

Critical comments on unconventional exploration by fracking in the UK and Europe

Fancy a quick frack ?- then Nick Grealy is your man

4

Posted on 6th January 2015 by [Professor David Smythe](#)

It has been drawn to my attention that Mr **Nick Grealy**, self-styled *ShaleGasExpert* on Twitter, consultant and shale missionary, has called me a *fake expert* in a blog dated 17 December 2014. I have left it to my good friend Andy Skuce to respond to this smear, which he does in the [first](#) of several posts he is writing about the UK shale business. Andy has over 30 years in the hydrocarbon industry, and was formerly a Vice President of [Encana Corporation](#). Turning his skills to climate change from a geologist's perspective, he was recently a co-author of the famous '[97% consensus](#)' paper, proving that there is a robust scientific consensus on anthropogenic global warming.

What is of greater interest than smear, the act of a *desperado*, is that Grealy has created a company, **London Local Energy Limited** (LLE) to apply for three onshore hydrocarbon prospecting licences in the UK. I have written to **Ms Toni Harvey**, head of onshore licensing at the Department of Energy and Climate Change (DECC), to clarify his and LLE's credentials. Here is a copy of the letter, to which I have added extra comments ([blue](#)), links ([red](#)) and diagrams (click to enlarge).

Dear Toni

It has been widely reported in the [press](#) that London Local Energy Limited (LLE) has applied for three 14th onshore round blocks on offer within the M25; TQ18, TQ28 in NW London, and TQ26 in Merton and Sutton (Fig. 1). I am writing to provide you with some background information for your determination of this application.

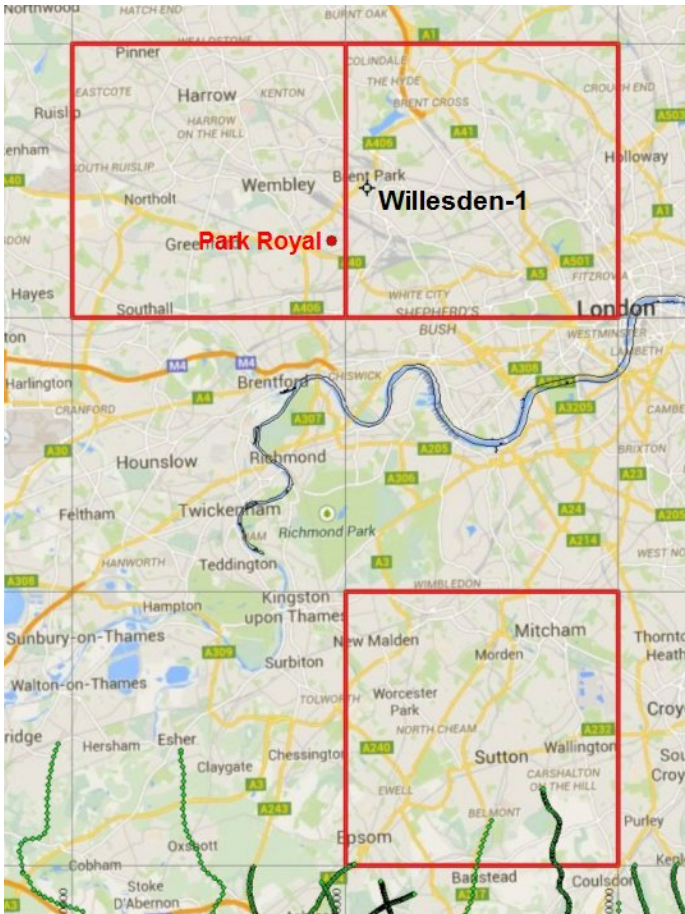


Fig. 1. The three licence blocks (red) applied for by LLE.

