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August 23, 2010

Rockingham County Board of Supervisors  
20 East Gay Street  
Harrisonburg, VA 22802

Dear Chairman Cuevas and Supervisors,

Community Alliance for Preservation (CAP), Shenandoah Riverkeeper, and Shenandoah Valley Network appreciate the opportunity to continue providing comment and information to Rockingham County regarding Carrizo (Marcellus) LLC's proposal to drill the first unconventional shale gas well in the Commonwealth of Virginia. We would like to compliment the Board and County staff for your diligence in considering Carrizo's application to the County over the past several months. We believe this to be a complex issue with the potential for very significant impacts to the County and the entire Shenandoah Valley, and we thank you for your hard work to make sure the final decision is in the best interest of Rockingham County citizens.

Due to concerns primarily about the impact of a shale gas hydraulic fracturing operation in the floodplain, our organizations retained the services of a professional geologist, with experience in gas mining and hydrology. On our behalf, Mark Quarles, P.G. for Global Environmental LLC, reviewed Carrizo's application to the Department of Mines Minerals and Energy (DMME) and to the County. Mr. Quarles's report, dated August 5, 2010, is enclosed. Additionally, you have been provided a copy of the June 24<sup>th</sup>, 2010 letter in which the DMME responds to a series of questions posed by Rockingham County landowners Brooke Lewis and Dr. Kathryn Zunich ("DMME letter"), which is also enclosed.

Together, these two documents provide some alarming evidence that 1- adequate safeguards are not in place for approval of Carrizo's application, even with the substantial conditions that are being considered by Rockingham County, and 2- the floodplain is an irresponsible, and unnecessary, location for an unconventional gas well.

There are a few things, in particular, that we'd like to point out from the Global Environmental, LLC report and the DMME letter.

- 1- **DMME's plan in the event of a flood is highly irresponsible.** The DMME letter explains in paragraph 5 on p. 2 that in the event of a flood, dilution of the contaminants in the drilling pits would "likely occur even before the diluted volumes left the permitted site." *This strikes us as highly irresponsible.* Global Environmental reports that, according to the Natural Resource Conservation Service (NRCS), "the well pad, the waste disposal areas and at least one waste pit are located in an area that frequently floods, resulting in the complete inundation of the area." Fracturing fluid is an industrial waste which cannot be treated in most municipal wastewater systems. It does not belong in the headwaters of the North Fork of the Shenandoah River, a source of public drinking water and process water for industry. Furthermore, Carrizo is not required to disclose the chemical contents of the drilling liquids, so DMME cannot ensure no harm to downstream water users or fish and aquatic life. Finally, horizontal drilling technology seems to have developed such that wells located in high-risk areas such as floodplains are not necessary to access the underground gas resources.
- 2- **There is no accident or clean-up plan.** Both Carrizo and the DMME have stated that a Spill Prevention Control and Countermeasure plan is not required by the EPA. *Accidents are not uncommon in unconventional gas development, and the consequences for public safety, clean water, and the environment can be severe.* In Pennsylvania, 1,435 violations by Marcellus drilling/mining companies were documented in 2.5 years in an August 2010 report just released (<http://conserveland.org/violationsrpt>). Similarly, the Denver Post reported over 5 million gallons of drilling liquids and oil were spilled in Colorado in almost 1,000 accidents over a similar time period ([http://www.denverpost.com/commented/ci\\_15391192](http://www.denverpost.com/commented/ci_15391192)). In addition to the concerning absence of a clean-up plan, the \$25,000 bond required of Carrizo seems particularly insufficient in light of the frequency and severity of accidents in other communities.
- 3- **Risks posed by nearby abandoned wells not addressed.** The applicant has not determined what effect fracturing will have on nearby oil and gas wells that were drilled between 1950 and 1983. These wells have the potential to provide a pollutant migration pathway for fracturing fluids, produced fluids, and natural gas to ground or surface water or nearby structures.
- 4- **Virginia's natural resources agencies have not been properly consulted** on the permit request and will have no role in the case of an accident should the proposed well be constructed. The Department of Environmental Quality (DEQ), Department of Conservation and Recreation (DCR), and Department of Game and Inland Fisheries (DGIF) have considerable expertise and responsibility in protecting public health and natural resources in Virginia. The existing DMME review process does not consult these agencies and misses an opportunity to provide sufficient safeguards to protect citizens and the environment. The DMME letter also made it clear that in the event of a spill or other accident the resource agencies will not play any role in the evaluation and clean-up process.

These are but a few of the numerous alarming issues that are raised in the attached geologist analysis of the permit and DMME response letter.

Based on this and other information, our organizations have concluded that approval of the proposed Bergton gas well is not in the best interest of Rockingham County, its citizens, its natural resources, or downstream communities along the North Fork.

We recognize that Marcellus shale natural gas is a promising source of domestic energy for the future. However the current safeguards imposed on the proposed Ennis well are not adequate to protect public health and natural resources. Furthermore, the location of the proposed Ennis well—in the floodplain in the headwaters of the North Fork of the Shenandoah River—poses an undue and an unnecessary risk to our communities.

Thank you for your consideration of these comments. Again, we sincerely appreciate the serious approach you are taking to this decision.


Very truly yours,



Kim Sandum  
Director, Community Alliance for Preservation



Kate G. Wofford  
Director, Shenandoah Valley Network



Jeff Kelble  
Shenandoah Riverkeeper

Enclosures:

August 5, 2010 Report from Global Environmental, LLC  
June 24, 2010 letter from Department of Mines, Minerals, and Energy

CC:

Senator Mark Obenshain  
Delegate Tony Wilt  
Delegate Todd Gilbert  
Delegate Steve Landes  
Secretary of Natural Resources Doug Domenech