

Oil Shale ~ Shale Oil ~ Shale Gas

Minerals that are (literally) miles apart

Oil shale today is being conflated with shale gas and shale oil, giving the false impression that oil shale is ready for prime time. This has led to inaccurate reporting and blogging, and has the potential to mislead investors, policy makers and Americans interested in real energy solutions.

OIL SHALE

“Oil shale” is a rock - there is no oil in oil shale. Instead, the shale rocks contain a waxy substance, kerogen, that when intensely heated liquefies to produce a precursor to crude oil. Despite 100 years of effort to develop oil shale, it has not been successfully produced in commercial quantities to date – it is currently still in the research and development stage. Most companies now researching oil shale extraction are looking into “in-situ” oil shale production, which is a process that would heat the rock in the ground and then extract the kerogen to the surface from production wells.

Oil shale reserves in the United States are concentrated in Colorado, Wyoming and Utah (<http://1.usa.gov/eQQ3KC>). Oil shale industry representatives have suggested that commercial development of oil shale could not occur for at least 10 to 15 years, if not much longer. The best available information reveals that commercial oil production from kerogen each year could consume up to 50 percent more water than the entire Denver Metro area consumes annually – a dangerous situation amid predictions of U.S. water shortages (<http://bit.ly/dgxAVe>).

For a comprehensive list of links, reports, maps and other oil shale information:
<http://www.westernresourceadvocates.org/land/wotreport/shalelinks.php>

SHALE GAS

Shale gas is natural gas that is trapped within shale formations. Drilling of those shale formations in Pennsylvania, Louisiana, Texas and other states has helped dramatically increase the nation’s domestic natural gas production, but has resulted in a massive glut of the fossil fuel and driven gas prices down. Shale gas is found in formations such as the Marcellus (<http://bit.ly/fD3uoa>) and Barnett (<http://bit.ly/dTwoQZ>), as well as several other smaller formations throughout the United States.

Energy companies access shale gas by drilling vertical wells. Once drillers hit their targeted depth, they turn the drill bit and bore a well that stretches through the natural gas reservoir horizontally. Drillers then use a process they call hydraulic fracturing to open up fissures or cracks in the underground formations to unlock the natural gas. They do that by blasting large quantities of water, sand and chemicals into the wells, which allows the natural gas to flow back to the surface.

SHALE OIL

For years, oil and gas companies have known liquid oil is locked up in shale formations underlying Montana, North Dakota and a region of land stretching across Wyoming, Colorado, Nebraska and Kansas. Using techniques used in natural gas drilling, companies are now able to recover the liquid oil.

Like in shale gas drilling, oil and gas companies drill deep far below the surface and then turn their drill bits to create horizontal wells. Once completed, the companies blast water, sand and chemicals at a high pressure into the wells that opens up fissures in the shale formations and allows oil to be pumped to the surface. Shale oil is found in the Bakken formation (<http://bit.ly/e4ilxy>) that spreads across eastern Montana and western North Dakota and the Niobrara formation (<http://bit.ly/f0tLbw>), that stretches across southeast Wyoming, northeast Colorado and western Kansas and Nebraska.