Objective Criteria Review Memo, *HighPoint Operating's Randall Creek 29 SW, Form 2A Document # 401994208*

This summary explains how COGCC staff conducted its technical review of the HighPoint Operating Corporation (HighPoint), Randall Creek 29 SW Form 2A, Document #401994208 within the context of SB 19-181 and for the required Objective Criteria. This Form 2A was submitted for a new Oil & Gas Location. It is near Location#444072, which was approved, but not constructed. This Oil and Gas Location application is to drill 16 wells and install eight oil tanks, four water tanks, 16 separators, eight vapor recovery units (VRU), six volatile organic compound (VOC) combustors, three lease automatic custody transfer (LACT) units, one pigging station, and one automation system at 37375 Weld County Road (WCR) 136, in the west half of Section 29, T12N, R62W, in northern Weld County, Colorado. This Form 2A was submitted on April 11, 2019 prior to Weld County's passage of the 1041 process. This Location meets the following Objective Criteria:

1. (Criteria #5.c) Location lies within a Sensitive Area for water resources.
2. (Criteria #8) Location has hydrocarbon storage or produced liquid in more than 18 tanks or in excess of 5,200 barrels (bbl).

COGCC staff met with the Director to discuss the Objective Criteria for the Form 2A with the proposed Best Management Practices (BMPs). 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 Location lies within the Crow Creek Designated Groundwater Basin and therefore is a sensitive area by COGCC definition. Estimated depth to groundwater is at 52 feet based on the static water level reported for the nearest water well, Division of Water Resources (DWR) Permit # 104497--A, approximately 3,205 feet northeast of the Location. Surficial geology consists of Quaternary alluvium and gravels. Soils consist of the Ascalon fine sandy loam, and Altvan fine sandy loam, formed on 0 to 6 percent slopes.

Site Specific Measures to Address Criteria 5.c: Based on the technical review, HighPoint will institute the following BMPs on this Location to protect water resources within this Sensitive Area.

- Implement site-specific stormwater control measures in accordance with good engineering practices, including constructing a perimeter diversion ditch and compacted earthen berm, site grading and use of other structural BMPs including a sediment trap with inlet and outlet protection on the northeast corner of the Location.
- HighPoint uses a closed loop system with water-based bentonitic muds for drilling. During drilling and completion activities, a portable or temporary liner shall be placed beneath the rig or equipment to protect water resources.
- HighPoint shall line the secondary containment areas for the frac tanks and temporary separators with impervious material to prevent the downward migration of produced liquids.

- Flowback and stimulation fluids from wells being completed will be sent to tanks and/or filters to allow sand and sediment to settle out before fluids are hauled to a state-approved disposal facility.
- Drip pans or liners shall be used during equipment refueling and maintenance.
- Oil tanks and water tanks will be placed inside lined secondary containment constructed of a galvanized steel wall lined with 30 mil high density polyethylene (HDPE) liner material.
- Chemical tanks, lube oil tanks or other miscellaneous tanks will be placed in prefabricated containment structures constructed of galvanized steel or polyethylene. Containment areas will be inspected after heavy precipitation events and excess storm water will be discharged if unimpacted or properly disposed offsite. All structural berms, dikes, and containment will be periodically inspected to ensure they are functioning as designed.
- Pigging stations shall have catchments for containing spilled fluids. Accumulated exploration and production (E&P) wastes will be removed immediately upon completion of pigging operations.

The proposed BMPs provide protection of sensitive water resources through each stage of the development process. Some of these BMPs also address Criteria #8 for hydrocarbon storage.

Criteria 8 Oil and Gas Locations with hydrocarbon storage or produced liquid in more than 18 tanks or in excess of 5,200 bbls.

Site Specific Description of Applicability of Criteria 8: A total of eight oil tanks and four water tanks are proposed for the Location for a total of 12 tanks. According to the Operator the tanks are 840 bbls capacity for a total storage capacity of 10,080 bbls

Site Specific Measures to Address Criteria 8: Based on the technical review, HighPoint will institute the following BMPs to mitigate the large volume of hydrocarbon and produced water storage on Location.

- Tanks will be designed, constructed, and maintained in accordance with applicable industry standards.
- Tanks will be equipped with liquid level sensors tied into a Supervisory Control and Data Acquisition (SCADA) system. HighPoint operators will monitor tank levels via the SCADA system and remotely shut-in the facility if high liquid levels are detected. The liquid level sensors also have a high-high alarm setting that will autonomously shut-in the facility if high liquid levels are detected and the facility is not shut-in by an operator.
- A lease operator or representative will visit the location routinely, typically daily, and visually inspect all tanks and process equipment for leaks. Additionally, monthly documented leak detection and repair inspections will be conducted using an infrared (IR) camera capable of identifying leaks of hydrocarbon vapor. Any leaks discovered during these inspections will be repaired in a timely fashion, typically the same day subject to the availability of parts and other operational considerations.
- Vapor control equipment will be installed to capture and combust all vapors emanating from storage tanks during normal operations. The facility will be equipped with a LACT unit and remote tank liquid level sensors such that tank hatches will not need to be opened during

normal operations. The facility will be equipped with vapor capture systems to capture and control tank truck emissions during hydrocarbon loading activities.

- Test separators and associated flow lines, sand traps, and emission control systems shall be installed on Location 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.

Summary: HighPoint provided site specific BMPs to protect sensitive water resources related to being within the Crow Creek Designated Groundwater Basin and environmental protections due to the number of storage tanks on Location. Perimeter stormwater BMPs will control sedimentation runoff and erosion, during construction, drilling, completion, and into the operations phase of the Location. HighPoint uses water-based bentonitc drilling fluids and a closed loop system which also protects sensitive water resources. Oil and water tanks will be stored within a steel containment and 30 mil HDPE liner. Chemical tanks, lube oil tanks, and miscellaneous tanks will be stored within prefabricated containment, and drip pans will be used for equipment refueling and routine maintenance. Containment will be used during pigging operations and E&P wastes will be properly disposed offsite.

Tanks will be compatible with the products or wastes that they store and maintained in accordance with industry standards. Tanks will be equipped with a SCADA system to detect high liquid levels and capable of remote shut-in by an HighPoint operator or autonomously shutting-in the Location if a high-high level alarm is triggered. Vapor control equipment will be used to capture and combust emissions from the tanks. Well production is dependent on availability of a natural gas sales line.

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.*