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Terri A. Lorenzon, Director Environmental Quality Council

Mr. Mark Gordon Chairman, EQC Herschler Building RM 1714 Cheyenne, WY 82002

RE: CBM Petition

Chairman and EQC Members;

My name is Jake Strohman, P.E. I have been a resident of Wyoming for my entire life. I was raised on a farm/ranch operation and started out working for industry out of College. I spent 25 years as an employee of DEQ/WQD of which all except two years was as a Program Manager. I worked 6 years as a water management consultant and now am back working for industry. This background has provided a great knowledge of water quality and management providing the ability to find objective solutions to water management issues.

Item 1.

The first part of the petition deals with trying to combine water quality and water quantity. The A.G. has already provided a determination that the EQC has no authority to get involved with water quantity. This whole issue should not be heard by the EQC. We elect Legislators to make the laws of this state. I respectfully would like to point out that none of the EQC members are elected by any Wyoming voter to make any law or change any law.

Item 2.

An issue is made of the barium limit. The barium limit in permits is arbitrary as DEQ utilizes 1800 ug/L. This limit is too low pursuant to W.S. 35-11-302 (a) (vi) requiring evaluation of a parameter considering all "facts and circumstances bearing on the reasonableness of the pollution involved——". Objective consideration of this issue should cause the EQC to raise this standard and not lower it.

In looking at the source of barium from CBM produced water, sulfates is usually not found in any concentration above 10 mg/L. Barium sulfate is fairly insoluble and precipitates out easy. All waters in the Powder River Basin pick up sulfates as the natural clay soils contain a large amounts of sulfates. Thus whenever CBM produced barium enters a drainage or reservoir, the water will quickly pick up sulfates and the barium precipitates out. Most barium concentrations are just slightly over the limit and precipitation occurs very quickly.

In Summary of the barium issue, it is suggested that the EQC look at the total picture and not just an end of the pipe requirement. It makes no sense to treat water that is going to meet the limits from natural attenuation in a short distance. This section of the Act was placed in for the very issue discussed herein. Make the limit higher.

(vi) (A) & (C) & (D)

Humans: No known use of water right out of a CBM outfall

Animals: Limits for animal use are provided quickly due to natural attenuation with

sulfates.

Wildlife: Same as previous

Aquatic life: Again precipitation occurs rapidly making concern only for a minute small

portion of a stream. Should be a very small concern.

Plant life: Soils expert says barium on any soils is not an issue with plants.

Sulfates:

The EQC needs to consider the agricultural standard for sulfates is 200 mg/L. Most of the tributaries in the Powder River Basin cannot meet this standard and the water is not fit for agricultural use. Wildcat Creek has been shown to have sulfates between 3000-6000 mg/L. Paul Rourke, a rancher on Rawhide and the Little Powder River breached his reservoirs because they had sulfates so high it was affecting the health of his livestock. If a tributary cannot meet agricultural or livestock standards, why are the standards trying to protect agricultural use?

Summary: Deny the petition and let the Legislature consider any changes or the development of new laws.

Thanks for allowing and considering input from the public.

Jake Stromman, P.E.