

Objective Criteria Review Memo - Caerus Piceance LLC (Caerus), ELU G13-496 Central Delivery Point (CDP) Production Pad Location; Form 2A #402505441.

This summary explains how COGCC staff conducted its technical review of the proposed Caerus ELU G13-496 CDP Production Pad Location; Form 2A #402505441, within the context of SB 19-181 and for the required Objective Criteria.

Caerus plans to construct the 10.2-acre ELU G13-496 CDP production pad fee surface oil and gas production pad in Rio Blanco County to accommodate three-phase separation, storage, and transfer of produced gas, condensate, and produced water from the nearby ELU O13-496 well pad located approximately 2500 feet to the south (2A #402341264; 27 wells), the ELU A18-495 well pad located approximately 3400 feet to the east-northeast (2A #402384721; 35 wells), and the ELU M12-496 well pad located approximately 3300 feet to the northwest (2A #402384749; 37 wells). Caerus plans on installing new 12-inch steel three-phase pipelines (along the existing two-track roads and pipeline right-of-ways) from each well pad to the ELU G13-496 CDP production pad. All four new oil and gas locations are currently being processed by COGCC. The White River Field Office of the BLM approved the NEPA Environmental Assessment (EA) and Federal APDs for the three well pads in December 2020; the EA is attached to this Form 2A.

This proposed production pad will have two (2) bulk three-phase inlet low pressure separators, one (1) off load gun barrel tank, five (5) oil/condensate and two (2) produced water storage tanks with secondary containment, four (4) water cooling units, two (2) generators, two (2) cavity pumps, two (2) inlet slug catchers, one (1) fuel gas skid, one (1) master control center (MCC) skid, one (1) gas meter skid, one (1) electrical skid, one (1) compressed air instrument skid, one (1) oil LACT unit, and one (1) VOC combuster.

To facilitate simultaneous operational (SIMOPS) completions for wells drilled on the ELU O13-496 pad (and subsequently on the two other nearby pads, ELU A18-496 and ELU M12-496), hydraulic stimulation will be conducted remotely from the proposed ELU G13-496 CDP production pad. Water will be pumped from Divide Road Water Treatment Facility (Facility ID #432214, Location ID #432790) to the ELU G13-496 CDP using an existing 12" buried water pipeline in addition to 8,483' of newly constructed water delivery pipeline. Two additional pipelines will be installed to support completions operations between the ELU G13-496 frac support pad and the ELU O13-496 well pad; approximately 3190 feet of 8-inch steel subsurface permanent pipeline to provide water for completions; and one 12-inch steel temporary surface pipeline for 3-phase flowback operations. Similar pipelines will need to be installed for the other two well pads. Caerus plans to begin construction of the well pads, production pad, and offsite pipelines in July 2021. This Form 2A permit application met the following Objective Criteria -

1. *(Criteria 5.c) The proposed oil and gas location is in a sensitive area for surface water resources.*
2. *(Criteria 6) The existing oil and gas location falls within CPW mapped 'sensitive wildlife habitat' (SWH) areas for elk production, elk winter concentration, mule deer critical winter range, and greater sage production habitat.*
3. *(Criteria 12) The proposed extension and existing access road (the road constructed from Garfield County Road 403 to the previous TLQ facilities (ELU O13-496 well pad) and to this proposed oil and gas location) falls within CPW mapped 'sensitive wildlife habitat' (SWH) areas for elk production, elk winter concentration, mule deer critical winter range, and greater sage production habitat.*

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.

Site Specific Description of Applicability of Criteria 5.c: Based on the technical review, desktop evaluation, and onsite visits, staff determined that there is one USGS mapped unnamed intermittent drainage and two (2) unnamed ephemeral drainages located within 1000 feet of the location's edge of disturbance areas. The intermittent stream is located approximately 340 feet to the southwest and flows into Litchliter Gulch, 1940 feet to the southwest. One ephemeral drainage is located approximately 900 feet to the east while the other is located approximately 920 feet to the northeast of the proposed edges of disturbance. Both drainages flow northeast and north, respectively, away from the location.

