

A MEMORANDUM OF AGREEMENT

Between

**The United States
Environmental Protection Agency**

And

**BJ Services Company,
Halliburton Energy Services, Inc., and
Schlumberger Technology Corporation**

**Elimination of Diesel Fuel in Hydraulic
Fracturing Fluids Injected into Underground
Sources of Drinking Water During Hydraulic
Fracturing of Coalbed Methane Wells**

12 December 2003

Memorandum of Agreement Between the United States Environmental Protection Agency and BJ Services Company, Halliburton Energy Services, Inc., and Schlumberger Technology Corporation

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I. PREAMBLE

- A. This is a voluntary agreement between the United States Environmental Protection Agency (EPA) and BJ Services Company, Halliburton Energy Services, Inc., and Schlumberger Technology Corporation (the service companies are collectively referred to as the “Companies;” individually as “Company”), by which the Companies agree to eliminate diesel fuel in hydraulic fracturing fluids injected into coalbed methane (CBM) production wells in underground sources of drinking water (USDWs) and, if necessary, select replacements that will not cause hydraulic fracturing fluids to endanger USDWs. While the Companies do not necessarily agree that hydraulic fracturing fluids using diesel fuel endanger USDWs when they are injected into CBM production wells, the Companies are prepared to enter into this agreement in response to EPA’s concerns and to reduce potential risks to the environment.
- B. Hydraulic fracturing is a technique used by the oil and gas industry to improve the production efficiency of production wells, including CBM production wells. A hydraulically-created fracture acts as a conduit in the rock or coal formation that allows the oil or gas to travel more freely from the rock pores. To create such a fracture, a viscous, water-based fluid is sometimes pumped into the coal seam under high pressures until a fracture is created. These fluids consist primarily of water, but in some cases they also contain various additives. Diesel fuel has been used as an additive in hydraulic fracturing fluids for the purpose of enhancing proppant delivery.
- C. The Companies and EPA recognize that the primary purpose of this agreement is to eliminate the use of diesel fuel in hydraulic fracturing fluids injected into CBM production wells in USDWs.

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II COMMON AGREEMENTS AND PRINCIPLES

- A. The Companies and EPA acknowledge that only technically feasible and cost-effective actions to provide alternatives for diesel fuel will be sought. The determination of what is technically feasible and cost-effective will vary and it is at the discretion of each Company to make that determination.
- B. The Companies and EPA will exercise good faith in fulfilling the obligations of this Memorandum of Agreement (MOA).
- C. Nothing in this agreement constrains EPA or the Companies from taking actions relating to hydraulic fracturing that are authorized or required by law. Nothing in this agreement should be understood as an EPA determination that use by the Companies of any particular replacement for diesel fuel is authorized under the Safe Drinking Water Act (SDWA) or EPA's Underground Injection Control (UIC) Regulations, or that the elimination of diesel fuel or use of any replacement fluid constitutes or confers any immunity or defense in an action to enforce the SDWA or EPA's UIC regulations. Nothing in this Agreement shall, in any way, be considered a waiver of the Companies' right to challenge any subsequent regulations or limitations on the use of hydraulic fracturing or its components by any state or Federal agencies.
- D. All commitments made by EPA in this MOA are subject to the availability of appropriated funds and Agency budget priorities. Nothing in this MOA, in and of itself, obligates EPA to expend appropriations or to enter into any contract, assistance agreement, interagency agreement, or other financial obligations. Any endeavor involving reimbursement or contribution of funds between EPA and the Companies will be handled in accordance with applicable laws, regulations, and procedures, and will be subject to separate agreements that will be effected in writing by representatives of the Companies and EPA, as appropriate.
- E. EPA and the Companies will bear their own costs of carrying out this agreement. The Companies agree that activities undertaken in connection with this MOA are not intended to provide services to the Federal government, and they agree not to make a claim for compensation for services performed for activities undertaken in furtherance of this MOA to EPA or any other Federal agency.
- F. Any promotional material that any Company develops may advise the public of the existence of this MOA and its terms, but must not imply that EPA endorses the purchase or sale of products and services provided by any Company.

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- G. This MOA does not create any right or benefit, substantive or procedural, enforceable by law or equity against the Companies or EPA, their officers or employees, or any other person. Nothing herein shall be deemed to create any requirement under any existing law or regulation. This MOA does not direct or apply to any person outside the Companies and EPA.

