

BBC Radio 4
Call You and Yours
with Winifred Robinson

Broadcast live on Tuesday 29 July 2014, 12:00 for one hour

[Partial transcript by David Smythe, 12 August 2014; timings in minutes:seconds]

42:46 Prof Ernie Rutter (ER): Well first of all, I am a geologist and I do know something about fracturing of rocks, and since hydraulic fracturing of rocks started in 1947 there have been two and a half million fracking operations carried out on this planet, but more than one hundred thousand of those have been in connection with the exploitation of shale gas mostly in the United States. Now, it's not true to say that we don't know where these cracks go, they are monitored as they grow, a typical fracked well will involve say twenty hydraulic fractures being induced; these run about 30 m high and they propagate laterally, if you're lucky two or three hundred metres each way. So they are like big butterfly wings extending away from the borehole, all this at about three kilometres depth beneath the surface.

43:33 ER: Now these fractures are so-called opening-mode fractures; they are simply prised open by the fluid. They make a small amount of noise, and this is how we track them from the surface, by listening to the little noises they make as they go so we do know where they grow. It's very very difficult to persuade fluids to induce tremors in connection with fracking a well. It's very hard to persuade fluids to go into a differently oriented pre-existing, hydraulically conductive crack in such a way that it can generate slippage which would cause an earthquake. In all those hundred thousand plus fracking operations that have been employed in the past fifteen years or so, I only know three instances where properly documented occurrences of small tremors have occurred.

44:29 WR: One of them on the Fylde.

44:31 ER: Exactly.

44:33 WR: And so you distinguish then between a small tremor and what you believe people are really worried about ...[interrupted by ER]

44:37 ER: ... the kinds of tremors we are talking about are the same sort of size of tremors really quite small, like a truck driving along outside, that the people who live in the English Midlands have lived with in connection with coal mining induced tremors for a hundred and fifty years. There is not really any significant cause for concern at all.

44:55 WR: Professor Rutter, thank-you for that.

...[4 minutes omitted]

50:13 WR: ...The question I asked the audience right at the start; would you welcome fracking near where you live? - Professor Rutter?

50:20 ER: Oh yes, very much so. Simply that.

50:24 WR: Why?

50:25 ER: I believe that that the country comes first, and as Francis* has pointed out, it is very important that the principal beneficiary, UK PLC, should receive the benefit from development of a shale gas industry, so how can I possibly object to having fracking activity at the bottom of my garden?

* Francis Egan, CEO of Cuadrilla Resources, was the other expert interviewed on the programme.