Site Specific Measures to Address Criteria 5.c: COGCC staff's review of this proposed oil and gas location indicates that the production pad will be constructed in mid summer. As it is currently proposed to be constructed, the location sits on a topographic high and limits the direction of a potential release to the western and southwestern sides of the location. If a potential release were to migrate off the site, flow would be to the southwest toward the intermittent drainage. To protect the nearby surface water resources, the operator will implement both engineering and administrative BMPs under a field-wide Stormwater Management Plan (CDPHE Certification #COR037689), along with a site-specific stormwater and erosion control plan.

As shown on the submitted drawings, four-foot wide earthen perimeter berms will be constructed along the top of the fill slope portions of the working pad surface's edge (northern, western, and southwestern sides), and will be approximately 18 to 24 inches in height. The seeding of slopes on the outside of the perimeter earthen berms and placement of wattles along the outer edge of disturbance along the fill slopes will be used to prevent erosion. An exterior surface water run-on diversion ditch will be placed around the cut portion of the pad (eastern and southern sides). Interior diversion ditches will be directed to two (2) sediment catchment basins located in the northwestern corner and the southwestern corner at the base of the fill slopes of the pad. These measures will control water runoff in a manner that minimizes erosion, transport of sediment offsite, and site degradation. Site degradation control measures will include grading, slope stabilization (seeding, mulching, surface roughening of the topsoil and excess soil stockpiles), and the use of gravel and roadbase materials for surfacing. The location is subject to both Federal oversight from the BLM and State oversight from the COGCC.

The operator has provided the following additional BMPs to protect nearby surface water resources:

- only the minimum amount of vegetation necessary for the construction of roads and facilities will be removed;
- use of water/fluid dust suppression;
- all structures that hold or transfer fluids will have built-in or lined secondary containment; and
- flowback and stimulation fluids will be sent offsite via a temporary surface pipeline to enclosed tanks, separators, or other containment or filtering equipment.

Summary: During the technical review process for the Form 2A, COGCC staff reviewed additional information regarding the operator's planned activities; the planned stormwater and erosion control measures (perimeter berms, diversion ditches, sediment basins); and the BMPs concerning construction, drilling, and completion operations. Based on this information, it is not anticipated that the closest downgradient drainages (located between 340 and 970 feet from the proposed edges of disturbance to the northeast, east, and southwest) could be impacted by a potential release.

Criteria 6: Oil and Gas Locations within a Colorado Parks and Wildlife ("CPW") mapped Restricted Surface Occupancy Area ("RSO") or Sensitive Wildlife Habitat ("SWH"), or locations receiving site- or species-specific CPW comments.

Criteria 12: Oil and Gas Locations with an access road (the road constructed from the public road to the Oil and Gas Location) within a RSO, SWH, 317B buffer zone, or within 200' feet of a Building Unit on lands not subject to a Surface Use Agreement.

Site Specific Description of Applicability of Criteria 6 and 12: Based on the onsite consultation, technical review, and desktop evaluation, staff determined that this proposed oil and gas location and access road fall within CPW mapped 'sensitive wildlife habitat' (SWH) areas for elk production and greater sage grouse production. The closest CPW-mapped leks (0.6 mile edge from the approximate center of lek activities) are approximately 1.7 miles to the northwest (multiple active), 1.1 miles to the west (multiple active), and 2.2 and 5.0 miles to the southwest multiple active).

Site Specific Measures to Address Criteria 6 and 12: CPW and BLM staff attended an onsite of this location with the operator on June 2, 2020 as part of the BLM notice of staking (NOS) and CPW wildlife consultation process. Caerus has committed to avoiding, minimizing, and mitigating impacts to wildlife and uses the North Parachute Ranch (NPR) Wildlife Mitigation Plan (WMP) to guide timing of construction, drilling, and completion activities and implementation of best management practices (BMPs) for the protection of wildlife resources.

COGCC contacted Caerus to determine the timeframe and duration of the planned activities (access road, pipeline corridor, and production pad construction; frac support operations for nearby well pads). Under a two-rig scenario, the activities will start in July 2021 and are planned for one occupation. Construction will take one to two months to complete (July to August 2021). Frac support activities will occur between September and December 2021). Utilizing a single-rig scenario, the activities will start in October 2021 and are planned for two occupations. Construction will take one to two months to complete (October to November 2021). Frac support activities will occur between July and October 2022). Interim reclamation will start after the production equipment has been set (December 2021 or December 2022); tentatively scheduled to begin during the 2022 or 2023 summer growing seasons.

