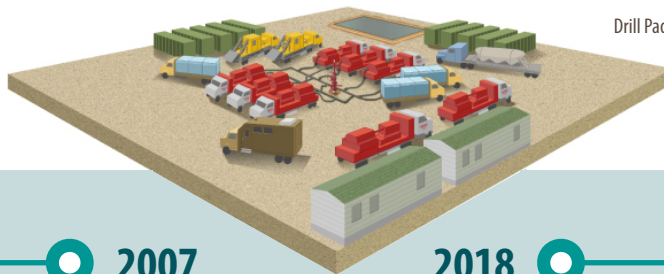


Unconventional Gas

What is Unconventional Gas?

Natural gas is formed over millions of years by the combination of pressure and heat on organic material trapped in shale-type rock. After natural gas is formed, the earth's pressure and differences in fluid densities slowly migrates the gas into more porous formations, accumulating in trapped pools. Gas extracted from the source shale and tight rock formations without the porous texture necessary to allow movement is referred to as unconventional gas.



Drill Pad Site Example

Why Use Hydraulic Fracturing?

Production of unconventional gas requires a stimulation technique called hydraulic fracturing. Commonly called "fracking," it transmits pressure by fluid to create cracks or open existing cracks in deep geological formations to allow natural gas to flow into the wellbore. Hydraulic fracturing stimulation provides economic productivity from unconventional reservoirs.

2007

- 85% of wells targeted conventional gas
- Wells were primarily vertical
- Single-well pads increased surface disturbance
- Difficult to predict location of wells
- Reserve life was highly variable
- H₂S (sour) gas present in many sources
- Conventional resources were declining
- Development predictability was low

2018

- 98% of producing wells are hydraulically fractured
- Horizontal drilling technology used
- Multi-well pads mean lower total surface disturbance
- Flexibility in site location
- Longer reserve life of 20+ years
- Low H₂S (sour) gas in most shales decreasing public safety risk
- Increased provincial production, focus on exporting
- Development predictability is focused for better environmental outcomes

What is Important to Know About Unconventional Gas Operations?

- ✓ Extracting natural gas from unconventional formations is fundamentally different in method, size, and scale than from conventional formations.
- ✓ Surface impact is lessened by drilling more than one well directionally from a single surface location (wellpad).
- ✓ Unconventional development patterns tend to be more predictable, which presents the opportunity to achieve better environmental and social outcomes through more comprehensive, area-based analysis and planning.
- ✓ Horizontal and directional drilling can open up long sections of reservoir to move the natural gas from these larger areas.
- ✓ Stimulation of shale and tight gas formations is key to developing these resources by opening up the pore spaces through fracturing and advanced drilling techniques.



For Further Information

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