

FRACKING FAD: THE MORALLY AMBIGUOUS
METHOD OF EXTRACTION AND THE TRADE
SECRET PROTECTIONS OF ITS CHEMICAL
FORMULAS

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ABSTRACT

Hydraulic fracturing (“fracking”) has taken the nation’s political soapbox by storm in the last decade, despite being in practice since the mid-20th century. The recent surge of debate comes from an increasing amount of states passing regulatory schemes for when fracking is used in the extraction of natural gas and other energy producing materials. The regulation of energy extraction has been and continues to be a state issue rather than federal. One of the major concerns of the energy industry with new regulation is the increasing demand for disclosure of the chemicals and processes used in fracking, something the industry considers to be protected as trade secrets. The regulating states (and many citizens) have advocated the disclosure of chemicals based upon the belief that these chemicals taint groundwater and create other environmental hazards. This topic has seen excessive debate since its arrival to the forefront of the nation’s attention, but the future of the regulatory process continues to be in a state of flux. This paper evaluates the claims of both sides in order to answer a broader policy question: who should win. More specifically, what is more important in the current political landscape: state sovereignty, the environment, or a self-sustaining energy industry. This Note argues that recent legislation in California and a proposed bill in Alaska, the increasing demand for a self-sustaining oil industry and the nature of the industry itself, lack of comprehensive schemes of environmental protection enforcement, and the inconsistency of state law, demand and require a federal regulatory overhaul of the industry.

INTRODUCTION

Hydraulic fracturing, more commonly known as “fracking,” is the “process in which fractures in rocks below the earth's surface are opened and widened by injecting chemicals and liquids at high pressure: used especially to extract natural gas or oil.”¹ While this phenomenon has seen a

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1. *Hydraulic Fracturing Definition*, DICTIONARY.COM, <http://dictionary.reference.com/browse/hydraulic+fracturing> (last visited Oct. 26, 2013).

vast array of controversy and debate in the last decade, it is not a novel process.² After the idea of injecting non-explosive materials into the ground to stimulate oil well production took hold of the drilling industry in the 1930s, the process as it is known today was introduced by Stanolind Oil in 1949.³ Each well that implemented this new process saw an increase in production of 75% on average.⁴

As a result of the advent of this incredibly efficient technique, the process has become widespread throughout the industry; some wells that originally used one “frac stage” may now use as many eight, or even forty for the largest of wells.⁵ However, as its use has now permeated the industry, so too has the controversy. Many actors, both individuals and groups, have called for strict regulation of the industry and even the banning of the process because of its alleged damaging effects on persons, property, and the environment as a whole.⁶

The public backlash against the fracking industry has resulted in numerous states passing or petitioning for legislation that requires the drilling companies to disclose certain information that the drilling industry considers to be protected by trade secret law.⁷ One of the major disputes surrounding the recent legislative action is the content that states are requiring companies to disclose.⁸ Recent legislation in California and a proposed bill in Alaska mandate the public disclosure of the chemicals in the formula used during well injections, some of which the fracking

2. Carl T. Montgomery & Michael B. Smith, *Hydraulic Fracturing: History of An Enduring Technology*, 62 J. OF PETROLEUM TECH. 26, 27 (Dec. 2010).

3. *Id.*

4. *Id.*

5. *Id.*

6. See Kevin Begos, *Gas Drilling Research Suffers From Lack of Funding*, HUFFINGTON POST (Aug. 12, 2012), http://www.huffingtonpost.com/2012/08/01/gas-drilling-research-funding_n_1729815.html (detailing that “[e]nvironmentalists claim that the fluids associated with drilling could rise and pollute shallow drinking water aquifers, and that methane leaks cause serious air pollution.”); *EPA’s Study of Hydraulic Fracturing and Its Potential Impact on Drinking Water Resources*, ENVIRONMENTAL PROTECTION AGENCY, <http://www.epa.gov/hfstudy> (last updated Sept. 20, 2013) (stating that the EPA is conducting an environmental study at the request of Congress and providing a progress report with said study); Jason Silverstein, *How Fracking Is Bad for Our Bodies*, THE ATLANTIC (Oct. 8, 2013), <http://www.theatlantic.com/health/archive/2013/10/how-fracking-is-bad-for-our-bodies/280384/> (stating that there are several social, environmental, and health-related problems for communities that experience population boosts due to a productive well that uses fracking).

7. See generally Yereth Rosen, *Alaska Fracking Rules Would Boost Public Notice, Disclosure*, REUTERS, (Sept. 23, 2013), <http://www.reuters.com/article/2013/09/23/us-alaska-fracking-idUSBRE98M1BT20130923>.

8. *Id.*

industry considers to be protected as trade secrets.⁹ This, above all, has been the perpetual fuel source for a seemingly unending debate. While this Note does not propose to solve an incredibly intricate and delicate problem, the analysis and arguments that follow will serve as balancing points to present the choices that should not be considered and why the current model of state regulation will not sustain any positive yields for any interests.

This Note focuses on the impact that the trend of disclosure of alleged trade secrets has on the law of trade secrets and the national oil and gas industry. Neither one of these issues is new, but the increased media attention of the hydraulic fracturing industry has caused scholars to look into this budding area of industry. This Note takes two propositions and combines them to make a policy argument. The first proposition comes from Professor Keith B. Hall's scholarly work on the law of trade secrets in relation to chemical makeup of frac fluids and the increasing trend of mandatory disclosure.¹⁰ Professor Hall analyzes in depth a majority of the issues stemming from the trade secret debate ingrained in the trend of disclosure.¹¹ The amount of background and analysis provided by this article lays the foundation that the chemical formulas and other proprietary information claimed by the hydraulic fracturing industry most likely are and should be considered trade secrets.¹² The article provides detailed insight into background, such as the intricacies of multiple state statutes and regulations;¹³ however, Professor Hall finds the issue does not require a federal overhaul.¹⁴ The second proposition, that the issue demands uniformity through federal action, can be found in Professor Michael Burger's article on the regulation and political economy of the fracking

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9. *Id.*; see also Sharon Bernstein, *California Fracking Bill Signed into Law by Governor Jerry Brown*, HUFFINGTON POST, Sept. 20, 2013, http://www.huffingtonpost.com/2013/09/21/california-fracking-bill_n_3965069.html (“ ‘Oil companies will not be allowed to frack or acidize in California unless they test the groundwater, notify neighbors and list each and every chemical on the Internet,’ Pavely said. ‘This is a first step toward greater transparency, accountability and protection of the public and the environment’ ”).
 10. See Keith B. Hall, *Hydraulic Fracturing: Trade Secrets and the Mandatory Disclosure of Fracturing Water Composition*, 49 IDAHO L. REV. 399 (2013).
 11. *Id.* at 400 (“This article begins with background discussion of hydraulic fracturing and the movement toward mandatory disclosure. The article then examines ways in which the states’ regulations differ, analyzes which differences are most important, and offers conclusions regarding which regulatory approaches are best. Finally, the article discusses several other issues that have arisen with respect to mandatory disclosure.”).
 12. *Id.* at 435 (stating that trade secrets should be presumed to exist when claimed and exempted from public disclosure, but never definitively stating if the chemical formulas are or should be considered trade secrets).
 13. *Id.* at 409-419.
 14. *Id.* at 432.

industry.¹⁵ Professor Burger wrote this article in response to Professor David B. Spence's suggestion that the current federal regulation is enough.¹⁶ As this Note argues in favor of a uniform federal law, it takes many of the arguments advanced by Professor Spence in determining whether the issue is under- or over-regulated by the federal government, and applies these arguments through the issues brought up in Professor Burger's response to Spence's theory. This analysis is undertaken to advocate for the idea that in order to protect the trade secrets of the hydraulic fracking industry, uniform federal regulation and oversight is necessary.

Part I of the paper provides a brief introduction into the hydraulic fracturing process. Part II of the paper focuses exclusively on the proprietary nature of the chemical compounds and processes and whether the trade secret statuses of these assets afford them any protections under current and proposed state regulations. Part III examines the federal policy aspects currently regulating the industry. Part IV will briefly detail the current regulations' economic impact on the oil and gas industry, as well as the possible and plausible future impacts. Part V argues in favor of greater federal interaction with the industry in order to allow for a sustainable oil industry and a greater free-market incentive for the industry to continue to grow, while still protecting the sanctity of trade secret law.

