

Baseline Water Characterisation getting underway as part of Joint Research Programme on the Environmental Impacts of Unconventional Gas Exploration and Extraction

A multi-agency programme of research, currently underway, is investigating the potential impacts on the environment and human health from Unconventional Gas Exploration & Extraction (UGEE) projects/operations. Field studies are to be carried out in parts of counties Clare, Leitrim, Cavan and Fermanagh and very small parts of counties Sligo and Roscommon. A baseline characterisation of the quality and quantity of water in these areas will begin shortly to establish the existing quality of groundwater and surface water and improve the understanding of the overlying geology. This will involve sampling and analysing water across the study areas.

Where existing groundwater supply sources do not exist, it may be necessary to drill additional boreholes so that water quality samples can be taken. These will be conventional boreholes drilled down to the water bearing rocks and will not target the deeper shale gas levels. Researchers will take water samples from the boreholes at intervals throughout a 12-month period and will analyse them to determine the baseline water quality. Data from each site will be made available to the landowner.

This groundwater data will be used in conjunction with surface water data to establish present day conditions in the study area. The data will help develop geological and hydrogeological models which represent how water moves beneath the surface and connects to aquifers, rivers and lakes. Investigating the current conditions of groundwater and surface water is a critical first step in researching and determining how the environment could be affected by any future activities in the area.

The baseline characterisation of water is one of a set of field studies being undertaken by researchers who will also undertake an extensive desk-based literature review of UGEE practices worldwide. The multi-agency trans-boundary programme of research is being coordinated by the Environmental Protection Agency. A consortium led by CDM Smith Ireland Limited was awarded a contract to carry out the work.

UGEE is not currently being used in Ireland. UGEE involves hydraulic fracturing (fracking) of low permeability rock to permit the extraction of natural gas on a commercial scale from unconventional sources such as shale gas deposits, coal seams and tight sandstones. The research programme has been designed to produce the scientific basis about whether or not it is possible to carry out UGEE projects/operations whilst also protecting the environment and human health. The programme of research will assist regulators – both North and South – in making informed decisions about fracking.

No fracking will be undertaken as part of the research programme.

While there are no UGEE operations ongoing or currently licensed in the island of Ireland, exploration licences in Clare and the North West have been granted to commercial companies seeking to establish if gas resources exist. An exploration license covering an area in Fermanagh expired in September 2014; however, Fermanagh will remain within the scope of the UGEE programme of research due to the potential for future licence applications.

Further Information

The research is being undertaken by a consortium of independent organisations comprising CDM Smith, British Geological Survey, University College Dublin, Ulster University, Queens University

Belfast, AMEC Foster Wheeler and Philip Lee Solicitors. The project began in August 2014 and is scheduled to be complete in August 2016.

This 24-month research programme is jointly funded by the EPA, the Department of Communications, Energy and Natural Resources (DCENR) and the Northern Ireland Environment Agency (NIEA).

Further information www.epa.ie.