New Study Finds Ties Between Fracking and Earthquakes in Canada

Environmentalists have raised many concerns about hydraulic fracturing (commonly referred to as ‘fracking’), which involves the high powered injection of water and chemicals into a drilled area to release natural gas. For example, opponents of fracking have claimed that the practice causes earthquakes.

A new study by Canadian researchers may have proven these earthquake claims to be true. Their findings suggest that fracking of oil and gas wells’and not the injection of wastewater underground’is behind earthquakes caused by humans in Alberta and BC.

This study is a major step in understanding seismic events that have already led to changed regulations in Alberta and caused public concern in both provinces.

‘It’s critical that we get to a complete scientific understanding of the issue,’ said David Eaton, a University of Calgary geophysicist and a co-author of the study.

Scientists had previously concluded that oil patch activity can cause earthquakes by making it easier for faults in underground rock to slip, but they didn’t know whether the Canadian quakes were caused by fracking or by the disposal of wastewater by injecting it back underground.

Eaton and his colleagues cross-referenced a database of more than 12,000 fracked and disposal wells drilled between 1985 and 2015 with another database of seismic events over that time.

A complex statistical analysis pinned the blame convincingly on fracking and not disposal, Eaton said. ‘There are more earthquakes in Western Canada that are more related to hydraulic fracturing than wastewater injection by a factor of about two.’

This finding doesn’t mean that a lot of wells cause earthquakes. Eaton calculates that about 0.3 per cent of fracked wells create problems’but there are enough wells drilled for even that tiny fraction to be a concern.

‘Even at 0.3 per cent, because of the very large number of hydraulically

fractured wells, it still represents an issue that is of high priority to address scientifically,' said Eaton.

Bottom line: The likelihood of damaging earthquakes and their potential consequences needs to be carefully assessed when planning fracking operations in Western Canada.

For more information on the environmental and health impacts of fracking, see:

- FRACKING: New Report on Environmental Impact of Shale Gas Extraction Released
- Study: Air Emissions Near 'Fracking' Sites May Be Hazardous
- Hazard Alert: Worker Exposure to Silica During Fracking
- 12 Ways to Protect Workers from Silica at 'Fracking' Sites
- Study Finds Natural Gas Wells Can Impact Health of Residents.