

Director Criteria Review Summary – *Bonanza Creek Energy Operating Company, LLC, State Antelope 34-24, Form 2A 401985062*

This summary explains how COGCC staff conducted its technical review of the State Antelope CPF O-1, Form 2A 401985062 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 5.c) The proposed Location lies within a Sensitive Area for water resources (proposed Location lies within an area of potential shallow groundwater).

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 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 potential shallow groundwater. The estimated depth to groundwater entered on the Form 2A is 11 feet below ground surface (bgs). Well logs from nearby monitoring wells also indicate that groundwater may be less than 15 feet bgs.

Site Specific Measures to Address Criteria 5.c: The State Antelope 34-24 is a built well location that will produce to a centralized production facility and therefore, will have minimal production facilities at the Location. The operator submitted the Form 2A to increase the size of the location to accommodate seven additional wells, 20 separators, 4 electric motors, 6 cavity pumps and 3 pigging stations at the existing Oil and Gas Location. Staff reviewed the previously approved Form 2A and the proposed amended Form 2A. To protect shallow groundwater resources, staff required the following BMPs; the operator proposed to utilize a portable containment liner under the drilling rig during drilling activities, use built-in containment for the separators, minimize the number of flowlines to the centralized production facility and construct thrust blocks around the 90 degree joints along the pipelines to limit movement around the joints and consequent failure of the pipeline.

In addition, as this Location is proposed to produce to an offsite remote related production facility, staff reviewed the production facility for appropriate, related BMPs. Bonanza Creek has a leak detection plan on file that includes daily inspections and remote monitoring of the tank levels at the central production facility to identify fluid leaks and activate specific valves, which can shut-in production wells and stop a release at the related production location.

Determination: The Director determined that Criteria 5.c was sufficiently analyzed and that the implementation of BMPs that address the protection of groundwater resources met the standard for protection of the sensitive environment and water resources.