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## Fracking in a World with Fiduciary Duties: A Suggestion for the Future

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# FRACKING IN A WORLD WITH FIDUCIARY DUTIES: A SUGGESTION FOR THE FUTURE

## OVERVIEW

Big businesses are regulated by a variety of sources. Depending on the industry, influencers and regulators range from local municipalities to agencies of the federal government. This Comment seeks to analyze the *In re Clovis Oncology, Inc.* decision, and the clear message the majority opinion sends to directors and agents of corporations: one's fiduciary duties are indispensable obligations, irrespective of the occupational field at issue. By applying the *Clovis* principles to fracking companies, this Comment will encourage proactive, dynamic, and bold directors to change their reporting requirements *before* a shift in societal interests and concerns could expose them to liability.

Beginning with a brief introduction into *Clovis* itself, this Comment will proceed by providing background information regarding fiduciary duties and the momentous Delaware *Caremark* case, in which the court produced tests for breaches of those obligations. The focus of the piece will then shift to the topic of hydraulic fracturing by analyzing the federal and state provisions that are in place to regulate the fracking industry, and the potential reverberations that the industry may feel from the *Clovis* opinion. The main argument of this piece rests on the idea that the regulations imposed on these large corporations, and therefore the directors and agents of those companies, are negligible and leave room for exploitation or abuse despite extreme environmental and health concerns related to industry practices. The Comment concludes by suggesting that states should impose more stringent and transparent reporting regulations on fracking operations, and that directors of these large oil organizations should make certain changes to their own documentation habits in order to proactively, as opposed to reactively, minimize the potential for future litigation and damages.

### I. BACKGROUND: *IN RE CLOVIS ONCOLOGY INC.*

Clovis Oncology is a relatively small “biotechnology company focused on acquiring, developing and commercializing cancer treatments in the United States, Europe and other international markets.”<sup>1</sup> The company was founded in 2009, and within five years was conducting itself in a way that exemplified

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<sup>1</sup> CLOVIS ONCOLOGY, <https://clovisoncology.com/about/about-us/> (last visited Feb. 1, 2020).

flawed business practices.<sup>2</sup> The “Relevant Period”, as defined by the complaint, spans from “February 26, 2014, through the initiation of . . . litigation.”<sup>3</sup> The behavior of the directors, and the courts treatment thereof, is particularly pertinent to this Comment.

“During the Relevant Period,. Clovis had no drugs on the market but did have three drugs in development. Of these, Roci was the most promising.”<sup>4</sup> Cash flow into the company was marginal, if any occurred at all, and as such “Clovis ‘reli[ed] solely on investor capital for all operations.’”<sup>5</sup> The company anticipated that Roci would be profitable, but members of Clovis’ Board knew the only way to secure a sizable return would be to obtain FDA approval of the drug, Roci.<sup>6</sup> “[T]he Board was hyper-focused on the drug’s development and clinical trial . . . [and members of the] Board . . . were ‘regularly apprised’ of the drugs progress.”<sup>7</sup> For approval by the FDA, “new drugs like Roci . . . must prove their efficacy and safety in clinical trials.”<sup>8</sup> Such trials were designed to track “the percentage of patients who experience meaningful tumor shrinkage when treated with the drug.”<sup>9</sup> These numbers are known within the field as “ORR”, or “the objective response rate.”<sup>10</sup> Members of the Board knew that in order to generate public excitement, encourage investor participation, and guarantee FDA approval, Clovis’ ORR numbers would have to be promising.

[T]hroughout the Relevant Period, Clovis’ press releases, investor calls, Securities and Exchange Commission (“SEC”) filings and statements to medical journals reinforced the belief that Clovis was reporting a confirmed ORR of about 60%. . . .”<sup>11</sup> Meanwhile, “the Board received reports indicating Clovis was improperly calculating Roci’s ORR.”<sup>12</sup> For months Clovis continued to produce and publish inflated efficacy numbers, and reported the same values to the FDA. “The conflicting reports regarding Roci’s ORR eventually prompted the FDA to ask questions and to call for a meeting with Clovis executives. . . .”<sup>13</sup> Shortly thereafter [t]he public was finally informed of Roci’s true ORR

<sup>2</sup> *Id.*

<sup>3</sup> *In re Clovis Oncology, Inc. Derivative Litig.*, 2019 Del. Ch. LEXIS 1293, at \*5 n.13 (Del. Ch. Oct.1, 2019).

