

Objective Criteria Review Memo Burlington Resources, Rush 4-65-29-30 1AH Form 2A, Document #401764632

This summary explains how COGCC staff conducted its technical review of the Burlington Resources Oil & Gas LP (Burlington Resources), Rush 4-65 29-30 1AH Pad (Rush North), Form 2A, document #401764632 within the context of SB 19-181 and for the required Objective Criteria. This is a proposed new Location with eight wells, two separators, three oil tanks, three produced water tanks, two vapor recovery units (VRU), one flare, one gas compressor, one volatile organic compound (VOC) combustor, one lease automatic custody transfer (LACT) unit, one electric generator. The amended Location meets the following Objective Criteria:

- (Criteria 1) Location lies within 1,500 feet of a Building Unit;
- (Criteria 2) Location lies within a municipality, the City of Aurora;
- (Criteria 3) Location lies within 1,500 feet of a platted subdivision; and
- (Criteria 5.c) Location lies within a Sensitive Area for water resources.

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 1: Oil and Gas Locations within 1,500 feet of a Building Unit, High Occupancy Unit, or Urban Mitigation Area, which include Urban Mitigation Area (“UMA”) and Large UMA Facility (“LUMAF”) Locations.

Site Specific Description of Applicability of Criteria 1: The Location is within 1,500 feet of a building unit (BU), which triggers the Director’s review of the Form 2A permit for Oil and Gas Locations. According to Burlington Resources, the nearest BU is reported at 1,190 feet from the nearest planned well and 1,323 feet from the nearest planned production facility. A building that was a former residence, located at 2090 S. Powhaton Road, is reported to be 1,037 feet from the nearest planned well and 1,126 feet from the nearest planned production facility. This building is an abandoned residence that is currently vacant, not inhabitable, used for storage, and does not meet the COGCC definition of a BU. Burlington Resources provided a letter stating that this building was not inhabited. It is also owned by the Location surface owner, Coal Creek Reserve Partnership, LLP. Burlington Resources provided an unofficial copy of the surface use agreement (SUA) and property owner authorization. Therefore, this building was not considered for the objective criteria analysis.

The next nearest BU (26464 East Jewell Avenue) was 1,880 feet northwest of the reference well, and the nearest building was 1,865 feet northwest of the Location. Truck traffic will be routed past this BU; however, according to Burlington Resources, this house is also not inhabited. It is included since the BU lies within 1,500 feet and 2,000 feet of the Location and it could potentially be inhabited.

Site Specific Measures to Address Criteria 1: Burlington Resources has agreed with the City of Aurora to implement the following BMPs to mitigate impacts during drilling, completion, flowback, and production to address Objective Criteria 1.

- Operator has provided the city with an air monitoring plan. Based on COGCC staff review the air monitoring plan addresses policies and procedures used to evaluate, eliminate, capture, or minimize all potentially harmful emissions and compliance with applicable state and federal regulations. Combustors will be installed at the Rush North Location during the entire production phase to eliminate fugitive emissions in the event of maintenance or emergency use. The device will be fired using natural gas, operate with a 98% or higher hydrocarbon destruction efficiency, and will be operated in a manner that will ensure that there are no visible emissions during normal operations.
- Noise mitigation sound walls will be used during the drilling and completion phases for the Rush North well site.
- A fieldwide lighting plan was provided to the City that complies with the COGCC Rule 803 and other applicable good engineering lighting standards including daylight operations during construction activities and no installation of permanent lighting at the Location. All lighting will be capable of being directed inward to the Location and downcast to prevent light shining beyond the Location boundary.
- Burlington Resources has agreed with the City to install an 8-foot, opaque, perimeter fence and institute a xeriscape landscape plan. Burlington Resources plans to use low profile tanks and will limit the number of tanks at the Location to maintenance tanks.
- Burlington Resources will install an oil pipeline and a natural gas pipeline at the location to reduce truck traffic and reduce the amount of onsite hydrocarbon storage. There is an existing right-of-way (R.O.W.) at the Rush North Location. Produced water will be trucked away from the site. Flowlines will be contained entirely within the Location boundary.
- Burlington Resources will control emissions using a combination of vapor recovery units (VRU) and VOC Combustors or emission control devices (ECD). Thief hatches will be sealed, tanks will be equipped with gauges, and ECD will be used on Location. Test separators and associated flowlines, sand traps, and ECD will be installed at the Location for green completion techniques.
- Traffic and fugitive dust will be managed in accordance with information provided to the City. A traffic management plan, traffic letter, haul road maps were provided with the application to the City of Aurora.

