

Earthquake Litigation Spikes Following Recent Oklahoma Quakes

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Lawsuits over induced seismicity continue mounting with scores of earthquakes shaking Oklahoma since the start of the year, including a magnitude 5.1,¹ the state's third largest recorded, and many more above magnitude 4.0.² Amid the ensuing wave of litigation and rapidly evolving regulatory responses, a variety of trends are becoming apparent for risk mitigation strategies to confront this burgeoning issue. With over a billion barrels of wastewater from oil and gas production slated for disposal in underground injection wells in 2016, seismicity is staged to remain a focus for the energy industry.

On January 11, 2016, fourteen Oklahoma residents filed suit against a dozen energy companies in Oklahoma County alleging that wastewater pumped into underground injection wells for disposal by the defendants caused or contributed to seismic activity in December 2015 and January 2016. *Felts, et al. v. Devon Energy, et al.*, No. CJ-2016-137 (Okla. Cnty. Dist. Ct. filed Jan. 11, 2016). Plaintiffs claim property damage related to cracks in their homes' walls, bricks and fascia, and foundation movement. The plaintiffs assert negligence and strict liability, arguing that the defendants were the "but for" cause, or alternatively the proximate cause, of the earthquakes. The lawsuit seeks pain and suffering caused by "worry" over earthquake risks, punitive damages and a permanent injunction against the operators.

It may prove difficult for the *Felts* plaintiffs to prove certain elements of their claims. First, the plaintiffs' petition cites no scientific evidence linking specific activities of the defendants to individual seismic events. Second, the multiplicity of defendants may indicate a lack of evidence regarding causation as to any particular defendant's actions. Third, there is no precedent for a plaintiff alleging property damage resulting from seismic activity to recover damages for anything, much less for tenuous "worries" or fear of future tremors.

Similar allegations were filed in a putative class action on January 12, 2016 in Logan County, Oklahoma, on behalf of a putative class of Oklahoma landowners. *Griggs, et al. v. Chesapeake Operating LLC, et al.*, No. CJ-2016-6 (Logan Cnty. Dist. Ct. filed Jan. 12, 2016). The putative class alleges property damage caused by a series of earthquakes in 2014 and 2015, yet does not appear primarily focused on recent quakes. Alleging damage to real and personal property, plaintiffs bring causes of action for private nuisance, ultra-hazardous activities, negligence, and trespass, and also seek punitive damages.

A ruling by the Oklahoma Supreme Court in *Ladra v. New Dominion LLC et al.*, 353 P.3d 529 (Okla. 2015) addressed induced seismicity suits in Oklahoma. *Ladra* presented the

¹ Valerie Edwards, "Oklahoma is rattled by its third largest ever earthquake, with the 5.1 magnitude tremor shaking seven other states," Daily Mail (Feb. 13, 2016), <http://www.dailymail.co.uk/news/article-3445794/5-1-3-9-magnitude-earthquakes-recorded-Oklahoma.html#ixzz40OuwDzee>.

² Bryce McElhaney, "Oklahomans deal with increasing quakes," OU Daily (Jan. 20, 2016) http://www.oudaily.com/news/oklahomans-deal-with-increasing-earthquakes/article_25066e98-be00-11e5-a942-a32de8205ff0.html.

Oklahoma Supreme Court with novel issues of first impression resulting from claims that the plaintiff's legs were allegedly injured by her falling brick chimney during the 2011 Prague, Oklahoma 5.6 magnitude quake, the largest the state has experienced. The Oklahoma high court's unanimous ruling on June 30, 2015 overturned the Lincoln County District Court's decision that it lacked jurisdiction to hear the case, holding the action should proceed in the trial court despite the Oklahoma Corporation Commission's exclusive jurisdiction over oil and gas regulatory matters. The Oklahoma Supreme Court held "[w]hether Appellees are *negligent or absolutely liable* is a matter to be determined by a district court." *Id.* at 532 (emphasis added). The court did not, however, rule on the viability of the plaintiff's claims of strict liability and negligence, expressly noting that it was not deciding "whether Appellant's petition sufficiently stated a claim." *Id.* at 532 n.3. After remand, on December 18, 2015 the trial court in *Ladra* denied a motion to dismiss on statute of limitations grounds, but the merits of the plaintiff's claims have not yet been addressed.