<sup>4</sup> *Id.* at \*5.

<sup>5</sup> *Id.* at \*8.

<sup>6</sup> *Id.* at \*9–10.

<sup>7</sup> *Id.* at \*9.

<sup>8</sup> *Id.*

<sup>9</sup> *Id.* at \*10.

<sup>10</sup> *Id.*

<sup>11</sup> *Id.* at \*11.

<sup>12</sup> *Id.* at \*11–12.

<sup>13</sup> *Id.* at \*16 (emphasis added).

when . . . Clovis issued a press release stating the correct *confirmed* ORR was as low as 28-34%.”<sup>14</sup> Following these revelations the company’s stock value plummeted “70%, wiping out more than \$1 billion in market capitalization.”<sup>15</sup> A few months later “the FDA voted to delay action on Clovis’ . . .” new drug application, prompting the stock price to fall an additional 17%.<sup>16</sup> Yet, Clovis’ problems did not end there.

“In addition to the Company’s refusal to properly report ORR, the Board was advised that Roci had serious, undisclosed side effects and that the . . . trial had been compromised by other clinical trial protocol violations during the Relevant Period.”<sup>17</sup> The Board of directors was aware “that one of the drug’s side effects, QT prolongation, was more common than management publicly reported. Specifically, the Board received a report . . . that a grade 3 out of 4 (indicating a severe response) QT prolongation occurred in 6.2% of patients.”<sup>18</sup> Such was very misleading to prospective consumers and investors, because it appeared to promise a drug with “manageable side effect[s]”, which was inaccurate.<sup>19</sup> A series of class actions suits arose against Clovis directors, all of which alleged securities fraud.<sup>20</sup> “One of these cases was settled for \$142 million in cash and Clovis stock.”<sup>21</sup> A derivative suit, followed, in which shareholders alleged rampant breaches of fiduciary duties on behalf of the directors of the corporation.<sup>22</sup> In particular, shareholders alleged that the reporting was inaccurate and insufficient in violation of the duty of care.<sup>23</sup> Seeking recovery for losses, the plaintiffs successfully brought forth a *Caremark* claim based on those allegations, which is the foundation for this Comment’s suggestions.

## II. INTRODUCTIONS

### A. *Introduction to Fiduciary Duties*

The business judgement rule (BJR) is a presumption that in making business decisions, directors and officers act on an informed basis and in good faith, i.e.,

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<sup>14</sup> *Id.*

<sup>15</sup> *Id.* at \*17.

<sup>16</sup> *Id.*

<sup>17</sup> *Id.*

<sup>18</sup> *Id.* at \*19.

<sup>19</sup> *Id.*

<sup>20</sup> *Id.* at \*21.

<sup>21</sup> *Id.* at \*21–22.

<sup>22</sup> *Id.*

<sup>23</sup> *Id.*

in the honest belief that their actions are in the best interest of the company.<sup>24</sup> The BJR protects directors and officers of corporations from liability when they make *honest* mistakes, but it cannot protect against *all* liability.

A fiduciary duty exists when one enters into an agency relationship, which is established by mutual agreement.<sup>25</sup> In the context of businesses, this is often exemplified by a manifestation of consent by a principal to an agent that the agent shall act on the principal's behalf and shall be subject to the principal's control.<sup>26</sup> Consent of the agent to this arrangement is also necessary, though it is important to acknowledge that an agency relationship can be established without a formal contract.<sup>27</sup> In large corporations, typically the officers and managers of the companies act as agents, while the board of directors hold the position of principal.

