

Objective Criteria Review Memo – Bison Oil & Gas II LLC Freeman 8-62 13, Form 2A #401748156

This summary explains how COGCC staff conducted its technical review of the Bison Oil & Gas II LLC Freeman 8-62 13, Form 2A #401748156 within the context of SB 19-181 and for the required Objective Criteria. This proposed Location is for 16 wells, 32 oil tanks, 16 separators, 16 water tanks, and 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 distance to the nearest downgradient water feature is 77 feet and the location lies within the "Upper Crow Creek Designated Groundwater Basin".
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 Form 2A indicates there will be 32 oil tanks and 16 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 5c: Oil and Gas Locations within: a Sensitive Area for water resources.

Site Specific Description of Applicability of Criteria 5c: Based on the technical review and desktop evaluation the location lies in a Sensitive Area for water resources: the distance to the nearest downgradient water feature is 77 feet and the location lies within the "Upper Crow Creek Designated Groundwater Basin".

Site Specific Measures to Address Criteria 5c: In order to prevent impacts to downgradient water features and the Upper Crow Creek Designated Groundwater Basin from the off site migration of produced fluids, the Operator provided BMPs for stormwater controls and lined containment:

- Operator shall install stormwater controls, constructed in a manner that is consistent with good engineering practices, that will prevent offsite migration of sediment/contaminant, into the nearby surface water feature. Stormwater controls shall be installed prior to construction activities.
- Steel tank berms 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. 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.

Summary: Bison Oil & Gas II LLC provided BMPs that address possible impacts to downgradient water features and the Upper Crow Creek Designated Groundwater Basin. The BMPs include stormwater controls constructed in a manner that is consistent with good engineering practices and containment in the form of steel berms with a synthetic liner.

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 indicates there will be 32 oil tanks and 16 water tanks onsite.

Site Specific Measures to Address Criteria 8: In addition to the above mentioned BMPs, the Operator also provided BMPs for remote monitoring to mitigate against possible issues related to the large number of tanks on site:

- Operator will employ the use of a Supervisory Control and Data Acquisition (SCADA) system that has the ability to automatically shut in the wells during an upset condition.

Summary: Bison Oil & Gas II LLC provided BMPs that address possible impacts to from having a large number of tanks on site. The BMPs include previously mentioned lined containment, as well as remote monitoring through a SCADA system.

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.