

## **Guest Opinion: Hydraulic fracturing in oil fields works safely for Montana**

**By TOM RICHMOND**

Hydraulic fracturing has been used by the oil and gas industry for 60 years to increase the productivity of wells and recover oil and gas. Many of Montana's gas wells and essentially all our Bakken oil wells would not be economically viable to drill without hydraulic fracturing, resulting in a loss of at least \$4 billion worth of oil and \$350 million of state revenues. Along with improved drilling technology, hydraulic fracturing has doubled Montana's oil and gas production.

Recently, the safety of hydraulic fracturing has been called into question by organizations trying to convince Congress and the Environmental Protection Agency to establish or broaden federal regulations. These organizations are using fear tactics - unsubstantiated claims of groundwater contamination by dangerous chemicals - to make their case. The truth is that hydraulic fracturing is already regulated appropriately by the states. Thousands of wells in Montana and about 1 million wells nationwide have been fractured with no groundwater contamination reported.

### **Protective barriers**

Hydraulic fracturing is not a haphazard process. Engineers use computer models to custom-design each individual fracture treatment, taking into account the physical and chemical properties of the rock, the fluids contained within that rock, and the mechanical condition of the well. The computer models are used to design an effective treatment that stays within the targeted rock formation thousands of feet underground. Additionally, the wells are designed and constructed to provide at least three protective barriers that prevent water contamination.

The primary products used in Montana's hydraulic fractures are sand and a fluid to carry the sand. The most common carrier fluids are either nitrogen foam or gelled water. The products that cause the nitrogen to foam are the basic ingredients in household cleaning agents, such as borax or detergent; the gelling agents are similar to those used in making gelatin dessert or soft-serve ice

cream. The EPA has identified diesel fuel as a potential health hazard, but it is seldom used in Montana.

The geology of Montana provides further protection from contamination. Groundwater that furnishes drinking water and conventional gas and oil reservoirs do not inhabit the same underground territory - they are typically many thousands of feet apart and separated by numerous impermeable layers.

Every oil- and gas-producing state has multiple agencies that regulate exploration and development. In addition to the Board of Oil and Gas Conservation, the Montana Department of Environmental Quality and Montana Department of Natural Resources and Conservation have roles in oil and gas operations, water quality and water quantity regulation, as well as land use and leasing roles. The U.S. Occupational Safety and Health Administration, U.S. Department of Transportation and EPA oversee some aspect of the transportation, use and proper disposal of any substances used in oil and gas production; the U.S. Bureau of Land Management has similar responsibility on federally owned land. Requiring additional oversight by still more federal agencies would be costly and redundant and add little to the substantial regulatory network already in place.

### **No documented harm**

Approximately 35,000 wells are hydraulically fractured annually in the United States; about 1 million wells have been hydraulically fractured in the U.S. since the technique was first developed, with no documented harm to groundwater. Hydraulic fracturing is essential for developing our abundant and environmentally desirable natural gas resources, and the safety and effectiveness of this process are proven every day.

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