I. BACKGROUND OF THE HYDRAULIC FRACTURING PROCESS

Currently, regulations in many states require a disclosure of chemicals that will be used in the process.¹⁷ The fracking process itself contains many levels of processes with a myriad of different methods and chemicals.¹⁸ It is necessary at this point of the discussion to explain the fracking process in

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15. See Michael Burger, *Fracking and Federalism Choice*, 161 U. PA. L. REV. ONLINE 150 (2013), <http://www.pennlawreview.com/responses/2-2013/Burger.pdf>.
 16. *Id.* at 153 (referencing David B. Spence, *Federalism, Regulatory Lags, and the Political Economy of Energy Production*, 161 U. PA. L. REV. 431 (2013)).
 17. See John D. Furlow & Corinne V. Snow, *In the Wake of the Shale Revolution: A Primer on Hydraulic Fracturing Fluid Chemical Disclosure*, 8 TEX. J. OIL GAS & ENERGY L. 249, 263 (2013) (stating that "at least eighteen states have adopted hydraulic fracturing chemical disclosure regulations, including: Arkansas, Colorado, Idaho, Indiana, Louisiana, Michigan, Mississippi, Montana, New Mexico, North Dakota, Ohio, Oklahoma, Pennsylvania, South Dakota, Texas, Utah, West Virginia, and Wyoming. Presently, California and Alaska have draft disclosure rules."); see also Sharon Bernstein, *California Fracking Bill Signed into Law by Governor Jerry Brown*, HUFFINGTON POST, Sept. 20, 2013, http://www.huffingtonpost.com/2013/09/21/california-fracking-bill_n_3965069.html. The level of disclosure differs from state to state. See generally Hall, *supra* note 10, at 409-419 (discussing differences between select state regulations).
 18. See JOHN H. GRAVES, *FRACKING: AMERICA'S ALTERNATIVE ENERGY REVOLUTION* 99-127 (2012) (describing the various methods, chemicals, and processes involved in opening a frack).

greater detail to give insight to the nature of use of the proprietary items contested. In an oversimplified explanation:

Fracking is the process of opening seams in deep rock with high-pressure fluids mixed with sand and trace amounts of chemicals. The liquid is extracted, leaving the sand in place. The sand holds open the fractures in the rock. The hydrocarbon [(oil or like resource)] then flows out along these fractures, up the borehole, and is transshipped.¹⁹

Currently, there are three methods of fracking that are commonplace in the industry: slick water, gel, and acid.²⁰ Although acid fracking usually does not involve the use of proppants,²¹ the other two methods employ their use of proppants to the extent that the proppant industry has seen demand increase more than five-fold in the last decade.²²

These chemicals are not placed within the fracking fluid at random; each additive has its own “specific engineered purpose.”²³ “Generally, these additives serve two distinct but overlapping goals: (1) to ensure the safety and integrity of the well and (2) to increase the productive efficiency of the well.”²⁴ It is logical that companies involved in these processes would wish to protect their information or methods; if it were realistically and financially possible for competitors to reverse-engineer the chemical makeup of frac fluid, a company’s incentive to invest in advancing fracking technology declines drastically.²⁵

19. *Id.* at 99.

20. Slick water is the most common fracking method; it often is the process being referred to when discussing fracking in general. “Slick water is most commonly used in deep holes, where the water is under extreme pressure . . . The chemicals used are friction-reducing agents, biocides, scale inhibitors, and surfactants.” *Id.* at 100. Gel fracking was the earliest used technique involving chemical mixtures such as “napalm laden with sand.” *Id.* at 101. “It [gel fracking] is waterless, as it uses LPG, or liquefied petroleum gas.” *Id.*

21. See GRAVES, *supra* note 18, at 102. Acid fracking is the use of acidic materials to “etch” channels into susceptible rock, such as limestone, that holds hydrocarbon deposits and generally does not involve the use of proppants to hold open the boreholes and fissures. *Id.*

22. See Robin Beckwith, *Hydraulic Fracturing: The Fuss, The Facts, The Future*, 62 J. OF PETROLEUM TECH. 34, 38 (Dec. 2010) (“According to a 2009 global proppant market study by D. Anschutz and B. Olmen, published by PropTester and Kelrik in early 2010, proppant consumption was a low-growth market through the 1990s, but rose from an estimated 3 billion pounds in 1999 to total consumption of nearly 20 billion pounds in 2009”).

23. See Ground Water Prot. Council, U.S. DEP’T OF ENERGY, *Modern Shale Gas Development in the United States: A Primer* 61-62 (2009), available at http://www.netl.doe.gov/technologies/oil-gas/publications/EPreports/Shale_Gas_Primer_2009.pdf.

24. See Furlow & Snow, *supra* note 17, at 258.

25. See Hall, *supra* note 10, at 421 (“Further, even if trade secrets are not publicly disclosed, a company still may be able to determine the composition of a competitor’s fracturing fluid additives through reverse engineering, and the more detail is contained in public disclosures the more likely that becomes.”).

In defense of the state disclosure mandates, these regulations “were adopted to achieve two primary goals: (1) to reassure the public about the safety of hydraulic fracturing operations in the wake of allegations of potential groundwater contamination; and (2) to provide regulators with more information about the process.”²⁶ This Note seeks to establish that these regulations result in unfavorable penalties for the industry as a whole and undermine the very spirit of trade secret law by forcing the energy industry to either submit to disclosure or avoid the advantages associated with drilling in that jurisdiction in an effort to keep proprietary information secret.

II. CHEMICAL COMPOUNDS AND PROCESSES ARE TRADE SECRETS

At first glance, it appears that the use, nature, and application of the chemical compounds would appear to fall within the definition of trade secrets. The chemicals included in the fracking fluid definitively are part of a formula, and the methods used to create fluid are also well within the protective scope of U.S. trade secret law.²⁷ However, like many modern legal issues that encompass growing technologies, the answer is never simple.²⁸ In this Part, the nature of the trade secret debate will be analyzed by examining general trade secret applicability.

This analysis stems almost entirely from the debate over whether or not chemical compounds and processes of fracking are protected by U.S. trade secret law. The drilling industry maintains that these are trade secrets, and that the mandatory disclosure regulations being passed infringe upon the protection of the industry’s assets.²⁹ The keystone to this segment rests squarely upon whether or not trade secret protection is available to the industry.

A. A Baseline Examination of Trade Secret Law

A trade secret is traditionally defined as “any information that can be used in the operation of a business or other enterprise and that is sufficiently valuable and secret to afford an actual or potential economic

26. See Furlow & Snow, *supra* note 17, at 302.

27. See generally RESTATEMENT (THIRD) OF UNFAIR COMPETITION § 39 cmt. d (1995) (listing generally accepted types of trade secrets).

28. See *e.g.*, United States v. Flores-Lopez, 670 F.3d 803, 805 (7th Cir. 2012) (discussing at length the issues in determining when a cell phone is a computer for the purposes of a 4th Amendment search and seizure analysis).

29. See generally Rosen, *supra* note 7 (“Industry representatives complained at the hearing and in written testimony that the proposed Alaska fracking regulations are stricter than those in place or proposed in other states. They objected to the specific chemical disclosures because they would reveal proprietary formulas and trade secrets.”).

advantage over others.”³⁰ This definition is sufficiently broad to encompass many things,³¹ and in the modern era, the protection of such qualifying information that gives an entity an advantage is crucial in any competitive business model.³² The protection can be extended to any “formula, pattern, compilation of data, computer program, device, method, technique, process, or other form or embodiment of economically valuable information.”³³

An example of one of the most commonly mentioned trade secrets is the formula used in producing The Coca-Cola Company’s flagship soft drink, Coca-Cola. Although the formula was allegedly deciphered in 1979 by Charles Salter, and more recently by the radio program *This American Life*,³⁴ the company continues to maintain the formula as a protected trade secret since proportions and procedures have never been officially revealed.³⁵ This aura of mystique not only keeps the consumer interested,³⁶

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30. RESTATEMENT (THIRD) OF UNFAIR COMPETITION § 39 (1995).
31. See generally Bruce Watson, *Shhh: 10 Make-or-Break Trade Secrets*, DAILY FINANCE, (July 4, 2010), <http://www.dailyfinance.com/2010/07/04/trade-secrets/> (listing Thomas English Muffins recipes and processes, the Google page search algorithm, KFC’s Fried Chicken recipe, and the mechanisms involved in selecting materials for *The New York Times* Best Seller List as examples of trade secret).
32. See Michael Risch, *Why Do We Have Trade Secrets?*, 11 MARQ. INTELL. PROP. L. REV. 1, 26 (2007) (stating that the best justification for trade secret protection is the economic benefit) (“[E]conomic analysis shows that the particular bundle of rights associated with trade secrets adds to societal wealth in a defensible, potentially measurable and provable way.”).
33. RESTATEMENT (THIRD) OF UNFAIR COMPETITION § 39 cmt. d (1995).
34. See Katie Rogers, *‘This American Life’ Bursts Coca-Cola’s Bubble: What’s in the Original Recipe Anyway?*, THE WASHINGTON POST (Feb. 15, 2011, 12:31 PM), http://voices.washingtonpost.com/blog-post/2011/02/this_american_life_bursts_coca.html.
35. See Gene Quinn, *Vault with Coca-Cola Trade Secret Formula on Public Display*, IPWATCHDOG (Jan. 26, 2012, 8:10 AM), <http://www.ipwatchdog.com/2012/01/06/vault-with-coca-cola-trade-secret-formula-on-public-display/id=21588/>; but see Michael Risch, *Why Do We Have Trade Secrets?*, 11 MARQ. INTELL. PROP. L. REV. 1, 49 (2007) (citing The Coca-Cola Company, *The Real Story of New Coke*, THE COCA-COLA COMPANY, (Nov. 14, 2012), <http://www.coca-colacompany.com/stories/coke-lore-new-coke> (“Consider as an illustration Coca-Cola Company’s switch to New Coke in 1985. While the trademark was protected through a variety of merchandise and use on other soft drink products around the world, the ‘secret formula’ for Coca-Cola was no longer in use. Under the Restatement view, Coca-Cola would have lost trade secret rights in the formula, which could have proved disastrous for Coca-Cola had its security measures not been effective. Each of the four efficiency effects discussed above is present. First, allowing PepsiCo to infiltrate Coca-Cola and lawfully take the formula for Coca-Cola just because the formula was not in use would have caused Coca-Cola to implement even more security measures than it already does. Second, if PepsiCo had been able to sell a Coke flavored drink, then PepsiCo might have ceased the research that brought Crystal Pepsi and Pepsi ONE to the world. Third, the ability to keep the old formula as a trade secret encouraged Coca-Cola to innovate by creating the formula for New Coke. Fourth, and most

but also acts as an effective buffer to its competitors that may try to infringe on its established economic rights.³⁷

This buffering effect is the center of the debate as far as the industry is concerned. As long as the buffer exists, so does the incentive to continue to invest in the processes and technology.³⁸ On the other side, states wish to protect the rights and properties of their citizens from harm.³⁹ Now that a brief and oversimplified background of trade secret law has been established, the next section applies trade secret law to the fracking industry.

