**Explanatory Text** - Images to visually explain the exploration and appraisal stages as described on page 16 (Table 2 Stages of Development) of UKOOG submission.

**Image 1: Site Construction**

- Site construction of a 1.5-hectare well pad took 6-8 months (timeline includes the construction of a bellmouth onto the A583 and access track to the well pad).
- Nearest residential sensitive receptor 280m from the edge of the pad (not the landowner of the site).
- Temporary construction laydown area located next to the access track.
- Top soil stripping to create earth bunds at each of the pad for restoration.
- Construction of cellar, 4m high perimeter noise wall and installation of HDPE membrane.
- Farming continues alongside the site operations and throughout the lifecycle of the site.

**Image 2 & 3: Aerial and Side View of Rig on site**

- Exploration stage drilling includes coring and logging of wellbore to establish scientific understanding of the target formation (Bowland shale).
- 2 wells drilled at site (PNR 1z and PNR 2).
- The well, PNR 1 was drilled vertically first, cored and analysed to make a decision of where to land the lateral wells PNR 1z and PNR 2 as these were the first laterals to be drilled into the Bowland formation (UK and Lancashire) but not the first time lateral drilling has been used in the UK.
- 24/7 drilling operations.
- Drilling rig on site 35m high.
- Supporting equipment approx. 4-5m high including mud pumps, cabins and fluid system
- 10m high noise wall located adjacent to the rig.
- Drilling time took between 3-4 months (excludes mobilisation, demobilisation of equipment and time used to skid across from well 1 to well 2).
- The laterals extend up to 800m.
- Temporary construction compound reinstated.

**Image 4 & 5: Aerial and side view of hydraulic fracturing equipment**

- No rig
- Frac rig spread mobilised and located on site with a surrounding 10m high noise wall.
- The spread includes 4 acoustically housed frac pumps and 1 not acoustically housed frac pump
- Ancillary equipment includes sand silos, cabins, flowback tanks and fresh water storage tanks. All shipping container size.
- Tallest equipment on site is the Coil Tubing tower 25m in height. This allows for the coil tube (steel pipe) to unravel and act as a conduit for fluids to go downhole and manoeuvre downhole configuration of the frac sleeves.
• Daytime operations only.
• Supporting equipment on the left hand side of the picture is the well testing equipment which separates gas, returning water (flowback fluid) from the well and flare system.
• 2 flares (10m high) which are enclosed and designed in accordance with Environment Agency Best Available Technique (BAT) guidance.
• Flares are ceramic lined to substantially reduce noise and heat radiation. Flare flames are to remain with the enclosed stack of the flares.
• Duration to hydraulic fractured each laterals is 1-2months (excludes mobilisation and demobilisation of equipment).

Image 6: Testing equipment

• Frac spread has been demobilised from site.
• The well is being tested and data analysed.
• Well testing equipment remains on site and the flares.
4.0 Aerial photo of fracking equipment