As you know, I am critical of the government's encouragement of unconventional exploration in the onshore UK, on grounds of complex geology and likelihood of groundwater contamination. I am also critical of the current regulatory system, although I have always maintained that the DECC system for awarding licences is robust and sound. You and I met across the licence award interview table in 2008, when I was representing a company applying for onshore southern England blocks. On that occasion you may remember that I remarked that I was probably the only person who had ever sat on both sides of the DECC licence application interview table – not at the same time, of course – the other occasion being when I sat beside your predecessors John Brooks and Jim Aitken to interview BP, about twenty-five years earlier. I never worked for the Department of Energy, as it then was, but for the British Geological Survey. John Brooks asked me to help interview BP, which was applying for blocks in the Rockall frontier region, an area in which I had internationally recognised expertise.

The DECC licence award criteria, as I remember them, take into account whether the applicant (or the partnership as a whole) can demonstrate (inter alia):

- (1) The **necessary experience** and skills to operate the licence,
- (2) A viable **work programme** in place, with identified prospects, and
- (3) **Sufficient funding** in a UK account to carry out the proposed work.

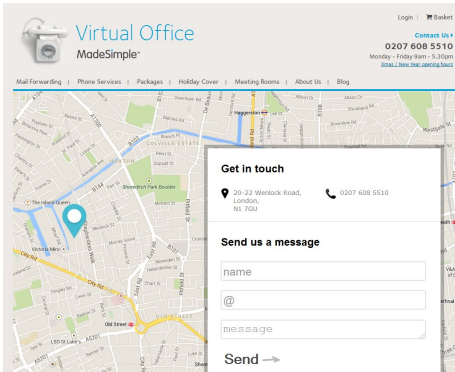


Fig. 2. The accommodation address for LLE.

Regarding LLE's current application, I should like to point out that the company was incorporated on 13 October 2014, that is, some two weeks before the closing date for the 14th round applications. LLE's director is Mr Nick Grealy, a journalist and shale gas commentator with no professional experience in hydrocarbon exploration, nor indeed in any other branch of earth science or engineering. LLE's listed address is 20/22 Wenlock Road, London N1 7GU. This is actually the address of London Presence – “one of the leading virtual office providers in London, UK providing mail forwarding, phone answering, mail forwarding address and fax ...” (see Fig. 2). The LLE website comprises a single public page with the message “We're busy, come back soon”. This hardly inspires confidence that we have a serious industry player in LLE, does it?

Mr Grealy may, of course, have assembled both a legally binding partnership and the necessary funding (all within two weeks of his company being incorporated!), so that another, more experienced, company will be designated as operator, and not LLE. If that is the case, I shall be interested to learn how the partnership, if indeed there is one, has managed to devise a viable work programme, given that:

