location lies in a Sensitive Area for water resources. The Sensitive Area determination is based on the operator's estimate of the groundwater depth beneath the proposed location of 13 feet.
2. **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.* The approved Form 2A indicates there will be 20 oil tanks and 2 water tanks.

The following sections provide details regarding the evaluation of each criterion:

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

Site Specific Description of Applicability of Criteria 5c: The location lies in a Sensitive Area for water resources. The Sensitive Area determination is based on the operator's estimate of the groundwater depth beneath the proposed location of 13 feet.

Site Specific Measures to Address Criteria 5c: The Operator submitted a Form 4 Sundry doc# 402185365 to add the following BMP's to the location to address lined containment, auto shutoffs, and leak detection:

- Operator shall use a Supervisory Control and Data Acquisition (SCADA) system in conjunction with tank level indicators which have the ability to automatically shut in wells during an upset condition.
- Tank berms shall be constructed of steel walls with an engineered synthetic liner and designed to contain 100% of the capacity of the largest tank (or manifolded tanks) with the addition of rain water from a 25-year 24-hour storm event and 5% additional

freeboard to account for any small piping or equipment that may be in containment. The engineered secondary containment system will be constructed of a perimeter of walls that are post driven into the ground around a flexible geotextile base. All components will then be sprayed with a polyurea liner technology. This liner technology maintains impermeability and puncture resistance under exposure to UV rays, weather extremes, and chemicals commonly encountered in oil and natural gas production, and provides seamless protection. All berms will be visually checked weekly at a minimum to a maximum of daily to ensure proper working condition.

- AVO inspections will occur weekly, and LDAR inspections are performed quarterly. All records will be kept readily available.

Determination: The Director determined that Criteria 5c was sufficiently analyzed based on the application of additional BMPs that address the possible impacts to groundwater through the use of liners and containment, remote shutoffs, and leak detection inspections.

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 approved Form 2A indicates there will be 20 oil tanks and 2 water tanks.

Site Specific Measures to Address Criteria 8: Operator confirmed that the location was originally permitted for 20 oil tanks and 2 water tanks, but would actually only have 6 oil tanks and 2 water tanks, though the total volume of produced fluids is still in excess of 5,200 barrels. In addition to the above mentioned BMP's, the Operator also added the following Green Completions BMP that reduces the need for tanks and lowers emissions:

- Green Completions - Test separators and associated flow lines, sand traps and emission control systems shall be installed on-site to accommodate green completions techniques. When commercial quantities of salable quality gas are achieved at each well, the gas shall be immediately directed to a sales line or shut in and conserved. If a sales line is unavailable or other conditions prevent placing the gas into a sales line, the operator shall not produce the wells without an approved variance per Rule 805.b.(3)C.

Additionally, the Operator provided the following information regarding truck hauling and emergency response plans:

- An Emergency Response Plan was previously submitted and approved from both the local emergency responders and Weld County's Director of Emergency Management prior to receiving the approved WOGLA. The Emergency Response Plan includes general field wide, site specific safety protocol, and a tactical response plan.

- Per the Weld County WOGLA approval process- a proposed haul route and vehicle/truck traffic estimations has been provided to the Department of Public Works for review and approval prior to the issuance of an approval WOGLA or Access Permit.

Determination: The Director determined that Criteria 8 was sufficiently analyzed based on the application of additional BMPs that address spill containment, coordination with local government for truck routing and emergency response, and Green Completion techniques that reduce the total tank count.

Additional Information:

- This APD is being refiled to update the wellbore configuration and Unit Spacing. Spacing Order 535-1208 was approved on 7/31/2019. This APD is one of 6 total refile APD's for this location.

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# 402188802 to improve existing BMPs and add additional BMPs to the Location, ensuring maximum protection of ground water from any tank related spills or releases. 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.