

ENVIRONMENTAL PROTECTION AGENCY

[WH-FRL-7019-3]

Underground Injection Control; Request for Information of Ground Water Contamination Incidents Believed To Be Due to Hydraulic Fracturing of Coalbed Methane Wells**AGENCY:** Environmental Protection Agency.**ACTION:** Notice.

SUMMARY: The Environmental Protection Agency (EPA) is conducting a study to assess the potential for Hydraulic Fracturing of coalbed methane (CBM) wells to endanger underground sources of drinking water (USDW). State oil and gas agencies in States with CBM production reported through a 1998 Ground Water Protection Council (GWPC) survey that Hydraulic Fracturing has not contributed to water quality degradation. In an effort to be thoroughly informed, EPA believes it should also provide an opportunity for other agencies, non-governmental organizations and citizens who may have evidence of ground water contamination caused by Hydraulic Fracturing of CBM wells to provide such information. Through this notice, EPA is inviting governmental and regulatory agencies, such as local drinking water and public health agencies, as well as the public at large to report to EPA known incidents of ground water contamination believed to be associated with Hydraulic Fracturing of CBM wells. The review of such information is part of a larger EPA effort to assess the potential for Hydraulic Fracturing of CBM wells to endanger USDWs.

For the purposes of this study, aquifer dewatering and water discharge issues frequently associated with CBM development are independent of the Hydraulic Fracturing process, and EPA will not be addressing those issues in this effort.

DATES: Please submit information by August 29, 2001.

ADDRESSES: Send written comments to the Comment Clerk, docket number W-01-09, Water Docket (MC 4101), Rm EB 57, U.S. Environmental Protection Agency, 1200 Pennsylvania Ave, NW Washington, DC 20460. The record for this study is established under docket number W-01-09. The record is available for inspection from 9 a.m. to 4 p.m. Monday through Friday, excluding legal holidays at the Water Docket, East Tower Basement, Rm EB 57, USEPA, 401 M Street, SW, Washington DC. For access to docket

materials, please call 202-260-3027 to schedule an appointment. Comments may be hand-delivered to the Water Docket, U.S. Environmental Protection Agency; 401 M Street SW., East Tower Basement, Rm EB 57, Washington DC, 20460.

FOR FURTHER INFORMATION CONTACT: Ms. Leslie Cronkhite; United States Environmental Protection Agency, MC 4606, 1200 Pennsylvania Avenue, NW., Washington, DC 20460; telephone: (202) 260-0713; e-mail: cronkhite.leslie@epa.gov.

SUPPLEMENTARY INFORMATION:**Background**

Hydraulic Fracturing is a common technique used to improve the flow of oil and gas to production wells. In high-permeability formations, oil and gas flows into the wellbore in response to pumping. In low-permeability formations, however, oil and gas flow rates may be low. Hydraulic Fracturing can create a permeable pathway deep into the formation, which allows hydrocarbons to move toward the well at a faster rate. Hydraulic Fracturing is widely used in the oil and gas industry, and is an essential tool for exploiting alternative hydrocarbon resources, such as coalbed methane, that would be unavailable through conventional drilling practices.

In order to hydraulically fracture the rock formation, water mixtures are injected into the well at high pressure for a few hours, creating a linear fracture in the formation rocks. "Proppants" such as sand or plastic beads are emplaced into the fracture to hold it open and to create a permeable pathway into the well. After the fracturing process concludes, the well is pumped for production. In most cases the resulting fracture is a flat, planar feature oriented vertically along the wellbore, extending from 70 to 500 feet from the well bore.

Prior to 1997, EPA had not considered regulating Hydraulic Fracturing because the Agency believed that this well production stimulation process did not fall under the Underground Injection Control (UIC) program's authority under the Safe Drinking Water Act (SDWA). In 1994, the Legal Environmental Assistance Foundation (LEAF) challenged that interpretation by petitioning EPA to withdraw Alabama's EPA-approved Section 1425 (SDWA) UIC program because LEAF believed the State should regulate Hydraulic Fracturing for CBM development as underground injection. EPA rejected LEAF's petition. LEAF challenged EPA's decision and in 1997, the 11th Circuit

Court of Appeals ruled that Hydraulic Fracturing of coalbeds in Alabama fit within the SDWA definition of underground injection, *LEAF v. EPA*, 118 F.3d 1467, 1478 (11th Cir. 1997). In response to this decision, Alabama modified its UIC program. In December 1999, EPA approved revisions to Alabama's Class II UIC program.

In response to the Court's decision and concerns voiced by individuals who may be affected by CBM development, EPA is conducting a study to assess the potential for Hydraulic Fracturing of CBM wells to endanger USDWs. State oil and gas boards surveyed by the GWPC in 1998 generally reported that Hydraulic Fracturing of CBM wells has not resulted in contamination of ground water. EPA recognizes there may be other agencies, such as local drinking water and public health agencies, or individuals that know of incidents of contamination resulting from Hydraulic Fracturing of CBM wells of which we are not presently aware. In an effort to be thorough, the UIC program is inviting the public at large to provide EPA with information identifying incidents of contamination of ground water from Hydraulic Fracturing of CBM wells. Data submitted in response to this notice will be considered in an effort to determine if additional investigation is needed on a national level to assess the environmental impacts of Hydraulic Fracturing of CBM wells.

Please note, if you have previously submitted information regarding Hydraulic Fracturing of CBM wells in response to the 1998 GWPC survey, there is no need to resubmit that information.

If you are responding to this FR notice by reporting incidents, please describe in detail incidents in which Hydraulic Fracturing of CBM wells was known or believed to be the cause of ground water contamination and any follow-up actions by agencies or other entities of which you are aware. Pertinent information may include technical data describing the nature of the problems reported, any follow-up actions by local, State, or Federal agencies, and any data or findings regarding sources of contamination. Specific information including water quality sampling data and data on the location of a contamination incident and its timing relative to a known Hydraulic Fracturing event would be useful.

For CBM wells to operate efficiently and economically, it is common during the initial stages of production for large volumes of water to be pumped to the surface to reduce the water pressure. This pressure reduction helps to liberate the methane gas from the open spaces

within the coal. In certain areas, this “dewatering” has led to ground water depletion and produced water discharge issues, which, for the purposes of this notice, are independent of the Hydraulic Fracturing process. In areas where dewatering has become a concern, citizens, State agencies, producers, and the regional EPA offices are working in concert to understand and mitigate

potential problems. If you have concerns regarding environmental impacts from CBM development separate from Hydraulic Fracturing, such as dewatering or surface water discharge, please contact your State oil and gas agency or the EPA regional office in your area. Contact information can be obtained from EPA’s web site <http://www.epa.gov/safewater/uic/>

[states.html](#) or from the Safe Drinking Water Hotline at 1-800-426-4791.

Dated: July 20, 2001.

Diane C. Regas,

Acting Assistant Administrator, Office of Water.

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