To date, most earthquake lawsuits attempt to blame disposal of wastewater injected in underground wells as the cause of seismic events, not hydraulic fracturing well stimulation or other oil and gas production operations. The disposal wastewater derives from various sources. Some originates as "flow-back" water containing saline and other ingredients after multi-stage hydraulic fracturing operations, and is then injected into Class II Underground Injection Control wells.³ Class II wells are also used to inject "produced water" from water-bearing oil reservoirs. Produced water is either reinjected into a producing formation as part of water-flooding enhanced oil recovery operations or disposed of in saltwater disposal (SWD) wells.⁴ Although some research has attempted to tie Class II wells to seismic events, causation has proven difficult to establish. For instance, the Texas Railroad Commission unanimously found in November 2015 that specific injection wells did not cause a rash of quakes in North Texas as an SMU study⁵ suggested. The Commission's review found that "data indicating a weak temporal correlation between injection and seismic activities" was "too small, however, to imply a causal relationship."⁶ Nevertheless, suits continue to cite academic studies to support causation theories in earthquake suits, as the *Ladra* and *Griggs* plaintiffs have done.

³ F. Rall Walsh III and Mark D. Zoback, "Oklahoma's recent earthquakes and saltwater disposal," 1 *Science Advances* 5 (June 18, 2015), <http://advances.sciencemag.org/content/1/5/e1500195.full>.

⁴ *Id.*

⁵ Matthew J. Hornbach, et al., Causal factors for seismicity near Azle, Texas, *Nature Communications* (Apr. 21, 2015), <http://www.nature.com/ncomms/2015/150421/ncomms7728/full/ncomms7728.html>.

⁶ Tex. R.R. Comm'n, *Commission Called Hearing to Consider Whether Operation of the Enervest Operating LLC, Briar Lease, Well No. 1 (API No. 42-497-36875, UIC Permit No. 12112), in the Coughlin (Strawn) Field, Is Causing or Contributing to Seismic Activity in the Vicinity of Reno, Parker County, Texas*, Docket 09-0296410 at 21 (Sept. 10, 2015) (proposal for decision); Tex. R.R. Comm'n, *Commission Called Hearing to Consider Whether Operation of the Enervest Operating LLC, Briar Lease, Well No. 1 (API No. 42-497-36875, UIC Permit No. 12112), in the Coughlin (Strawn) Field, Is Causing or Contributing to Seismic Activity in the Vicinity of Reno, Parker County, Texas*, Docket 09-0296410 (Nov. 3, 2015) (final order); Tex. R.R. Comm'n, *Commission Called Hearing to consider Whether Operation of the XTO Energy, Inc., West Lake SWD, Well No. 1 (API No. 42-367-34693, UIC Permit No. 12872), in the Newark, East (Barnett Shale) Field, Is Causing or Contributing to Seismic Activity in the Vicinity of Reno, Parker County, Texas*, Docket 09-0296411 at 21 (Aug. 31, 2015) (proposal for decision); Tex. R.R. Comm'n, *Commission Called Hearing to consider Whether Operation of the XTO Energy, Inc., West Lake SWD, Well No. 1 (API No. 42-367-34693, UIC Permit No. 12872), in the Newark, East (Barnett Shale) Field, Is Causing or Contributing to Seismic Activity in the Vicinity of Reno, Parker County, Texas*, Docket 09-0296411 (Nov. 3, 2015) (final order).

In addition to state court litigation in Oklahoma, a federal suit claiming induced seismicity was on the heels of recent quakes in the state. *Sierra Club v. Chesapeake Operating LLC, et al.*, No. CIV-16-134-F, (W.D. Okla. filed Feb. 16, 2016). The suit, filed under the citizen suit provision of the Resource Conservation and Recovery Act, 42 U.S.C. § 6972(a)(1)(B), is brought on behalf of Sierra Club members in Oklahoma and Kansas who have allegedly suffered property damage from earthquakes. The suit seeks only injunctive relief. The complaint claims earthquakes allegedly induced by the injection and disposal of oil and gas production wastes into the ground violate RCRA. The case may face numerous jurisdictional challenges, including abstention concerns. In particular, although the plaintiff alleges wastewater may present an “imminent and substantial endangerment to health and the environment,” the prospective and speculative nature of the harm alleged may present standing difficulties for pursuing these claims in federal court. Furthermore, there is no precedent in earthquake litigation for a court to grant relief on the Sierra Club’s claims and novel demand for an injunction to reduce injection volumes, to reinforce vulnerable structures potentially impacted by a quake, and to establish an independent seismic monitoring and prediction center.