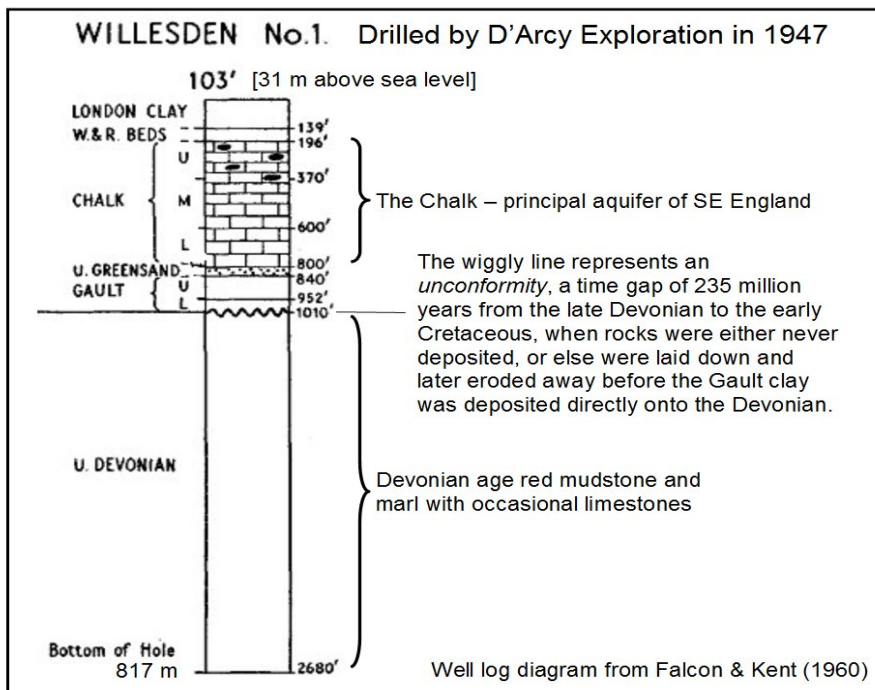


Fig. 3. The only exploration well in the three blocks, drilled in 1947.

(1) There is **only one well** in the three blocks totalling 300 sq km in area – Willesden-1, drilled by D'Arcy Exploration (renamed BP in 1954) in 1947 (Fig. 3), approximately in the centre of the TQ18/28 pair of blocks, and

(2) **There are no seismic data**, apart from a total of 4.7 km of old 2D at the southern margin of TQ24, comprising two tail-ends extending northwards from the better-explored area of Banstead and Chipstead to the south, into Belmont and south Wallington.

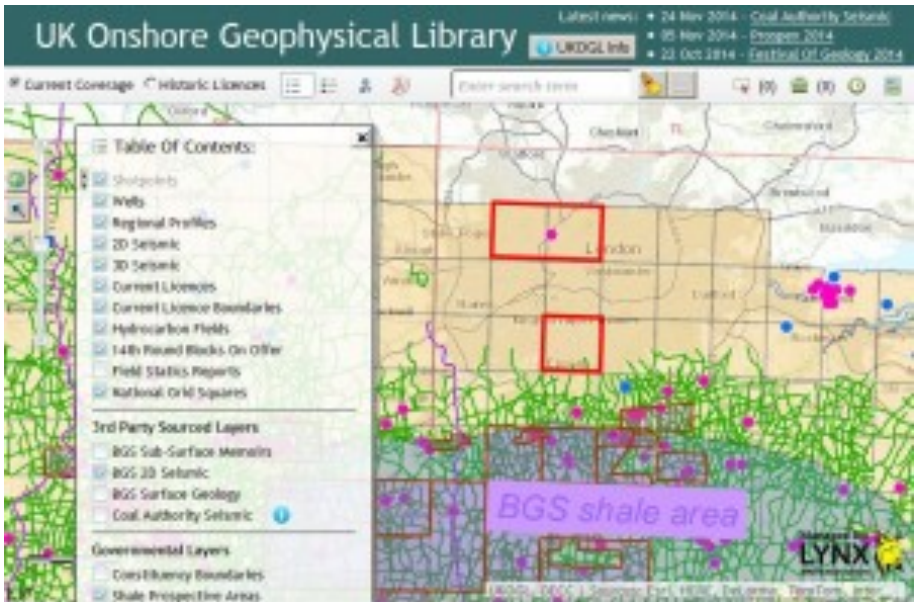


Fig. 4 . All the available seismic data (green wiggly lines) and wells (red and blue dots) around the LLE blocks.

Figure 4 shows the blocks currently offered by DECC (buff) with the three blocks applied for by LLE in red. The [UK Onshore Geophysical Library](http://www.ukonshoregeophysical.org) is the publicly available repository of all released seismic data. Anyone wishing to explore in the UK would normally buy and study the seismic and well data for the area of interest, before applying for a licence.

The D'Arcy well was drilled on the basis of oil and gas shows in an existing water well (an interesting example of natural contamination of the groundwater), and apparently found gas. The well proved some 500 m of Upper Devonian mudstones and limestones. Perhaps LLE thinks that this tight formation is the source of the gas; if so, and if LLE proposes to produce gas from this formation, then I shall be intrigued to learn how it plans to protect the 200 m or so of Chalk above from contamination – as you well know, the south-east's principal aquifer.

