

**The California Oil and Gas Report**

# LABJ Op-Ed

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**Fracking: What Is Old Is New Again – And Controversial**

By Dennis R. Luna

Fracking is very much in the news today. Hydraulic fracturing of oil and gas reservoirs has been acclaimed as the path to U.S. energy independence – and denounced as a threat to human health and the environment.

Because of the enormous quantities of natural gas that fracking has released from the Marcellus Shale formation (beneath New York, Pennsylvania, West Virginia and Kentucky) the price of natural gas has been cut in half. This newly plentiful vital energy source has displaced coal in power plants, dramatically reducing air pollution.

The use of fracking to extract oil from rock formations that make it inaccessible to other methods has the potential to dramatically increase domestic U.S. oil production, and to decrease our reliance on foreign sources to an equally dramatic degree. This would have enormous significance both to our economy and to our relationships with other nations.

That’s the positive news.

But there’s negative news also – based not on facts, but on speculation about the potential downside of this technology. Fracking has drawn the attention of the EPA, has been depicted negatively in the movie “Gasland,” and has been criticized by some environmentalists who fear possible contamination of underground water aquifers.

What is fracking, and what does it have to do with us here in California?

Hydraulic fracturing is a technique used to increase the production of oil and gas wells. A mix of water, sand (about 9% by volume) and chemicals that act as lubricants (about 0.5% by volume) is pumped under high pressure into rock formations deep underground that have been proven to contain oil or gas.

Small holes in steel well casings, placed at carefully engineered intervals, allow the fluid to move into the shale, creating small cracks in the rock near the well. The sand grains prop open these cracks, allowing more oil and gas to flow into the well and be recovered as the petroleum products, along with the hydraulic fluid, are pumped to the surface.

The concerns of environmentalists focus on the chemical lubricants used in the hydraulic fracturing fluid, which they fear could migrate to natural water sources.

Most Californians aren’t aware that our state is America’s 4th largest oil producer, and that we have some of the nation’s largest shale oil reserves – the kind of reserves ideal for fracking.

Does this mean that our vitally important aquifers are in danger? No. Fracking of oil formations to increase production has been a standard production technique in California since 1953. Most of the fracking in California has been done in six counties: Kern, Los Angeles, Ventura, Santa Barbara, Monterey and Sacramento.

In all this time, and in all of these locations, there has not been a single recorded incident in California of water pollution or ecological damage caused by hydraulic fracturing.

Those oil wells have been closely watched by state and local regulators. Because of the importance of water to California agriculture, industry, and of course to us in our homes, numerous state regulations have since 1931 required oil companies to ensure that aquifers and water supplies are not affected by drilling and production. In addition, local water districts here in Southern California have for many decades monitored these activities.

During this extended time, fracking has not been a problem. Instead, it has been a reliable and safe production technique.

For both economic, technological and environmental reasons, neither the oil industry nor the ground water industry want any leakage between oil and gas wells and underground water supplies.

Fortunately, the rock formations into which hydraulic fracturing fluids are injected are typically thousands of feet below aquifers, and are separated from these important water resources by layers of impermeable rock.

With safety in mind, oil wells are built with multiple steel casing specifically to prevent any leakage from a well into underground water supplies, or from underground water supplies into the well. As our state’s track record demonstrates, these proven techniques work very well to safeguard the environment.

Nevertheless, responding to continuing public concern, California’s Department of Conservation plans to release new draft regulations addressing fracking by the end of this year. The federal government is also proposing new rules on fracking.

Critics of fracking say the chemicals used as lubricants should be disclosed. Oil and gas companies have no objection to that, but the producers of those chemicals claim this information is a trade secret. That will have to be settled between the chemical companies and regulators.

All oil and gas operations involve risks and rewards.  The rewards to our country and state from increased oil and gas production through fracking are great, boosting our economy and reducing our dependence on foreign sources. As for the risks, those have proven to be minimal here in California, as demonstrated by an 80-year record of safety.

We should embrace fracking as a successful and environmentally sound production technique, while continuing reasonable oversight of its application to protect and reassure the public.

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