



# SPECIAL EARTHQUAKE EDITION

from

## A VOICE FOR LEITH HILL

A local non-political group created to protect our beautiful countryside from oil exploration:

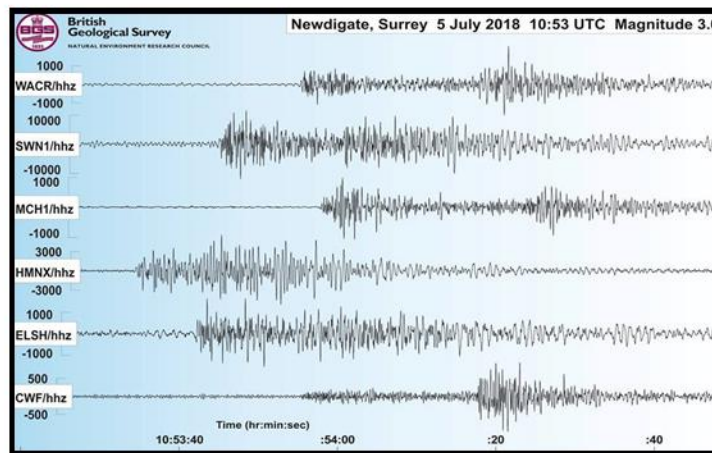
[www.voiceforleithhill.co.uk](http://www.voiceforleithhill.co.uk)



### SERIES OF EARTHQUAKES HITS SURREY & SUSSEX

At 11.53 on Thursday July 5th Surrey experienced the largest of eight earthquakes. At 3.1 on the Richter Scale it caused houses to shake, windows & doors to rattle and bottles to fall off shelves. It was felt in a wide area of the Weald, from Crawley to Reigate & Dorking. The series started on April 1st with three quakes: the first measured 2.7 on the Richter Scale and was rapidly followed by two smaller tremors. On 28th April a minor tremor of 1.7 was noted then all went quiet for two months.

The most recent quakes began on 27th June with a tremor of 2.6 magnitude, followed by another on the 29th—this time of 2.4— then the one on 5th July. The latest was on the 10th.



There are striking similarities between them. All seem to centre around Newdigate; all are supposedly around 5k deep and near the 51 degree line of latitude.

However it's impossible to be more precise. With the nearest seismology station at Hurstmonceaux, Sussex, the nation's earthquake monitoring agency the British Geological Survey stated: 'the errors in our location estimates are several kilometres'. They have also said that it is impossible to accurately estimate the 'quake's depth. Clearly the margins are large. Indeed there are three possible epicentres for the April 1st 'quakes, as pointed out by eminent geologist Professor David Smythe.

The BGS also state: 'We are unable to say categorically if these earthquakes are related to hydrocarbon exploration or production in the Weald, mainly because of the uncertainties in our estimates of the earthquake epicentres and depths... '.

The BGS have moved fast to remove this uncertainty and have established two new monitoring stations in the Weald so that any further 'quakes can be monitored accurately. One is at Russ Hill near Charlwood, the other close to the Horse Hill drilling site. Find out more on <https://drillordrop.com/earthquake-monitors-installed-in-surrey-welcomed-by-campaigners/>

### THE RICHTER SCALE

Invented In 1934 by Californian Charles Richter, the scale is a universally recognised measure of earthquake intensity. On a scale of 10, 8+ is counted as major, 3 is slight. However, it's more complex than that; it's based on a logarithmic scale and an earthquake that measures 3 is 10 times more powerful than one measuring 2. And 32x more energy is released.

Website: [www.voiceforleithhill.co.uk](http://www.voiceforleithhill.co.uk) / Email: [info@voiceforleithhill.co.uk](mailto:info@voiceforleithhill.co.uk) / Facebook A Voice for Leith Hill

## WHAT'S GOING ON?

Historically the Weald is one of the most geologically stable areas in the UK, hence the sparse distribution of seismological monitoring stations. Dorking's last earthquake was in 1551; Lewes shook with a 3.2 'quake in 1975 and three minor tremors (1.4, 1.5, 2.1) happened near Billingshurst in 2005.

### **WHY DO WE HAVE THIS SUDDEN CLUSTER OF NOTICEABLE EARTH MOVEMENTS IN THE SAME AREA? What has changed geologically in the last few years?**

'A Voice for Leith Hill' will naturally look towards local oil-drilling sites and their recent actions. Horse Hill, near Gatwick, is around 4km away from the estimated epicentre at Newdigate. In a Regulatory News Statement on 27th Jun, drilling company UKOG (United Kingdom Oil & Gas) announced that 'the planned flow testing operations of HH-1 have commenced'. However, the Oil and Gas Authority (OGA) informed the Geological Survey on 28th June that drilling had not yet started.

Another cause for concern is Brockham, around 8km from the epicentre. Operators Angus Energy fell foul of planning regs and are currently seeking retrospective planning permission for a side-track drilled in January 2017 (see Private Eye: 20 March 2018). They are extracting oil from another well on the site and have been re-injecting water for several years. Underground pressures do not build up immediately—they often take years to develop so we also need to look at what has happened locally over several years.

**Well integrity** is another issue. Underground movements could well cause wells to rupture, leaking their chemical contents into the strata.

## THE WIDER PICTURE

The British Geological Survey says: 'In an average year we detect about 100 earthquakes around Britain. About 20% of these are felt by people.' Working from this, it appears that around 20 earthquakes a year are noticeable; we have felt four in the space of as many months.

Two earthquakes near Blackpool in early 2011 led to severe restrictions on fracking in the area. The earthquakes were of 2.3 and 1.5 magnitude, significantly slighter than many experienced in Surrey. Yet the drill pipe at nearby Preese Hall well was crushed (ovalised) the well was abandoned and a moratorium imposed while further investigation was carried out. Oil company Cuadrilla had to commission an independent report which pointed to fracking as the probable cause.

### **Green Party MEP Keith Taylor says:**

"I wholeheartedly support calls for the British Geological Survey to further investigate this activity and would add that it seems only sensible to put a moratorium on any oil and gas activity in the region until the results of the investigation are clear. The oil & gas industry must surely agree that any connection between onshore oil and gas drilling in Surrey and Sussex and the recent spate of earthquakes can only be confirmed or dismissed after it has been independently investigated."

### **A VOICE FOR LEITH HILL IS CALLING FOR:**

- A) A full, immediate and independent enquiry into the causes of recent earthquakes.
- B) Immediate inspections of all existing wells in the area to ensure that they remain intact.
- C) A moratorium on Weald exploration for fossil fuels, flow testing and water injection until the results of the enquiry are received.

### **PLEASE JOIN OUR CAMPAIGN BY:**

- A) **Finding out more:** consult 'Drill or Drop' <https://drillordrop.com/earthquakes>: the **British Geological Survey** [www.bgs.ac.uk](http://www.bgs.ac.uk) : the 'A Voice for Leith Hill' **webpage** [www.voiceforleithhill.co.uk](http://www.voiceforleithhill.co.uk) or their Facebook page. You can also sign up for regular updates.
- B) **Writing to your MP, local and Surrey Councillors.** The **Environment Agency** [www.gov.uk/.../organisations/environment-agency](http://www.gov.uk/.../organisations/environment-agency), the **Geological Survey**. **Find your local councillor:** <https://mycouncil.surreycc.gov.uk/mgFindMember.aspx> **Find Your MP:** <https://www.theyworkforyou.com/mps/>
- C) **Contacting us or coming to** our relaxed, informal and friendly

**Earthquake Special SOCIAL GATHERING Friday 27th July, 8pm, Lincoln Arms Dorking RH41TF.**