So to map out the subsurface with 2D seismic in its seismically virgin blocks LLE should be offering (let's say) an absolute minimum of 50 km of 2D per block, before locating drill sites. This comes to around £1.5M for seismic acquisition; not much for a realistic bid, but in fact quite a logistical and technical challenge to shoot and interpret within a time frame of, say, two years, leaving enough time over for the follow-on exploratory wells. My estimates are based upon an absolute minimum feasible survey comprising four parallel lines spaced roughly 2 km apart, linked by one line at right-angles, for each block, at a cost of £10K/km. Presumably LLE is committing to drill at least one vertical exploratory well per block, following the examples of Cuadrilla and Celtique in the Weald. So I presume that LLE's consortium must be committing to the order of £10M of work; but, more important than the

cash, that it also has the experience and skills to carry out the technical work.

The DECC award system is based largely on how much 'work' will be carried out; essentially, this is how much money the applicant is prepared to spend. If one gambles that a block has no competing applicants one might obtain the licence with a minimal bid: buying all the old seismic, reprocessing it to bring it up to modern standards, and committing to shoot (jargon for 'acquire', from the days when most seismic was done by firing dynamite in shot-holes to create the seismic energy), say, 20 km of new seismic. There also has to be some commitment to drill exploration wells, once suitable locations have been found on the basis of the underground knowledge gained from the seismic data.

There are no existing seismic data in the blocks, so LLE will have to acquire new seismic. Grealy's blog shows a pretty [colour map](#) of the 'residual gravity anomaly' of the London area. This will have been compiled from the freely downloadable gravity readings of the British Geological Survey, processed to remove something or other (hence the word residual) and contoured; a couple of days work for an expert. This map might be handy as an adjunct to geological structure maps made from seismic data, but on its own it is useless. Perhaps Mr Grealy's experts ("We have geologists, geophysicists and geochemists on our team."), probably consulting on a daily or hourly rate (i.e. on a zero-hours contract), are fooling him into thinking he has a valuable dataset here – enough to plan a multi-million pound drilling campaign. But I don't think DECC will be fooled.

These figures assume that there would be no unconventional drilling, but perhaps Mr Grealy, to judge by his press statements, intends to move straight to extended-reach fracked laterals from a single pad. The pad is to be sited in the Park Royal Industrial Estate some 2-3 km SW of the vintage Willesden-1 exploratory well. So it would appear that LLE does not seem to need a prior structural model before drilling – quite an innovation, in my view.

But perhaps the speedy creation of LLE, together with the ensuing licence application that you have to consider, is just a publicity stunt, and there is no serious exploration intent behind it at all. If this is this case, then Mr Grealy would appear to be making a mockery of the DECC licensing system.

Perhaps Mr Grealy is serious in managing to convince gullible investors to part with their money, because he will be able to pay himself a generous 'compensation package' while this venture lasts. A quick google of major US shale players like Chesapeake Energy or Range Resources will demonstrate that the CEOs are continuing to pay themselves handsomely even though their companies have always been in debt, and their share price is now going down the pan. Mr Grealy can play around with other people's money if he wishes, but his LLE is evidently a cowboy outfit, and should never be permitted to drill. The risk of polluting the Chalk aquifer, the main underground drinking water resource of SE England (see Fig. 3 above), is too great.

Whatever the truth behind LLE, I look forward to the results of your assessment of this application, and will be intrigued to see whether or not LLE features in the 14th Round Awards List.

With best wishes for 2015,

Yours sincerely

David Smythe

Mr Grealy states, in his blog post entitled [We'll surprise you](#) that “A key failure of UK shale gas has been the interminable delay in accessing geological data via exploration in an expeditious way.” So why not just bypass all that bureaucratic red tape and annoyingly expensive geophysical data (he implies), slowly acquired and painstakingly processed and interpreted? – we can **quickly start drilling and fracking** by just putting our minds to it. This “counterintuitive” thinking (if it can be called thinking) does indeed surprise us.