In managing a business, particularly one that is publicly traded, business decision makers owe a duty of care, a duty of loyalty, and a duty of good faith to those who are shareholders of the corporation and the public.<sup>28</sup> A breach of the duty of care is exemplified by an officer or director who makes uninformed decisions or fails to conduct adequate oversight of business practices.<sup>29</sup> A breach of the duty of loyalty is slightly different, an illustration of which would resemble a director or officer whom competes with their own corporation, usurps a corporate opportunity, or completes a conflict of interest transaction.<sup>30</sup> In contrast, “[t]he duty of good faith stands for the principle that directors and officers of a corporation in making all decisions in their capacities as corporate fiduciaries, must act with a conscious regard for their responsibilities as fiduciaries.”<sup>31</sup> That being said, “[a] violation of the duty of good faith may include an intentional derelict in the usual duties of an director or officer, intentionally acting for a purpose other than the benefit of the corporation, or intentionally violating the law.”<sup>32</sup> While “there is no private shareholder right of action for a violation of the duty of good faith, its violation may also raise a

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<sup>24</sup> DAVID G. EPSTEIN, ET. AL., *BUSINESS STRUCTURES* 233–34 (West Academic et al. eds., 5th ed. 2019). See also *Smith v. Van Gorkom*, 488 A.2d 858 (Del. 1985).

<sup>25</sup> *Id.* at 2–21.

<sup>26</sup> *Id.* at 227.

<sup>27</sup> *Id.* at 225–40.

<sup>28</sup> *Id.* at 227–29, 237, 240–41, 260–61.

<sup>29</sup> *Id.* at 240–41.

<sup>30</sup> *Id.* at 260–95.

<sup>31</sup> *Duty of Good Faith*, CORNELL L. SCH., [https://www.law.cornell.edu/wex/duty\\_of\\_good\\_faith](https://www.law.cornell.edu/wex/duty_of_good_faith) (last visited Jan. 22, 2020).

<sup>32</sup> *Id.*

claim under the duty of loyalty.”<sup>33</sup> Should any of these events occur, harm to the corporation and its shareholders is presumed, and the business entity itself may consequently sue the breaching director. Such is a process known as a derivative suit, in which the shareholders sue to vindicate the corporation.<sup>34</sup> If there has been a breach of these fiduciary duties, the BJR will not protect directors or officers from liability. Given the intricate relationship between these obligations and corporate officials, it would seem logical to assume these duties apply in equal force across *all* corporations, whether a thriving multinational oil and gas corporation, or a pharmaceutical company. A derivative suit is the exact remedy sought by the shareholders of the *Clovis* nightmare, and the duties imposed on directors of large companies are central to this entire piece. For that reason, this brief introduction was necessary before further analysis of a *Caremark* claim could be completed.

### B. Introduction to Caremark

*In re Caremark* provides a framework with which courts can analyze the conduct, or lack thereof, of officers in the course of their employment. To be clear, courts have held that in order “to satisfy the[ir] duty of loyalty, directors must make a good faith effort to implement an oversight system *and* then *monitor it*.”<sup>35</sup> Such a requirement is especially true when the company operates in a highly regulated industry, or “when the company is operating in the midst of ‘mission critical’ regulatory compliance risk[s]”.<sup>36</sup> In analyzing an officer’s or agent’s breach of a duty of care, more specifically for failing to provide adequate oversight, *In re Caremark Int’l Inc. Deriv. Litig.* suggests a two-part analysis.<sup>37</sup> “The so-called first prong of *Caremark* requires Plaintiff’s to well-plead that the Board ‘completely fail[ed] to implement any reporting or information system or control[s].’”<sup>38</sup> By requiring a “well-plead [showing of] bad faith to survive dismissal—i.e., allegations ‘the directors knew that they were not discharging their fiduciary obligations,’ [the] standard of wrongdoing [is] qualitatively different from, and more culpable than . . . gross negligence.”<sup>39</sup> “Implicit in these standards is the requirement that plaintiff’s plead particular facts allowing a reasonable inference the directors acted with scienter, which

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<sup>33</sup> *Id.*

<sup>34</sup> See BUSINESS STRUCTURES, *Supra* note 22 at 304.