B. Trade Secret Analysis and Exceptions of Trade Secrets

Since the advent of the industry, fracking companies have sought to protect their interests. With the arrival of the new state regulations, they have continued their fight.⁴⁰ “Natural gas companies have typically resisted disclosure of the chemicals used in fracking by arguing that the information is a trade secret.”⁴¹ Historically, their arguments were not met with much

important by far, given the fact that Coca-Cola Classic was later marketed using the original formula, continued protection during the temporary non-use of the ‘secret formula’ makes sense.”).

36. Assuming that the aura is but a minor consumer draw compared to the allure of the soft drink’s actual consumption.
37. See Risch, *supra* note 32, at 26 (stating that the best justification for trade secret protection is the economic benefit: “[E]conomic analysis shows that the particular bundle of rights associated with trade secrets adds to societal wealth in a defensible, potentially measurable and provable way”).
38. See generally Hall, *supra* note 10, at 421 (“Further, even if trade secrets are not publicly disclosed, a company still may be able to determine the composition of a competitor’s fracturing fluid additives through reverse engineering, and the more detail is contained in public disclosures the more likely that becomes”).
39. See generally Ronald J. Allen and Larry Laudan, *Why Do We Convict as Many Innocent People as We Do?*, 41 TEX. TECH L. REV. 65, 82 n. 93 (2008); see John C.P. Goldberg, *The Constitutional Status of Tort Law Due Process and the Right to a Law for a Redress of Wrongs*, 115 YALE L.J. 524, 542-44 (2005) (suggesting through a Lockean analysis that as individuals enter into a social contract with the government, they delegate their right to seek redress to the government, who must then enforce and correct wrongs against its citizens).
40. See Rosen, *supra* note 7 (stating that the companies in Alaska are asking for less regulation regarding the disclosure of chemical compounds).
41. Hannah Wiseman, *Trade Secrets, Disclosure, and Dissent in A Fracturing Energy Revolution*, 111 COLUM. L. REV. SIDEBAR 1, 6 (2011) (referencing Katie Howell, *More Oversight Sought for Hydraulic Fracturing*, N.Y. TIMES, Nov. 4, 2009, available at <http://www.nytimes.com/gwire/2009/11/04/04greenwire-moreoversight-sought-for-hydraulic-fracturing-35961.html> (on file with the *Columbia Law Review*) (describing some companies’ resistance to disclosure).

opposition, and the chemicals and processes were protected under trade secret law.⁴²

The oft-referenced authority in discerning the proprietary nature of contested information is a comment in the Restatement of Torts.⁴³ This comment has, over the course of litigation history, come to stand for the proposition that there are six factors in evaluating whether certain items are trade secrets.⁴⁴ However, it should be noted that the Restatement does not imply that these individual parts are elements; rather, the use of the word “factors” implies that a totality of the circumstances approach should be used in an attempt to analyze the presence of trade secret status.⁴⁵ Each state that adopted the Uniform Trade Secret Act has its own adaptation of the law;⁴⁶ therefore, it should be considered that any one claim in this process is governed by the law of the state. This is consistent with current

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42. See generally Katie Howell, *More Oversight Sought for Hydraulic Fracturing*, N.Y. TIMES, Nov. 4, 2009, at <http://www.nytimes.com/gwire/2009/11/04/04greenwire-moreoversight-sought-for-hydraulic-fracturing-35961.html> (Referencing the industry’s reaction to public pressure: “In the past, companies have been loath to disclose the components of fracturing fluids, saying the ingredients were the equivalent of trade secrets. But resistance seems to be waning, as leaders of two gas producers and a service company have recently proclaimed their willingness to make public details about hydraulic fracturing fluids”).
43. See RESTATEMENT OF TORTS (FIRST), § 757, cmt. b (1939); see, e.g., *Sandlin v. Johnson*, 141 F.2d 660, 661 (8th Cir. 1944) (citing to this section of the Restatement for guiding authority in the evaluation of a trade secret).
44. See, e.g., *ILG Industries, Inc. v. Scott*, 93, 273 N.E.2d 393, 396 (1971) (“(1) [T]he extent to which the information is known outside of his business; (2) the extent to which it is known by employees and others involved in his business; (3) the extent of measures taken by him to guard the secrecy of the information; (4) the value of the information to him and to his competitors; (5) the amount of effort or money expended by him in developing the information; (6) the ease or difficulty with which the information could be properly acquired or duplicated by others.”); see also Moderator: Hugh C. Hansen et. al., *Panel III: Trade Secrets and Other Avenues for Protection of Advanced Technology*, 20 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 875, 878 (2010).
45. See RESTATEMENT OF TORTS (FIRST), § 757, cmt. b (1939); but see *In re Bass*, 113 S.W.3d 735, 739-40 (Tex. 2003) (“[M]any other jurisdictions continue to apply and treat the six factors as relevant criteria used to determine if something is a trade secret. Texas courts of appeals who continue to apply this test are split on whether the six-factors should be weighed as relevant criteria or whether a person claiming trade secret privilege must satisfy all six factors before trade secret status applies”).
46. But see Hall, *supra* note 10, at 432-433 (citing *Legislative Fact Sheet - Trade Secrets Act*, UNIFORM LAW COMM’N, <http://www.uniformlaws.org/LegislativeFactSheet.aspx?title=Trade%20Secrets%20Act> (last visited Feb. 22, 2013) (“But this turns out not to be a problem. The definition of ‘trade secret’ is a matter of state law, and there might be slight nuances from state to state in what constitutes a trade secret, but there is substantial uniformity. Approximately forty-seven states, Puerto Rico, the Virgin Islands, and the District of Columbia have adopted some version of the Uniform Trade Secrets Act (UTSA)”)).

energy extraction regulation, which has been and continues to be delegated to the states.⁴⁷ For example, the Ohio definition of trade secret differs from the Texas version.⁴⁸ However, this can be argued as being a moot point considering the uniformity of the application of trade secret law in the United States.⁴⁹

The main conflict between the current and future state regulations involves the public revealing of proprietary information contended by the industry to be a trade secret.⁵⁰ The public information exception can

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47. See Hall, *supra* note 10, at 432 (“The regulation of oil and gas activity traditionally has been a matter of state law”).
48. Compare Ohio Rev. Code Ann. § 1333.61(D) (West, Westlaw through 2013 File 59 of the 130th Gen. Assemb. (2013-2014)): “Trade secret’ means information, including the whole or any portion or phase of any scientific or technical information, design, process, procedure, formula, pattern, compilation, program, device, method, technique, or improvement, or any business information or plans, financial information, or listing of names, addresses, or telephone numbers, that satisfies both of the following: (1) It derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use. (2) It is the subject of efforts that are reasonable under the circumstances to maintain its secrecy” with RESTATEMENT OF TORTS (FIRST), § 757, cmt. b (1939) (Texas has adopted the Restatement’s definition as the guiding authority for trade secret evaluation (See Jonathan Groves, *Rule 29 or: How the Railroad Commission Learned to Stop Worrying and Love Hydraulic Fracturing*, 14 Tex. Tech Admin. L.J. 195, 214 (2012) (referencing *Hyde Corp. v. Huffines*, 314 S.W.2d 763, 776 (Tex. 1958))).
49. See Hall, *supra* note 10, at 432-433 (citing *Legislative Fact Sheet - Trade Secrets Act*, UNIFORM LAW COMM’N, <http://www.uniformlaws.org/LegislativeFactSheet.aspx?title=Trade%20Secrets%20Act> (last visited Feb. 22, 2013) (“But this turns out not to be a problem. The definition of ‘trade secret’ is a matter of state law, and there might be slight nuances from state to state in what constitutes a trade secret, but there is substantial uniformity. Approximately forty-seven states, Puerto Rico, the Virgin Islands, and the District of Columbia have adopted some version of the Uniform Trade Secrets Act (UTSA).”).
50. See, e.g., Cal. Pub. Res. Code § 3160(j)(1) (West, Westlaw through urgency legislation through Ch. 3 of 2014 Reg. Sess. and all propositions on the 6/3/2014 ballot 2014). California recently passed legislation amending the regulations for hydraulic fracturing. SB 4, 2013-2014 Leg. Sess. (Cal. 2013) (available at http://leginfo.ca.gov/faces/billNavClient.xhtml?bill_id=201320140SB4). The relevant amendment to subsection (j) of chapter 3160 under Title 3 of the California Public Resource Code states: (1) Public disclosure of well stimulation treatment fluid information claimed to contain trade secrets is governed by Section 1060 of the Evidence Code, or the Uniform Trade Secrets Act (Title 5 (commencing with Section 3426) of Part 1 of Division 4 of the Civil Code), and the California Public Records Act (Chapter 3.5 (commencing with Section 6250) of Division 7 of Title 1 of the Government Code). (2) Notwithstanding any other law or regulation, *none of the following information shall be protected as a trade secret*: (A) The identities of the chemical constituents of additives, including CAS identification numbers. (B) The concentrations of the additives in the well stimulation treatment fluids. (C) Any air or other pollution monitoring data. (D) Health and safety data associated with well stimulation treatment fluids. (E) The chemical composition of the flowback fluid. (3) If a trade secret claim is invalid or

prevent a trade secret from being asserted or established.⁵¹ However, before getting to the public disclosure exception in any trade secret claim, the propriety nature of the information must be established.⁵² For example, in *ILG Industries v. Scott*, the Illinois Supreme Court analyzed the claim that the trade secret status of industrial fans was infringed upon under Illinois law.⁵³ In order to determine whether the trade secret was misappropriated, the court analyzed the alleged intellectual property (component parts and design drawings) to determine if the property in question were indeed trade secrets.⁵⁴ Defendant Scott, who was a former employee of ING, took the design drawings after leaving its employ. He appealed on the notion that the reverse engineering exception to liability for a misappropriation of a trade secret exempted him from liability and did not warrant an injunction.⁵⁵ While the court stated that the trial court correctly found trade secret status,⁵⁶ it also affirmed the precedent that if a trade secret can be reverse-engineered only through a time-consuming and expensive process, the trade secret will not lose its protection.⁵⁷

There are a multitude of reasons the industry wishes to maintain trade secrets. The majority of these reasons are financial.⁵⁸ However, the mere declaration that something is a trade secret does automatically qualify it for such status.⁵⁹ The relevant exception to trade secret protection in the matter of chemical compound disclosure is the public disclosure exception. In order to shed light on the applicability of this exception, multiple jurisdictions will be examined in order to show the similarities and slight differences in application of state trade secret laws.

invalidated, the division shall release the information to the public by revising the information released pursuant to subdivision (g). The supplier shall notify the division of any change in status within 30 days. Cal. Pub. Res. Code § 3160(j)(1) (emphasis added). *But see* Cal. Pub. Res. Code § 3160(j)(4)(A) (allowing for trade secret protection only if the claimed information is disclosed to the governing division).

