

Hydraulic Fracturing



What is hydraulic fracturing?

Hydraulic fracturing – also referred to as ‘fracking’ or ‘fracking’ – is a well completion technology and is used to increase the flow of oil and gas to a well, increasing production and reducing the total number of wells needed to develop a resource. It allows commercialisation of low permeability reservoirs in which oil and gas do not easily flow.



The process

Hydraulic fracturing involves pumping a fluid down the well at high pressure to open tiny cracks in the target rock reservoir. This **fluid contains ‘proppants’, primarily sand and water**, which is used to hold the fissures open and improve the flow of gas or oil.

Most fluid contains **less than 1% of chemical additives** to make the technique more efficient. The **chemical additives are not unique to the oil and gas industry and are found in many household products**, such as toothpaste, baked goods, ice cream, food additives, detergents and soap.

While the proppants remain behind in the rock formation, most of the injected fluid either breaks down into harmless materials (such as starch or water) or is removed and carefully collected at the surface.



Has fracking for oil and gas occurred in Australia?

Yes. In fact, **in Australia hydraulic fracturing can be traced back over 60 years** where it was used in the production of energy resources, including oil and natural gas.

In Western Australia, regulated petroleum activities have been occurring in the state for the past 60 years without compromising health, safety or the environment. During that period, [nearly 780 hydraulic fracture stimulation activities have been conducted](#) without major incident.

The practice has also [taken place in Queensland](#) for use during some coal seam gas operations, with around around 400 wells safely hydraulically fractured.



Is fracking safe?

Yes – and here’s what some of the experts had to say about developing resources which require the use of hydraulic fracturing:

“...having considered the latest and best-available scientific data from a wide range of sources, and noting the recent and continuing technological improvements in the extraction of onshore shale gas, the conclusion of this Inquiry is that the challenges and risks associated with any onshore shale gas industry in the NT can be appropriately managed.” – Summary of the Final Report, Scientific Inquiry into Hydraulic Fracturing in the Northern Territory (April 2018)

Dr Alan Finkel, Australia’s former Chief Scientist, told the ABC’s Lateline in 2015 that: *“...there is a lot of evidence that fracking is safe.”* *“That it’s being used widely already in the coal seam gas fields, particularly in Queensland. It’s being used widely across America. The evidence is not there that it’s dangerous. In fact, the evidence is that, if properly regulated, it’s completely safe.”*

This view has been reinforced in WA after its own **independent scientific inquiry concluded the risks were low**.

Premier Mark McGowan [stated](#): *“Banning fracking on existing petroleum titles after the scientific inquiry found the risk of fracking is low, would undermine Western Australia’s reputation as a safe place to invest and do business.”*



Will hydraulic fracturing impact aquifers?

The likelihood of that occurring is negligible. Here’s some commentary from the experts:

“Because of the large vertical separation between the hydraulic fracturing and the groundwater, the risk of contamination during fracture stimulation treatments is low.” – Engineering Energy: Unconventional Gas Production, A study of shale gas in Australia, ACOLA (May 2013)

“If standards of well construction are complied with, the risk of contamination of shallow fresh water aquifers is low” – Independent Scientific Panel Inquiry into Hydraulic Fracture Stimulation in Western Australia 2018

“Hydraulic fracturing chemicals were not detected in water samples taken from nearby groundwater bores, soil samples from sites adjacent to operational wells, or in water samples from a nearby creek.” – Air, Water and Soil Impacts of Hydraulic Fracturing in the Surat Basin, Queensland, CSIRO’s Gas Industry Social and Environmental Research Alliance (April 2020)