Summary Criteria 1:

Burlington Resources has a signed SUA and property owner authorization to conduct oil and gas operations at the Location. Burlington Resources has agreed with the City of Aurora to implement an air monitoring plan and to reduce or eliminate emissions, including the installation of VRUs and ECDs to control emissions. Operator developed a noise mitigation plan for the city and will use sound walls during drilling and completion. Operator has developed a fieldwide lighting plan that was provided to the City of Aurora. No permanent lighting will be used. Operator has an agreement with the city to install an 8-foot, opaque, perimeter fence and institute a xeriscape landscape plan, and will install an oil pipeline and a natural gas pipeline to

transport production offsite and reduce truck traffic. Operator provided a traffic letter that discussed the need for auxiliary turn lanes, and has provided BMPs for controlling traffic and fugitive dust. The access road will go past the BU at 26464 East Jewell Avenue, approximately 125 feet from the roadway, and the BU is between 1,500 feet and 2,000 feet of the Location. This BU is currently vacant.

Criteria 2: Oil and Gas Locations within a municipality

Site Specific Description of Applicability of Criteria 2: The Location is within a municipality, the City of Aurora (City), which triggers the Director's review of the Form 2A permit for Oil and Gas Locations located within a municipality. Burlington Resources submitted an application with the City, the local government entity with authority to regulate the siting of Oil and Gas Locations. The City's permit was approved on November 1, 2019. Burlington Resources provided the COGCC a copy of the information provided to the City.

The BU at 26464 East Jewell Avenue is approximately 1,880 feet northwest of the proposed reference well, and 1,863 feet northwest from the closest production facility equipment.

Site Specific Measures to Address Criteria 2: Burlington Resources will implement the following BMPs to mitigate impacts during drilling, completion, flowback, and production to address Objective Criteria 2. The BMP list for nuisance issues including air quality, lighting, noise, odor, and reduced emissions for Criteria 1 also will mitigate these same issues for Objective Criteria 2. Burlington Resources provided the City of Aurora with an oil and gas permit that included a traffic control plan, a fugitive dust suppression plan to spray disturbed areas and access roads with fresh water and halting work during windy conditions. Operator provided the City of Aurora with an Operations plan, Emergency Response Plan, a water delivery agreement, fluid disposal plan, weed control plan, and a fencing and xeriscape landscape plan.

Summary Criteria 2:

Burlington Resources submitted an oil and gas development plan to the City including siting of the Rush 4-65 29-30 Location with respect to lighting, noise, traffic, fugitive dust suppression, emergency response, fluid disposal plan, a weed control plan, and a landscaping plan using an 8-foot, opaque perimeter fence installation, xeriscaping plan, to reduce the visual impact and appearance of production equipment, access road, utility, and pipeline easements, etc. This plan was conditionally approved and agreed upon with the City of Aurora.

Criteria 3: Oil and Gas Locations within 1,500 feet of a municipal boundary, platted subdivision, or county boundary.

Site Specific Description of Applicability of Criteria 3: During the technical review the COGCC noted a platted subdivision on the west side of the Powhaton Road right-of-way, approximately 200 feet west of the Location. Based on information obtained from Burlington Resources and the City, the Trasko Acres Subdivision was platted in 1979. None of the Trasko Lots is occupied by a

BU or high density BU, nor are there plans to construct any such BU upon the Trasko Lots at this time. The landowner has changed the development plans for this property and Burlington Resources provided correspondence dated February 9, 2017 from the City of Aurora to document the change in development plans. Burlington Resources provided the COGCC a copy of the information that was provided to the City. The agreement with the City of Aurora stipulates that the Operator will complete the oil and gas development on the Location prior to the development of the platted subdivision to the west.

Site Specific Measures to Address Criteria 3:

Burlington Resources provided documentation to the COGCC from the property owner regarding planned changes for the property development west of the Location and Powhaton Road.

The Location access road as currently proposed would direct traffic past all of the parcels in the subdivision, in addition to the existing residential property to the north. The operator has provided BMP to address traffic, noise, and fugitive dust emissions during the construction, drilling, and completion of the Location, as well as operations plans for oil and gas production from the Location. This includes installation of oil and natural gas pipelines to transport production away from the Location to reduce truck traffic, has prepared a maintenance plan for the access roads and the Location gravel surfaces, use of low-profile oil and produced water maintenance tanks, implementation of a xeriscape landscape plan, and installation of an 8-foot opaque perimeter fence around the Location.

Summary Criteria 3:

According to Burlington Resources, there is a signed letter from the developer of the Platted Subdivision that their plans have changed since the subdivision was platted in the late 1970s. Burlington Resources also has submitted a development plan to the City of Aurora. Burlington Resources provided the February 9, 2017 correspondence that states the Trasko Lots are undeveloped, and there are no plans to construct BU or high density BU on the Trasko Lots at this time.