51. *See* RESTATEMENT (THIRD) OF UNFAIR COMPETITION § 39 cmt. f (1995).
52. *See, e.g.*, *ILG Industries, Inc. v. Scott*, 273 N.E.2d 393, 395 (Ill. 1971).
53. *See* *ILG Industries, Inc. v. Scott*, 273 N.E.2d 393 (Ill. 1971).
54. *Id.* at 395.
55. *Id.*
56. *Id.* (citing *Brown v. Commercial National Bank*, 247 N.E.2d 894, 897 (Ill. 1969) (“In all, there was sufficient evidence to support the trial court’s finding that the two particular drawings containing the information and specifications in question were trade secrets and the findings in this regard must be affirmed”).
57. *Id.* at 395.
58. *See* Furlow & Snow, *supra* note 17, at 260 (“In the highly competitive and diversified oilfield services market, the development of new hydraulic fracturing technologies can confer distinct market advantages to those who use them”).
59. *See* RESTATEMENT (THIRD) OF UNFAIR COMPETITION § 39 cmt. b (1995) (noting the requirements of value and secrecy in the doctrinal developments of the law of trade secrets).

One exception to trade secret protection occurs when the information seeking to be protected is available to the public or is common knowledge. For example, in *Pestco, Inc. v. Associated Products, Inc.*, the Superior Court of Pennsylvania found that bills of lading containing names and addresses of customers were not protected by trade secret law, even though this jurisdiction held customer lists as protectable items.⁶⁰ Applying this standard to the disclosure of fracking compound elements, there is at least one jurisdiction in which it is possible that a trade secret claim could be challenged under the state regulatory scheme. In Texas, the disclosure regulations require well operators to not only disclose chemicals used in the process, but to upload this information to a public website.⁶¹ It would seem that this information now falls within the exception of public knowledge. At this juncture, the argument is not considering whether the initial requirement to disclose is violative of the rights of the trade secret holder; rather, this specific statutory analysis focuses on whether the maintaining of publically accessible information that includes data held to be trade secrets may lawfully occur without incurring liability for abuse of proprietary information.

The Texas statute points to the Code of Federal Regulations for further guidance.⁶² The applicable section of the Code of Federal Regulations mandates the disclosure of hazardous chemicals via a “safety data sheet.”⁶³ The Texas statute merely requires the same information that is provided on these forms be uploaded to a public website.⁶⁴ In essence, it requires a public hazard notice for all MSDS recognized chemical hazards, regardless of whether a company contends the information is a trade secret.⁶⁵

60. See *Pestco, Inc. v. Associated Products, Inc.*, 880 A.2d 700, 707 (Pa. Super. Ct. 2005) (stating “It is well-settled that ‘[e]quity will not protect mere names and addresses easily ascertainable by observation or reference to directories’” (alteration in original) (quoting *Renee Beauty Salons, Inc. v. Blose-Venable*, 652 A.2d 1345, 1349 (Pa. Super Ct. 1995))).

61. See TEX. NAT. RES. CODE ANN. § 91.851(a)(1)(B)(ii) (West, Westlaw through the end of the 2013 Third Called Session of the 83rd Legislature).

62. *Id.*

63. See 29 C.F.R. § 1910.1200(g)(2) (2012); see also Keith B. Hall, Hydraulic Fracturing: Trade Secrets and the Mandatory Disclosure of Fracturing Water Composition, 49 IDAHO L. REV. 399, 410 (referencing the OSHA federal regulation as a oft used method of MSDS disclosure).

64. *Id.*; see also TEX. NAT. RES. CODE ANN. § 91.851(a)(1)(B)(ii) (West, Westlaw through the end of the 2013 Third Called Session of the 83rd Legislature).

65. See generally Furlow & Snow, *supra* note 8, at 282 (stating “Operators must provide FracFocus [(the public website)] with the CAS number of each MSDS chemical ingredient as well as its concentration as a percent by mass. On the other hand, operators and service companies are not required to give the concentration of non-hazardous chemical ingredients.”); see also TEX. NAT. RES. CODE ANN. § 91.851(a)(7) (2011) (requiring a process “consistent with 29 C.F.R. § 1910.1200” to disclose information that is regarded as a trade secret to “a health care professional or emergency responder who needs the information”).

Facially, this regulation seems to directly infringe upon the proprietary rights of drilling companies. The state statute points the analysis to the Texas statute governing public information.⁶⁶ Public information is defined as any:

information that is written, produced, collected, assembled, or maintained under a law or ordinance or in connection with the transaction of official business:

- (1) by a governmental body;
- (2) for a governmental body and the governmental body:
 - (A) owns the information;
 - (B) has a right of access to the information; or
 - (C) spends or contributes public money for the purpose of writing, producing, collecting, assembling, or maintaining the information; or
- (3) by an individual officer or employee of a governmental body in the officer's or employee's official capacity and the information pertains to official business of the governmental body.⁶⁷

In order to establish that the information has become public information as defined by statute, it is necessary to show that a “governmental body” or “officer or employee” of that body has “written, produced, collected, assembled, or maintained under a law or ordinance or in connection with the transaction of official business” the information contended to be proprietary.⁶⁸ As FracFocus, the Internet domain where required disclosures are maintained, was created by Ground Water Protection Council and the Interstate Oil and Gas Compact Commission,⁶⁹ it is likely that the records under this set of regulations and statute can be viewed as public information under the Texas statute.

Under Texas law, the Texas Public Information Act is controlling as to whether or not information contended to be a trade secret has been adequately disclosed so as to destroy any protection for the intellectual property or fall under one of the exceptions.⁷⁰ The Third District of the Texas Court of Appeals provides a complete analysis of Texas trade secret law pertaining to the public information exception in its decision in *Boeing*

66. See TEX. NAT. RES. CODE ANN. § 91.851(b) (West, Westlaw through the end of the 2013 Third Called Session of the 83rd Legislature) (“The protection and challenge of trade secrets under this section is governed by Chapter 552, Government Code”).

67. TEX. GOV'T CODE ANN. § 552.002 (West, Westlaw through the end of the 2013 Third Called Session of the 83rd Legislature).

68. *Id.*

69. See *About Us*, FRACFOCUS, <http://fracfocus.org/welcome>, (last visited Mar. 16, 2014).

70. See *Boeing Co. v. Abbott*, 412 S.W.3d 1, 7 (Tex. App. 2012), reh'g overruled (2012) (referencing TEX. GOV'T CODE ANN. § 552.002: “Accordingly, once the facts are established, a determination of whether an exception under the PIA applies to support the withholding of public information is a question of law”).

Co. v. Abbot.⁷¹ At issue in *Boeing* was the intellectual property status of a lease of real property between Boeing and The Port Authority of San Antonio.⁷² The court first examined if the lease information was “‘expressly confidential under other law’ and therefore exempt from the mandatory disclosure requirement of section 522.022.”⁷³ The court reasoned that if the lease information was a common-law trade secret, then the lease would be within the confidentiality exception of the mandatory disclosure requirement.⁷⁴

The trial court did not find that the lease information was a common-law trade secret.⁷⁵ Here, the appellate court conducted a *de novo* review of the contention that the lease information was a trade secret as a matter of law.⁷⁶ The majority of the analysis conducted by the appellate court rested on whether the lease information was readily available information to the public.⁷⁷ Because of the lack of enforceable provisions within the business agreement and the lack of convincing market advantages, the appellate court declined to grant trade secret status to the information as a matter of law.⁷⁸ Though somewhat related to the trade secret status of the information, Boeing argued in the alternative that the government could be enjoined from disclosing the lease information under the private party exception provided by statute, but was again denied relief.⁷⁹

71. See *Boeing Co. v. Abbott*, 412 S.W.3d 1 (2012). This case is of particular relevance as it involves a contractual agreement concerning alleged trade secrets between a private party corporation and the government, which directly parallels many of the contracts held by the fracking industry.

72. *Id.*

73. *Id.* at 9 (referencing the confidentiality exception of TEX. GOV'T CODE ANN. § 552.022(a)).

74. *Id.*

75. *Id.* (“As the fact finder, the trial court found that the Lease information is not a trade secret. This Court is bound to this finding unless the evidence demonstrates, as Boeing contends it does, that the Lease information is a trade secret as a matter of law.”)

76. *Id.* at 8-9 (referencing the use of the 6 nonexclusive factors to determine the existence of a trade secret).

77. See *Boeing Co.* 412 S.W.3d 1, 10 (2012) (“David Bouse, former director of human resources for Boeing, testified that the Lease is not publicly available, such as through Boeing's internal or external websites. He also testified that the Lease is kept in a file cabinet in the office of Boeing's facility manager and that access to the Lease within Boeing is limited to senior staff members in finance and management. With regard to first and second factors, the undisputed evidence demonstrates that Boeing has not generally made the Lease information known outside its business and has limited its availability to certain employees within Boeing”).

