LOWHAM
ENGINEERING
HYDROLOGY & WATER RESOURCES

P.O. Box 536
Gillette, WY 82717
(307) 685-3137
Fax (307) 685-0175

205 South 3rd Street
Lander, WY 82520
(307) 335-8466
Fax (307) 335-7343

January 29, 2007

FILED

JAN 29 2007

Terri A. Lorenzon, Director
Environmental Quality Council

Mr. Mark Gordon
Chairman
Wyoming Environmental Quality Council
122 W. 25th St.
Herschler Bldg, Rm 1714
Cheyenne, WY 82002

RE: Citizen Petition for Rulemaking – Powder River Basin Resource Council et al – Revised Version – WQD Chapter 2

Dear Mr. Gordon:

I am a registered professional engineer in Wyoming (P.E. 1469). My company has offices in Lander and Gillette, and employs about 20 persons, including engineers, geologists, and surveyors. I have been involved with the Coal-Bed Natural Gas industry since 1998. I have a ranching background, and attended the University of Wyoming.

I am very concerned about the subject petition. Based on my experience and observations of the CBNG industry, the great majority of water management operations are working well under the current regulations. Given the size and scope of the industry, a few problems have occurred; however they are problems that can be mitigated or resolved. I have worked with dozens of ranchers who are extremely pleased with being able to use the CBNG waters. Many of the ranchers for whom we have developed water supplies have been able to greatly increase their livestock production, resulting in a much greater profit from their ranching operations.

I would like to highlight several of my observations:

- **Small Ranches** -The benefits of water supplies from CBNG operations have especially benefited small ranchers, who formerly did not have the finances to develop wells and stock tanks on remote areas of their ranches. I have worked with numerous ranches that had only one or two water wells and a few stock

reservoirs. If these ranches had water wells, they generally were located in the bottom of draws where inexpensive, shallow wells could be installed. The ridges and hills were underutilized for grazing due to no available water. The livestock could not fully graze the remote areas, and the ranchers often had to sell their livestock early due to insufficient pasture areas with water. The small ranchers often had to have other employment in order to make ends meet, and owners of the larger ranches have been buying the small ranches that became uneconomical to operate. The CBNG industry has provided water supplies to numerous ranches, resulting in much more efficient grazing operations. (See attached example photographs).

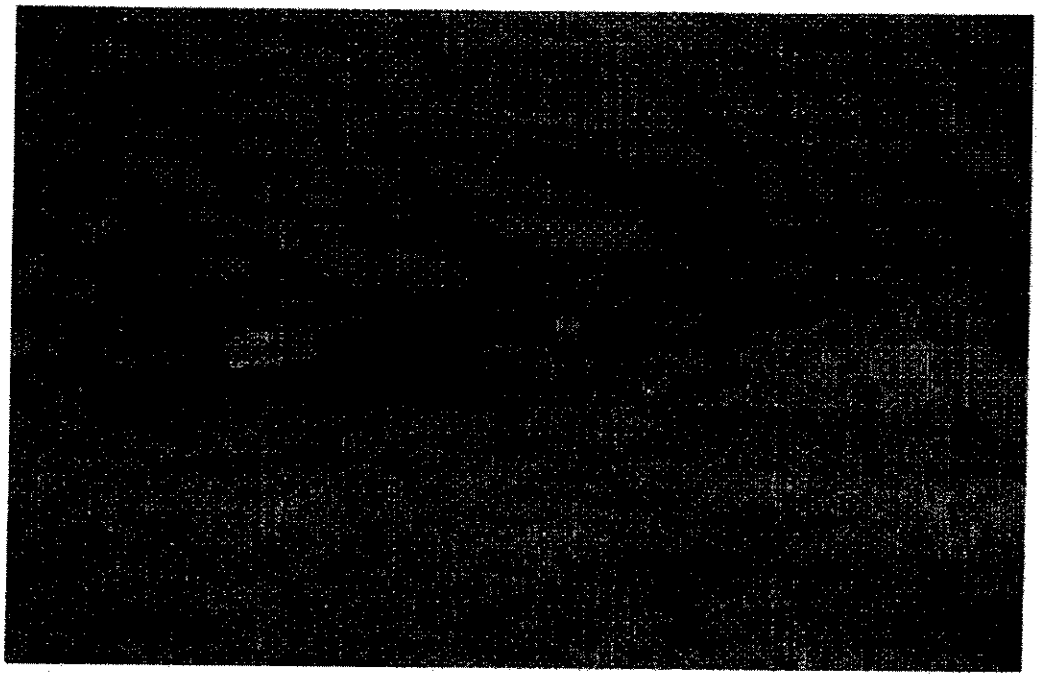
- **Erosion** - Opponents of livestock grazing often use examples of overgrazing and erosion to support their claims of damage to public lands. When only a few water supplies are available on a ranch, the livestock typically trail once or twice a day along the same path to water. These trails develop into new deep channels, which accelerate erosion. Additionally, the pastures close to the few available water sources become overgrazed and subject to erosion. The effects of livestock being concentrated along the stream valleys where the few shallow water wells are located have impacts on the water quality of runoff, as the manure and disturbed soils become concentrated and are easily washed into the stream.
- **Water Quality** - During my career, I have been involved in the collection of streamflow and water-quality data from numerous streams in the Powder River Basin. Runoff events for the tributary streams in the plains typically occur only occasionally and are of short duration. Because runoff occurs only periodically, organic (manure, woody debris, leaves) and inorganic (salts) materials accumulate on the basin surface and in the channels, and are subsequently washed downstream when rainfall or snowmelt occur. In general, the water quality of plains streams is relatively poor.
- **Solutions** - I obtained a degree in Agricultural Engineering from the University of Wyoming in 1965. That engineering program was subsequently abolished. The economy of Wyoming couldn't justify the need for the program. The economy has since improved, and numerous positions are available for trained and knowledgeable persons. Solutions are possible for most of the problems facing the CBNG industry. Good science associated with agriculture and engineering can help solve many of the water-related problems. Support for good science is needed from the legislature, the University of Wyoming, and the regulatory agencies. My experience is that the CBNG companies are very willing to work with them and the landowners to develop solutions.

