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**Testimony on “Federal Regulation:
Economic, Job and Energy Security Implications of
Federal Hydraulic Fracturing Regulation”
May 2, 2012**

Thank you for this opportunity to testify on hydraulic fracturing. My name is Ben Rainbolt and I am the Executive Director of Rocky Mountain Farmers Union. Rocky Mountain Farmers Union represents family farms and ranches in New Mexico, Colorado, and Wyoming. I am here to talk about the impact that fracking will have on farms and ranches in Colorado and Wyoming. As you know, fracking involves drilling straight down below aquifers and then drilling horizontally along various rock formations up to two miles. Liquid is then pumped in that horizontal shaft at high pressures to cause fissures in the rock formations to open so more gas and oil can be extracted. Fracking has increased the productivity of wells in Colorado and Wyoming, but we should examine the costs as well as the gains.

People east of the Mississippi don't understand what water means in the west. Even though our mountain streams are the headwaters for many of America's great rivers, we live in an arid climate with low soil moisture and extremely low rainfall. Water is a scarce resource that we treasure. Most Colorado agriculture requires irrigation. With the exception of wheat and sorghum, not much would grow here if not for irrigation water. What's more, agriculture is the second largest industry in Colorado. Agriculture generates more than \$7 billion in annual revenues, and more than 100,000 jobs are directly related to agriculture.

Under Governor Hickenlooper, Colorado has installed some very strict regulations governing the reporting of chemicals used in fracking. The Colorado Oil and Gas Conservation Commission is able to differentiate between biogenic and thermogenic methane through compositional analysis of the gas. COGCC has determined that thermogenic methane, which is the kind produced by hydraulic fracturing, has contaminated water wells used for humans and livestock. COGCC investigated three complaints in Weld County over the last five years and has concluded that one of the wells was contaminated by thermogenic methane produced by fracking. COGCC has also concluded that the West Divide Creek gas seep, south of Silt, Colorado, was caused by fracking. In this case the gas migrated up a borehole that had not been properly cemented. Another well in the Laramie Fox Hill Aquifer north of Denver, one of 28 that were tested in this basin, contained thermogenic methane. Our membership does not think that's an acceptable risk.

Not only our drinking water but the water we use to grow crops and produce livestock is threatened by methane contamination. What Colorado lacks is a way to establish liability when water becomes contaminated. It's hard to identify the source of chemicals that contaminate our water because they are so commonly used. It's hard, but not impossible, and it must be done. A new report by Earthworks shows the Colorado Oil and Gas Conservation Commission has failed to enforce its own rules last year when 516 spills were reported to the commission and they only assessed 5 fines. What kind of message does this send to landowners who are drinking and feeding water that could be contaminated by oil and gas development?

There are numerous studies by the EPA and other agencies that are testing drinking water near a Wyoming gas field outside Pavilion, Wyoming. The EPA has said that fracking may have led to groundwater contamination. A common chemical used in the process, benzene, is a known carcinogen. Benzene has been found in a pair of monitoring wells the EPA drilled in 2010.

Our members are concerned about water quantity as well as quality, since they find themselves in competition with energy interests for available water. A transmountain diversion of 25,000 acre feet was recently auctioned off to the highest bidder in Weld County. The Northern Colorado Water Conservancy District traditionally auctions off blocks of water to farmers in eastern Colorado for irrigation. Agriculture is a non-consumptive use; in other words when farmers use this water the resource is used over and over again and each time a certain amount is returned to the rivers and streams. This year the high bidder for 1,500 acre feet of the diversion was an oil and gas developer, and they purchased that water for fracking. In agricultural the 1,500 acre feet of water would be credited for more than 2,500 acre feet. Instead it will be contaminated and not reusable. Oil companies buying water for consumptive use are purchasing water that is normally used for producing food. So now farmers will have to compete, not just with municipalities and industry for water, but with oil and gas developers for a scarce resource vital to growing our food and maintaining an important agricultural economy.