Boom in fracking for oil and gas recovery sparks new technology

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With a technology called "fracking" sparking energy booms — and controversy — worldwide, *Chemical & Engineering News* (C&EN) describes advances in the workhorse materials used to produce oil and gas from previously inaccessible deposits deep below Earth's surface. C&EN is the American Chemical Society's weekly newsmagazine.

In the article in C&EN's current edition, Senior Business Editor Melody M. Bomgardner explains that fracking or hydraulic fracturing involves pumping massive amounts of grainy substances, called proppants, down oil or natural gas wells. Proppants enable production from rock formations 10,000 or 20,000 feet below the surface. To access the oil and gas in these deposits, they need to be fractured open with a mixture of fluid and proppants pumped down wells under high pressure. The grains literally prop up the fissures in these rocks so that oil and gas can flow to the surface.

The article describes development of a new genre of proppants to meet the needs of today's drillers. For wells that reach more than a mile down, drillers may need 10 million to 20 million pounds of proppants to get oil or natural gas flowing. Drilling companies are going after more-difficult-to-access reserves of oil and gas that require tougher proppants. Some of the new materials, for instance, use high-tech ceramics like those used in aerospace and military applications or sand with each particle coated with curable resins.

More information: Proppant Progress -

pubs.acs.org/cen/business/89/8936bus3.html

Provided by American Chemical Society

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