<sup>35</sup> *Marchand v. Barnhill*, 212 A.3d 805, 821 (Del. 2019) (emphasis added).

<sup>36</sup> *Id.* at 809, 824.

<sup>37</sup> See *In re Caremark Int’l*, 698 A.2d 959 (Del. Ch. 1996).

<sup>38</sup> *In re Clovis Oncology, Inc. Derivative Litig.*, 2019 Del. Ch. LEXIS 1293, at \*29.

<sup>39</sup> *Id.* at \*26 (citing *Stone v. Ritter*, 911 A.2d at 369–70 (citing *In re Walt Disney Co. Deriv. Litig.*, 906 A.2d 27 (Del. 2006)).

‘requires proof that a director acted *inconsistent* with his fiduciary duties and, most importantly, that the director *knew* he was so acting.’<sup>40</sup> However, this is not the sole justification upon which one may bring a derivative suit for failure to oversee business activities.

“*Caremark’s* second prong is implicated when it is alleged the company *implemented* an oversight system, *but* the board *failed to ‘monitor it.’* To state a claim under this prong, Plaintiffs must well-plead that a ‘red flag’ of non-compliance waived before the Board Defendants, but they chose to ignore it.”<sup>41</sup> Such “red flags are only useful when they are either waived in one’s face or displayed so that they are visible to the careful observer.”<sup>42</sup> This second prong was particularly relevant to the decision of *In re Clovis Oncology Inc.* because, as the court determined, the board members of the pharmaceutical company had “consciously ignored red flags that revealed a mission critical failure to comply with . . . protocol and associated FDA regulations.”<sup>43</sup> Given the current trend towards heightened environmental awareness and concern, large fracking companies would be well-advised to heed the warnings issued by the *Clovis* opinion. As the population becomes more aware of fracking’s potentially catastrophic effects, demands for regulation and documentation will likely grow. Proactively changing reporting requirements could save many executives and corporations millions in the foreseeable future.

### III. HYDRAULIC FRACTURING

#### A. Background

Hydraulic fracturing, commonly referred to as “fracking”, is a process whereby companies extract natural gas from below the earth’s surface. The process involved in fracking is important to understand because its invasive nature and effects are particularly relevant to this Comment and its underlying argument.

The Environmental Protection Agency of the United States, henceforth referred to as the EPA, has explained that “[t]he hydraulic fracturing water cycle has five stages . . .,” which include: 1) water acquisition, 2) chemical mixing, 3)

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<sup>40</sup> *Id.* citing *In re Massey Energy Co.*, 2011 WL 2176479, at \*22 (Del. Ch. May 31, 2011) (citing *Stone*, 911 A.2d at 370)(emphasis in original) (emphasis added).

<sup>41</sup> *Id.* at 29–30 (emphasis added).

<sup>42</sup> *Wood v. Baum*, 953 A.2d 136, 143 (internal citations omitted); *In re Citigroup Inc. S’holders Litig.*, 2003 WL 21384599, at \*2 (Del. Ch. June 5, 2003) (internal citations omitted).

<sup>43</sup> *In re Clovis Oncology, Inc. Derivative Litig.*, 2019 Del. Ch. LEXIS 1293, at \*32.

well injection, 4) produced water handling, and 5) wastewater disposal and reuse.”<sup>44</sup> A surge in this process “occurred when hydraulic fracturing was combined with directional drilled technologies around [the year] 2000. Directional drilling allows oil and gas production wells to be drilled horizontally or directionally along the targeted rock formation, exposing more of the oil- or gas-bearing rock formation to the production well.”<sup>45</sup>

Wells are plunged several miles under the ground, and simultaneously casings made of cement and steel are inserted to prevent leaks into groundwater.<sup>46</sup> Once the well reaches the desired location, which is typically a layer of sandstone wedged between two layers of shale, the well curves horizontally.<sup>47</sup> Fracking begins by forcing plastic balls down the wells, and these balls open sleeves in the pipe to expose holes.<sup>48</sup> A mixture of fluid, sand, and chemicals is then inserted down the well at an extremely high pressure.<sup>49</sup> This mixture shoots through the holes in the pipe and fractures the rock, releasing oil which flows up the well.<sup>50</sup>

