



**EMBARGOED UNTIL 12noon, 6 February 2018**

## **CUADRILLA SHALE GAS INITIAL FLOW TEST RESULTS**

### **SHALE GAS SUPPLY PRIZE WITHIN THE UK'S GRASP**

Cuadrilla today announced results from its flow-testing of the UK's first ever horizontal shale gas exploration well, drilled through the shale rock more than 7,500 feet beneath the Preston New Road exploration site in Lancashire.

The company, based in nearby Bamber Bridge, said that the drilling, hydraulic fracturing and flow testing of the first horizontal well confirms that there is a rich reservoir of recoverable high quality natural gas present.

Chief Executive Officer Francis Egan said "We have also confirmed that the Bowland shale formation fractures in a way that, from US experience, is typical of an excellent shale gas reservoir. A complex fracture network was generated in the shale and sand injected into the fractures has stayed in place during flow back. Also the natural gas flowing to surface from the shale has a very high methane content, which means it could be delivered into the local gas grid for the benefit of local consumers with minimal processing required."

An intentionally conservative micro-seismic operating limit during hydraulic fracturing, set at just 0.5 on the Richter Scale, had however severely constrained the volume of sand that could be injected into the shale rock.

Mr Egan added: "We have only partially tested this well, with just two out of the forty one stages installed along the horizontal section fractured fully as designed, and less than 14 per cent of the sand we had planned to inject into the shale rock put in place. Nonetheless the natural gas still flowed back from the shale at a peak rate of over 200,000 standard cubic feet per day and a stable rate of some 100,000 standard cubic feet per day.

Cuadrilla estimates that, when compared to a typical North American 2.5km long producing horizontal shale gas well, with all of its stages fractured as planned, the data indicates a potential initial flow rate range of between 3million and 8million standard cubic feet per day.

"This is a highly encouraging result and great news for the UK which continues to import gas in ever increasing quantities by ship and long distance pipeline and has seen record demand for gas during the recent cold weather. The natural gas beneath Preston New Road could help secure our domestic gas supply and flow directly into the local grid, reducing CO2 emissions associated with importing LNG in tankers from around the world, including shale gas from the US, or piping gas to the UK over thousands of miles."

Cuadrilla confirmed that it has requested the Oil and Gas Authority (OGA) to urgently review the TLS to enable the PNR exploration wells to be properly tested and produced effectively, without compromising safety or environmental protection. Subject to the outcome of such a review Cuadrilla plans to complete hydraulic fracturing of the PNR1 well, fracture the PNR2 well and carry out flow testing of both wells later this year.

The company was the first to work within the micro-seismic Traffic Light System (TLS), regulated by the Oil and Gas Authority (OGA), and now holds a unique and extensive data set.

Mr Egan said: "We have acquired almost 40,000 micro-seismic data points during hydraulic fracturing operations on the PNR1-z well. We believe this to be the most comprehensive micro-seismic data set ever collected at a shale gas well anywhere in the world. The data has been shared with the OGA and the British Geological Survey (BGS) and we believe that there is more than ample evidence to justify an expert technical review of the TLS and, based on the outcome of that review, a revision at the PNR site, without compromising on safety."

In addition to micro-seismic data Cuadrilla recorded ground vibration levels throughout fracturing operations. The vast majority of those vibrations were less than 0.5 mm/second which the company has highlighted is up to thirty times lower than limits applied to other UK industrial operations, including quarrying and construction.

Francis Egan said: "Cuadrilla and its investors remain committed to this opportunity. The potential for Lancashire and the UK has again been clearly demonstrated by the fracturing and flow-testing carried out at Preston New Road. We look forward to completing the job.

"All we ask now is that we are treated fairly, with comparable seismic and ground vibration levels to similar industries in Lancashire and elsewhere in the UK who are able to work safely but more effectively with significantly higher thresholds for seismicity and ground vibration."

Cuadrilla has now shut in the well and will monitor build-up as it continues to assess the results.

**ENDS**