



20 August 2019

## **Fracking Resumes at Preston New Road**

- **Cuadrilla announces resumption of fracking operations**
- **Natural Gas flow results expected early 2020**
- **U.K. Government sets out position on shale gas exploration**

As reported in the media release from Cuadrilla Resources [attached], the Company has resumed hydraulic fracturing [HF] operations on its second well at the Preston New Road Exploration site ("the Site") in Lancashire, United Kingdom.

Cuadrilla has advised that 4 successful frac stages had been completed by the end of Monday 19<sup>th</sup> August. These were all completed as per design with 30 tonnes of sand injected into the Shale in Stage 1 and 50 tonnes of sand in each of stages 2 through 4. There were no breaches of the 0.5 "red light" limit on the micro-seismic Traffic Light System in any of the stages.

Cuadrilla intends to continue the HF program of the balance of the 45 stages of the PNR 2 well with a view to flow-testing this well at the conclusion of the HF phase. As reported by Cuadrilla in their attached release, they will periodically update but will not be releasing day to day updates on operations during the HF phase.

Concurrently, the United Kingdom Government has made an announcement concerning its position on shale gas exploration. The U.K. Government notes the potential benefits local shale gas could deliver, including its role as an important new domestic energy source reducing the level of gas imported, and the Oil and Gas Authority [Government authority responsible for monitoring this industry] is undertaking a scientific assessment of industry data which the Government will consider once completed.

The full U.K. Government announcement setting out its position on shale gas exploration can be accessed at <https://www.gov.uk/government/news/government-sets-out-position-on-shale-gas-exploration>.

### **AJ Lucas Chairman Phil Arnall said:**

"We welcome the news from Cuadrilla relating to their resumption of fracturing operations and are encouraged by the early results that indicate a positive outcome from lessons learnt from the PNR 1Z result. We look forward to the results of flow testing gas from the 2<sup>nd</sup> horizontal well at the site once the HF stage is complete.

"As a significant investor in this venture it is encouraging that there is a significant positive indication from the U.K. Government relating to the vital importance of a domestic source of natural gas and the important role that UK shale gas can play. We welcome the scientific assessment of recent industry data being undertaken. We believe the industry data will justify a review of the current uniquely low micro-seismic limits under the Traffic Light System which requires fracturing operations to pause for 18 hours if micro seismicity exceeds just 0.5ML on the Richter Scale.

I encourage existing and potential investors in our company to read the two releases referred to above."

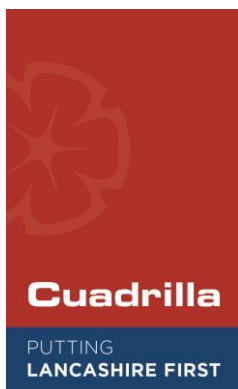


Cuadrilla, as operator of the Bowland licence which encompasses the Site, has announced that it plans to fracture up to 45 stages of the second horizontal well (“PNR2”) by the end of November 2019 and subsequently test the flow of gas. This follows the fracturing and flow testing of the first horizontal well (“PNR1z”) at the site, the results of which were announced on 7 February 2019.

**For further information, please contact:**

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**FOR IMMEDIATE RELEASE, August 15, 2019**

## **CUADRILLA CONFIRMS RESUMPTION OF FRACKING AT PRESTON NEW ROAD**

Leading onshore shale gas exploration operator Cuadrilla today confirmed it has resumed hydraulic fracturing operations at its flagship Lancashire site in Preston New Road.

The company announced that it would return to operations last month and has secured all the required permits and permissions to fracture up to 45 stages on its second horizontal well at the site.

The work will be completed by the end of November and followed by flow testing of the well, with gas flow results expected early in 2020.

Laura Hughes, Projects and Operations Director at Cuadrilla, said: “I am delighted to have resumed fracturing our second horizontal well and we look forward to sharing the results once flow testing is completed.

“As we have often said Preston New Road is one of the most monitored oil and gas sites anywhere in the world. We have proven it is a well-run, entirely safe and environmentally responsible operation. We also know there is a reservoir of recoverable high quality natural gas beneath our feet that the UK needs if we are to reach Net Zero by 2050.

