

**Objective Criteria Review Memo, *HighPoint Operating's Critter Creek 14 SW, Form 2A*
Document # 402468883**

This summary explains how COGCC staff conducted its technical review of the HighPoint Operating Corporation (HighPoint), Critter Creek 14 SW Form 2A, Document #402468883 within the context of SB 19-181 and for the required Objective Criteria. This Form 2A was submitted to amend existing Oil & Gas Location #454938 to drill ten wells for a total of 15 wells, and expand the existing pad for drilling, install 14 pump units, and 14 separators. One well is not producing and will be plugged and abandoned. This Location is in the southwest quarter of the southwest quarter, Section 14, Township 11 North, Range 63 West, southwest of the town of Hereford in northern unincorporated Weld County, Colorado. This Location meets the following Objective Criteria:

- (Criteria #5.a) The Location lies within a Floodplain or a Floodway; and
- (Criteria #5.c) The Location is within a Sensitive Area for Water Resources.

COGCC staff met with the Director to discuss the Objective Criteria for the Form 2A with the proposed Best Management Practices (BMPs) and any applied Conditions of Approval (COAs). The following sections provide details regarding the evaluation of each criterion.

Criteria 5.a and 5.c: Oil and Gas Locations within a Floodplain or a Floodway and a Sensitive Area for Water Resources.

Site Specific Description of Applicability of Criteria 5.a and 5.c: The northeast corner of the Critter Creek 14 SW location lies in the 100-year floodplain for Simpson Creek 204 feet northeast. Hydrologic modeling completed for the pad indicates a maximum inundation depth of less than one foot during a 100-year event. The floodplain in the vicinity of the pad is very wide (4,000 feet) with a very shallow gradient. While inundation may occur during a 100-year event, water depths and flow velocity will be low. Location meets 5.c due to proximity to Simpson Creek and Porter Creek (a.k.a Little Crow Creek). The depth to groundwater on the Location is estimated to be 220 feet based on Division of Water Resources (DWR) permitted water well, Permit #271318, owned by Lloyd Lambertson; with first water reportedly encountered at 240 feet below ground surface (bgs), and a static water level reported at 40 feet bgs.

Site Specific Measures to Address Criteria 5.a and 5.c: Based on the technical review, HighPoint will institute the following BMPs on this Location to protect the floodplain or floodway.

- HighPoint submitted a Sundry in 2018 and moved the production storage tanks off the Critter Creek 14 SW pad to production facilities located on the Critter Creek 24 (Location #444290) outside the floodplain to the east. The Critter Creek 24 centralized production facility serves multiple well pad locations. To mitigate flood risk, no oil or produced water storage tanks will be placed at this location. Temporary tanks will be anchored. A copy of the Floodplain Management Plan was attached to this Form 2A.
- Stormwater control measures implemented during construction will prevent runoff and sediment transport off Location. Control measures will include an earthen berm or diversion

dike, and diversion ditch along the north, west, and east sides of the pad, which will flow to riprap aprons. Vehicle tracking controls will be used at the pad entrance. Site grading and a one foot tall compacted berm will be constructed around the south, east, and west sides of the pad surface not bound by a cut slope. Cut and fill slopes stabilized via tracking or use of a tackifier, and/or temporary seeding.

- The pad design includes stormwater controls to capture rainfall and will route it to a detention basin designed to accommodate a 100-year event and to release stormwater at reduced flow rates. During the construction phase, the basin will be designed to release water at either the historic runoff rate of a 100-year event or five cubic feet per second (cfs), whichever is less. After interim reclamation has been completed, water will be released from the pond at a rate equivalent to the 10-year event falling on the undeveloped Location.
- During drilling activities, a portable or temporary rig mat shall be placed beneath the drilling rig to protect water resources in the floodplain.
- All non-fresh water storage tanks including frac tanks, temporary tanks used during drilling, completions, and flow back operations, rig fuel tanks, pump for drill-out operations including fuel cell and motor for pump will be set within secondary containment during drilling, completions, and drill-out operations.
- Three-phase separators on location will be tied down with steel cables connected to helical anchors placed a minimum of three feet into the pad surface. Any ancillary surface equipment will be anchored in a similar manner or using steel t-posts in the case of smaller pieces of equipment. Wells will be equipped with isolation valves that can be actuated remotely via Operator's supervisory control and data acquisition (SCADA) system. Well isolation valves will be designed so that in the case of power loss they will fail in the closed position isolating the wellheads from downstream production equipment.
- A lease operator or other representative will visit the Location, routinely, typically daily, and visually inspect equipment for leaks. Any leaks discovered during these inspections will be repaired timely.

Summary: HighPoint provided site specific BMPs to protect floodplain and floodway areas around the Location which lies within the Porter Creek 100-year floodplain. HighPoint's floodplain management plan is attached to this Form 2A. Perimeter stormwater BMPs will control runoff, erosion, and sedimentation during construction, drilling, completion, and into the operations phase of the Location. A temporary rig mat will be used during drilling, non-freshwater tanks will be kept within secondary containment, and 3-phase separators and other equipment will be anchored with steel cables connected to three foot helical anchors. Production equipment facilities will be located on the Critter Creek 24 pad outside the floodplain. Wells will be equipped with isolation valves that can be actuated remotely by the SCADA System. Well valves are designed to fail in the closed position in the event of power or pressure loss and isolate the wells from downstream production equipment. HighPoint personnel or representatives visit the site routinely to inspect for leaks.

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.