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## Hydraulic Fracturing

### Developments in Litigation

Hydraulic fracturing technology has been used for more than 60 years. But recent advancements in the technology have made its use more widespread and there are news reports raising concerns about the practice's safety, such as its impact on groundwater and air quality. Authors Frank Leone and Mark Miller of Hollingsworth LLP note that because widespread fracking is a relatively recent phenomenon—and because toxic torts often take years to mature—there has been relatively little litigation. Both plaintiffs, defendants, and the courts are still grappling with the issue, and we are just at the beginning of seeing how this litigation may play out, they say.

### Hydraulic Fracturing: New Science and New Developments In Environmental & Toxics Litigation

BY FRANK LEONE AND MARK MILLER

In recent years, the use of hydraulic fracturing and horizontal drilling for oil and gas well development has unlocked huge volumes of new energy resources. Hydraulic fracturing—also called fracking or fracing, the term most used by industry—involves the use of large amounts of pressurized water to open fissures in hydrocarbon-bearing rock formations, which

then release oil and gas that can be recovered.<sup>1</sup> The fracking water typically also contains 1 percent to 2 percent chemicals that facilitate the well development process and proppants (e.g., sand) that will keep the fissures open. Fracking activities have caused concerns about the possibility of contamination of groundwater and surface water, toxic air emissions and even earthquakes. Although fracking is not a new process, the current techniques have brought the potential for oil

<sup>1</sup> See generally EPA's Hydraulic Fracturing webpage, <http://www2.epa.gov/hydraulicfracturing>.

and gas drilling to parts of the country that have not (recently) experienced extensive energy development and generated controversy.

Because widespread fracking is a relatively recent phenomenon—and toxic torts often take years to mature—there has been relatively little litigation. Nevertheless, plaintiffs are increasingly bringing environmental contamination-related tort claims. In these cases, plaintiffs typically allege that chemicals used in the defendants' fracking operations have migrated into groundwater and caused personal injuries or damages to the plaintiffs' property interests. Plaintiffs also have alleged exposure to air pollution and noise from fracking operations, contamination of their land from spills or waste disposal activities and vibration or earthquake damage. The legal claims in these lawsuits typically include nuisance, trespass, negligence and strict liability. Plaintiffs usually seek monetary damages, although in some cases they have sought injunctive relief, including remediation and medical monitoring. Defendants have argued that plaintiffs cannot prove the common law elements of their claims, failed to prove that defendants' actions caused their alleged harm and/or not suffered harm at all. As discussed below, these cases have reached a variety of resolutions including dismissal, awards of summary judgment to defendants, settlements and trial verdicts for plaintiffs and defendants.

These initial cases will set the stage for how fracking litigation develops, but the evolution of this area is far from clear and remains to be seen.

## I. Potential Environmental, Health Risks of Fracking

Fracking technology has been used for over 60 years, but new developments have allowed its use to reach unconventional oil and gas sources, resulting in greatly increased production. With fracking, large volumes of water are used to open fissures in rock formations, releasing oil and gas. Fracking fluid typically contains 98 percent to 99.5 percent water and silica or other proppants that are used to keep the fissures open, and 0.5 percent to 2 percent fracking chemicals. The chemicals can include petroleum distillates, methanol, acids, bases and salts.<sup>2</sup> These chemicals dissolve minerals and initiate cracks in rock, prevent clays from swelling and shifting, facilitate transmission of the proppants into the fissures and protect well piping from corrosion.

After the fissures are opened, the fracking fluid is pumped back to the surface. This fluid, called flowback, contains some of the chemicals initially injected. It, as well as "production waters" that are recovered during normal well operations, can also contain a variety of potentially hazardous substances, including hydrocarbons such as methane, "brine" or highly salty waters, heavy metals and radon and other naturally occurring radioactive materials.<sup>3</sup> Concerns raised about fracking

<sup>2</sup> The Ground Water Protection Council and the Interstate Oil and Gas Compact Commission, two organizations formed by state regulators, operate FracFocus, a website which provides detailed information about individual wells, including identification of non-proprietary chemicals used. Industry associations and the Energy Department finance the website. See <https://fracfocus.org/>.

<sup>3</sup> Drilling wastes and other well development materials containing radioactive materials are sometimes referred to as TENORM (technologically enhanced naturally occurring ra-

chemicals include spills, contamination of drinking water aquifers by chemicals during well development and oil and gas extraction, spills of recovered flowback or production waters after well completion, air emissions of chemicals (and petroleum derivatives) during the fracking process and worker and nearby residence exposure to substances used in fracking (including silica). Recent regulatory actions also have focused on "quality of life" impacts of fracking activities, including noise, light pollution, traffic, traffic accidents and crime.<sup>4</sup> Such allegations could support a nuisance-based loss of enjoyment claim.