Thank you for this opportunity to voice my concerns. If you have any questions, or if I could provide additional information that could assist, please let me know.

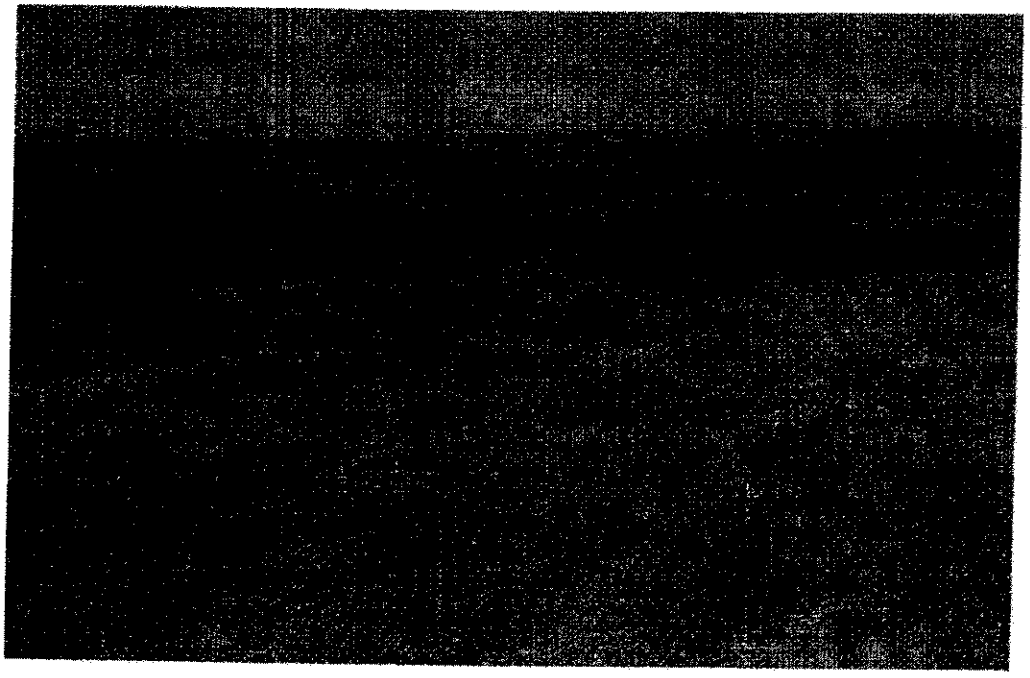
Sincerely yours,

Hugh W. Lowham

Hugh W. Lowham, P.E.



Deer watering at CBNG tank on ridge west of Gillette, Wyoming, August 3, 2006



Livestock on hillside near CBNG stock tank and reservoir, August 12, 2006.