Addendum 10 January 2015

Yesterday I received the following self-explanatory reply from Ms Harvey at DECC:

Dear Dr Smythe,

Thank you for your letter on the reports of an application by London Local Energy in the 14th Round. You will understand that we cannot comment at this stage on the applications which have been made in the Round, but we have read your letter with interest.

Regards

Toni



Department
of Energy &
Climate Change

Antoinette Harvey
Sr Geoscientist, Licensing Exploration and Development
Area 3B, 3 Whitehall Place, LONDON, SW1A 2AW
E: toni.harvey@decc.gsi.gov.uk
T: 0300 068 6037
M: 07823 535222

Categories: [Uncategorised](#)




[Professor David Smythe](#)

I am Emeritus Professor of Geophysics in the University of Glasgow (a courtesy title). I retired from the University in 1998 and live in France, where I continue my research in geology and geophysics.

[View all posts by Professor David Smythe](#) →

Response to Fancy a quick frack ?- then Nick Grealy is your man

1. Pingback: [Fracking 1: Spot the Charlatan | Critical Angle](#)

2.  [SadButMadLad 17th January 2015 at 8:23 am](#)
[Reply ↓](#)

You sure you want to use Andy's paper as confirmation of his expertise? It has been wildly debunked as very poor science.

<http://www.wsj.com/articles/SB10001424052702303480304579578462813553136>
"Mr. Cook's work was quickly debunked. In Science and Education in August 2013, for example, David R. Legates (a professor of geography at the University of Delaware and former director of its Center for Climatic Research) and three coauthors reviewed the same papers as did Mr. Cook and found "only 41 papers—0.3 percent of all 11,944 abstracts or 1.0 percent of the 4,014 expressing an opinion, and not 97.1 percent—had been found to endorse" the claim that human activity is causing most of the current warming. Elsewhere, climate scientists including Craig Idso, Nicola Scafetta, Nir J. Shaviv and Nils- Axel Morner, whose research questions the alleged consensus, protested that Mr. Cook ignored or misrepresented their work."



- o [Professor David Smythe](#) Post author [17th January 2015 at 11:08 am](#)
[Reply ↓](#)


So, Mr SadButMadLad, you quote an editorial in the right-wing Murdoch-owned *Wall Street Journal* to criticise anthropogenic global warming. That newspaper article has been dissected by the [practising climate scientists](#):

"The Wall Street Journal editorial was written by Joseph Bast, president of the [Heartland Institute](#) political advocacy group of [Unabomber billboard](#) infamy, and Roy Spencer of "[global warming Nazis](#)" infamy. Spencer previously claimed in testimony to US Congress to be part of the 97% consensus, although his research actually falls within the less than 3% fringe minority of papers that minimize or reject the human influence on global warming."

You should read the rest of this article carefully. In short, the [97% consensus](#) is corroborated by various different methods of statistical analysis. It is a robust result, however you look at it.

I prefer to rely on the work of expert climate scientists like the authors of the 97% paper, rather than get my opinions from the Murdoch press. I feel sorry for you. Your phrase "*wildly debunked*" is unintentionally accurate, by the way. Did you really mean 'widely'?

Why did you not stick to the subject of the post: Mr Grealy and the ludicrous London Local Energy? Since I wrote my blog Andy Skuce has published a second [blog about Grealy](#), showing that Grealy misinterprets climate scientists as supporting natural gas development.

3.  *Sue Jameson* [16th February 2015 at 10:42 am](#)
[Reply ↓](#)

Have just caught up with your blog and website. It's fantastic and very cheering – the media here are still pathetic and they miss/avoid endless opportunities to tell people what it would really be like if fracking got going. (I'm still determindly regarding it as a hideous extended Grimm's Fairy Tale!) No mention of the realities of it all. The BBC is worried about the Charter of course, so we only get people who sound fanatical or NIMBY. And there's never any scientific debate. So keep up the good work. We're working towards our PI in Sept.