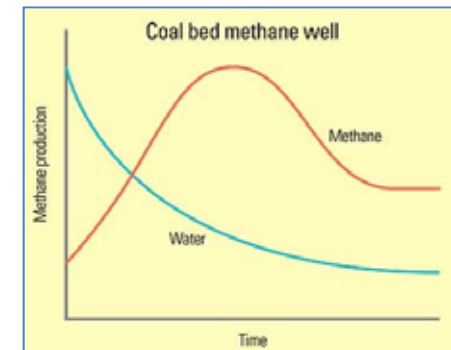
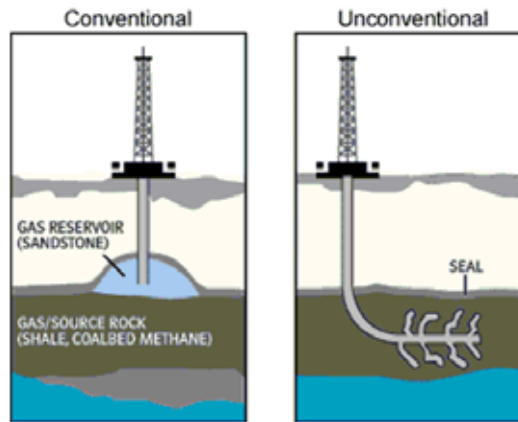
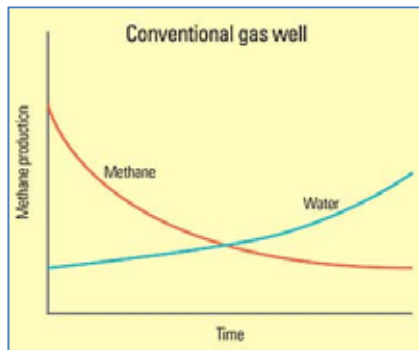


Drilling for Natural Gas 101: Making Sense of the Terms

Natural gas is methane (CH₄). It can be found at various depths and in different rock formations. The terms “conventional” and “unconventional” refer to the location of the gas and the techniques for extracting it. The Healy Basin Gas License permits exploration for both conventional and unconventional gas.



Conventional Gas

Conventional gas occurs in reservoirs that are permeable and relatively easy to access with wells. Often, conventional gas is located near or within oil reservoirs. Gas “flaring” at oil wells was common in the past because the buoyant gas would rise to the surface with oil extraction, and lacking a storage facility & financial incentive, operators would burn the gas off. Conventional gas has been the “low-hanging fruit,” but its reserves are diminishing.

Problems

Relative to more aggressive technologies increasingly being used to extract hard-to-reach unconventional gas, conventional gas seems less alarming. However, conventional gas extraction is not without problems. When accessing deep reservoirs of gas, large derricks and heavy “drilling muds” may be necessary to reach the gas. Because conventional gas drilling does not utilize horizontal drilling, more wells are needed to access a given reservoir. Also, conventional wells yield an increasing amount of “produced” water over time, creating an expanding need for safe disposal of the water as the well ages.

Unconventional or Non-Conventional Gas

The practice of hydraulic fracturing or “fracking” allows for the extraction of natural gas from nonporous rock formations that were previously difficult & uneconomical to exploit. Geologically, these formations include coal beds, shale, and tight sands, among others.

Problems

Fracking allows for horizontal drilling and therefore has the potential to diminish development footprints on the surface. On the other hand, the explosion of this technology and its use across North America is resulting in gas drilling in many places previously un-impacted by gas & oil development. In fracking for unconventional gas, large quantities of water are both needed for the drilling process and are produced along with the gas. Contaminated produced water and methane migration through newly fracked fissures are among the most notable problems associated with unconventional gas.

Shared Concerns

With both conventional and unconventional gas, there are concerns about methane’s impacts to air and water quality near wells. Additionally, both types of extraction come as a part of a development package complete with the introduction of wells, pipelines, buildings, roads, traffic and general industrialization.

As a result of decreasing conventional gas resources and because hydraulic fracturing increases the gas output from conventional sources as well, it is estimated that fracking is currently used in 90-95% of all gas wells.

Sources: Healy Basin Best Interest Finding (License is for both conventional and unconventional gas), http://www.ucsusa.org/clean_energy/technology_and_impacts/energy_technologies/how-natural-gas-works.html, <http://www.eon.com/en/businessareas/35289.jsp>, <http://business-ethics.com/2010/12/27/1726-understanding-the-controversy-over-fracking/>