This growing spate of litigation follows recent regulatory actions taken by the Oklahoma Corporation Commission, which has issued a series of voluntary directives in response to quakes around the state. To date, the Oklahoma Corporation Commission has only threatened litigation to force compliance with the directives in limited instances. For instance, after threatening litigation, the Commission has engaged in settlement talks to enforce shut-in directives for injection wells. Pursuant to a recent agreement involving injection wells, Oklahoma Oil and Gas Commission Director Tim Baker stated that “four will be used as monitoring wells in an Oklahoma Geological Survey research project” giving scientists for the first time “data that shows what is happening underground in real-time when it comes to disposal and seismicity.”⁷ The Commission has also expressed interest in situations in which multiple injection wells are brought back online simultaneously, such as after power is restored following an electricity outage.⁸ Due to unknown risks associated with a high-volume influx of injected fluid into formations, the Commission is encouraging operators to take precautions in these situations, while continuing to seek more information.

Meanwhile, Colorado is considering legislation to make oil and gas companies strictly liable for damage caused by earthquakes.⁹ The debate over whether negligence or strict liability presents an appropriate liability standard for induced seismicity raises several issues. Strict liability has been criticized because the doctrine is premised on inherent danger of an industrial activity, yet the facts do not bear that out in the context of underground fluid injection—only 0.55% of U.S. disposal wells have even been suggested to be linked to induced seismicity. Instead, research demonstrates that oil and gas fluids have been injected safely in Class II wells

⁷ Media Advisory, *Oklahoma Corporation Commission* (Jan. 20, 2016), <http://www.occeweb.com/News/01-20-16SANDRIDGE%20PROJECT.pdf>

⁸ Media Advisory, *Oklahoma Corporation Commission* (Jan. 13, 2016), <http://www.occeweb.com/News/01-13-16ADVISORY.pdf>

⁹ Kelsey Warner, ‘A millenium’s worth of earthquakes’: What are states going to do?, *Christian Science Monitor* (Jan. 10, 2016), <http://www.csmonitor.com/USA/USA-Update/2016/0110/A-millennium-s-worth-of-earthquakes-What-are-states-going-to-do>

for over three decades under the Underground Injection Control Program.¹⁰ In fact, underground injection of produced water and hydraulic fracturing wastewater presents an ideal disposal method of large volumes in contrast to alternatives like treatment in conventional wastewater facilities. Moreover, inability to dispose of wastewater can threaten production when dewatering operations depend on underground injection disposal. In addition, a drawback of a strict liability regime is that it does nothing to encourage operators to take steps to mitigate the risk of induced seismicity because companies that take careful precautions and companies that do nothing could suffer the same outcome in the event of an unavoidable quake: liability for all damage caused. This result would undermine the investments energy companies have made to combat the risk of induced seismicity, which surpass \$35 million to date.¹¹ Furthermore, strict liability claims will likely fail in several oil and gas producing states where strict liability has not been adopted for any alleged ultrahazardous activities, such as concussion property damage resulting from ground vibrations or blasting.¹² For a variety of reasons, strict liability represents an inadequate framework for seismicity liability—a result which no lawsuit has yet reached.

Instead, an increasing number of states are recognizing that executive and legislative action is a more appropriate vehicle to address risks associated with induced seismicity. For example, Texas Railroad Commission staff conducted detailed geophysical analysis of possible induced seismicity as a result of two hearings in June 2015 regarding well permits. The Texas Railroad Commission, which assigns both a technical examiner and a hearings examiner to each hearing, has the capacity not only to do its own independent geophysical analysis of whether a well presents induced seismicity risk, but also to hear expert testimony and the presentation of scientific evidence similar to a court. For instance, the Commission found insufficient evidence of injection induced seismicity in the area, establishing that the standard for permit revocation requires that it be “more likely than not that injection is causing seismic activity.”¹³

By contrast, the state and federal judiciaries lack this dual capacity. Further, underground fluid injection risks are regulated in all oil and gas producing states through policies implemented through administrative agencies: the state regulatory bodies responsible for either oil and gas activity, the environment, or health, and in a few instances by the Environmental Protection Agency.¹⁴ These entities have a unique institutional capacity to balance the risks of

¹⁰ Injection Wells and Earthquakes, Quantifying the Risk, *Energy in Depth* (Nov. 2015), <http://energyindepth.org/wp-content/uploads/2015/11/Energy-In-Depth-Report-Injection-Wells-and-Earthquakes-Quantifying-the-Risk1.pdf>.

¹¹ *Id.*

¹² See e.g. *Prather v. Brandt*, 981 S.W.2d 801, 804 (Tex. App.–Houston [1st Dist.] 1998, pet. denied) (“Texas does not recognize a strict liability cause of action for ‘ultrahazardous’ or ‘abnormally dangerous’ activities.”) (citing *Turner v. Big Lake Oil Co.*, 96 S.W.2d 221, 226 (Tex. 1936)).