“The UK onshore shale exploration industry as a whole remains excited about the prospect of the Bowland Shale formation – estimated by the British Geologic Survey to contain some 1,300 trillion cubic feet of natural gas.”

Laura confirmed that hydraulic fracturing would operate in line with the seismic traffic light system regulated by the Oil and Gas Authority.

She added: “We have unique experience and expertise of hydraulic fracturing in the UK from operations on our first well at Preston New Road. Whilst there may well be low levels of induced seismicity, local people should be reassured that any resulting ground motion will be far below anything that could cause harm or damage and, indeed, is likely to be much less than caused daily by other industries such as quarrying or construction or even heavy goods vehicles travelling on our roads.”

**ENDS**

**Editor’s Notes:**

### **THE PROCESS**

Hydraulic fracturing – or fracking as it is sometimes called – is the long established process of creating fractures in rock formations to release the natural gas trapped inside. Hydraulic fracking has been taking

place safely in the UK for decades both onshore and offshore, mostly in different kinds of rock formations rather than shale rock. Regardless of the kind of rock however, the actual hydraulic fracking process is the same. Our site in Elswick in Lancashire was fractured in 1993 and generated around 1MW of electricity seven days a week in its early life. Hydraulic fracturing is common in the North Sea, where it has been performed thousands of times.

You can watch a video [here](#) showing the process.

### **COMMERCIAL OPPORTUNITY**

In February, Cuadrilla announced results from flow-testing of the UK's first ever horizontal shale gas exploration, which confirmed a high quality natural gas resource in the Bowland Shale, previously estimated at around 1,300 tcf by the British Geological Survey.

The initial exploration programme also confirmed that the Bowland Shale formation fractures in a way that is typical of an excellent shale gas reservoir. A complex fracture network was generated in the shale and sand injected into the fractures stayed in place during flow back.

Read our press release on this [here](#).

### **FRACTURING AND CLIMATE CHANGE**

Natural gas produced from UK shale is likely to be the most environmentally sensible and economically beneficial long term feedstock for hydrogen generation, essential if the UK is to hit net zero CO2 emissions by 2050.

Forecasts set out in the Committee on Climate Change Net Zero report show that the UK demand for natural gas in 2050 will be about 70 per cent of what we're using today. That is because natural gas converted to hydrogen is the key ingredient for decarbonising UK domestic and commercial heat.

Unless a domestic supply is established most of this gas might be imported, from the US, Middle East, North Africa or Russia, producing about double the methane emissions and none of the economic benefit.

Read our press release on this [here](#).

### **MICRO SEISMICITY**

Cuadrilla asked for an expert technical review of the uniquely low micro-seismic operating limit of just 0.5ML on the Richter scale in 2018.

The current work programme will also ensure that more data is provided to Government and Regulators to justify a review, allowing it to be brought into line with other UK industries such as quarrying, construction and geothermal.

See more on micro seismicity [here](#).

### **PLANNING PERMISSION AT PRESTON NEW ROAD**

In August 2019 Cuadrilla confirmed it will seek a minor variation under Section 73 of the Town and Country Planning Act 1990 to one of the conditions of its planning permission, which requires drilling and fracturing to be completed by November 2019.

Cuadrilla will write to Lancashire County Council to seek a scoping opinion under Regulation 15 of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 to seek to allow an additional 18 months for these activities.

This would not change the existing approved work scope to drill and hydraulically fracture up to four wells at Preston New Road or the requirement for the site to be decommissioned and restored by April 2023.

Read our press release on this [here](#).

**SCHEDULE:** Cuadrilla will not be releasing day to day updates on operations to ensure commercial confidentiality, manage disruption to local people using Preston New Road and the safety of everyone in and around the site.

**FURTHER INFORMATION:** For latest information on Cuadrilla please follow us on Facebook, Twitter and LinkedIn.

Our updates and statements – as well as Broadcastable quality footage and latest images from site will be posted online at [www.cuadrillaresources.com/media-resources](http://www.cuadrillaresources.com/media-resources)

**CONTACTS:** To request bespoke information or interview opportunities please contact the press office on [press@cuadrillaresources.com](mailto:press@cuadrillaresources.com)