Several large, publicly traded corporations participate in fracking in the United States, including but not limited to Chevron Corp. (CVX), ExxonMobil Corp. (XOM), ConocoPhillips Co. (COP), and Halliburton (HAL).<sup>51</sup> The EPA estimates that “between 25,000 and 30,000 new wells were drilled and hydraulically fractured in the United States each year between 2011 and 2014”.<sup>52</sup> Used fluid, which contains toxic materials, flows up the well with the oil that is collected. Some of that fluid is recycled, while the rest is pumped into disposal wells located below groundwater.<sup>53</sup> EPA recognizes that “[b]etween 2000 and 2013, approximately 3,900 public water systems were estimated to have had at least one hydraulically fractured well within 1 mile of their water source; these public water systems served more than 8.6 million people year-round in 2013.”<sup>54</sup>

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<sup>44</sup> EPA’s *Study of Hydraulic Fracturing for Oil and Gas and Its Potential Impact on Drinking Water Resources*, EPA, <https://www.epa.gov/hfstudy> (last visited Nov. 25, 2019).

<sup>45</sup> *Id.*

<sup>46</sup> Caryl-Sue Micalizio, *How Hydraulic Fracturing Works*, NATIONAL GEOGRAPHIC (Apr. 1, 2013), <https://www.nationalgeographic.org/media/how-hydraulic-fracturing-works/>.

<sup>47</sup> *Id.*

<sup>48</sup> *Id.*

<sup>49</sup> *Id.*

<sup>50</sup> *Id.*

<sup>51</sup> *Fracking Companies on the Verge of Prosperity*, MONEY MORNING, <https://moneymorning.com/new-gold/fracking-companies-on-the-verge-of-prosperity/> (last visited Jan. 27, 2020).

<sup>52</sup> EPA’s *Study of Hydraulic Fracturing for Oil and Gas and Its Potential Impact on Drinking Water Resources*, EPA, <https://www.epa.gov/hfstudy> (last visited Nov. 25, 2019).

<sup>53</sup> Micalizio, *supra* note 44.

<sup>54</sup> EPA, *supra* note 50.

## IV. FRACKING: REGULATION AND IMPACTS

### A. *Regulation of the Industry*

Very few reporting obligations are imposed on fracking activity, and the majority of those that do exist tend to be based on state law. Such is problematic as it leaves room for exploitation of natural resources, and destruction of natural habitats.

#### 1. *Regulation at the Federal Level*

The EPA imposes federal regulations on the production and exploitation of natural resources. The development of oil and gas “is primarily regulated under eight federal environmental and public health laws . . . [which] apply to drilling and hydraulic fracturing from unconventional sources.”<sup>55</sup> Several exemptions and limitations to these standards exist, leading to considerably “less oversight of oil and natural gas development. . . .”<sup>56</sup> The following analysis of the rules and regulations specifically pertinent to hydraulic fracturing highlights their deficiency as currently written and enforced.

##### a. *Clean Water Act (CWA)*

“The National Pollutant Discharge Elimination System (NPDES) permit program controls water pollution by regulating point sources that discharge pollutants into waters of the United States.”<sup>57</sup> This program seeks to regulate “the types and amounts of pollutants that industrial sites, industrial wastewater treatment facilities, and municipal wastewater treatment facilities can discharge into the nation’s surface waters.”<sup>58</sup> Additionally, the CWA imposes “spill reporting and spill preventions and response planning requirements,” commonly referred to as the “Spill Prevention, Control, and Countermeasure (SPCC) rule[s].”<sup>59</sup>

##### b. *Safe Drinking Water Act (SDWA)*

The “EPA regulates the injection of fluids underground through the

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<sup>55</sup> *Regulations and Exemptions*, TIPP OF THE MITT WATERSHED COUNCIL, <https://www.watershedcouncil.org/hydraulic-fracturing—regulations-and-exemptions.html> (last visited Nov.25, 2019).

