Department of Environmental Quality

To protect, conserve and enhance the quality of Wyoming's environment for the benefit of current and future generations.

Dave Freudenthal, Governor

John Corra, Director

September 4, 2008

Wyoming Environmental Quality Council Members

RE: Proposed Appendix H of Chapter 1 of the WQD Rules – Agricultural Use Protection

Dear EQC Members:

The purpose of this letter is to provide you with some preliminary help and guidance before you address the above referenced addition to the surface water quality standards (Chapter 1 of the WQD rules). Those of you who were on the Council in February of 2007 will recall that you approved changes to the surface water quality standards except for Appendix H - Agricultural Use Protection, which was remanded back to DEQ for directed revisions and full vetting by the public and the Water/Waste Advisory Board. The Council also directed the agency to consider the pending University of Wyoming study on livestock water quality criteria before returning to the Council with the proposed rule.

As directed, the agency addressed the concerns raised at the Council hearing, evaluated the recommendations of the UW study, and held four hearings on the matter before the Advisory Board.

The proposed rule has two main sections: (1) Criteria for the protection of irrigation, and (2) Criteria for the protection of livestock watering. Most of the comment and discussion before the Advisory Board in 2007-08 was focused on the livestock watering criteria. I believe that this was because the irrigation proposal has already been well discussed and considered by all interested parties, and the agency was not proposing significant changes from the policy that is currently in use. On the other hand, because of the UW study, the livestock criteria were being considered for extensive revision.

While I expect the irrigation portion of the proposed rules will generate considerable interest and comment during your public hearing(s), the basics of the irrigation portion of the rule are already known by the Council members who were in place in February of 2007. For this reason, in this letter I am going to concentrate on the livestock watering portion of the rule, much of which will be new information to all Council members.

During your consideration of this rule it would be my recommendation that you try to keep deliberations of the irrigation portion of the rule separate from deliberations on the livestock watering portion. This was the approach taken by the Advisory Board, and I believe they found that approach made their deliberations more effective.

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Livestock Watering Criteria Discussion:

Attached is a single page document which divides livestock watering criteria into four "groups". I am going to describe the significance of each group and the Advisory Board's decision concerning each group.

GROUP 1

These are the livestock watering criteria that have been in place since the 1970's and are already incorporated into Chapter 2 of WQD's rules as effluent limits for conventional oil and gas produced water as well as for CBM discharges. The Board received overwhelming comment from the oil and gas industry, local governments, and the agricultural community that these standards should not be changed. The Board agreed and voted that these criteria should be included in Chapter 1.

GROUP 2

These criteria are not in rule, but have been used for several years by the WQD as additional criteria to evaluate the livestock watering suitability of conventional oil and gas and CBM discharges. There was strong support from the oil and gas industry, local governments, and the agricultural community for the agency to continue to use these criteria on a "policy" basis, but not to incorporate them into the rules. The Board agreed with this approach and voted that this group of criteria be kept in policy.

GROUP 3

These are the livestock watering parameters and criteria recommended in the UW study. The agency hired Dr. Merl Raisbeck at UW's Dept. of Veterinary Sciences and Renewable Resources to conduct an extensive review of the available literature on livestock watering criteria. The report (copy attached) provided by Dr. Raisbeck and his colleagues provided exactly the information requested. We believe it provides the most up to date summary of the information currently available on the subject of water quality for livestock.

The UW report received only qualified support at the Advisory Board hearings. The general position of the oil and gas industry, local governments, and agricultural community was that the UW report provides valuable information for livestock producers, but should not be used to change DEQ's livestock watering criteria which have been in place for 30+ years. It was argued that the existing criteria have been proven to adequately protect stock and wildlife while allowing most produced water discharges to continue. Such discharges provide livestock operators with an important water source, especially in arid regions of the state such as the Big Horn Basin.