Recent studies support the contention that well-conducted fracking operations are unlikely to directly affect drinking water. The areas of rock subject to fracking and horizontal drilling are generally thousands of feet below ground surface; in contrast, drinking water aquifers accessed by private wells are often only a few hundred feet deep. A recent analysis using tracer elements "appear[ed] to rule out gas contamination by upward migration from depth through overlying geological strata."<sup>5</sup> However, the same study showed that improper well installation, and, in particular, failure to properly seal well construction casings, can result in fugitive gas contamination reaching drinking water aquifers.<sup>6</sup>

Only a few studies have evaluated the health effects of living near a fracked well field, but they have not shown any consistent pattern of injury. As a recent New York Department of Health Public Health Review concluded: "Peer-reviewed epidemiologic studies were not found that employ robust study designs addressing possible associations between HVHF [high-volume hydraulic fracturing] activities and adverse health outcomes while providing adequate control for confounding and bias."<sup>7</sup> The New York Public Health Review, however, concluded that the studies were not adequate to exclude the possibility of public health impacts. It therefore recommended that until the science provided sufficient information to determine the level of risk to public health and whether those risks can be adequately managed, high-volume hydraulic fracturing should not proceed in New York.<sup>8</sup>

dioactive material)—radioactive materials that have been concentrated or made available for human exposure through anthropogenic means. "Focus: Radionuclides in Fracking Wastewater," *Environmental Health Perspectives*, 122:2 at A51-55 (Feb. 2014).

<sup>4</sup> See, e.g., New York Department of Health, "A Public Health Review of High Volume Hydraulic Fracturing for Shale Gas Development" (December 2014) ("NYDOH 2014"), available at [http://www.health.ny.gov/press/reports/docs/high\\_volume\\_hydraulic\\_fracturing.pdf](http://www.health.ny.gov/press/reports/docs/high_volume_hydraulic_fracturing.pdf).

<sup>5</sup> Thomas H. Darrah, *et al.*, "Noble gases identify the mechanisms of fugitive gas contamination in drinking water wells overlying the Marcellus and Barnett Shales," *Proceedings of the National Academy of Sciences (PNAS)*, 111(39):14076-81 (2014).

<sup>6</sup> *Id.*; see generally, Avner Vengosh, *et al.*, "A critical review of the risks to water resources from unconventional shale gas development and hydraulic fracturing in the United States," *Environmental Science & Technology*, 48(15):8334-48 (2014).

<sup>7</sup> NYDOH 2014 at 18.

<sup>8</sup> NYDOH 2014 at 12. New York Gov. Andrew Cuomo (D) adopted that recommendation and directed the New York Department of Environmental Conservation to prohibit fracking, continuing an existing moratorium (243 DEN A-2, 12/18/14).

## II. Fracking Litigation Overview

### A. Common Claims Asserted in Fracking Litigation.

Fracking activities can give rise to toxic tort and environmental claims typically based upon the allegation that the defendant's injection of fracking fluids into the subsurface migrated from the oil or gas well site into the subsurface of adjoining landowners' properties, which then contaminated groundwater or affected some property interest. These cases are typically brought by individuals who reside near oil and gas wells against exploration and production companies.

The complaints typically allege that the fracking process caused the release of hazardous chemicals and industrial wastes, which in turn contaminated groundwater or other potable water supplies. The complaints also may seek damages for contaminated water supplies, exposure to hazardous chemicals, diminution of real property values, damage to personal property, loss of use and enjoyment of property, loss of quality of life, personal injuries from exposure to hazardous chemicals, emotional distress, fear of future injury, medical monitoring, costs of alternative water supply, investigation and remediation and/or punitive damages.

In some cases, plaintiffs had lease agreements with defendants that gave defendants oil and gas rights underlying the plaintiffs' properties, and plaintiffs contended that defendants breached the terms of those contracts and/or negligently performed drilling activities. Although most cases have been brought individually, some plaintiffs have sought class certification.<sup>9</sup>

The primary claims alleged by plaintiffs in fracking litigation are for trespass and nuisance, but plaintiffs commonly assert other tort claims, including negligence, strict liability, violation of state environmental statutes and medical monitoring. These claims are a matter of state law, but typically include the elements discussed below.

**Trespass.** Trespass is defined as an "unprivileged, intentional intrusion upon land in possession of another."<sup>10</sup> To give rise to a trespass, a defendant must act intentionally or recklessly, and the entry of a foreign matter must be a substantially certain result of the defendant's action. See Restatement (Second) of Torts, § 158, cmt. i.

**Nuisance.** A plaintiff pursuing a private nuisance action must show that the defendant is responsible for a "nontrespassory invasion of another's interest in the private use and enjoyment of land."<sup>11</sup> To be actionable,

<sup>9</sup> See, e.g., *Tucker v. Sw. Energy Co.*, 2012 BL 43988, E.D. Ark., No. 1:11-CV-44-DPM, 3/19/12 (purported class action brought on behalf of all Arkansas citizens who lived within three miles of any well defendants operated; asserting claims for strict liability, nuisance, trespass and negligence and seeking \$1 million in compensatory and \$5 million in punitive damages; case settled prior to class certification ruling).

<sup>10</sup> *Kamuck v. Shell Energy Holdings GP LLC*, 2012 BL 405225, M.D. Pa., No. 4:11-cv-1425, 3/19/12 (plaintiff failed to assert a trespass claim where it failed to allege that defendant's fracking activities on neighboring land caused an actual physical intrusion on its property); see also *Tucker*, 2012 BL 43988 (plaintiffs' allegations that methane and hydrogen sulfide gases had intruded on their property stated a trespass claim).