78. *Id.* at 11-12.

79. *Id.* at 13-16 (referencing the “confidential under law” exception of TEX. GOV'T CODE ANN. § 552.104); see *Boeing Co.* 412 S.W.3d 1, 18 (“Under the plain language of the PIA, section 552.104 is a discretionary exception, which may be waived by the governmental body unless disclosure is “prohibited by law” or the

None of the states currently requiring disclosure of chemical compounds refuse to recognize trade secrets.⁸⁰ Trade secret law encompasses, primarily, a bundle of economic rights.⁸¹ While the regulations provide protection, the increasing amount of disclosure has undoubtedly intruded into that bundle of rights. As demonstrated in this section, courts of different jurisdictions have different processes in determining whether or not a proprietary item is a trade secret.⁸² While the claims must not be simply accepted by the states or regulatory bodies, a continual trend of disclosure, even to protect the proprietary status of the information, can only lead to the dismantling of the economic rights of the industry.

C. Limited Disclosure of Proprietary Information

At this point, the author reinforces the notion that this Note does not seek to perpetuate a brick wall of secrecy between commerce, government, and the people. The need for some disclosure of some of the proprietary information is ultimately necessary in order to prevent social injustice.⁸³ The trend of increasing public disclosure is not favorable to the fracking industry.⁸⁴ If this trend continues, as it seems to be doing, then the marketable edge of the industry loses its luster and its potential. However, the degree of disclosure is something that impacts whether a trade secret has been made public.⁸⁵

information is “confidential under law.”) Since the information did not qualify as a trade secret, it could not be confidential under law. *Id.*

80. *See* Hall, *supra* note 10, at 411 (“The differences do not relate to whether trade secrets will be protected from public disclosure. All of the states’ regulations provide such protection.”).
81. *See* Risch, *supra* note 32, at 26.
82. *Compare* Boeing Co. v. Abbott, 412 S.W.3d 1, 9 (Tex. App. 2012) (looking at common-law trade secret analysis in absence of asserted contractual claim in misappropriation suit) *with* ILG Industries, Inc. v. Scott, 93, 273 N.E.2d 393, 396 (1971) (analyzing based off of structure of applicable law).
83. *See generally* OSHA, *Hazard Alert: Worker Exposure to Silica During Hydraulic Fracturing* (June 2012), *available at* https://www.osha.gov/dts/hazardalerts/hydraulic_frac_hazard_alert.pdf (stating the health hazards presented by airborne silica are a danger to workers involved in upstream extraction of natural gas).
84. *See* discussion Part II.A, *supra*.
85. *See* Hall, *supra* note 10, at 426 (discussing the public information request for frac fluid composition that resulted in a lawsuit against a Wyoming regulatory agency and the differences between public disclosure exemption and regulatory disclosure: “The states’ mandatory disclosure regimes are uniform in exempting trade secrets from public disclosure. But the regulations differ on the question of whether companies must disclose trade secrets to regulators. Some states require such disclosure to *regulators*, while others do not”). (emphasis in original).

The MSDS limited disclosure under 29 C.F.R. § 1910.1200(g)(2) presents as many advantages as it does obstacles.⁸⁶ Keith B. Hall, the Director of the Louisiana Mineral Law Institute and a professor of law at Louisiana State University, provides insight into the future boons and banes of a limited disclosure under OSHA's federal safety regulation.⁸⁷ The limitations on what may be disclosed favor the industry, and the chemicals that are disclosed by a company on an MSDS sheet are likely to be of the hazardous variety.⁸⁸ In contrast, the limited disclosure can cause an oversight into other potentially dangerous chemicals not yet found to be dangerous, and the distinction between "hazardous" and "harmful" may yet prove to be another hurdle.⁸⁹

Earlier in this section, the hydraulic fracturing regulation and public disclosure trends under state law were discussed.⁹⁰ Within this section, the California Public Records Act⁹¹ will be applied to determine whether the disclosure regulations may fall outside the scope of limited disclosure. Generally, any request for proposal made under this act will be complied with, excepting narrowly construed situations.⁹² One examination of the law states:

Section 6254(k) of the California Government Code contains an exemption for trade secrets under the California Evidence Code. Section 1060 of the Evidence Code permits the owner of a trade secret to refuse disclosure unless it would conceal fraud or work an injustice. The trade secret exception is narrow and fact-based, with specific factors that the courts have developed over the years. Courts also apply a balancing test between the public policy in favor of disclosure and the confidentiality of the information designated a trade secret by a company.⁹³

86. See Hall, *supra* note 10, at 410.

87. *Id.*

88. *Id.*

89. *Id.* (referencing Matthew McFeeley, *State Hydraulic Fracturing Disclosure Rules and Enforcement: A Comparison*, NRDC ISSUE BRIEF, 6 (July 2012), <http://www.nrdc.org/energy/files/Fracking-Disclosure-IB.pdf>).

90. See discussion Part II.B, *supra*.

91. See Cal. Gov't Code §§ 6250-6276.48 (West, Westlaw through Ch. 3 of 2014 Reg. Sess. and all propositions on the 6/3/2014 ballot).

92. See Jack Boos and Sonia R. Gioseffi, *The Threat of Disclosure of Proprietary Information Under the California Public Records Act*, K&L GATES, 1 (Sept. 10, 2013), http://m.klgates.com/files/Publication/03c1b0ac-8319-419c-98e1-683153ec1686/Presentation/PublicationAttachment/7eb35c17-21c9-470b-a50b-703c128aa9bb/Government_Contracts_Alert_09102013.pdf

93. *Id.*; but see Cal. Gov't Code § 6254.7(d) (West, Westlaw through Ch. 3 of 2014 Reg. Sess. and all propositions on the 6/3/2014 ballot) (stating "trade secrets are not public records under this section").

Undoubtedly, disclosure for medical use is in the best interests of society,⁹⁴ and the trade secret protection still provided by the act does not entirely disturb the bundle of economic rights held by the hydraulic fracturing companies.

One novel doctrine in trade secret application, while limited in its scope, could potentially become relevant. Currently, the doctrine of “inevitable disclosure” is receiving attention in the Federal District Courts of New York.⁹⁵ However, the court limited the recent decision to invalidate an injunction preventing a disclosure of an alleged trade secret based on the theory of inevitable disclosure to trade secrets under New York substantive law.⁹⁶

The current status of many of the regulations equals that of limited disclosure.⁹⁷ The increasing trend of more detailed disclosure is not conducive to the trade secret rationale of the industry;⁹⁸ again, while limited disclosure is necessary,⁹⁹ the degree of disclosure currently being exhibited by the most recent regulations is worrisome.

III. CURRENT FEDERAL GOVERNMENT REGULATION CONCERNING FRAC FLUIDS

While it has been argued that hydraulic fracturing has been regulated to a degree by the federal government,¹⁰⁰ this Note argues that this is not the reality of the law. Three federal laws will be examined in both language and application to determine their true effects on the regulation of hydraulic fracturing: the Toxic Substances Control Act, the Safe Drinking Water Act, and the Clean Water Act. The requirements imposed by the Bureau of Land Management will be examined later,¹⁰¹ and a brief survey of Occupational Safety and Health Administration requirements in

94. See Hall, *supra* note 10, 422 n. 181 (referencing several states’ administrative code regulations requiring disclosure of frac fluid composition to medical professionals).

95. See Law360, *The Scope of ‘Inevitable Disclosure’ in Trade Secrets* (Nov. 4 2013), available at <http://www.andersonkill.com/webpdfext/The-Scope-of-Inevitable-Disclosure-in-Trade-Secrets.pdf> (discussing the application of the “inevitable disclosure doctrine” under New York employment law).

96. *Id.* (referencing the holding of *Janus et Cie v. Andrew Kahnke*, No. R-CIV-7201-WHP (S.D.N.Y. Aug. 29, 2013)).

97. See, e.g., Cal. Pub. Res. Code § 3160(j)(1) (West, Westlaw through urgency legislation through Ch. 3 of 2014 Reg. Sess. and all propositions on the 6/3/2014 ballot 2014) (requiring disclosure of the allegedly hazardous components of the fracking process but carving out an exception for trade secret claims).

98. See Risch, *supra* note 32, at 26.

99. See generally OSHA, *supra* note 83.

100. See Burger, *supra* note 15, at 153.

101. See discussion, Part VI, *infra*.

conjunction with limited medical disclosure to provide context to what would otherwise be a vacuum analysis of statutory law was discussed earlier.¹⁰²

A. Toxic Substances Control Act

The Toxic Substances Control Act (“TSCA”) is a statutory grant of authority to the Environmental Protection Agency (“EPA”) “to create a regulatory framework to collect data on chemicals in order to evaluate, assess, mitigate, and control risks that may be posed by their manufacture, processing, and use. TSCA provides a variety of control methods to prevent chemicals from posing unreasonable risk.”¹⁰³ It follows logically that since the use of chemicals pervades hydraulic fracturing, that the EPA may regulate this sector. However, it is necessary to determine the extent to which the EPA actually regulates the industry so as to ascertain the true nature of federal regulation under this statute.