<sup>56</sup> *Id.*

<sup>57</sup> *Id.*

<sup>58</sup> *Id.*

<sup>59</sup> *Id.*

Underground Injection Control (UIC) Program.”<sup>60</sup> While this would presumably protect water sources from fracking pollutants, “[i]n 2005, the Energy Policy Act amended the SDWA to specifically *exempt* hydraulic fracturing from the UIC program, except in instances where diesel fuel is injected as part of the hydraulic fracturing [process].”<sup>61</sup> This is particularly troubling, given the likelihood that many other pollutants could be involved in the process aside from diesel fuel including, but not limited, to hydrochloric acid, formaldehyde, acetaldehyde and methanol.<sup>62</sup>

*c. Resource Conservation and Recovery Act (RCRA)*

Perhaps the *most* disturbing and faulty regulation is that of the RCRA. While the Act stipulates that “[n]on-exempt wastes present at well sites may be regulated as hazardous”, it also points out that “[o]il and gas exploration and production wastes [are] *not* regulated as hazardous waste”.<sup>63</sup> This exception has been in place since the year 1980, during which “the Solid Waste Disposal Act Amendments exempted drilling fluids, produced water, and other wastes associated with the exploration, development, or production of oil and gas well from being regulated as hazardous waste.”<sup>64</sup> Consequently, even “if a waste exhibits hazardous characteristics, wastewater including flowback . . . from oil and gas wells is exempt from the . . . provisions under RCRA.”<sup>65</sup>

*d. Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)*

The “CERCLA requires operators of oil and gas sites to report releases of hazardous substances above reportable quantities to the National Response center. However, releases of petroleum and petroleum products are excluded.”<sup>66</sup> What is even more troubling is that “[t]he liability and reporting provisions *also* do not apply to injections of fluids authorized by state law for production, enhanced recovery, or produced water.”<sup>67</sup>

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<sup>60</sup> *Id.*

<sup>61</sup> *Id.* (emphasis added).

<sup>62</sup> *Id.*

<sup>63</sup> *Id.*

<sup>64</sup> *Id.*

<sup>65</sup> *Id.*

<sup>66</sup> *Id.*

<sup>67</sup> *Id.* (emphasis added).

*e. Emergency Planning and Community Right-to-Know Act (EPCRA)*

The EPCRA contains a “chemical storage reporting provision [which] requires facilities storing or using hazardous or extremely hazardous chemicals over certain thresholds to submit an inventory report including detailed chemical information to state and local emergency planning authorities.”<sup>68</sup> This Act is designed to give “individuals and their communities . . . access to information regarding storage or release of certain chemicals within their communities.”<sup>69</sup> This is relevant for fracking practices because several chemicals utilized by large oil and gas companies would fall within this category, including but not limited to the following: hydrochloric acid, formaldehyde, acetaldehyde, methanol, acetic acid, sodium hydroxide, and acrylamide.<sup>70</sup> The Act attempts to make the information available to the public by creating “the Toxics Release Inventory . . . , [h]owever, oil and gas well sites are *not* required to report to TRI.”<sup>71</sup>

*2. Regulation at the State Level*

While much of fracking regulation is left up to the states, many neglect to address the issue and welcome the practice as a financial opportunity. As of 2012, “fourteen U.S. states [had] existing hydraulic fracturing disclosure requirements. The states with disclosure requirements in effect [were]: Alabama, Arkansas, Colorado, Indiana, Louisiana, Michigan, Montana, New Mexico, North Dakota, Ohio, Pennsylvania, Texas, West Virginia, and Wyoming. However, there [was] confirmed fracking activity in at least twenty-nine states.”<sup>72</sup> Oklahoma has since established reporting requirements of its own, and yet as the years go by the amount of information distributed to the public and given to government agencies remains the same—minimal<sup>73</sup>

Many of large companies find loopholes to privatize their reported information, with only seven of those previously mentioned states having mandated publicly accessible disclosure information: Alabama, Arkansas,

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<sup>68</sup> *Id.*

<sup>69</sup> *Id.*

<sup>70</sup> *Id.*

<sup>71</sup> *Id.* (emphasis added).

