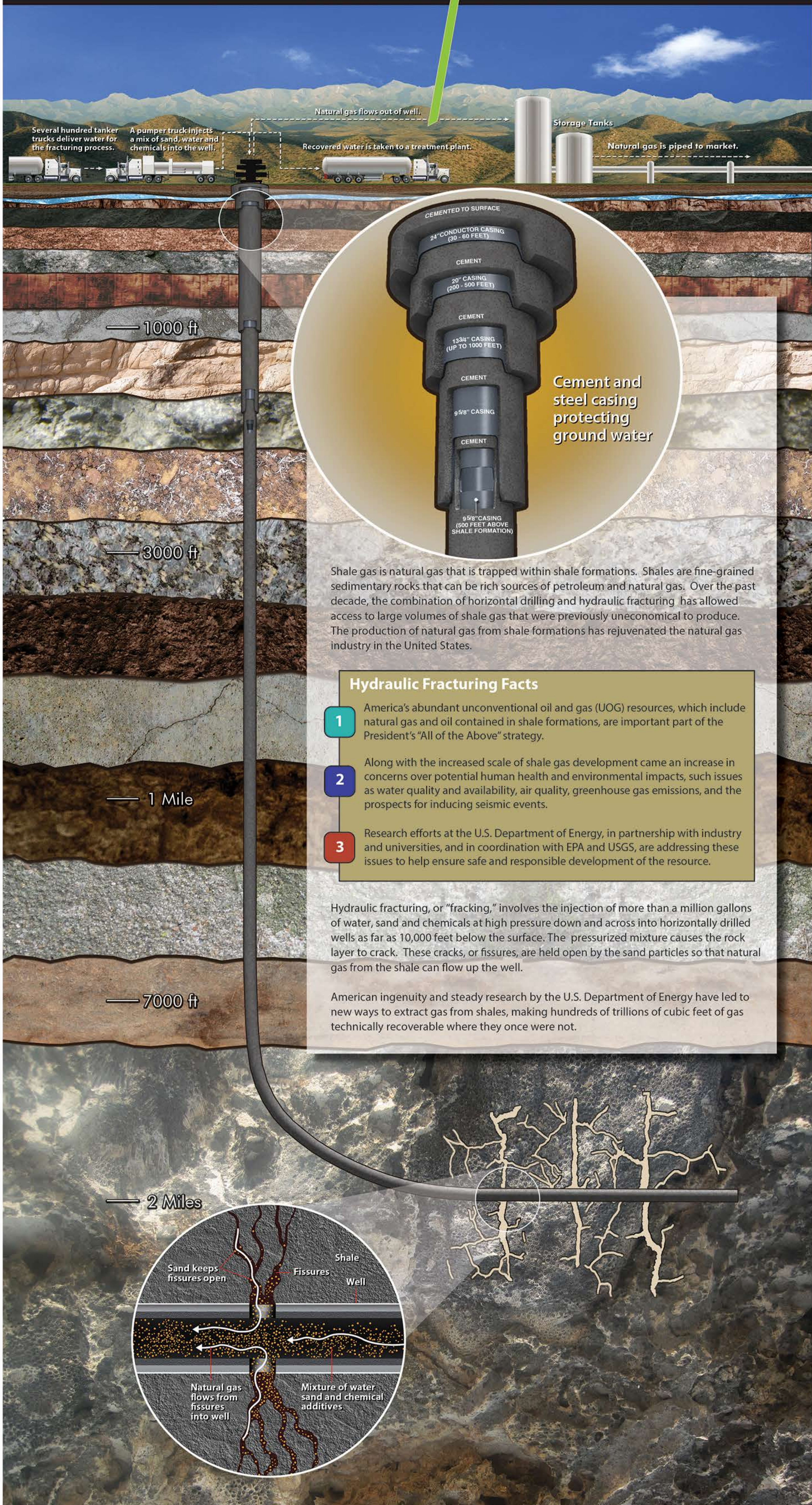


Shale gas and hydraulic fracturing *in depth*



Hydraulic Fracturing Facts

- 1 America's abundant unconventional oil and gas (UOG) resources, which include natural gas and oil contained in shale formations, are important part of the President's "All of the Above" strategy.
- 2 Along with the increased scale of shale gas development came an increase in concerns over potential human health and environmental impacts, such issues as water quality and availability, air quality, greenhouse gas emissions, and the prospects for inducing seismic events.
- 3 Research efforts at the U.S. Department of Energy, in partnership with industry and universities, and in coordination with EPA and USGS, are addressing these issues to help ensure safe and responsible development of the resource.

Hydraulic fracturing, or "fracking," involves the injection of more than a million gallons of water, sand and chemicals at high pressure down and across into horizontally drilled wells as far as 10,000 feet below the surface. The pressurized mixture causes the rock layer to crack. These cracks, or fissures, are held open by the sand particles so that natural gas from the shale can flow up the well.

American ingenuity and steady research by the U.S. Department of Energy have led to new ways to extract gas from shales, making hundreds of trillions of cubic feet of gas technically recoverable where they once were not.



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