

Defending Fracking Lawsuits

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Introduction

Between mainstream movies starring Matt Damon,¹ documentaries² and counter-documentaries,³ media coverage of drilling-related earthquake activity,⁴ and celebrity protests at the White House,⁵ hydraulic fracturing or “fracking” is one of the most controversial environmental issues. Not surprisingly, lawsuits alleging contamination from hydraulic fracturing have proliferated. Plaintiffs typically allege that the hydraulic fracturing process caused discharge of hazardous chemicals into the ambient air and water resulting in such alleged harms as personal injury, loss of use and enjoyment of property, loss of quality of life and emotional distress, and they seek compensatory and punitive damages and costs for medical monitoring.

The financial and public relations stakes in these cases should not be underestimated. To succeed in fighting off such claims, a defendant must secure an early understanding of plaintiffs’ theories of contamination and the scientific basis to counter these alle-

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gations. In this article, we outline plaintiffs’ theories of exposure and discuss options for challenging plaintiffs’ allegations on two fronts: (1) exposure pathways and (2) medical causation.

The Dimock, PA Experience

In January 2009, landowners in Dimock, PA reported methane gas migrating to the surface and causing a drinking water well to explode. The Pennsylvania Department of Environmental Protection (PADEP) found that 10 area water wells contained elevated levels of methane. PADEP linked the contamination to hydraulic fracturing on eight of 62 area gas wells. PADEP subsequently fined the company for 32 of the wells, concluding that well casing had failed, thereby allowing gas and, possibly, fracking fluid to escape.⁶

Shortly thereafter, 15 landowners filed suit alleging physical injuries and property damage from contamination of these water wells, allegedly exposing them to hydraulic fracturing fluids.⁷ The company agreed to settle with PADEP, paying \$12 million to extend a public water line to the residents whose water wells had been contaminated and \$4 million in penalties.

With the benefit of hindsight and discounting that Dimock was an early, highly publicized conflict that created enormous public pressure, it appears that the company may have reacted too precipitously in settling PADEP’s claims. In July 2012, EPA announced that it had completed sampling of private drinking water wells in Dimock and determined that there were not levels of contaminants present that would require additional action.⁸ Soon thereafter, the defendant and all but three plaintiff families entered a joint stipulation of dismissal. The court allowed counsel for the remaining three plaintiff families to withdraw in



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December 2012, setting a deadline for securing new counsel. The experiences in the Dimock, PA case provide important object lessons in the critical importance of early, proactive defense preparation.

Investigating Alleged Exposure Pathways

To assess liability risk, defendants must identify and analyze potential exposure pathways. Plaintiffs have claimed that fracking causes contamination of ambient air and water resources. Filings in pending litigation show that plaintiffs have identified potential exposure pathways, including the following:

1. Leaks and Blowouts Due to Defective Casing or Cement Jobs. Plaintiffs have alleged that the high-pressure injection of fracking fluids can cause leaks in well casings. A 2011 National Academy of Sciences study found that average methane concentrations in shallow wells in active gas drilling and extraction areas were 17 times higher than those in non-active areas.

2. Improper Disposal or Treatment of Contaminated Wastewater. Plaintiffs have alleged that disposal of wastewater generated in hydraulic fracturing operations has caused contamination. A portion of fracturing fluid (called “wastewater” or “slickwater”) returns to the surface for disposal. EPA has estimated that the recovered fluids range from 15 to 80 percent of the volume injected, depending on the site.⁹ The wastewater is typically disposed of by injection into rock formations underground or treatment at wastewater plants.

3. Aquifer Migration. Plaintiffs claim that fracking fluids and gases leak into aquifers through well shafts and rock faults due to high-pressure horizontal fracking, which disturbs the natural underground rock formations. Pointing to migration of methane through fractures of faults throughout the watershed, they claim that the water quality of aquifers, wells, reservoirs and surface waterways are polluted by the toxic

and radioactive chemicals contained in the fracking fluids.¹⁰

4. Air Emissions. Plaintiffs allege that natural gas fracking extraction emits greenhouse gases, smog-inducing compounds and potential carcinogens, causing health and environmental effects. Most studies purport to tie harmful air emissions to production from fracked gas wells and compressor stations and not specifically to the hydraulic fracturing fluids or process.¹¹

Challenging Alleged Exposure Pathways

To defeat such claims, a defendant company must evaluate carefully such critical facts as the distance between fracked wells and groundwater sources; the chemical constituents of fracturing fluids; and the likelihood that the chemicals have moved. To show that contamination attributable to hydraulic fracturing is not occurring, a defendant should retain a team of experts, including the following:

- hydrogeologists to analyze movement, distribution and quality of fracturing fluids, ground and surface water; prepare environmental modeling of fluids; analyze water quality; and evaluate biological monitoring metrics;
- environmental engineers to analyze emission sources and air pollution controls, monitor and model atmospheric pollutants and prepare environmental impact assessments;
- industry knowledge experts to discuss industry knowledge of the alleged hazards of hydraulic fracturing and the use of certain chemicals;
- industry operations experts to discuss the process, purpose and industry use of hydraulic fracturing; and
- local knowledge experts to discuss alternative causes, history of drilling in the area and value of local real estate.

A defendant company should also develop a plan to analyze and challenge damage models used by plaintiffs. Economists should analyze the impact of alleged ground and surface water contamination on residential and commercial property values, prepare natural resource damage assessments to quantify value of impaired natural resources and assess costs of remediation or replacement of impacted groundwater resources.