<sup>11</sup> *Kamuck*, 2012 BL 405225 (plaintiff's assertion of noise, fumes and dust, as well as surface runoff of fracking fluids, reaching his land provided a basis for a nuisance claim).

the invasion must either be "intentional and unreasonable" or "unintentional or otherwise actionable under the rules controlling liability for negligent or reckless conduct, for abnormally dangerous conditions or activities."<sup>12</sup> Further, the invasion—which can, e.g., be of dust or fumes—must cause "significant harm" and not "slight inconvenience or petty annoyance."<sup>13</sup>

**Negligence.** A plaintiff alleging negligence must show that the defendant owed him a duty to conform to a certain standard of care, defendant breached that duty, the breach of duty caused plaintiff's injury and plaintiff therefore suffered damages.<sup>14</sup>

**Strict Liability.** The primary relevant strict liability (liability without fault) cause of action is one alleging that fracking constitutes abnormally dangerous activity. As discussed below, although some courts have required further fact-finding, none have held that fracking is an abnormally dangerous activity, and at least one court has rejected that claim.

**State Environmental Statutory Violations.** A plaintiff may allege that a defendant has violated state oil and gas, solid waste management, hazardous site cleanup or clean streams or other water protection statutes, if such statutes allow a private right of action. Such claims may allow recovery of response costs and/or provide a basis for a negligence per se claim.<sup>15</sup>

**Negligence Per Se.** A plaintiff alleging negligence per se typically claims that defendant has violated an environmental statute or regulation. If proven, plaintiff can establish the duty and breach elements of a negligence claim (he still must prove causation and damages). To prevail in a negligence per se claim, the plaintiff must show that the statute is intended to protect a group of individuals (not just the public generally), the statute must clearly apply to defendant's conduct, the defendant must violate the statute and that violation must be the proximate cause of plaintiffs injuries.<sup>16</sup>

<sup>12</sup> *Id.* (quoting Restatement (Second) of Torts § 822).

<sup>13</sup> *Id.*; see also *Ely v. Cabot Oil & Gas Corp.*, 2014 BL 84715, M.D. Pa., No. 3:09-CV-2284, slip op. at 46, 3/28/14 (denying summary judgment against nuisance claim where plaintiffs did not own property with contaminated drinking water, but had a possessory interest in property where they lived, but did not own), *report & recommendation adopted* (M.D. Pa. July 29, 2014).

<sup>14</sup> See, e.g., *Roth v. Cabot Oil & Gas Corp.*, 919 F. Supp. 2d 476 (M.D. Pa. 2013) (plaintiffs stated a negligence claim where defendant well developers had been cited for spills and leaks).

<sup>15</sup> Compare *Fiorentino v. Cabot Oil & Gas Corp.*, 750 F. Supp. 2d 506, 510-11 (M.D. Pa. 2010) (plaintiffs' complaint asserting defendants' fracking activities caused the release of chemicals that sickened plaintiffs set forth sufficient facts to survive motion to dismiss claim for response costs under state environmental statute), with *Ely v. Cabot Oil & Gas Corp.*, 2014 BL 370302, M.D. Pa., No. 3:09-CV-2284, 4/21/14 (granting summary judgment for defendant oil and gas company on state statutory claim because plaintiff failed to provide evidence that there was a release of a hazardous substance on its property or that it incurred response costs; moreover, even if there was a release, the statute excluded petroleum products from its definition of hazardous substances), *report & recommendation adopted in part*, M.D. Pa., No. 3:09-CV-2284, 1/12/15, *appeal filed sub nom. Hubert v. Cabot Oil & Gas Corp.*, 3d Cir., No. 15-1439, 2/23/15.

<sup>16</sup> See, e.g., *Fiorentino*, 750 F. Supp. 2d at 516 (plaintiffs' complaint generally alleging a "laundry list" of statutory violations that related to gas well drilling activities was sufficient to withstand a motion to strike negligence per se claim); *Ely*, 2014 BL 370302 (granting summary judgment for defendant

**Medical Monitoring.** Plaintiffs may not allege current personal injury, but they may demand medical monitoring to identify a potential future injury. Medical monitoring is not a separate cause of action in most states, but may be recovered as damages if a physical injury is shown. In a minority of states, however, it can be a standalone claim. The claim's elements typically include, *inter alia*, exposure to significant levels of a proven hazardous substance that poses a significantly increased risk of contracting a serious latent disease and a necessary monitoring procedure makes early detection and effective treatment possible.<sup>17</sup>

**Breach of contract.** In cases where plaintiffs signed a lease agreement with an oil and gas exploration and development company, they have sometimes alleged that the company's fracking activities' alleged contamination of their drinking water constituted a breach of the terms of that contract.<sup>18</sup>

### III. Important Issues Raised in Recent Fracking-Related Environmental, Toxic Tort Cases

#### A. Fracking Plaintiffs Must Demonstrate an Actual Injury.

To prevail in a case alleging that fracking activities have contaminated groundwater, plaintiffs have the burden of demonstrating that such contamination actually has affected their groundwater.