<sup>72</sup> Matthew McFeeley, *State Hydraulic Fracturing Disclosure Rules and Enforcement: A Comparison*, NATURAL RESOURCES DEFENSE COUNCIL (July, 2012), <https://www.nrdc.org/sites/default/files/Fracking-Disclosure-IB.pdf>.

<sup>73</sup> *Id.*; see also Liz Hampton, *Oklahoma’s New Fracking Guidelines Aim to Reduce Quake Risk*, REUTERS, <https://www.reuters.com/article/us-oklahoma-quake-rules/oklahomas-new-fracking-guidelines-aimto-reduce-quake-risk-idUSKBN1492R6> (last visited Jan. 7, 2020).

Michigan, Montana, Ohio, Texas and Wyoming.<sup>74</sup> Four of those seven states consistently left information blank on their reporting documents, or claimed that disclosure was unnecessary because of the protection of “trade secret exemptions” that exist in the *majority* of states where fracking occurs.<sup>75</sup> Even more frightening are the results of a recent Natural Resources Defense Council (the “NRDC”) study, in which the non-profit organization successfully revealed many of the negligible reporting requirements in place at the state level.<sup>76</sup> The following graph exemplifies the lack of transparency in reporting within fifteen states.<sup>77</sup> It is particularly troubling that this refers specifically to nugatory disclosure of wastewater disposal practices, which involves potentially toxic wastes being resubmitted into the environment.

TABLE IV: WASTEWATER GENERATION AND DISPOSAL

	Alabama	Arkansas	Colorado	Indiana	Louisiana	Michigan	Montana	New Mexico	North Dakota	Ohio	Oklahoma	Pennsylvania	Texas	West Virginia	Wyoming
Volume of flowback	NO	NO	NO	CBM wells only <sup>1</sup>	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	YES
Methods of onsite wastewater storage	NO	NO	NO	NO	NO	NO	NO	YES <sup>1</sup>	NO	YES <sup>1</sup>	NO	Unconventional wells only <sup>1</sup> [cf. availability <sup>2</sup> ]	NO	NO	NO
Contents of wastewater	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Methods of wastewater disposal	NO	NO	NO	CBM wells only <sup>1</sup>	NO	NO	NO	YES	NO	YES <sup>1</sup>	NO	NO	NO	Only if > 210,000 gallons withdrawn from state waters. [cf. availability <sup>2</sup> ]	YES

All of this information becomes relevant when one stops to consider the potential consequences of minimally regulated industries that are environmentally invasive.

## V. IMPACTS OF FRACKING: WHY PEOPLE SHOULD CARE ABOUT MINIMAL REPORTING

Hydraulic fracturing affects several aspects of life. Whether the process serves a benefit or introduces a risk depends on the vantage point from which one analyzes the practice. This Comment takes the position that fracking’s negative impacts outweigh its benefits, and as such it *should* be considered a highly regulated industry “operating in the midst of ‘mission critical’ regulatory compliance risk[s].”<sup>78</sup>

<sup>74</sup> McFeeley, *supra* note 69.

<sup>75</sup> *Id.*

<sup>76</sup> *Id.*

<sup>77</sup> *Id.*

<sup>78</sup> *Marchand v. Barnhill*, 212 A.3d 805, 809, 824 (Del. 2019).