In 2011, a petition by Earthjustice (a conglomeration of 120 environmental advocacy and policy groups) went before the EPA to require disclosure of any and all chemicals “used in oil and gas exploration or production.”¹⁰⁴ In response to this, the EPA “stated in November 2011 that it will draft regulations under the Toxic Substances Control Act to require companies to disclose information regarding ‘chemical substances and mixtures used in hydraulic fracturing.’”¹⁰⁵ However, the EPA’s statement mentions that any regulations drafted under this Act will “attempt to avoid duplication of ‘the well-by-well disclosure programs already being implemented in several states’, and that it anticipates that its regulations will ‘focus on providing aggregate pictures of the chemical substances and mixtures used in hydraulic fracturing.’”¹⁰⁶

B. Safe Drinking Water Act

102. See discussion, Part II.C, *supra*.

103. *Overview of the Toxic Substances Control Act (TSCA)*, EPA, [http://www.epa.gov/oecaagct/lasca.html#Summary%20of%20Toxics%20Substances%20Control%20Act%20\(TSCA\)](http://www.epa.gov/oecaagct/lasca.html#Summary%20of%20Toxics%20Substances%20Control%20Act%20(TSCA)) (Last updated on June 27, 2012).

104. See Earthjustice, *Citizens Petition under Toxic Substances Control Act Regarding the Chemical Substances and Mixtures Used in Oil and Gas Exploration or Production* at 1, (filed with EPA on Aug. 4, 2011), available at http://www.epa.gov/oppt/chemtest/pubs/Section_21_Petition_on_Oil_Gas_Drilling_and_Fracking_Chemicals8.4.2011.pdf.

105. See Hall, *supra* note 10, at 431 (citing Letter from Stephen A. Owens, Assistant Administrator, Env’tl. Prot. Agency, to Deborah Goldberg, EARTHJUSTICE (Nov. 23, 2011), available at <http://www.epa.gov/oppt/chemtest/pubs/EPA-Letter-to-Earthjustice-on-TSCA-Petition.pdf>).

106. *Id.*

The Safe Drinking Water Act (“SDWA”) was enacted in order to regulate the public water systems of the nation.¹⁰⁷ Since fracking procedures occur primarily underground and often involve the injection of chemicals,¹⁰⁸ it would appear that hydraulic fracturing operations would be governed by applicable law under the statute. However, this is not the case. The language of SDWA § 1421(d)¹⁰⁹ explicitly excludes the industry from underground injection controls (“UIC”). The only explicit federal regulation of the industry under the SDWA is the use of diesel fuel in drilling operations.¹¹⁰ The author is hard-pressed to accept the argument that the UIC rights given to the States under this Chapter of the United States Code as adequately enforcing or equaling a federal regulation of the industry’s trade secrets regarding frac formula composition.¹¹¹

C. Clean Water Act

The Clean Water Act allows the EPA to “regulat[e] the discharge of pollutants from point sources to waters of the United States.”¹¹² Under this authority, any runoff or pollutant dispersal originating from a fracking outfit may be subject to federal regulation.¹¹³ However, similar to the SDWA, the oil and gas industry is exempted from regulation under this statute.¹¹⁴

107. EPA Office of Groundwater and Drinking Water, *Understanding the Safe Drinking Water Act* at 1 (June 2004).

108. See Part I, *supra*.

109. See 42 U.S.C. § 300h(d) (2006).

110. See *Regulation of Hydraulic Fracturing Under the Safe Drinking Water Act*, EPA, http://water.epa.gov/type/groundwater/uic/class2/hydraulicfracturing/wells_hydror eg.cfm (last updated on Feb. 11, 2014) [hereinafter *Regulation of Hydraulic Fracturing*] (“While the SDWA specifically excludes hydraulic fracturing from UIC regulation under SDWA § 1421 (d)(1), the use of diesel fuel during hydraulic fracturing is still regulated by the UIC program. Any service company that performs hydraulic fracturing using diesel fuel must receive prior authorization through the applicable UIC program”).

111. For a discussion of proposed federal regulation currently in consideration by Congress and a proposed regulation by the Bureau of Land Management, see discussion Part V, *infra*.

112. *Clean Water Act*, EPA, http://cfpub.epa.gov/npdes/cwa.cfm?program_id=45 (Last updated on December 17, 2012 4:28 PM).

113. See *Regulation of Hydraulic Fracturing*, *supra* note 110.

114. See NRDC, *NRDC Policy Basis: Fracking* at 1, (2013) (available at <http://www.nrdc.org/legislation/policy-basics/files/policy-basics-fracking-FS.pdf>) (“Oil and gas operations are exempt from important permitting and pollution control requirements of the Clean Water Act, including the storm water runoff permit requirement. In addition, there is a loophole that allows certain wastewater produced by oil and gas wells to be discharged into surface waters in the western United States”).

It was recently reported that, unbeknownst to the general public, the coastal waters of California have been subjected to a large amount of hydraulic fracturing.¹¹⁵ In fact, it is estimated that for the past two decades the drilling companies have been allowed to disperse chemicals into the waters without the requisite permissions under the Clean Water Act.¹¹⁶ As a result of this revelation, the EPA has published a regulation that requires these companies to disclose the chemicals being dumped into coastal waters.¹¹⁷ According to one source, the “logic is that offshore fracking has largely occurred in existing wells, locations for which companies already jumped through all the environmental hoops long ago.”¹¹⁸

This new regulation, under the modern trend of disclosure, could prove to be a true regulation of the industry’s proprietary interests. However, the likelihood of this is incredibly low. The new regulation applies only to those wells to be opened on the existing oil platforms offshore, and not to those that are currently in use.¹¹⁹ Essentially, the rule achieves the same level of oversight as would a mandatory limited disclosure for safety purposes required by a state.¹²⁰ Although this recent development exhibits a likelihood that the EPA and federal government will make efforts to take regulatory action in the future, the current regime does not amount to actual federal regulation due to the lack of applicable statutory authority and enforcement protocols.

IV. THE FAR REACHING EFFECTS OF HYDRAULIC FRACTURING

Until this point, the main focus has been on whether 1) frac fluids and the processes used in hydraulic fracturing constitute trade secrets under the current law and regulations and 2) whether the current federal regime is structured in a way to adequately regulate the fracking industry. As this Note argues that these are indeed trade secrets, and that the current federal regime fails to address both the concerns of the industry and local

115. See Karen Pelland, MISSION & STATE, *Frack Attack* at 1, (Oct. 18, 2013) (available at <http://www.missionandstate.org/features/frack-attack/>).

116. *Id.*

117. See Nick Cunningham, *EPA Issues New Rule to Require Chemical Disclosures for Offshore Fracking*, OILPRICE.COM (January 12, 2014), <http://oilprice.com/Energy/General/EPA-Issues-New-Rule-to-Require-Chemical-Disclosures-for-Offshore-Fracking.html>.

118. *Id.*

119. See Jason Dearen and Alicia Change, *EPA to Require California Fracking Reports*, USA TODAY (last updated on January 9, 2014 at 2:26 p.m.), <http://www.usatoday.com/story/money/business/2014/01/09/epa-to-require-s-calif-offshore-fracking-reports/4392921/>.

120. *Id.* (“The EPA’s rule will provide some information about the toxic fracking chemicals dumped into our ocean, but it relies on oil companies to be honest and transparent in their self-reporting,” said Miyoko Sakashita, senior attorney at the Center for Biological Diversity”).

governments, the remainder of this Note will consist of analyzing data in order to determine what policy should be followed so that the law of trade secrets is not sufficiently intruded on to create a façade of protection.

The effects of hydraulic fracturing have greater impact on lesser perceived aspects of daily life than one would think. The regulations placed by the federal and state governments serve as buffers to the ambitions of the drilling industry by protecting the environment and the rights of their citizens.¹²¹ The question to be asked in this section is this: by passing regulations that increasingly require more detailed disclosure of proprietary information, what does the government actually achieve? This argument stands for the proposition that the problems the state governments intend to prevent by requiring disclosure of the chemical formulas will continue to occur regardless of the amount of or restrictiveness of the applicable regulations.

A. *The Socioeconomic Flux*

As worrisome as pollution of the environment and water sources can be, what is even more worrisome is the after-effects of fracking on the communities surrounding and supporting a well. In 1974, ElDean V. Kohrs wrote on the effects of “boom growth” in Wyoming.¹²² While not entirely prescient in the matter at hand, the propensity exists for any given community to fall victim to this phenomenon.¹²³

Kohrs was not the first to write about the correlation between population surges, energy sources, and negative social behavior,¹²⁴ but it was not clear until Kohrs’ study of small Wyoming boomtowns that the negative effects of such booms were recognized as the standard and not the exception. These effects became known as “Gillette Syndrome.”¹²⁵ As the population of a boomtown rapidly surges, the effects start to take hold.

In the 1974 study, Kohrs observed a select number of counties experience the swift acting socioeconomic problems that accompany “Gillette Syndrome.”¹²⁶ In particular, the county that experienced the

121. See discussion on limited disclosure necessities Part II.C, *supra*.

122. See ElDean V. Kohrs, *Social Consequences of Boom Growth in Wyoming*, (Paper presented at the Rocky Mountain American Association of the Advancement of Science Meeting, April 24-26, 1974; Laramie, Wyoming), available at <http://www.sublettewyo.com/ArchiveCenter/ViewFile/Item/97>.

123. See Jason Silverstein, *How Fracking Is Bad for Our Bodies*, THE ATLANTIC (Oct. 8, 2013), <http://www.theatlantic.com/health/archive/2013/10/how-fracking-is-bad-for-our-bodies/280384/> (referencing multiple sources of sociological theory that purport that boom type phenomenon in communities cause spikes in unwanted human behavior).

124. See e.g., J.L. Freedman, et. al, *Effect of Crowding on Human Task Performance*, J. OF APPLIED SOCIAL PSYCHOLOGY 7-25 (1971).

125. See Kohrs, *supra* note 122 at 3 (describing the various negative socioeconomic effects that accompany the advent of a boomtown as “Gillette Syndrome”).

