



# OESG

## 02—3D seismic imaging

### Features

**3D seismic imaging** is performed by bouncing sound waves off underground rock formations to map the sub-surface geology. It uses ultra-sensitive listening devices called geophones to record the sound waves as they echo within the earth, and by studying these echoes, petroleum geologists can calculate the depth and structures of buried geologic formations.

### Advantages

**Exploration companies can 'see' the sub-surface** and identify where the best shale deposits are located. It also means that natural faults can be identified.

### Benefits

**Acquiring 3D seismic images has many benefits.** Firstly, there's no point drilling where the shale formation isn't suitable, and so right away 3D seismic imaging enables wasteful and disruptive drilling to be avoided, whilst allowing companies to focus on more prospective areas. Secondly, by locating natural faults, it's possible to plan drilling and hydraulic fracturing activities so as to avoid them, making earth tremors much less likely.

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