In *Harris v. Devon Energy Prod. Co. L.P.*, the plaintiffs asserted causes of action against an oil and natural gas exploration and production company for nuisance, trespass, negligence, fraudulent concealment and strict liability relating to the drilling activities near plaintiffs' home.<sup>19</sup> Plaintiffs later voluntarily dismissed the lawsuit (without prejudice) after concluding that, "even though testing showed toxic contamination in Plaintiffs' well water when this lawsuit was filed in December 2010, recent testing showed that the contamination is no longer at a toxic level for human consumption."<sup>20</sup>

Moreover, in *Kamuck v. Shell Energy Holdings GP LLC*, plaintiff alleged that defendant's fracking operations posed a threat of contamination of his property,

on negligence per se claim where plaintiff failed to offer evidence that defendant actually violated the statutes).

<sup>17</sup> See, e.g., *Ely*, 2014 BL 370302 (granting summary judgment on medical monitoring claim where plaintiffs failed to offer expert testimony proving the elements of such claim); see also generally F. Leone & J. Gans, Money for Nothing: Recent Developments in Medical Monitoring, DRI The Voice (Aug. 27, 2014), available at <http://www.hollingsworthllp.com/uploads/23/doc/media.1077.pdf>.

<sup>18</sup> See, e.g., *Ely*, 2014 BL 370302 (dismissing breach of contract action where defendant did not breach an obligation to restore plaintiffs' domestic water supply because defendant did not drill on plaintiffs' property and the lease agreement did not warranty that it would leave plaintiffs' property "safe and undisturbed").

<sup>19</sup> *Harris v. Devon Energy Prod. Co. L.P.*, E.D. Tex., No. 4:10-cv-00708-MHS-AM, 12/15/10.

<sup>20</sup> *Harris v. Devon Energy Prod. Co. L.P.*, E.D. Tex., No. 4:10-cv-00708-MHS-AM, motion to dismiss filed, 12/6/11. But see *In re Methyl Tertiary Butyl Ether (MTBE) Prods. Liab. Litig.*, 725 F.3d 65, 107-08 (2d Cir. 2013) (not a fracking decision, but finding that plaintiffs did not have to prove that MTBE contamination in their drinking water wells exceeded regulatory limits to pursue negligence, nuisance, trespass and products liability claims), cert. denied sub nom. *Exxon Mobil Corp. v. City of New York*, 134 S. Ct. 1877 (2014).

which he characterized as a claim for "anticipatory trespass."<sup>21</sup> The court granted defendant's motion to dismiss this "anticipatory trespass" claim, ruling that plaintiff had to allege that an actual trespass had taken place before plaintiff could sue on that ground. The court, however, denied defendant's motion to dismiss as to negligence, finding sufficient plaintiff's allegations that defendant used fracking fluid to suppress road dust which entered his property. The court also found that plaintiff's assertions that defendant's fracking operations caused hundreds of trucks to operate at all hours of day and night, and the vehicles created noise, fumes and dust that made it impossible for plaintiff to sleep at night, adequately alleged facts supporting a nuisance claim.

In March 2015, summary judgment was granted to defendants because the plaintiff failed to comply with discovery or produce any legally sufficient evidence to support his negligence, strict liability and nuisance claims (*Kamuck v. Shell Energy Holdings GP LLC*, 2015 BL 82679, M.D. Pa., No. 4:11-CV-1425, 3/25/15).

#### B. Fracking Plaintiffs Must Show Defendants' Actions Caused Alleged Injury.

To prevail in a case alleging that fracking activities have contaminated groundwater, plaintiffs have the burden of demonstrating that defendants caused such contamination.

In *Baker v. Anschutz Exploration Corp.*, defendant prevailed on a lack of causation argument, having obtained exclusion of the expert testimony of plaintiffs' groundwater expert under Federal Rule of Evidence 702 and *Daubert v. Merrill Dow Pharms.*, 509 U.S. 579 (1993).<sup>22</sup> In *Baker*, plaintiffs brought suit against a gas exploration company claiming that defendant drilled a deep horizontal well that allowed methane, iron and manganese to travel to, and contaminate, the shallower aquifer from which they drew water.<sup>23</sup> Defendant argued on summary judgment that plaintiffs could not prove its actions caused contamination of plaintiffs' wells, that plaintiffs suffered adverse health effects or that defendant breached its duty of care. Defendant argued that its deep well was not responsible for any methane problems in plaintiffs' water and presented expert testimony using hydrocarbon isotope analysis to "fingerprint" the methane present in plaintiffs' wells to show that the methane could not have originated in the deep gas producing formations of defendant's well.

The court granted defendant's summary judgment motion after holding that the opinion of the plaintiffs' hydrology expert that fracking was responsible for plaintiffs' contaminated well water failed the *Daubert* test because it was based on nothing more than an alleged temporal association between the drilling of the gas well and their groundwater contamination, plaintiffs' expert had not attempted to identify any fault or fracture that resulted in an alleged connection, could

<sup>21</sup> 2012 BL 405225, M.D. Pa., No. 4:11-cv-1425, 3/19/12.

<sup>22</sup> 2014 BL 355604, W.D.N.Y., No. 11-CV-6119-CJS, 12/17/14.

<sup>23</sup> Plaintiffs alleged claims for negligence, negligence per se, private nuisance, premises liability, trespass, strict liability under the NY Navigation Law Article 12, strict liability for an abnormally dangerous activity, deceptive business practices, fear of cancer and medical monitoring. Note that, although the well construction involved horizontal drilling, it did not use hydraulic fracturing. *Id.*

not show any flaw in defendant's well casing and ignored the isotope analysis. The court also noted that there had been reports of natural gas present in the aquifer since the 1960s and defendant's experts contended that the presence of such "stray gas" depended on aquifer conditions. Without their expert opinion, plaintiffs could not demonstrate causation.