¹³ Tex. R.R. Comm’n, *Commission Called Hearing to Consider Whether Operation of the XTO Energy, Inc., West Lake SWD, Well No. 1 (API No. 42-367-34693, UIC Permit No. 12872), in the Newark, East (Barnett Shale) Field, Is Causing or Contributing to Seismic Activity in the Vicinity of Reno, Parker County, Texas*, Docket 09-0296411 (Aug. 31, 2015) (proposal for decision) at 4 (citing *Ellis County State Bank v. Keever*, 888 S.W.2d 790, 792 (Tex. 1994)).

¹⁴ Mary Tiemann & Adam Vann, Hydraulic Fracturing and Safe Drinking Water Act Regulatory Issues, *Congressional Research Service* (Jan. 10, 2013) at 14, <http://www.fas.org/sgp/crs/misc/R41760.pdf>. Twenty-three states have obtained primacy over Class II wells: Alabama, Alaska, Arkansas, California, Colorado, Illinois, Indiana, Kansas, Louisiana, Mississippi, Missouri, Montana, Nebraska, New Mexico, North Dakota, Ohio, Oklahoma, Oregon, South Dakota, Texas, Utah, West Virginia, and Wyoming. *Id.* Some states (Alaska, California, Colorado, Indiana, Montana, and South Dakota) have received primacy only for Class II wells, while EPA retains primary

induced seismicity with the costs of attempting to mitigate them due to their specialized expertise. Furthermore, lawmakers—responsible for policy decisions to balance public economic and environmental concerns—closely oversee and guide administrative agencies, a function which courts often see vested in legislatures. The Texas legislature, for instance, allocated \$4.5 million in funding for geophysical seismic monitoring and research, with review to be overseen by the governor. Similarly, Oklahoma Governor Mary Fallin recently disbursed \$1.4 million in emergency funds to the Oklahoma Corporation Commission and the Oklahoma Geological Survey for hiring additional geologists, installing permanent seismic monitoring stations, and for research analysis and workshops.¹⁵

As more states continue to address induced seismicity risks through executive and legislative measures, defendants may challenge claims for injunctive relief on the grounds that authority to suspend operations lies solely with another governmental entity, such as the state’s oil and gas regulatory body. In *Ladra*, for example, the Oklahoma Supreme Court specified that jurisdiction was proper in the trial court instead of the Oklahoma Corporation Commission “[b]ecause this case does not seek to reverse, review, or modify an OCC order, but simply seeks to recover damages.”¹⁶ Plaintiffs may in turn seek to avoid jurisdictional challenges by simply not seeking injunctive relief, as the *Griggs* petition has done, focusing instead on property damage claims.

Similarly, in a situation where a plaintiff seeks a federal injunction against injection operations, defendants may seek to invoke *Burford* abstention. This doctrine, stemming from *Burford, et al. v. Sun Oil Company, et al.*, 319 U.S. 315 (1943), holds that federal courts may abstain from hearing cases involving state law causes of action where the state courts have greater expertise in a complex and unclear area of state law of special significance to the state, and where there is a state regulatory scheme in place. The particular applicability of the doctrine in the context of local earthquake hazards may caution that federal suits be dismissed or stayed, especially where wells are already subject to induced seismicity mitigation measures by state regulators.

Meanwhile, earthquake litigation appears to be trending up as seismic activity continues to increase in various states. With geophysical research and the regulatory landscape rapidly changing in this area, a variety of trends are becoming apparent to ensure that seismic risk mitigation investments are efficiently targeted at a time when the energy industry faces increasing financial pressures.

authority over regulating all other classes of wells in those states. *Id.* This means that a state administrative agency may regulate induced seismicity risk associated with hydraulic fracturing wastewater disposal in a given state, whereas in that very same state the induced seismicity risk associated with carbon sequestration or geothermal energy could be regulated by EPA. Accordingly, well permitting authority may be allocated differently for different industrial uses between the state and federal levels within a given state. In eleven states and the District of Columbia, the EPA administers the UIC program: Arizona, Florida, Hawaii, Iowa, Kentucky, Michigan, Minnesota, New York, Pennsylvania, Tennessee, Virginia, and D.C. *Id.*

¹⁵ *Earthquakes in Oklahoma: What We Are Doing*, Office Of The Secretary Of Energy & Environment, <http://earthquakes.ok.gov/what-we-are-doing/>.

¹⁶ *Ladra v. New Dominion, LLC*, 353 P.3d 529, 532 (Okla. 2015).

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