126. *Id.*

greatest population surge also experienced a higher divorce-marriage ratio, high dropout rates, and large increases in public drunkenness and overall justice budget expenditures.¹²⁷ Again, this study was done in the post-Modern era, not the Old West, and the only mental image that one can conjure from these statistics is the exact ending from Clint Eastwood's *High Plains Drifter*.¹²⁸

Albeit not intending to deliver an Orson Welles type prophetic message of doom and dismay, the socioeconomic harms of boomtowns are no less a danger than any possible pollution of water sources. In fact, given the regulations already enforced that regulate the *disposal of waste*, and that the information concerning the waste is regulated only by proxy, the socioeconomic harms should be considered a greater danger because of the probability of harm.

B. The Almighty Sustained Natural Gas Pipe Dream v. Nurturing Nature – A cursory Look at Ohio's Proposed Regulations of its Fracking Outfits

Ever since humanity became dependent on an industrialized society, natural gas has taken on an incredible burden.¹²⁹ The benefit of a self-sustaining natural gas industry is more than just simple supply and demand economics.¹³⁰ As discussed earlier,¹³¹ the natural gas industry has more effects than merely environmental hazards and economic boon. This section will focus on the proposition that the fracking industry itself, not the natural gas industry as a whole, possesses economic import of great magnitude.

The opportunity to become a self-sustaining natural gas state is an incredible benefit.¹³² The value forecasts for Ohio—a potential “power

127. *Id.* at 5.

128. The author implores the reader to observe the film; an explanatory spoiler at this juncture would do more rhetorical harm than good.

129. See generally APGA, *A Brief History of Natural Gas*, AMERICAN PUBLIC GAS ASSOCIATION (2012), <http://www.apga.org/i4a/pages/index.cfm?pageid=3329> (last visited March 14, 2014) (“Natural gas currently supplies more than one-half of the energy consumed by residential and commercial customers, and about 41 percent of the energy used by U.S. industry”).

130. See generally Kristen Allen, *The Big Fracking Deal: Marcellus Shale - Pennsylvania's Untapped Resource*, 23 VILL. ENVTL. L.J. 51, 74-76 (2012) (discussing the intricacies of severance tax implementation in the regulation of new extraction wells in Pennsylvania).

131. See discussion Part III.A, *supra*.

132. See generally Ohio Shale Coalition, Ohio Chamber of Commerce, *An Analysis of The Economic Potential for Shale Formations in Ohio 1*, available at http://law.case.edu/lectures/files/2013-2014/20140305_Econ_Impact_of_Utica_Shale.pdf (describing the potential benefits of Ohio shale-bed extraction as a “dramatic renaissance” in the state’s gas industry).

player” in the new wave of fracking—include in the calculations a myriad of factors, such as taxes and related job creation value, that coincide with the arrival and continued production of fracking wells.¹³³ In fact, Ohio is currently using this model as a platform for recently passed state legislation: Senate Bill 315.¹³⁴ Ohio has access to parts of both the Utica and Marcellus shale beds within its sovereign borders.¹³⁵ Ohio has taken the position that in order to obtain this maximizing resource, the fracking must be allowed to take place.¹³⁶

However, the state’s willingness to distribute fracking permits is tempered by the legislation embraced by SB 315. Beyond the other planned requirements for well-construction, natural gas extraction companies must, under the bill, share proprietary information with doctors.¹³⁷ This requirement does not amount to the degree of disclosure of some other states.¹³⁸ The full text of the bill outlines further disclosure regulation than the political materials being distributed.¹³⁹ The regulation provides for

133. *Id.* at 2-3 (referencing increasing values in employment, labor income, output, and local and state taxes over the last four years under a model that “anticipated spending in Ohio for leasing, road construction, drilling and completing wells, and building of post-production natural gas infrastructure” during the period spanning 2011-2014).

134. *See Transforming Ohio for Growth – SB 315: Ohio’s Energy Policy* 1 (last visited March 14, 2014), available at http://development.ohio.gov/files/bs/SB%20315_Energy%20FINAL.pdf [hereinafter *Transforming Ohio*].

135. *See* GRAVES, *supra* note 18, at 82, 94.

136. *See generally* Dan Gerino, THE COLUMBUS DISPATCH, ‘Fracking’ Permits Booming (Oct. 13, 2011), available at <http://www.dispatch.com/content/stories/local/2011/10/13/fracking-permits-booming.html> (“Of the 45 horizontal-drilling permits that have been issued for Ohio’s Utica shale formation, more than half were issued since July [2011]”; *see also Transforming Ohio, supra* note 130).

137. *See Transforming Ohio, supra* note 134 at 1 (referencing the Ohio Department of Natural Resources reporting requirement that “All chemical information, including trade secret formulas, must be shared with doctors, and medical professionals may share even proprietary chemical information with the patient and other medical professionals directly involved in treating the patient”); *see also* 29 C.F.R. § 1910.1200(i)(2) (2012) (regulation allowing for medical personnel to obtain proprietary information to treat a patient, pursuant to an optional confidentiality agreement with the owner of the proprietary information).

138. *See* discussion of sample state restrictive regulations, Part III.B.i, *supra*.

139. *Compare Transforming Ohio, supra* note 134 (referencing trade secret disclosure only with medical professionals) *with* SB 315, 129th Gen. Assemb., (Ohio 2012) (available at http://www.legislature.state.oh.us/bills.cfm?ID=129_SB_315, amending OHIO REV. CODE. ANN. § 1509.10(I)(1) to state: The owner of a well who is required to submit a well completion record under division (A) of this section or a report under division (B)(3) of this section or a person that provides information to the owner as described in and for purposes of division (A)(9) or (10) or (B)(3) of this section may designate without disclosing on a form prescribed by the chief and withhold from disclosure to the chief the identity, amount, concentration, or purpose of a product, fluid, or substance or of a chemical

disclosure of nonproprietary information, as well as trade secret protection.¹⁴⁰

This regulation, at least on its face, appears to appease all parties. There is a trade secret exemption to the disclosure requirements, but there also is required disclosure of general well production processes and MSDS information.¹⁴¹ While this witch's brew of regulation appears to try to do too much with too little, the alternatives are less inviting. Assume, for whatever reason, that the state governments collectively (or the federal government, in the alternative) place a moratorium on shale gas production. The effects of this moratorium would be crippling.¹⁴² A complete reversal of resource production and an increased reliance on foreign oil would drastically change the economics of natural gas.¹⁴³ This, of course, is another doomsday theory that is simply being used as exaggerated rhetoric to emphasize the importance of the fracking itself to not only the oil and gas industry, but to the average consumer as well.¹⁴⁴

V. A PROPOSED FRAMEWORK, CURRENT PROPOSED LAW, AND THE DISINTEGRATION OF TRADE SECRET PROTECTION

component in a product, fluid, or substance as a trade secret. The owner or person may pursue enforcement of any rights or remedies established in sections 1333.61 to 1333.69 of the Revised Code for misappropriation, as defined in section 1333.61 of the Revised Code, with respect to the identity, amount, concentration, or purpose of a product, fluid, or substance or a chemical component in a product, fluid, or substance designated as a trade secret pursuant to division (I)(1) of this section. The division shall not disclose information regarding the identity, amount, concentration, or purpose of any product, fluid, or substance or of any chemical component in a product, fluid, or substance designated as a trade secret pursuant to division (I)(1) of this section.

140. See SB 315, 129th Gen. Assemb., (Ohio 2012) (available at http://www.legislature.state.oh.us/bills.cfm?ID=129_SB_315) (amendments to section 1509.10 of the Revised Code).

141. *Id.*

142. See John Miller, *What Would Be the Impacts of Shutting Down All Fracking?*, THE ENERGY COLLECTIVE, (Sept. 18, 2013) <http://theenergycollective.com/jemillerep/274626/what-would-be-impacts-shutting-down-all-fracking> (describing the various economic and social harms involved in a shut down of shale production based on then current U.S. Energy Information Administration data tables, current tables available at <http://www.eia.gov/naturalgas/weekly/>).

143. See Kristen Allen, *The Big Fracking Deal: Marcellus Shale - Pennsylvania's Untapped Resource*, 23 VILL. ENVTL. L.J. 51, 52 (2012) (citing John Deutch, *The Good News About Gas*, FOREIGN AFFAIRS, Jan./Feb. 2011 available at <http://www.foreignaffairs.com/articles/67039/john-deutch/the-good-news-about-gas>) (“[A] large domestic source of natural gas would lessen the nation’s dependency on foreign oil imports subject to dramatic market fluctuations”).

144. See Miller, *supra* note 142 (stating a moratorium on shale gas production would increase average U.S. household costs by \$1000/year).