Similarly, in *Hagy v. Equitable Prod. Co.*, plaintiffs alleged that the defendants' fracking operations increased levels of iron and manganese in their water and caused temporary illnesses such as nausea, headaches and slow heartbeat and property damage.<sup>24</sup> Plaintiffs alleged that defendants had been negligent in failing to seal the wells and were also liable under trespass and nuisance theories. But the court found that plaintiffs failed to provide evidence that defendants failed to seal the wells or provide any fact or expert evidence that identified any other wrongful action or inaction that allegedly caused plaintiffs' harm. "At this late point in the proceedings, the plaintiffs have failed to advance a clear theory—let alone provide concrete evidence—connecting this specific defendant to the harm they claim to have suffered."<sup>25</sup> The court also granted summary judgment on plaintiffs' trespass and nuisance claim because the plaintiffs failed to provide sufficient evidence that fracking chemicals contaminated the aquifer they used to obtain drinking water.<sup>26</sup>

In contrast, in *Roth v. Cabot Oil & Gas Corp.*, plaintiffs alleged that defendants' fracking activities had contaminated their drinking water and Pennsylvania Department of Environmental Protection (DEP) samples showed the water contained dissolved methane at levels that made the water unfit to drink. The court denied defendants' motion to dismiss, finding that plaintiffs stated sufficient allegations that defendants' negligent actions, including improper drilling techniques, failure to repair defective well casings, allowing perforation of waste pit liners and spills of drilling fluids, had caused the contamination of plaintiffs' drinking water.<sup>27</sup> In fact, the DEP cited defendants for violations of environmental statutes with regard to these actions, and DEP staff observed gas bubbling near the surface of the well casings, possibly indicating leaks below. The court further found that the causation element was met by defendants' failure to take requisite and necessary precautions to prevent contamination, as well as a Pennsylvania state law presumption that a well operator is responsible for pollution of a water supply if it is

<sup>24</sup> 2012 BL 163076, S.D. W.Va., No. 2:10-cv-01372, 6/29/12, *aff'd*, 541 F. App'x 316 (4th Cir. 2013).

<sup>25</sup> *Id.*

<sup>26</sup> In *Tucker v. Sw. Energy Co.*, 2012 BL 43988, E.D. Ark., No. 1:11-CV-44-DPM, 2/17/12, defendants filed a motion to dismiss a complaint which contained only conclusory allegations that defendants were responsible for plaintiffs' alleged groundwater contamination. The court found the plaintiffs' complaint to be inadequate: "General statements about the many dangerous substances used in fracking, and conclusory statements about the migration of those substances will not suffice[, plaintiffs] must plead more facts linking each company's operations with the particular harm alleged. . . . [Plaintiffs] must allege more than that fracking fluids are dangerous, migratory animals." *Id.* Although it granted the motion to dismiss, the court allowed plaintiffs to file amended complaints.

<sup>27</sup> 919 F. Supp. 2d 476 (M.D. Pa. 2013).

within 1,000 feet of an oil and gas well and the pollution occurred within six months after drilling of the well.<sup>28</sup>

The Pennsylvania presumption applies to any drilling activity, not just fracking, and provides that, if a well operator falls within the presumption, it "shall restore or replace the affected supply with an alternate source of water adequate in quantity or quality for the purposes served by the supply."<sup>29</sup> The presumption may be rebutted by demonstrating: (1) the pollution existed prior to the drilling activity as determined by a predrilling survey; (2) the landowner or water purveyor refused to allow the operator access to conduct a predrilling survey; (3) the water supply is not within 1,000 feet of the well; (4) the pollution occurred more than six months after completion of drilling or alteration activities; or (5) the pollution occurred as the result of a cause other than the drilling activity.<sup>30</sup>

Illinois has a similar presumption applicable to fracking operations, which states that any person conducting fracking operations shall be liable for pollution or diminution of the water supply if: (1) the water source is within 1,500 feet of the well site; (2) water quality data showed no pollution or diminution prior to the start of high-volume horizontal hydraulic fracturing operations; and (3) the pollution or diminution occurred during high-volume horizontal hydraulic fracturing operations or no more than 30 months after the completion of the high-volume horizontal hydraulic fracturing operations.<sup>31</sup> This presumption may be rebutted by clear and convincing evidence showing that: (1) the water source is not within 1,500 feet of the well site; (2) the pollution or diminution occurred prior to high-volume horizontal hydraulic fracturing operations or more than 30 months after the completion of the high-volume horizontal hydraulic fracturing operations; or (3) the pollution or diminution occurred as the result of an identifiable cause other than the high-volume horizontal hydraulic fracturing operations.<sup>32</sup>

### C. Courts Have Not Found Fracking to Be an Abnormally Dangerous Activity That Subjects Defendants to Strict Liability.

No court that has considered the question has concluded as a matter of law that fracking constitutes an abnormally dangerous or ultrahazardous activity that can subject defendants to strict liability. Some courts have denied motions to dismiss strict liability claims finding that, although the existence of strict liability is a question of law for the court, more factual development was necessary to decide that issue.<sup>33</sup>

<sup>28</sup> 58 Pa. Cons. Stat. Ann. § 3218(c).

