In response to your recent email, I have the following additional comments to make to the Inquiry. Please note that these relate solely to Policy M16 (b) (ii) – "further explanation on this policy and why drilling under a National Park/ANOB (sic) is considered to be major development."

- 1. The Town & Country Planning (Development Management Procedure) (England) Order 2015 confirms a 'procedural' definition of Major Development which relates to number of housing units, size of site, etc, etc. This cannot however be rigidly applied in real life to decide whether a development within or affecting an AONB should be considered as Major Development (and hence subject to the Major Development Test). In practice therefore, AONB Committees follow planning policy guidance and case law precedents and evaluate whether a proposed development may be of such a size, scale, design or location as to have a significantly detrimental impact on the AONB landscape or its setting. This determines whether they consider that a proposal should be considered as Major Development and hence treated as such by the relevant LPA. This pragmatic interpretation means that a wide range of developments could potentially be treated as Major Development, or equally as <u>not</u> constituting Major Development, depending upon the context and their precise size, scale, design or location. The sole determining factor is potential impact on the AONB, the purposes of AONB designation and the Special Qualities for which that AONB was designated. This follows and underscores the policy approach explained in paragraph 9.24 of the MWJP.
- 2. As regards Unconventional Oil & Gas Extraction, and particularly hydraulic fracturing, my understanding is that the longest lateral drill distance is c.3km. In order to be able to access any shale reserves under the AONBs or the National Park, a well-pad would therefore need to be closer than 3km, and indeed to maximise the exploited area it would need to be as close to the boundary as possible. The well-pad and drilling operation itself would in my view clearly constitute Major Development, due to the likely visual and other impacts on the AONB and its setting. If the well-pad and surface infrastructure are deemed to be Major Development then it follows that any associated operation such as lateral drilling (in any direction) must also be deemed Major Development.
- 3. The other factor supporting my view that drilling under the AONBs or National Park should be considered as Major Development relates to the consequences for the AONB should there be a failure of the well casing at some point in the future. Much of the hydraulic fracturing conducted to date in countries such as the United States and Australia has been at relatively shallow depths – 300m is one quoted figure. At this depth there is a shorter length of well casing subject to geological forces, but a greater risk of direct impact on aquifer resources due to seismicity or well casing failure. In North Yorkshire however, with shale reserves being a minimum of c1,500m deep, the risk of direct impact on aquifers is likely to be lower. The risk of well casing failure is however much higher (by a factor of at least 5 times using the figures given above), because of the longer length of casing. A longer length of casing will also be significantly more subject to geological forces, as it goes to a greater depth. Because of this greater depth, and the consequent risk that a failure will occur somewhere in the well casing, the potential to cause adverse impacts on the water resource and hence biodiversity of the AONB is such that it should be considered as Major Development. The Howardian Hills AONB has a significant aquifer below it in the limestone formations. This is important for drinking water (with an extraction well at East Ness), agricultural irrigation and biodiversity. There are numerous areas of important wetland habitat in the AONB, associated with the complicated mix of narrow bedding planes, whilst the River Rye is a significant tributary of the River Derwent Special Area of Conservation.

Any disruption or contamination of sub-surface water bodies could therefore have a significant effect, and the widespread impact that any well casing failure could cause therefore indicates that lateral drilling should be deemed Major Development.

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