



# FRACK FLUIDS: INJECTED AND LEFT BEHIND

## Protect our Drinking Water: Close the Halliburton Loophole in the Safe Drinking Water Act

**Myth:** Underground injection regulations should not apply to hydraulic fracturing because injected fluids are removed from oil and gas wells.

**FACT:** Under the Safe Drinking Water Act, Congress directed EPA to regulate underground injection activities to protect our drinking water. While the process of hydraulic fracturing includes “fluid recovery,” or a recapturing of the hydraulic fracturing fluids that are injected down the well into the oil or gas formation, the process is in fact an injection activity in which a significant portion of fluid is abandoned underground in and near our drinking water.

It is important to keep in mind that:

1. *Both EPA and the oil and gas industry acknowledge that a portion of these fluids remain stranded underground and are never recovered.* In EPA’s treatment of fluid recovery efficiencies in the 2002 draft of their report on hydraulic fracturing, they cited four different studies that show recovery efficiencies ranging anywhere between 25% and 60%.<sup>1</sup> More recently, a Halliburton representative stated that as much as 50% of the fracturing compounds are trapped beneath the ground and left unrecovered.<sup>2</sup>

2. *EPA acknowledges that fracturing fluid itself can move out of target formations, and industry literature warns that fractures can extend into water-bearing zones.* The EPA presented data in their 2004 hydraulic fracturing report that show that hydraulic fracturing fluids follow natural fracture systems and that the fluids are able to move out of coal beds into adjacent formations.<sup>3</sup> The Petroleum Technology Transfer Council’s manual for independent oil and gas operators outlines the risks of hydraulic fracturing stimulations penetrating into water-bearing zones even when shale barriers are present.<sup>4</sup>

3. *The 11th Circuit Court of Appeals decided that “underground injection activities” under the plain language of the Safe Drinking Water Act include hydraulic fracturing.* The court’s 1997 decision states that: “Under the SDWA, ‘Congress directed EPA to regulate ‘underground injection’ activities’, including hydraulic fracturing, and therefore, the ‘clear statutory language’ requires ‘regulation of all such activities.’”<sup>5</sup>

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### For more information:

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<sup>1</sup>U.S. Environmental Protection Agency. August, 2002. DRAFT Evaluation of Impacts to Underground Sources of Drinking Water by Hydraulic Fracturing of Coalbed Methane Reservoirs. EPA 816-D-02-006. This draft cites or discusses: Mukherjee, et al (1995), Palmer and others (1991a), Samuel et al. (1997), Willberg et al (1997).

<sup>2</sup>Christina Callicott. November 23, 2007. “Halliburton Talks Frac’ing With BLM.” Telluride Watch.

<sup>3</sup>U.S. Environmental Protection Agency. June 2004. Evaluation of Impacts to Underground Sources of Drinking Water by Hydraulic Fracturing of Coalbed Methane Reservoirs. EPA Document# 816-R-04-003 pp. 3-16.

<sup>4</sup>Rodney R. Reynolds. 2003. Produced Water and Associated Issues – Manual for the independent operator. Prepared for the South Midcontinent Region of the Petroleum Technology Transfer (PTTC) and Oklahoma Geological Survey (OK Geological Survey Open-file Report 6-2003). [http://www.pttc.org/pwm/pw\\_stoc.htm#toc2](http://www.pttc.org/pwm/pw_stoc.htm#toc2)

<sup>5</sup>LEAF v. EPA, 11th Circuit Ct. of Appeals, 118 F.3d 1467 (1997), at p. 1475. The Energy Policy Act of 2005 later overturned this specific decision.



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