<sup>29</sup> 58 Pa. Cons. Stat. Ann. § 3218(a).

<sup>30</sup> 58 Pa. Cons. Stat. Ann. § 3218(d)(1).

<sup>31</sup> 225 Ill. Comp. Stat. Ann. 732/1-85(b).

<sup>32</sup> 225 Ill. Comp. Stat. Ann. 732/1-85(c).

<sup>33</sup> In *Berish v. Sw. Energy Prod. Co.*, 763 F. Supp. 2d 702, 706 (M.D. Pa. 2011), for example, plaintiffs claimed that defendant's fracking activities had contaminated their water supply with toxic and carcinogenic fracking fluid and hazardous chemicals including barium and strontium. The court denied defendant's motion to dismiss the strict liability claim, finding that plaintiffs' allegations of contamination of drinking water with hazardous materials was sufficient to state a strict liability claim. The court noted that plaintiffs might have difficulty meeting all the standards of such a claim, however, and the court would consider the issue after discovery, pursuant to a summary judgment motion. *See also Boggs v. Landmark 4*

At least one court, however, noted that “no court in the United States” had found hydraulic fracturing to be an ultrahazardous activity, and it would not do so.<sup>34</sup> In *Ely*, plaintiffs alleged that the fracking activities of defendant drilling and oil and gas well service companies contaminated their groundwater and caused them to suffer illnesses including headaches, upset stomachs and rashes. Plaintiffs sought remediation under the Pennsylvania Hazardous Sites Cleanup Act, negligence, private nuisance, strict liability, breach of contract, fraudulent misrepresentation and medical monitoring. The court granted defendants’ motion for summary judgment on the strict liability claim, finding that plaintiffs failed to proffer sufficient evidence to show that natural gas drilling activities, including hydraulic fracturing, are ultrahazardous.

The court evaluated the claim under the elements of § 519 and § 520 of the Restatement (Second) of Torts, concluding that, based on government and expert reports defendants submitted, fracking when performed properly (not negligently) did not pose a high degree of risk of harm or a significant likelihood of harm, and any risks can be reduced through the exercise of due care. In fact, “the risks for a properly drilled, cased and hydraulically fractured gas well are minimal.”<sup>35</sup> Moreover, the court found that the gas drilling operations were common, conducted in appropriate areas and the economic value of fracking outweighed the potential dangers.

#### D. Fracking Tort Cases May Involve Contract Claims, Defenses.

Courts have recognized that where a defendant had leased a plaintiff’s property for the purpose of oil and gas exploration and production, plaintiff cannot bring an action for trespass. In *Roth v. Cabot Oil & Gas Corp.*, the court observed that, under Pennsylvania law, a trespass is “an unprivileged intentional intrusion upon land in the possession of another” and “a plaintiff must have had exclusive use and possession” of the property at issue.<sup>36</sup> Where a plaintiff has leased mineral rights and authorized defendant to be on its premises, it cannot bring a trespass action. On the other hand, the court found that the lease agreement included a provision requiring defendants to return the groundwater to pre-drilling quality and plaintiffs alleged a breach of contract with regard to that provision.

Similarly, in *Hagy v. Equitable Prod. Co.*, the court granted defendants’ motion for summary judgment as

*LLC*, 2013 BL 62694, N.D. Ohio, No. 1:12-CV-614, 3/11/13 (court denied motion to dismiss abnormally dangerous activity strict liability claim arising from fracking operations, deferring the issue of whether the facts would actually support strict liability to later date); *Tucker*, 2012 BL 43988 (in putative class action on behalf of Arkansas residents living within three miles of fracked wells, court denied defendants’ motion to dismiss strict liability claim, holding that “whether fracking is ultrahazardous is a question of law,” but one that “the Court cannot answer yet” because the “record lacks sufficient information to make this fact-intensive judgment.”); *Kamuck v. Shell Energy Holdings GP LLC*, 2012 BL 405225 (legal determination of whether fracking constitutes ultrahazardous activity under Pennsylvania law cannot be made at the pleading stage); *Fiorentino*, 750 F. Supp. 2d at 512 (same).

<sup>34</sup> *Ely v. Cabot Oil & Gas Corp.*, 38 F. Supp. 3d 518 (M.D. Pa. 2014).

<sup>35</sup> *Id.*

<sup>36</sup> 919 F. Supp. 2d at 492.

to one defendant finding that plaintiffs had signed lease agreements with the well developer that released all of plaintiffs’ claims.<sup>37</sup>

#### E. At Least One Case Has Been Dismissed for Lack of Jurisdiction, Referred to State Oil and Gas Regulatory Agency.

Claims have been made that fracking operations can cause earthquakes—not so much as a result of the initial drilling, but because fracking flowback and production waters may be injected into the ground for disposal. Although wastewater injection occurs with non-fracked wells, fracking may involve re-injection of significant volumes of water. In *Ladra v. New Dominion LLC*, plaintiff was injured during an earthquake on Nov. 5, 2011, when chunks of rock were jarred loose from her fireplace and struck her in the leg.<sup>38</sup> Following a U.S. Geological Survey study published in March 2013 linking the earthquake to wastewater injection, plaintiff filed suit against two fracking companies that were operating in the area. She sought compensatory and punitive damages under strict liability and negligence theories. The trial court dismissed the complaint on Oct. 16, 2014, finding that it lacked jurisdiction. The court held that, because defendants were operating under permits issued by the Oklahoma Corporation Commission, plaintiff’s claims should have been brought in that forum.<sup>39</sup> The Oklahoma Supreme Court has agreed to hear the plaintiff’s appeal.