These planned oil and gas operations were assessed and evaluated using the WMP's Wildlife Resources Matrix and through multiple consultations between Caerus and CPW/BLM. In response to CPW and BLM concerns, Caerus provided 19 wildlife BMPs of the Form 2A. The following area-wide and species-specific (greater sage grouse and elk) BMPs were developed to protect wildlife through avoidance, minimizing direct impacts, and mitigating any residual impacts:

Area-Wide:

- Caerus will perform onsite biological site surveys (wildlife and aquatic) for each new development.
- Caerus will perform pre-disturbance surveys when the onsite inspection and commencement of disturbance occur during different field seasons.
- Caerus will use the Wildlife Resources Matrix in the current North Parachute Ranch (NPR) Wildlife Mitigation Plan (WMP) to identify and document potential impacts or concerns during the project planning phase.
- Caerus will follow the NPR Vegetation Guidance for interim and final reclamation practices, including identifying appropriate seed mixes and invasive weed control measures.
- Caerus will manage all grazing lease agreements for the North Parachute Ranch under a consistent monitoring program to ensure that livestock utilization does not negatively impact other natural wildlife resources.
- Caerus will implement weed management programs for offsite weed treatment and onsite weed treatment for well pads, support pads, production and central delivery point pads, pipeline corridors, and access roads.
- Caerus will implement three-phase gathering on existing and proposed well pad locations to reduce the need for production facilities on well pads and increase the acreage put into interim reclamation.

Mule Deer and Elk:

- Caerus will place multiple gathering lines into a single trench to minimize disturbance and construction; and will install escape trench ramps to allow wildlife or livestock to exit the trench.
- Caerus will complete pad construction, drilling/completion prep construction, and interim/final reclamation activities between July 15 and December 15; avoiding the elk production period of April 15 to July 15.
- Caerus will maintain open space (no permanent surface structures) on 20 acres of the Parachute Creek property.
- Caerus will continue to provide access to CPW research personnel for ongoing mule deer and predator research on the North Parachute Ranch and other operator-owned property.

Greater Sage Grouse:

- Caerus will complete pad construction, drilling and completion prep construction, and interim/final reclamation activities between July 15 and December 15, avoiding the greater sage grouse wintering, breeding, and nesting periods of December 15 to July 15.
- Caerus will restrict site visits during the grouse production period of March 1 to May 15 to between the hours of 10:00 a.m. and 4:00 p.m.
- Caerus has agreed to avoid development along the top of Barnes Ridge, an important resource for the greater sage grouse population.
- Caerus will continue to provide access to CPW research personnel for ongoing greater sage grouse population research on the North Parachute Ranch (NPR) and other operator-owned property.

The operator's mitigation efforts are consistent with the North Parachute Ranch Wildlife Mitigation Plan, which was signed and approved by both CPW and Caerus in October 2019. There are no additional CPW recommendations for wildlife BMPs at this time.

Summary: During the technical review process for the Form 2A, COGCC staff requested additional information, clarification, and timing regarding the applicant's proposed construction activities. CPW's and BLM's technical reviews indicate that all concerns discussed at the onsites have been addressed by the operator's proposed wildlife BMPs for protection, avoidance, and mitigation submitted on the COGCC Form 2A. Caerus's BMPs include elk production and greater sage grouse timing limitations for construction, drilling, and completions outside of December 15 to July 15; restricted site visits during elk and grouse production periods of March 1 to May 15 to between 10:00 a.m. and 4:00 p.m.; weed management; and continued access to CPW for ongoing greater sage grouse population, big game, and predator research on the North Parachute Ranch and other operator-owned property. There are no additional CPW recommendations for wildlife BMPs at this time.

Director Determination: Staff met with the Director to discuss Objective Criteria that are met by this Oil and Gas Location.

Based on the additional analysis from the Objective Criteria, 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.