

Fracking and Earthquakes – Audio Transcript

GELLERMAN: Fracking is the process of using fluid chemicals under high pressure to crack open rock deep in the earth to release natural gas. It's highly profitable - and potentially dangerous. Some environmentalists fear the ingredients can pollute underground aquifers. Most fracking companies are reluctant to disclose the chemicals they use - though Texas just announced they have to. But now comes a new worry: that wastewater from fracking injected back into the ground might trigger earthquakes. It's already set off a class action lawsuit in Arkansas as Living on Earth's Ike Sriskandarajah reports.

SRISKANDARAJAH: Greenbrier, Arkansas was part of the Wild West. Jesse James and his gang passed through the town after robbing their first stagecoach. Stickups aren't much of a threat anymore - earthquakes are. And guns are still part of the landscape. Scott Ausbrooks of the Arkansas Geological Survey is in Greenbrier to test out a new earthquake detector that measures seismic energy with sound.

AUSBROOKS: And one way we're testing this is through using a shotgun - using sound from a shotgun. And I just got the signal - I need to fire right now. Hang on just a second.

[RUSTLING, PUMP, FIRE]

AUSBROOKS: Are you there?

SRISKANDARAJAH: Yup!

AUSBROOKS: Yeah, it's an experiment being run, measuring earthquakes through sound. And it's probably one of the best areas to actually test this because we're most likely going to have some earthquakes.

SRISKANDARAJAH: That's an understatement. In Greenbrier, Ausbrooks, a geo-hazards expert, counted 150 earthquakes that were strong enough to feel since September. That includes one that measured 4.7 on the Richter scale, felt in several surrounding states. In the early 80's, there was another swarm of earthquakes around Greenbrier, but geologists think that this swarm may be related to local natural gas drilling.

AUSBROOKS: We're looking into the possibility that this swarm is being induced or triggered by the injection wells.

SRISKANDARAJAH: The process known as fracking pumps a liquid formula at high pressure into shale to release natural gas. The drillers dispose of the wastewater in even deeper injection wells. After the big earthquake in February, Arkansas's Oil and Gas Commission put a six-month hold on two of the injection wells and noticed the earthquakes stopped.

AUSBROOKS: And since that shutdown, you know, it's been well over 100 days, we have seen a dramatic reduction in the number and size of the earthquakes. It would be an extraordinary coincidence if there's not a relationship between the injection wells and the earthquakes.

SRISKANDARAJAH: Man-made earthquakes may sound like the stuff of science fiction, but evidence linking deep well injection to earthquakes has been documented at other fracking sites and notably at a military napalm disposal well in the Rocky Mountains. [Sam Lane](#), a resident of Greenbrier, is hoping that those examples will hold up in court. But he recognizes his lawsuit may be on shaky ground.

LANE: To be honest, yeah, a lot of people just thought that that was something that wasn't even possible. I've been called crazy numerous times among other things for even thinking that the injection wells could be causing the earthquakes.

SRISKANDARAJAH: Lane is part of a class action lawsuit against Clarita Operating Company and mining giant BHP Billiton. The suit seeks millions of dollars for property damage caused by earthquakes.

LANE: You know, it was scary for a while - we took numerous large pictures and mirrors off the walls and stuff for fear of them falling on us or, you know, our son, or any family or friends we had over. And on top of that, we've got a great reduction in our property value from the damage to our home and just by living in an earthquake-prone area.

SRISKANDARAJAH: Their case gained support after the director of the [Arkansas Oil and Gas Commission](#) announced he would request a permanent ban on new injection wells in an area covering over 1,000 square miles and that six existing wells be plugged. Representatives of the companies named in the suit declined to speak to us, but a partner in Clarita Operating told local reporters that there was no evidence to support the ban. For Living on Earth, I'm Ike Sriskandarajah.