**From:** David King
**To:** fracking inquiry
**Subject:** Submission
**Date:** Friday, 28 April 2017 8:49:52 PM

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Dear Panel
I refer to the current "fracking inquiry" - noting that in the long standing oil and gas industry, before the agenda was stolen by other interest groups, fracking was always spelled as fraccing - being an abbreviation of fracture stimulation.

I have a PhD in seismology from the Australian National University, so believe I am well qualified to opine on the science behind fracking (sic) - seismologists well understand the concepts of stress and strain, and the mechanical properties of subsurface rocks.

Fracture Stimulation is used to generate a well controlled (both vertically and horizontally) simple fracture in a subsurface formation which has such a poor permeability that fluids will not flow from it. It has no effect on aquifers (formations through which there is a water flow) - indeed, if aquifers were in the vicinity of a fracture stimulation, there would be no need to fracture stimulate (at significant expense).

Earthquakes occur when there is an accumulation of strain energy in the subsurface, and the fracture gradient of the host formations is exceeded. Fracking cannot be responsible for accumulations of material strain energy, and so is fundamentally not responsible for earthquakes.

Fracking is a well established, well understood technique to stimulate oil and gas production in "tight" (low permeability) subsurface formations. Over a million we'll have been fracture stimulated in North America with no adverse effects to water table, environment and damaging seismicity.

Yours faithfully

Dr David King

Sent from my iPad