This pointed analysis of trade secret law, as applied to one part of the oil and gas industry, has been focused heavily on the need for federal oversight and regulation. While compelling arguments have been laid out,¹⁴⁵ the proposition itself is still mere conjecture without supporting studies. However, the current political environment has been in need of this uniformity for some time. “Without federal oversight, regulations are inconsistent as states thus individually determine the standards for hydraulic fracturing.”¹⁴⁶

Although the regulation of natural resource extraction is a state power,¹⁴⁷ states do not seem to be willing to work together with federal government agencies in order to create uniformity.¹⁴⁸ While this rationale can be rightfully lauded by the state sovereignty supporters, the federal government and the fracking industry refuse to see the merits, albeit on different grounds.¹⁴⁹ A middle ground between all three parties may not be the best or most practical model; however, a concerted effort may be more likely to solve any of the issues. A model that grants greater authority to the federal government, but mandates a concerted effort to the state regulators, may ultimately be the answer being sought by the parties involved.¹⁵⁰

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145. See discussions Parts II.A, III, and IV, *supra* (advocating for federal uniformity based on the nature of trade secret law, lack of uniformity, and socioeconomic and environmental circumstances, respectively).
146. Kristen Allen, *The Big Fracking Deal: Marcellus Shale - Pennsylvania's Untapped Resource*, 23 VILL. ENVTL. L.J. 51, 70 (2012) (citing Wes Deweese, *Fracturing Misconceptions: A History of Effective State Regulation, Ground Water Protection, and the Ill Conceived Frac Act*, 6 OKLA. J. L. & TECH. 49, 21-31 (2010)).
147. See Hall, *supra* note 10, at 432 (“The regulation of oil and gas activity traditionally has been a matter of state law”).
148. See generally Meredith Burns, THE DAILY TAR HEEL, *State Returns EPA Grants to Study Fracking* (Oct. 1, 2013), (available at <http://www.dailytarheel.com/article/2013/09/environmental-fracking-0930>) (stating that North Carolina state officials returned EPA funding because of inability to reconcile the EPA conditional directives for the grant and the state’s need for the survey); see also Amy Harder, NATIONAL JOURNAL, *On Fracking Rules, It’s States vs. Feds* at 1 (Aug. 27, 2013) (“The relationship among the federal government, energy companies, and state regulators is getting more tense as the combination of hydraulic fracturing and horizontal drilling unleashes one of the world’s biggest oil and natural gas booms—and all of the environmental questions that come with it”).
149. See Amy Harder, *On Fracking Rules, It’s States vs. Feds*, NATIONAL JOURNAL, Aug. 27, 2013, <http://www.nationaljournal.com/daily/on-fracking-rules-it-s-states-vs-feds-20130827> (referencing the federal government’s wish to regulate the industry and the oil and gas industry’s continual resistance to any regulation compared to North Dakota’s wish to regulate its own resources).
150. See David B. Spence, *Federalism, Regulatory Lags, and the Political Economy of Energy Production*, 161 U. PA. L. REV. 431, 507 (stating federal interaction would streamline regulation of the industry).

Congress is currently trying to amend the Safe Drinking Water Act.¹⁵¹ The current proposed regulation would require that any company engaged in the process of hydraulic fracturing be prohibited from such actions unless the person or company engaging in hydraulic fracturing follows the required reporting and testing mandates set out in the same section of the SDWA.¹⁵² Within the codified statute itself, the Administrator of the EPA is required to publish proposed state regulations and promulgate these regulations after a 180-day period.¹⁵³

Under this new amendment, the state would still be charged with the ultimate right of regulation.¹⁵⁴ However, the statutory authority to prohibit any drilling or extraction event—from a federal statute to a state office—may be the beginning of the concerted effort that is needed. Unfortunately, the current political landscape does not allow for such Utopian viewpoints to be adequately fleshed out.

Although Congress is working to amend the SWDA, other branches of the federal government continue to promulgate rules that earn the ire of industry and state regulators alike.¹⁵⁵ What many fail to realize is that most of these federal regulations are generally inapplicable to the sovereignty issues presented.¹⁵⁶ The federal regulations—particularly the proposed

151. See H.R. 2983, 113th Cong. (2013) (proposed as the “Safe Hydration is an American Right in Energy Development Act of 2013”).

152. *Id.* (Stating that 42 U.S.C. § 300h(b)(1) subparagraph (D) be amended to include the language: “shall prohibit the underground injection of fluids or propping agents pursuant to hydraulic fracturing operations related to oil, gas, or geothermal production activities unless the person proposing to conduct the hydraulic fracturing operations agrees to conduct testing and report data in accordance with section 1421A”). Section 1421A of the SWDA is codified as 42 U.S.C. § 300(h)(a) (2006). The reporting requirements of this section reference the Administrator, which means the Administrator of the EPA. § 300(f)(7).

153. See 42 U.S.C. § 300h(a)(1).

154. See H.R. 2983, 113th Cong. (2013) (not alluding to any amendment to 42 U.S.C. § 300h(a), which does not disallow regulation of mineral and gas extraction to the states).

155. See Harder, *supra* note 149, (referencing the Bureau of Land Management’s work to create a baseline rule) (“Indeed, the federal government is writing regulations controlling oil and gas drilling throughout the country even though many states—including North Dakota—already have rules on the books. It’s a position that draws criticism from industry officials, and some in the states, who complain that too much red tape will constrain economic benefits”).

156. See Harder, *supra* note 149, (stating the Bureau of Land Management’s regulations only apply to federal land) (“North Dakota may not appear to have reason to be too concerned about Interior’s rules, because they only apply to federal lands. The productive land in North Dakota is 90 percent private, 2 percent state, and 8 percent federal”); see also Supplemental Notice of Proposed Rulemaking and Request for Comment on Oil and Gas; Hydraulic Fracturing on Federal and Indian Lands from Tommy P. Beaudreau, Acting Assistant Secretary, Bureau of Land Management 3-4 (2012) (on file with the author), *available at* http://www.blm.gov/pgdata/etc/medialib/blm/wo/Communications_Directorate/public_affairs/hydraulicfracturing.Par.91723.File.tmp/HydFrac_SupProposal.pdf

regulation by the Bureau of Land Management—present the same economic problems to the industry regarding trade secret protection as do the current and proposed state disclosure mandates.¹⁵⁷

If the federal government's regulations result in the same issues in trade secret protection that have been opposed throughout this Note,¹⁵⁸ then the problem has reached a critical point. The very spirit of trade secret law mandates that such information and processes remain secret.¹⁵⁹ Without a curtailing effect of liability, or an agreement similar to intellectual property licensing,¹⁶⁰ the economic buffer of trade secrets will disintegrate the moment the first mandatory disclosure is made under federal law. Balance is key in any regulation of economic rights.¹⁶¹ The current environment is resting on the precipice of full disclosure; one swift kick—or lack

(“The Bureau of Land Management (BLM) oversees approximately 700 million subsurface acres of Federal mineral estate and 56 million subsurface acres of Indian mineral estate across the United States. This revised proposed rule and the initial proposed rule would modernize BLM’s management of hydraulic fracturing operations by ensuring that hydraulic fracturing operations conducted on the public mineral estate (including split 4 estate where the Federal Government owns the subsurface mineral estate) follow certain best practices, including: (1) The public disclosure of chemicals used in hydraulic fracturing operations on Federal and Indian lands”).

157. See Supplemental Notice, Bureau of Land Management 3-4 (2012) (on file with the author), available at http://www.blm.gov/pgdata/etc/medialib/blm/wo/Communications_Directorate/public_affairs/hydraulicfracturing.Par.91723.File.tmp/HydFrac_SupProposal.pdf.
158. *Id.* at 4 (stating that the disclosure requirement for drilling permits on federal and Indian lands may be achieved by submitting chemical reports to FracFocus.org).
159. See RESTATEMENT (THIRD) OF UNFAIR COMPETITION § 39 cmt. f (1995) (stating the importance of the secrecy requirement).
160. See *Licensing of Intellectual Property Rights: A Vital Component of the Business Strategy of Your SME*, WIPO, http://www.wipo.int/sme/en/ip_business/licensing/licensing.htm (last visited March 17, 2014); see also Spence, *supra* note 150, at 507 (discussing the possibility of a federal licensing regime).
161. See generally Burger, *supra* note 15, at 158 (referencing multiple political and economic factors in favor of and against federal regulation of hydraulic fracturing: “Several rationales dominate arguments in favor of federalization of environmental law: the need to address the interrelated problems of interstate externalities, the ‘race to the bottom,’ and NIMBYism (not in my backyard); the economic efficiencies gained through federal uniformity; the benefits of pooling resources in order to gather technical and scientific expertise; creating durable rules, and providing for enforcement; the potential for greater diversity of interest-group participation; and the mobilization around national moral imperatives. A different set of factors dominates arguments in favor of decentralization: increased democratic participation and responsiveness to local preferences; the ability to tailor decisions to local environmental conditions; regulatory and policy innovation; adaptive management or other experimentalist or ‘new governance’ regimes; and interjurisdictional competition that can lead to economically efficient regulation”).

thereof—from the federal government will send the industry's proprietary claims into a swirling chasm of amorphous law.

CONCLUSION

The need for federal interaction with trade secret law is imperative. The EPA, OSHA, and Bureau of Land Management regulations currently in place only interact with the fallout, or the possible consequences, of the chemicals and processes used in fracking operations. While the concern for the rights of the private citizens and their lands is an admirable standing ground for the current state disclosure mandates, the current regulation more than adequately accomplishes the desired purpose. While the EPA continues to study the phenomenon of fracking and its potential harms, the increased disclosure and lack of truly uniform law continues to promulgate an atmosphere of discord. It is not plausible for an interstate commerce issue (oil and gas), concerning a state-governed law (trade secret) and item (natural resource extraction), to be harmonious without a generally applicable regime. Until the EPA releases its findings,¹⁶² the answer—if there is one—will remain in the dark. Until that time, advocacy groups most likely will continue to call for greater transparency and even a total ban on the process. Without an answer from the federal government, the states must continue to protect the rights of their property and citizens, and the best way for them to accomplish this is by curtailing the perceived onslaught from the oil and gas industry. So long as the federal government does not intervene, the increasingly tight restrictions on the oil and gas industry's proprietary items in the hydraulic fracturing industry will only become more restrictive.

162. *EPA's Study of Hydraulic Fracturing and Its Potential Impact on Drinking Water Resources*, EPA, <http://www.epa.gov/hfstudy> (last updated Sept. 20, 2013) (stating that the EPA is conducting an environmental study at the request of Congress and providing a progress report with said study in 2014); *see also* Jesse Coleman, *Documents Reveal EPA's National Fracking Study Halted by Industry Pressure*, THE ATLANTIC (Mar. 5, 2015), http://www.huffingtonpost.com/jesse-coleman/documents-reveal-epas-nat_b_6808996.html (stating the release of the study's findings have been delayed until 2016).