

August 6, 2014

Dave Kubeczko, PG
Oil and Gas Location Assessment Specialist
Colorado Oil and Gas Conservation Commission
796 Megan Avenue, Suite 201
Rifle, CO 81650

RE: De Beque Water Station Correspondence with Colorado Division of Water Resources

Dear Mr. Kubeczko:

In response to our phone conversation on August 6th, 2014 regarding the progress of the Form 15 permit for the De Beque Water Station – Pond 1 facility, a narrative with the correspondence that WWC Engineering has had with the Colorado Division of Water Resources (CDWR) for the overall De Beque Water Station Facility has been provided:

- **June 2013** – Kevin Grabinski with WWC Engineering contacted Garrett Jackson and Jeremy Franz with CDWR to discuss jurisdictional dam sizes, design requirements and the overall process needed for completing this project.
- **February 2014** – Drew Pearson with WWC Engineering contacted Garrett Jackson with CDWR to discuss pond slopes and spillway requirements. Interior pond slopes may be steeper than 3:1 if a slope stability analysis is performed. Spillways would be required for produced water ponds even if the design storm can be contained in the pond. Emailed Garrett preliminary design drawings of the three ponds.
- **March 2014** – The Colorado Department of Public Health and Environment (CDPHE), the Colorado Oil and Gas Conservation Commission (COGCC) and CDWR had a meeting to discuss requirements for produced water ponds. A Draft Policy Memorandum No. 01-14 was generated from the meeting regarding spillway design requirements and is attached to this memo.
- **March 2014** – Drew Pearson and Kevin Grabinski with WWC Engineering had a conference call with Garrett Jackson and Jeremy Franz with CDWR to discuss the spillway design requirements that were generated in the Draft Policy Memorandum No. 01-14 along with other design requirements. Garrett and Jeremy recommended designing non-jurisdictional dams if possible. Designing all non-jurisdictional dams would produce an undesirable amount of excess cut material. They suggested that the ponds could be a mix of non-jurisdictional and jurisdictional dams. The next step is to submit a hazard classification report for all three ponds.
- **May 2014** – Submitted a Hazard Classification Report for the De Beque Water Station to CDWR for review. This report classified Pond 1 as a low hazard minor

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non-jurisdictional dam and Ponds 2 and 3 as low hazard minor jurisdictional dams.

- **June 2014** – Received comments from Erin Gleason with CDWR for the Hazard Classification Report for the De Beque Water Station.
- **July 2014** – Drew Pearson, Kevin Grabinski and Shawn Higley with WWC Engineering had a conference call with Garrett Jackson and Erin Gleason with CDWR that was qualified as a pre-design conference call. Discussed design requirements for Ponds 2 and 3 as they will be jurisdictional ponds and will require review by the CDWR.
- **July 2014** – Submitted updated Hazard Classification Report for the De Beque Water Station to Erin Gleason with CDWR with comments from CDWR's review incorporated.
- **July 2014** – Submitted a Notice of Intent (NOI) for the De Beque Water Station – Pond 1 construction to Erin Gleason with CDWR concurrently with the Form 15 permit application submission to COGCC.
- **August 2014** – Submitted Geotechnical Report for the De Beque Water Station to Garrett Jackson with CDWR for review.

It is our sincere hope that this timeline synopsis will help to give you a better understanding of the correspondence and submittals WWC Engineering has made with CDWR and will help to facilitate the review process of the Pond 1 – Form 15 permit. Please do not hesitate to contact us should you have any further questions or require additional clarification.

Sincerely,



Drew Pearson, P.E.
Project Engineer

cc: File
Steve Jenkins, COGCC
Garrett Jackson, CDWR

Encl.: As Noted
DP

Colorado Division of Water Resources Dam Safety Branch

DRAFT Policy Memorandum No. 01-14

Subject: Produced Water Pond Dams

1.0 Background

Ponds constructed for storage or treatment of water produced from oil and gas exploration and extraction operations are regulated by the Colorado Department of Public Health and Environment (CDPHE) and/or the Colorado Oil and Gas Conservation Commission (COGCC). However, produced water ponds are sometimes constructed to store water above the original ground surface and should be considered dams, which are generally regulated by the Colorado Division of Water Resources (CDWR). Although most dams associated with mining and similar extractive development are exempt from the CDWR dam safety requirements, it is generally accepted that produced water should be prevented from entering the surface waters of the state. Policies are currently being developed between the three state regulatory agencies to reduce duplication of efforts and minimize regulatory conflicts in permitting and regulating produced water pond dams. In the interim, this draft policy memorandum defines the spillway design criteria for produced water pond dams.

2.0 Produced water pond dams that meet the size criteria for jurisdictional dams (Rule 4.2.5.1) will be designed and constructed in accordance with the Rules and Regulations for Dam Safety and Dam Construction as follows:

- 2.1. The minimum spillway capacity must be as required by Table 5.2 plus one foot of residual freeboard, or
- 2.2. The dam can be designed with no spillway, but the dam must have 5 feet of total freeboard or adequate freeboard to retain the direct Probable Maximum Precipitation, whichever freeboard is greater.
- 2.3. No surface runoff will be permitted to flow into the pond.

3.0 Produced water pond dams that meet the size criteria for non-jurisdictional dams (Rule 4.2.5.2) will be permitted, regulated, and inspected by CDPHE and/or COGCC in accordance with the rules and policies of those agencies. CDPHE and COGCC will communicate with the Dam Safety Branch of CDWR to evaluate the hazard classification of non-jurisdictional produced water pond dams and define the spillway design criteria.

- 3.1. Spillways on Low Hazard dams must be capable of passing the 50-year precipitation event with one foot of residual freeboard.
- 3.2. Spillways on Significant Hazard or High Hazard non-jurisdictional dams must be designed according to the requirements for jurisdictional dams listed in paragraphs 2.1-2.3 above.

4.0 The above spillway freeboard requirements are in addition to any limitations placed by CDPHE or COGCC on the maximum permitted pond level.

5.0 The CDWR Dam Safety Branch reserves the right to alter the procedures and requirements of this policy memo as necessary to meet the goals of the Dam Safety Branch.