**Appendix 'A'**

**Difference between conventional and shale gas exploration**

In the UK, there has been a long history of extraction of natural oil and gas from ‘conventional’ onshore fields, where the gas comes from absorbent reservoirs, usually composed of sandstone or limestone. Conventional gas extraction is relatively straightforward because the gas generally flows freely, unlike unconventional gas where it is situated in rocks with extremely low absorption ability, making it very difficult to extract (see diagram below):



Industries use advanced technologies to extract the unconventional gas following a process commonly known as 'hydraulic fracturing' or 'fracking'. This involves pumping water, mixed with a small proportion of sand and chemicals, underground at a high enough pressure to split and keep open the rock and release natural gas that would otherwise not be accessible. The diagram below shows the process of hydraulic fracturing:

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Stages of high volume hydraulic fracturing and differences from conventional hydrocarbon production (copied from Evidence: Monitoring and control of fugitive methane from unconventional gas operations, Environment Agency, 2012







