Cleaner fracking

EurekAlert!

The technology that opened a wealth of new natural gas resources in the U.S. is producing millions of gallons of dirty water — enough from one typical gas well to cover a football field to a depth of 9-15 feet. Cleaning up that byproduct of "fracking" is the topic of the cover story of the current issue of *Chemical & Engineering News*. C&EN is the weekly newsmagazine of the American Chemical Society, the world's largest scientific society.

Melody M. Bomgardner, C&EN senior business editor, explains that hydraulic fracturing, or fracking, uses a mixture of water and chemicals injected into the ground to break open rock and release natural gas. Some of that water comes back out of the ground, laden with various salts, minerals, heavy metals and other substances that pose health and environmental risks. The article describes how water treatment firms are responding to that challenge, developing new ways to treat fracking wastewater and competing for business.

Some companies have developed chemical treatments to remove contaminants and microbes from the wastewater, which can then be reused, while others use evaporators to separate fresh water from the brine. Bomgardner notes that treating the wastewater is a special challenge in the Marcellus Shale area of the Appalachian Basin, where wastewater — millions of gallons per well — must be trucked away for disposal. The cost of disposal is spurring oil and gas companies to adopt these and other technologies that could limit the amount of contaminated water that reaches people, plants and animals, the article notes.

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