#### F. Courts Have Issued Lone Pine Orders in Fracking Cases.

One of the more successful defense litigation strategies in fracking litigation (and toxic tort litigation generally) is the use of “Lone Pine” case management orders. A *Lone Pine* order is a pre-discovery tool requiring plaintiffs to substantiate their injuries and their scientific connection to fracking operations, emissions or contamination.<sup>40</sup> For example, in *Teekell v. Chesapeake Operating Inc.*, the court required plaintiffs to submit Federal Rule of Civil Procedure 26 quality expert reports to establish: (1) the identity of each hazardous substance that migrated from defendants’ operations and damaged plaintiffs’ water, surface or air; (2) whether these substances can cause the types of damages and effects plaintiffs claim; (3) the quantitative measurement of any concentration, timing and duration of any contamination for each alleged substance; (4) a conclusion that plaintiffs’ alleged damages were in fact caused by such exposure; and (5) identification of each study and analysis that contains any finding of contamination on plaintiffs’ property. If plaintiffs are unable to produce this evidence, courts may dismiss their claims.<sup>41</sup>

In *Baker v. Anschutz Exploration Corp.*, the court issued a *Lone Pine* order requiring plaintiffs to identify

<sup>37</sup> 541 F. App’x 316, 317-18 (4th Cir. 2013).

<sup>38</sup> *Ladra v. New Dominion LLC*, Okla. Dist. Ct., No. CJ-2014-00115, 8/4/14.

<sup>39</sup> Emily Atkin, *Court Will Decide If Fracking Companies Can Be Held Responsible For Earthquakes*, available at <http://thinkprogress.org/climate/2015/01/26/3615583/oklahoma-fracking-earthquake-case/> (Jan. 26, 2015).

<sup>40</sup> *Lore v. Lone Pine Corp.*, 1987 BL 20, N.J. Super. Ct., No. L-33606-85, 11/18/86.

<sup>41</sup> *Teekell v. Chesapeake Operating Inc.*, W.D. La., No. 5:12-cv-00044, 8/20/12.

and quantify hazardous substances to which they were exposed, and explain where they were exposed and how defendant's activities caused that exposure.<sup>42</sup> Plaintiffs purportedly complied with the order by producing expert reports from a hydrogeologist and an engineer. Defendants moved to strike the reports for failure to provide the required information. The court denied the motion to strike, finding that, although the plaintiffs' expert reports were far from models of clarity, they met the "essential requirements imposed by the *Lone Pine* order" because they identified hazardous substances allegedly found in plaintiffs' well water and conclusory stated that the defendants' natural gas drilling activities had affected that water.<sup>43</sup>

In a recent case that has received much attention, a Colorado district court imposed a *Lone Pine* order, dismissed plaintiffs' claims for failing to comply with the order, but was reversed by the appellate court. In *Strudley v. Antero Res. Corp.*,<sup>44</sup> plaintiffs brought negligence, negligence per se, nuisance, trespass, strict liability and medical monitoring claims against defendants who drilled a completed natural gas well near their home. Plaintiffs alleged that defendants' operations exposed plaintiffs to hydrocarbons through air and water that caused physical injuries and property damage. The court issued a *Lone Pine* order requiring plaintiffs to make a prima facie showing of exposure and causation. The court noted, inter alia, that a state investigation had not shown that plaintiffs' well was affected by oil and gas operations and that emissions controls and wind patterns made it unlikely that plaintiffs were exposed to harmful levels of airborne chemicals.

Plaintiffs produced an expert affidavit, but it did not set forth an opinion that plaintiffs had been exposed to toxic chemicals that caused their injury, only that further discovery was merited. Plaintiffs' expert stated that their illnesses were temporally associated with the wells being brought into production, but lacked any data showing chemical exposures sufficient to cause injury. The court found plaintiffs' expert affidavit failed to set out a prima facie claim and dismissed the case. The appeals court, however, reversed, finding that Colorado courts lacked authority to require plaintiffs to make a showing of a prima facie case before allowing discovery, and even if such an order were permissible, it should not be issued in a relatively simple, single plaintiff case.<sup>45</sup>

The Colorado Supreme Court affirmed the decision of the court of appeals (*Antero Res. v. Strudley*, 2015 BL 111122, Colo., No. 13SC576, 4/20/15).

### G. The Relatively Few Fracking Cases Tried Thus Far Have Mixed Results.

Several fracking-related cases have gone to trial on nuisance claims—all in Texas state court—with two plaintiff and one defense jury verdicts.

