Explaining the proppant squeeze

A proppant squeeze is a localised operation which is used to help increase the gas flow from the rock formations. The proppant squeeze takes place once the well has been drilled and the casing is in place. This casing ensures that nothing brought up the wellbore can leak into surrounding formations or the water aquifer.

The area of this operation will be more than 2000m below ground level and over 1.7 km to the south west of Burniston. At a depth of over 2000m each proppant squeeze will radiate between 100m to 200m from the wellbore and extend no more than 40-80m in height. The operation is localised and thousands of metres below the level where both conventional mining and aquifer water production activities occur. It's important to note that the water aquifer is around 30m below the surface and is protected by eight concentric layers of cement and steel.

A slurry of sand and gelled water is pumped under pressure to create channels of communication in the near wellbore, and the sand then acts as the proppant to support the induced channels which increases the rate that the gas will flow.

This is a small-scale standard oilfield operation which historically has taken place elsewhere in Lincolnshire (e.g. nearby Crosby Warren well). It should not be confused with high volume hydraulic fracturing (fracking) that has been proposed in other areas for shale gas or oil.

A proppant squeeze operation itself will last no more than 30-40 minutes although setting up equipment for the operation and systems testing will normally take a week.

Entrained proppant in carrier gel/fluid

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