GROUP 4

These are the livestock watering criteria that the agency proposed to the Advisory Board. Basically, the agency attempted to set limits that included most of the recommendations of the UW study as well as some of the existing standards and policy on livestock watering. The agency proposed that produced water discharges permitted prior to 1/1/98 (see the last paragraph of item (a) in the proposed

Appendix H) be grandfathered in under the old criteria, but post 1/1/98 discharges would have to meet the more stringent criteria recommended in the UW study. Since almost all conventional oil and gas discharges were permitted prior to 1/1/98 and almost all CBM discharges were permitted after 1/1/98, the overall result of the agency's proposal would have been to grandfather in the existing conventional oil and gas discharges under the old standards, but make CBM and new conventional discharges meet the newer and more stringent criteria.

While industry/agriculture liked the grandfather language, they were concerned that it would not withstand legal appeal. They continued to advocate their favored position which includes using the current criteria for setting effluent limits. Ultimately the Advisory Board decided to adopt the status quo position and did not accept the agency's proposal.

Summary

Almost all of the oral and written comment on the livestock criteria received by the Advisory Board was clearly and consistently in favor of the status quo and almost all of the comment was provided by the oil and gas industry, by agricultural advocacy organizations, by local governments, and by individual livestock producers. Only one letter (from Kate Fox representing the Powder River Basin Resource Council) expressed support for adoption of the criteria in the UW study. There was no oral testimony in favor of adoption of the UW criteria. Considering the deep and broad support the status quo received during the public comment periods, the agency believes that the action taken by the Advisory Board was appropriate. The agency does not oppose the Board's recommendations.

Sincerely,

John F. Wagner
Administrator

JFW/rm/8-0665

Enclosure: Univ. of WY Water Quality Criteria for Livestock Report

cc: Teri Lorenzon, EQC Director
Jim Ruby, EQC Executive Secretary
Joe Girardin, EQC Paralegal
John Corra, DEQ Director
David Waterstreet, WQD Cheyenne
Bill DiRienzo, WQD Cheyenne

Group 1 (Existing Chapter 2 Effluent Limits)

Parameter	Limit – Units
Total Dissolved Solids (TDS)	5,000 mg/l
Sulfate	3,000 mg/l
Chloride	2,000 mg/l

Group 2 (Existing Policy Limits)

Parameter	Limit – Units
Boron	5.0 mg/l (Dissolved)
Cadmium	.050 mg/l (Dissolved)
Chromium	1.0 mg/l (Dissolved)
Copper	.5 mg/l (Dissolved)
Fluoride	4.0 mg/l (Dissolved)
Lead	.1 mg/l (Dissolved)
Mercury	.01 mg/l (Dissolved)
Selenium	.1 mg/l (Dissolved)
Zinc	2.5 mg/l (Dissolved)

Group 3 (UW Report Recommendations)

Parameter	Short Term Exposure Limit – Units	Chronic Exposure Limit - Units
Arsenic	1 mg/l (Dissolved)	1 mg/l (Dissolved)
Barium	10 mg/l (Dissolved)	10 mg/l (Dissolved)
Fluoride	2 mg/l (Dissolved)	2 mg/l (Dissolved)
Molybdenum	.3 mg/l (Dissolved)	.3 mg/l (Dissolved)
Nitrate	500 mg/l	500 mg/l
Nitrite	100 mg/l	100 mg/l
Selenium	.1 mg/l	.1 mg/l (Dissolved)
Sodium	4,000 mg/l (Dissolved)	1,000 mg/l (Dissolved)
Sulfate	1,800 mg/l	1,000 mg/l

Group 4 (Agency's Proposed Limits to Advisory Board)

Parameter	Limit – Units
Total Dissolved Solids (TDS)	5,000 mg/l
Sulfate	2,000 mg/l
Boron	5.0 mg/l (Dissolved)
Cadmium	.050 mg/l (Dissolved)
Chromium	1.0 mg/l (Dissolved)
Copper	.5 mg/l (Dissolved)
Fluoride	4.0 mg/l (Dissolved)
Lead	.1 mg/l (Dissolved)
Mercury	.01 mg/l (Dissolved)
Molybdenum	.3 mg/l (Dissolved)
Selenium	.1 mg/l (Dissolved)
Sodium	1,000 mg/l (Dissolved)
Zinc	2.5 mg/l (Dissolved)