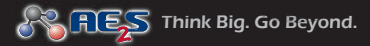


# The Update

December 2009



## Hydraulic Fracturing

**H**ydraulic fracturing is a method used by oil and gas producers in which fluid is injected under high pressure into a rock formation that contains oil, natural gas, and water. The injection opens or enlarges fractures in the rock. Hydraulic fracturing allows the oil or natural gas to move more freely from the rock pores to a production well so that it can be brought to the surface.

The US Environmental Protection Agency (USEPA) conducted a study in 2004 (Evaluation of Impacts to Underground Sources of Drinking Water by Hydraulic Fracturing of Coalbed Methane Reservoirs; National Study Final Report). The study concluded that the injection of hydraulic fracturing fluids by coalbed methane (CBM) wells posed little or no threat to underground sources of drinking water, and additional studies were not justified. However, there are two bills currently under consideration in Congress related to hydraulic fracturing fluids.

The bill proposed by the House of Representatives (HR 2766) is currently being reviewed by the House Energy and Commerce committee. The bill proposed by the Senate (S 1215) is currently being reviewed by the Senate Environment and Public Works committee. Both of the bills include amendments to repeal the exemption from restrictions on underground injection of fluids near drinking water sources and require oil and gas companies to disclose the chemicals used in hydraulic fracturing operations.

The USEPA Superfund program sponsored a study in March of 2009 (Site Inspection – Analytical Results (continued on back))

## Ground Water Rule Compliance

**I**n November of 2006, the USEPA published the Ground Water Rule (GWR) in order to provide increased protection against microbial pathogens in public water systems that use ground water. The GWR requires systems at risk of microbial contamination to take corrective action to protect consumers from harmful bacteria and viruses. The GWR applies to those public water systems

that use ground water as the sole water source,

use both surface and ground water sources where ground water is added directly to the distribution system and delivered to customers without treatment provided for surface water, or are a consecutive system receiving ground water.

As requirements of the GWR, primacy agencies are responsible for conducting sanitary surveys, and ground water systems (GWSs) are responsible for source water monitoring, compliance water monitoring, and corrective actions. GWSs needed to be conducting monitoring and complying with the treatment technique requirements of the GWR as of December 1, 2009.

The monitoring includes triggered source water monitoring for GWSs not conducting GWR compliance monitoring for 4-log (99.99 percent) treatment of viruses. Triggered source water monitoring is used to determine if fecal contamination is present in the ground water source. If a sample tests positive for fecal matter, the system must take corrective action or collect five additional samples from the same source within 24 hours of the positive result. If any of the additional samples indicate fecal matter, the system must take corrective action. If the system provides 4-log treatment of viruses of its ground water, it is not required to conduct triggered source water monitoring; however, the primacy agency must be notified and compliance monitoring must be completed to confirm the treatment is sufficient.

The primacy agency must complete the sanitary survey by December 31, 2012 and every three years thereafter for community water systems and by December 31, 2014 and every five years thereafter for non-community water systems. GWSs must provide the primacy agency with information about the system, monitoring, reporting, data verification, management, and compliance. A list of all of the requirements can be found at the source listed below. If a primacy agency identifies deficiencies during the survey or in the future, the system must take corrective action to correct the deficiencies. If the system is found to be in violation, the system must report the problem to the primacy agency and notify the public according to the list provided in the ruling.

More information can be obtained at <http://www.epa.gov/safewater/disinfection/gwr/regulation.html> or by contacting AE2S. ■

## Effluent Limitations for Construction Sites

**T**he USEPA has issued its final ruling on effluent limitation guidelines and new source performance standards to control the discharge of pollutants from (continued on back)

*(Hydraulic Fracturing from first page)*

*Report: Pavillion Area Groundwater Investigation Site) in Pavillion, Wyoming due to complaints of residents. The study investigated contamination thought to have been caused by oil and gas production. Initial results indicate there were heterotrophic plate count bacteria, iron-related bacteria, and sulfate reducing bacteria detected in the ground water samples. The study suggested further investigation into the exact cause of these occurrences. The American Water Works Association (AWWA) also suggested further investigation in determining whether or not the ground water is contaminated by oil and gas activities.*

*The studies can be found at [www.epa.gov](http://www.epa.gov), and the proposed bills and their status can be found at <http://www.govtrack.us/congress/legislation.xpd>. AE2S will track this topic as it goes through Congress and will report any updates. ■*

*(Effluent Limitations for Construction Sites from first page)*

construction sites and developments disturbing one acre or more. This rule will require construction site owners and operators to implement erosion and sediment control best management practices to reduce pollutants in stormwater discharges from construction sites. The final ruling becomes effective on February 1, 2010.

The USEPA will be phasing in a numeric standard for pollutant turbidity to be monitored starting in August of 2011 for construction sites disturbing 20 or more acres and February of 2014 for construction sites disturbing 10 or more acres. Sites disturbing more than 10 acres will have a maximum daily discharge limitation of 280 nephelometric turbidity units (NTU) (this has been increased from 13 NTUs, as initially proposed).

The regulation is projected to reduce the amount of sediment discharged from construction sites by about 4 billion pounds per year. The cost, once fully implemented, is expected to be approximately \$953 million per year. Primacy agencies must incorporate the new requirements into their construction general permits for new permits issued 60 days after the final rule was published in the Federal Register, which is anticipated in early February 2010. Indian Country lands use the USEPA Construction General Permit, which will expire June 30, 2011 and will be updated to include the new requirements when it is reissued.

More information can be obtained at <http://www.epa.gov/waterscience/guide/construction/> or by contacting AE2S. ■

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