In Texas, the new chapter in the Civil Pattern Jury Charges on nuisance claims includes an instruction

that, to constitute a nuisance, the defendant must have "interfered with or invaded plaintiffs' interest by conduct that is negligent, intentional or abnormal and out of place in its surroundings."<sup>46</sup> The charges do not define "abnormal or out of place with its surroundings," and the instruction may be seen as imposing absolute liability under those circumstances even if the conduct is not "negligent" or "intentional." In *Anglim v. Chesapeake Operating Inc.*, plaintiff alleged that defendant's gas wells, which were located 600 feet behind plaintiff's property, constituted a nuisance because they released noxious odors into the air on her property, and defendant's trucks were too noisy. Plaintiff further alleged that the odors were a trespass that diminished her property value.<sup>47</sup> The jury was asked if the defendant's conduct was "abnormal and out of place in its surroundings" and, if so, to assess damages for private nuisance.<sup>48</sup> The jury returned a defense verdict, finding that the defendant's natural gas operations at two wells were not a private nuisance,<sup>49</sup> and the case was later settled while on appeal.<sup>50</sup>

Two weeks after the *Anglim* verdict, a plaintiffs' jury verdict was returned in *Parr v. Aruba Petroleum Inc.* In that case, plaintiffs alleged that drilling and production operations near their property caused acute and chronic continual releases of hazardous substances such as polycyclic aromatic hydrocarbons, nitrogen oxides, carbon monoxide, BTEX (benzene, toluene, ethylbenzene and xylene), formaldehyde and metals.<sup>51</sup> As a result, plaintiffs alleged that they suffered personal injuries—including headaches and bloody noses—and property damage. After a two-and-a-half week trial, the jury was asked to decide if defendant "intentionally created a private nuisance" or if defendant's conduct was abnormal and out of place in its surroundings and, if so, to assess damages for private nuisance. On April 22, 2014, the jury found that the defendant intentionally created a private nuisance but, like the *Anglim* jury, found that defendant's conduct was not abnormal or out of place in its surroundings. The jury awarded plaintiffs \$2.9 million in damages. The case is currently on appeal.<sup>52</sup>

One month after the *Parr* verdict, a jury awarded \$20,000 to the plaintiff-landowners in *Crowder v. Chesapeake Operating Inc.* Like the *Anglim* plaintiffs, the *Crowder* plaintiffs alleged that the well sites behind their property released noxious odors into the air and constituted a noise disturbance, and they claimed that it caused them physical and emotional harm.<sup>53</sup> The *Crowder* jury found that the defendant intentionally

<sup>46</sup> Texas Civil Pattern Jury Charges Chapter 12.

<sup>47</sup> *Anglim v. Chesapeake Operating Inc.*, Tex. Cnty. Ct., No. 2011-008256-1, 11/26/13.

<sup>48</sup> *Anglim v. Chesapeake Operating Inc.*, Tex. Cnty. Ct., No. 2011-008256-1, 4/10/14.

<sup>49</sup> Michael J. Mazzone & Mike Stewart, "EnergyBuzz: Differing Results in Recent Nuisance Cases Against Oil & Gas Operators," Texas Lawyer (Sept. 8, 2014).

<sup>50</sup> See *Anglim v. Chesapeake Operating Inc.*, 2014 BL 340347, Tex. App., No. 02-14-00218-CV, 12/4/14.

<sup>51</sup> *Parr v. Aruba Petroleum Inc.*, Tex. Cnty. Ct., No. CC-11-01650-E, 9/17/13.

<sup>52</sup> Natalie M. Butler, *Parr v. Aruba Petroleum—Texas Family Wins Nuisance Lawsuit against Operator for Fracking Operations*, DRI Toxic Torts, Vol. 17, Issue 3 (Dec. 19, 2014).

<sup>53</sup> *Crowder v. Chesapeake Operating Inc.*, Tex. Cnty. Ct., No. 2011-008169-3, 11/26/13.

<sup>42</sup> 2013 BL 171412, W.D.N.Y., No. 11-cv-6119, 6/27/13.

<sup>43</sup> *Id.*

<sup>44</sup> Colo. Dist. Ct., No. 2011cv2218, 5/9/12, *rev'd*, 2013 COA 106, Colo. Ct. App., No. 12CA1251, 7/3/13, *cert. granted*, Colo., No. 13SC576, 4/7/14.

<sup>45</sup> See also *Roth*, 919 F. Supp. 2d at 481 (denying motion for *Lone Pine* order, preferring to "remain within the dictates of the rules of civil procedure and the standard case management track.").

created a nuisance with its well site, and that the facility was abnormal and out of place for its environment. Although the plaintiffs asked for \$108,000 in past and future damages, the jury found the site was a temporary nuisance, rather than permanent, and did not award future damages. The Crowder parties settled the case while on appeal.<sup>54</sup>

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**Frank Leone** *Frank Leone is a partner at Hollingsworth LLP in Washington, D.C., with expertise*

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<sup>54</sup> See *Chesapeake Operating Inc. v. Crowder*, 2014 BL 340378, Tex. Ct. App., No. 02-14-00323-CV, 12/4/14.

*in environmental and toxic tort litigation. He can be reached at [fleone@Hollingsworthllp.com](mailto:fleone@Hollingsworthllp.com).*

**Mark Miller** *Mark A. Miller is an associate with Hollingsworth LLP and practices in the firm's complex litigation and toxic tort and products liability groups. He can be reached at [mmiller@hollingsworthllp.com](mailto:mmiller@hollingsworthllp.com).*

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