III. EPA ACTIONS

- A. To the extent consistent with Agency authorities and policies governing recognition awards, EPA agrees to consider providing the Companies with recognition for their achievements in replacing diesel fuel in fracturing fluids injected into USDWs for CBM production and for their public service in protecting the environment. In addition, EPA agrees to provide appropriate information to the public, other Federal agencies and Congress, regarding actions taken by the Companies under this MOA. EPA agrees to obtain the Companies' approval on any specific language intended for public distribution that discusses the Companies' participation in this MOA and agrees to notify the Companies sufficiently in advance of EPA's intention to publicly use the Companies' name or release information, including press releases, concerning the Companies' participation in this MOA.
- B. EPA agrees to contact appropriate individuals representing states, industry, and the Department of Energy to inform them of progress in implementing the MOA and to solicit their cooperation, as appropriate, in implementation of the MOA.
- C. EPA agrees to issue a final version of the draft report entitled *Evaluation of Impacts to Underground Sources of Drinking Water by Hydraulic Fracturing of Coalbed Methane Reservoirs* as soon as reasonably possible.
- D. The parties agree that nothing in this MOA is intended to affect, in any way, the existing criteria and process for identifying exempted aquifers under 40 C.F.R. Parts 144 and 146.
- E. EPA agrees to consider other measures as appropriate to aid implementation of the MOA, including measures to facilitate efforts undertaken by the Companies pursuant to this MOA.

IV. THE COMPANIES' ACTIONS

- A. The Companies agree to eliminate diesel fuel in hydraulic fracturing fluids injected into CBM production wells in USDWs within 30 days of signing this agreement. If necessary, the Companies may use replacement components for hydraulic fracturing fluids that will not endanger USDWs.
- B. The Companies agree to notify the Assistant Administrator for EPA's Office of Water within 30 days after any decision to re-institute the use of diesel fuel additives in hydraulic fracturing fluids injected into USDWs for CBM production.
- C. The Companies and EPA may, upon unanimous consent of the signatories, include additional provisions in, or make modifications to, this MOA. Such additions or modifications must contribute to the goal of preventing the endangerment of USDWs. Nothing herein shall be construed as requiring the adoption of any such additional provisions or modifications.

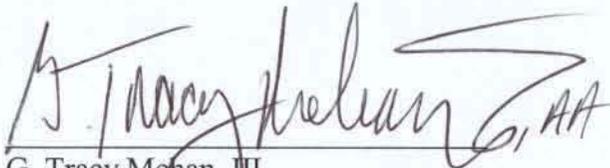
V. DISPUTE RESOLUTION AND TERMINATION OF AGREEMENT

- A. Any Company or EPA may terminate its participation in this MOA by providing written notice to the other signatories. Such termination as to that Company (or, if EPA terminates the MOA, as to all) will be effective 30 days after the receipt of written notice and will result in no penalties or continuing obligations by the terminating Company (or, if EPA terminates the MOA, any signatory). If EPA or any Company terminates the MOA, EPA and/or that Company will refrain from representing that the Company is continuing to cooperate with EPA on replacing diesel fuel in hydraulic fracturing fluids injected in USDWs for CBM production, provided that they may continue to make reference to activities undertaken through the date of this termination. If its participation in this MOA is terminated by any Company, the MOA shall have no further force and effect for the terminating Company, and the terminating Company shall have no further obligation under the MOA.

VI. SIGNATORIES

The undersigned hereby execute this Memorandum of Agreement on behalf of their Companies and EPA. This agreement takes effect when signed by any Company and EPA.

For the United States Environmental Protection Agency:



G. Tracy Mehan, III
Office of Water

Date: 12/18/03

For BJ Services Company:



Kenneth A. Williams
President, US/Mexico Division

Date:



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For Halliburton Energy Services, Inc.:



David King
Vice President

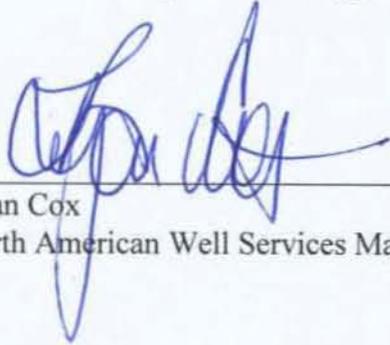
Date: 12/15/03

REVIEWED
LEGAL <i>[Signature]</i>
DATE 12/15/2003

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For Schlumberger Technology Corporation:



Ryan Cox
North American Well Services Manager

Date: 12/15/2003.

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