Investigating Allegations Of Medical Causation

Plaintiffs have claimed multiple physical injuries, including cancer, neurological deficits, and breathing problems, caused by exposure to contaminated groundwater and air sources. Typically, plaintiffs seek damages for future medical monitoring, claiming that exposure to toxic chemicals has

caused an increased risk of latent disease.

Anti-fracking advocates have focused on identifying the chemical constituents of hydraulic fracturing fluids. In 2011, a congressional committee reported that between 2005 and 2009, 14 oil and gas companies injected 780 million gallons of fracking chemicals and substances into wells.¹² The committee reported that these companies used hydraulic fracturing products containing 29 chemicals that are known or possible human carcinogens and are regulated under the Safe Drinking Water Act for their risks to human health or listed as hazardous air pollutants under the Clean Air Act.¹³ Benzene, toluene, xylene and ethylbenzene appeared in 60 of the hydraulic fracturing products used between 2005 and 2009.¹⁴ Each is a regulated contaminant under the Safe Drinking Water Act and a hazardous air pollutant under the Clean Air Act. An environmental advocacy group claims to have conducted a review of oil and gas service company chemical disclosure records and has reported that these fluids contained as much as 93 times more benzene than diesel contains.¹⁵

Scientists at the Endocrine Disruption Exchange found that 25 percent of fracking chemicals could cause cancer; 37 percent could disrupt the endocrine system; 40 to 50 percent could affect the nervous, immune and cardiovascular systems; and more than 75 percent could affect the sensory organs and respiratory system, likely causing problems such as skin and eye irritation and flu-like symptoms.¹⁶

Challenging Allegations Of Medical Causation

Studies and statistics like those noted above represent a substantial challenge for defendants. While the fluids contain hazardous chemicals, defendants must show that the alleged exposure to these chemicals did not cause the complained-of condition. A defendant should retain medical experts to examine potential causal links between a certain plaintiff's disease and the potential chemicals to which the plaintiff was allegedly exposed. These experts should review plaintiffs' specific medical histories and diagnoses and analyze disease process and causation in general. Among the medical disciplines involved are neurology, to assess and dispute the existence of neurological deficits or diseases; oncology, to identify the potential causes of disease; epidemiology, to assess the cause, distribution and control of diseases allegedly related to exposure to fluids; and toxicology, to opine on the nature and treatment of the alleged toxic chemicals.

Conclusions

Continued development of unconventional oil and gas resources presents important opportunities for economic growth. Lawsuits arising out of the exploration and production of these resources increase associated costs and threaten to impose roadblocks on development. Careful planning and proactive defense of these lawsuits can reduce these costs and prevent erection of roadblocks.

1 *Promised Land*, <http://www.imdb.com/title/tt2091473/>.

2 *Gasland*, <http://www.imdb.com/title/tt1558250/>.

3 *Frack Nation*, <http://fracknation.com/>.

4 E.g., <http://www.cnn.com/2010/US/09/02/fracking/index.html>; http://rockcenter.nbcnews.com/_news/2013/01/31/16774620-fracking-provides-boundless-energy-jobs-and-earthquakes?lite.

5 <http://wfrackorg.blogspot.com/2011/08/daryl-hannah-arrested-in-white-house.html>.

6 Consent Order and Agreement Between the Commonwealth of Pennsylvania, Department of Environmental Protection and Cabot Oil and Gas Corporation, November 4, 2009, available at http://s3.amazonaws.com/propublica/assets/natural_gas/final_cabot_co-a.pdf.

7 *Florentino v. Cabot Oil & Gas Corporation*, No. 3:09-cv-02284 (M.D. Pa. Nov. 19, 2009).

8 United States Environmental Protection Agency News Release, available at <http://yosemite.epa.gov/opa/admpress.nsf/90829d899627a1d98525735900400c2b/1a6e49d193e1007585257a46005b61ad!opendocument>.

9 United States Environmental Protection Agency, Hydraulic Fracturing Research Study, available at <http://www.epa.gov/safewater/uic/pdfs/hfresearchstudyfs.pdf>.

10 Rubin, Paul. Hydroquest. Comments on the Scope of EPA's Proposed Study of Hydraulic Fracturing. August 10, 2010, available at [http://hydroquest.com/Hydrofracking/Key%20Reasons%20to%20Ban%20Hydraulic%20Fracturing%20in%20NYS%20\(%208-14-12%20-%20HydroQuest\).pdf](http://hydroquest.com/Hydrofracking/Key%20Reasons%20to%20Ban%20Hydraulic%20Fracturing%20in%20NYS%20(%208-14-12%20-%20HydroQuest).pdf).

11 In April 2012, EPA promulgated final rules requiring hydraulic fracturing operations to, among other things, implement control strategies to reduce emissions of volatile organic compounds released from such operations. 77 Fed. Reg. 49490 (August 1, 2012).

12 House Energy and Commerce Committee Minority Staff Report (April 2011) at 2, 9, available at <http://democrats.energycommerce.house.gov/sites/default/files/documents/Hydraulic-Fracturing-Chemicals-2011-4-18.pdf>.

13 *Id.* at 1.

14 *Id.* The hydraulic fracturing companies injected 11.4 million gallons of products containing at least one BTEX chemical over the five-year period. *Id.* at 2.

15 Horwitt, Dusty, "Drilling Around the Law," The Environmental Working Group (2010), at 2, available at <http://static.ewg.org/files/EWG-2009-drillingaroundthelaw.pdf>.

16 Colbourn, Theo, et al, "Natural gas operations from a public health perspective," Accepted for publication in the *International Journal of Human and Ecological Risk Assessment*, September 4, 2010, at Abstract and 9, available at http://www.endocrinedisruption.com/files/NaturalGasManuscriptPDF09_13_10.pdf.