Burlington Resources prepared an oil and gas location permit application with the City of Aurora, that was approved on November 1, 2019. The conditionally approved application included construction, nuisance issue mitigation plans, and operations plans that would address these issues should they arise after construction is complete. The proposed oil and gas operations will be completed prior to other development in the area.

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 is in a sensitive area for water resources due to proximity to surface water and shallow ground water resources. The closest downgradient surface water feature is Coal Creek 1,200 feet east of the Location. Burlington Resources provided a Hydrology Map as an attachment that shows the FEMA 100 year floodplain

located adjacent to the northeast corner of the Location. Additionally there is a ditch that transects the Location, another ditch on the southeast corner, and a third ditch located within 300 feet west of the Location. Surface water flow is expected to follow topography toward Coal Creek and flow to the north-northeast.

The estimated depth to first groundwater is approximately 21 feet below ground surface (bgs) based on the proximity to the floodplain and ditches. According to DWR Permit #48010 the depth to water (DTW) is 21 feet and a total depth of 36 feet for a domestic water well located in the northeast quarter of Section 29, T4S, R65W, approximately 2,006 feet northwest of the Location. The Division of Water Resources (DWR) records for other permitted water wells in the vicinity of the Location reported depths to water from 102 feet to 345 feet bgs and total depths ranging from 612 feet to 640 feet bgs; however, this represents drinking water obtained from a deeper aquifer.

Site Specific Measures to Address Criteria 5.c:

Burlington Resources will implement the following BMPs to address the Sensitive Area for water resources.

- Facilities are capable of being remotely monitored and remotely shut down including isolation at the well head, high/low liquid level kill switches installed, high/low pressure kill switches will be installed to prevent releases from vessels, and automatic shut down level devices on each tank, on all pressure vessels, liquid knock- outs, and on flowlines from well heads to facilities.
- Pollution control containers (“spill boxes”) are used on truck loading lines and are placed within the limits of the secondary containment system.
- Synthetic or engineered liner systems are used in secondary steel containment systems for tank batteries.
- Cathodic protection is used on buried steel lines to mitigate corrosion.
- Temporary vessels will have secondary containment constructed from lined earthen berms or pre-engineered, duck-pond style containment systems.
- All berms and containment devices will be inspected quarterly.
- Operator provided the City of Aurora with a copy of the CDPHE WQCD construction stormwater management plan (SWMP) to be implemented during construction of the Rush North site. Implementation of the SWMP, in accordance with the CDPS general construction stormwater permit, including proper installation and maintenance of BMP and control measures will protect surface water resources from sediment and chemical impacts, resulting from oil and gas construction activities at the Location.
- Operator provided the City of Aurora with a copy of a Groundwater Quality Monitoring Plan as part of the Aurora oil and gas operators agreement, and to satisfy COGCC Rule 317A Special Drilling Rules D-J Basin Fox Hills Protection Area for the collection of baseline water quality samples from domestic water wells within ½-mile of the Location. There are provisions in the plan committing the operator to install groundwater monitoring wells if required by Aurora.

Summary for Criteria 5.c:

Burlington Resources provided the City of Aurora with a copy of the SWMP and Rush North site specific maps showing the location of proposed BMPs and control measures to comply with the CDPS general construction stormwater discharge permit and City of Aurora's stormwater discharge requirements.

Burlington Resources provided a copy of the Groundwater Quality Monitoring Plan and baseline water quality sampling program to be implemented prior to drilling and completion of oil and gas facilities at the Location. Burlington Resources committed to the City of Aurora conditionally approved operator agreement requirements to install groundwater monitoring wells if required in the event of a documented oil and gas release.

Burlington Resources provided BMPs for synthetic or engineered liners and steel-ring secondary containment structures for the maintenance tanks and separation equipment at the site. Pollution control containers are used on truck loading lines which do not extend beyond the secondary containment.

The facilities are remotely monitored and can be remotely shut down including isolating the well head in the event of a spill or release. High/low liquid kill switches will be installed on each tank, all pressure vessels, liquid knock-outs, and flowlines to control releases or spills. Temporary vessels will have secondary containment constructed from lined earthen berms or pre-engineered, duck-pond style containment systems. All berms and containment devices will be inspected quarterly.

Cathodic protection is used on buried steel lines to mitigate corrosion. All berms and containment devices will be inspected quarterly. These BMPs are adequate to protect shallow ground water in the vicinity of the site.

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.