



February 29, 2016

Mr. Matthew Lepore, Director
Colorado Oil and Gas Conservation Commission
1120 Lincoln Street, Suite 801
Denver, Colorado 80203

Re: Colorado Department of Public Health and Environment (Department)
Consultation Recommendations for the URSA Operating Company, LLC (URSA)
well pads BMC B and BMC D in Garfield County

Dear Mr. Lepore:

This letter describes the Department's recommendations to the Colorado Oil and Gas Conservation Commission (COGCC) on a list of conditions of approval to minimize adverse impacts to public health, safety, welfare and the environment for the URSA well pads BMC B and BMC D located in Section 18 Township 7S Range 95W Garfield County. These recommendations are based on an analysis of the potential impacts from this well site as depicted in the Form 2A submittal, comments from local residents, County permitting documents and an onsite visit to the well sites. The Department recognizes that COGCC staff will be addressing the best management practices and site specific mitigation measures found in the Governor's Task Force Recommendation 17 that will serve to enhance the following recommendations.

The Department commends both Garfield County and URSA Operating Company for the extensive County permitting process and the numerous public outreach meetings for these two well pads within Battlement Mesa. Consultation on these well pads was triggered by Garfield County requesting consultation and also with the adoption of the rule implementing the Governor's Oil and Gas Task Force Recommendation No. 17. The Department has identified potential issues with these well sites and recommended actions and practices to address these issues. These potential issues include

- Determining the Location of the BMC B Well Pad
- Locating a Class II Injection on URSA's BMC B Well Pad;
- Odor and Air Quality Concerns;
- Spill Response; and
- Stormwater Protections.



Determining the Location of the BMC B Well Pad

URSA's well pad BMC B is proposed to be located within intermediate buffer zone of a public water supply area as defined by COGCC Rule 317B. COGCC established Rule 317B to enhance protection of public water supply areas based on the distance from the ordinary high water line of the public water supply bank to the nearest edge of the disturbed area at the oil and gas location; however, the Department remains uncertain about which buffer zone the BMC B well pad is located in. The Form 2A submittal, maps provided by URSA and the site visit indicates the well pad is very close to internal buffer zone as defined in COGCC Rule 317B. In order to determine which buffer zone conditions apply to URSA's BMC B well pad, the Department is recommending that the COGCC require the Operator obtain a third party expert (geomorphologist or hydrologist) to determine the ordinary high water line of the closest bank of the Colorado River and measure to the near edge of the disturbed area at the proposed BMC B well pad. Once the analysis is completed the Department recommends the third party submit a map to the COGCC showing the BMC B well pad location in relationship to the nearest ordinary high water line of the Colorado River.

If the BMC B well pad is found to be within the internal buffer zone of COGCC Rule 317B, the Operator will need to request a variance and the Department would consult on that variance request. In addition to determining the appropriate buffer zone, the Department is concerned about the proposed Class II Injection Well and associated storage tanks on this well pad.

Locating a Class II Injection Well on URSA's BMC B Well Pad

URSA's BMC B well pad includes a Class II injection well with six produced water storage tanks that the Department believes creates a significant contamination risk to the public water supply for Battlement Mesa. The Battlement Mesa Water Treatment Plant has a raw water intake structure in close proximity to this proposed well pad creating an unnecessary long-term risk for a spill or release to potentially impact the public water supply. This risk will persist for many years, and will continue as additional well sites are developed in Battlement Mesa area. There are options available when determining a location for a Class II injection well and the Department believes Class II injection wells should not be located in Urban Mitigation Areas.

After considering the long-term risk to the public water supply and the flexibility available to the Operator when locating Class II injection wells the Department recommends that the COGCC deny the permit for the injection well and the associated storage tanks on the URSA BMC B well pad.

Odor and Air Quality Concerns

Odor and air quality concerns are found in large numbers in the comments received on the URSA's permits for both BMC B and D well pads. During the onsite visit URSA representatives shared with the Department various practices intended to reduce emissions and odors and the Department has added to these practices to further



mitigate odors and air quality concerns that are being recommended to COGCC as conditions of approval. These recommendations include

- Eliminating open tanks for any fluids other than fresh water;
- Eliminating the use of diesel in the drilling muds;
- Requiring green completion practices that utilize two P traps to minimize emissions during flowback;
- Requiring production facilities and pipelines to be in place prior to well completions to ensure green completion practices are fully used;
- Requiring natural gas sales line installation prior to completion activities to eliminate flaring;
- Requiring carbon blankets over thief hatches on temporary tanks to reduce emissions;
- Requiring dust suppression practices using a vacuum system or comparable process to control dust from completion activities;
- Requiring an automated system to determine tank levels eliminating the need to open thief hatches;
- Developing documented methods to minimize emissions from tank unloading activities i.e., unloading tanks without opening thief hatches;
- Requiring electric motors for the transfer of fluids to and from the well pads via pipelines;
- Requiring emission control devices on all produced water tanks regardless of the potential to emit; and
- Requiring monthly Infra-red camera or Method 21 inspections on the well sites.

Spill Response

A spill or release on either well pad BMC B and D will require immediate action to minimize the impacts to the riparian area and surface water. URSA has a Spill Prevention and Management Plan and the Department is requesting additional measures to reduce the likelihood of an impact. These recommendations include

- Requiring a spill response trailer onsite along with heavy equipment and an operator to quickly build additional earthen berms in the event of a spill outside of containment;
- Requiring 150% fluid containment for all storage tanks and pipelines on both well pad BMC B and D;
- Require weekly spill response training with onsite staff and contractors during oil and gas operations;
- Requiring the use of pipelines to minimize spills and truck trips within Battlement Mesa; and
- Requiring telemetry system to notify the operator of upset conditions with remote well shut-in capability.



Stormwater Protections

In addition to a spill or release impacting the riparian area and surface water, stormwater released from these well sites could also impact these resources. The Department is recommending stormwater management inspections be conducted weekly and immediately after a storm event to ensure stormwater is contained and does not leave the well sites. The Department is also requesting URSA provide notice of the start of construction activities on these well sites. This notice will allow staff to manage workloads and prepare for citizen inquiries.

Conclusion

This is the first oil and gas facility to be permitted under the Governor's Task Force Recommendation 17. The COGCC Commissioners adopted Recommendation 17 which requires collaboration with local government, use of best available technology, use of best management practices and site specific mitigation measures to minimize the impacts to residential areas. URSA was not required to collaborate with local government; however, URSA held numerous meetings to share with residents of Battlement Mesa their plans to develop the minerals and address local concerns. URSA also worked with Garfield County to develop twenty-seven conditions of approval as part of the local permit prior to the Department's consultation. The Department has considered the public comments, reviewed the conditions of approval submitted with the COGCC permit application and conducted an onsite visit to assess site conditions. The recommended conditions of approval listed above are crafted to add to the work already done by the Garfield County and URSA to minimize the impacts from these well sites to the residents of Battlement Mesa.

Sincerely,

Kent Kuster

Oil and Gas Liaison

Colorado Department of Public Health and Environment