## A. *Fiscal Concerns*

### 1. *Boom Towns*

Fracking generates jobs and helps reduce domestic reliance on international resources. However, all of these benefits come with repercussions. As with many resource focused industries, hydraulic fracturing produces boomtowns, in which “a lot of towns becom[e] suddenly wealthy, but as oil and gas prices fell, those industries dried up.”<sup>79</sup> Additionally, when the resources themselves run dry, large corporations have the ability to pack up and move to another location while many of their employees are left behind. As one gentleman summarized, “oil helped the little person who was trying to get ahead,” Gomez told VICE. “But then at the end it left them back where they’re at.”<sup>80</sup>

### 2. *Debt and Insecurity for Shareholders*

Bethany McLean, author of the book *Saudi America: The Truth About Fracking and How It’s Changing the World* and a New York Times article titled *The Next Financial Crisis Lurks Underground*, along with Jyoti Thottam, a business and economics editor for the New York Times, both participated in a podcast discussion about the adverse financial impacts hydraulic fracturing can produce.<sup>81</sup> The discussion, facilitated by members of the University of Pennsylvania, focused heavily on the fact that many of the largest fracking companies in the United States have a track record of not *making* any money. “In fact, North American exploration and production companies saw their net debt balloon from \$50 billion in 2005 to nearly \$200 billion by 2015, according to a recent research paper by Amir Azar, fellow at Columbia University’s Center on Global Energy Policy.”<sup>82</sup> Even more surprising were the parallels McLean drew “between the fracking industry and the [famous] Enron scandal in that both feature larger-than-life characters and disconnects between claims the companies make and their financial statements.”<sup>83</sup> McLean is quoted as having said: “[w]hen you look at oil companies’ presentations, there’s something that doesn’t make sense because they show their investors these beautiful investor decks . . . indicating that they will produce an 80% or 60% internal rate of return.

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<sup>79</sup> Peter Moskowitz, *When Oil Boomtowns Go Bust*, VICE (July 3, 2016, 12:00 AM), [https://www.vice.com/en\\_us/article/xdm854/when-oil-boomtowns-go-bust](https://www.vice.com/en_us/article/xdm854/when-oil-boomtowns-go-bust).

<sup>80</sup> *Id.*

<sup>81</sup> *Could Fracking Debt Set off Big Financial Tremors?*, WHART. UNIV. OF PA., <https://knowledge.wharton.upenn.edu/article/will-fracking-industry-debts-set-off-financial-tremors/> (last visited Jan. 31, 2020).

<sup>82</sup> *Id.*

<sup>83</sup> *Id.*

And then you go to the corporate level and you see that the company isn't making money. . . ." If there are minimal returns, if any at all, why do people continue to invest? As McLean explains, it is probably because "investors are valuing fracking companies on non-traditional metrics, such as 'a multiple of the acreage they own, or on the basis their production growth, rather than looking at their cash flow or their profits.'"<sup>84</sup> While it is acceptable to use a variety of matrices in determining whether to invest, typically investors will demand a return at some point which will be a difficult request to fulfill if we see a continuation of the business practices as they currently stand. In fact, "[o]f the 20 U.S. oil companies that focus mostly on fracking, only five managed to generate more cash than they spent in the first quarter" of 2013.<sup>85</sup> These numbers should function as a warning to investors. Maybe the fracking industry is not as secure or profitable as the reported numbers might lead one to believe.

### 3. *Cost of Environmental Rehabilitation*

Given the invasive nature of the hydraulic fracturing process, environmental restoration is often necessary throughout the process and after it has been completed. The costs are staggering, with the EPA estimating that the cost of air sparging alone could range from \$150,000 to \$350,000 per acre.<sup>86</sup> Such estimates were reported in 2004 and would likely be *higher* now given inflation.<sup>87</sup> "Methane contamination of well water poses a risk of explosion and is often addressed by removing it from water at the point of use. In Dimock, Pennsylvania, Cabot Oil & Gas reporting having spent \$109,000 on methane removal systems for 14 local households" alone.<sup>88</sup> Several of these costs have been adopted by the companies who produce the problems, but such penalties are typically the result of a court ruling or an investigation. Such would indicate that people who had suffered to the benefit of these large corporations were forced to utilize the judicial processes to seek compensation, which is both timely and expensive.

Aside from the private costs, there are those attributable to the increase in earthquakes associated with hydraulic fracturing. In 2016, the United States

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<sup>84</sup> *Id.*

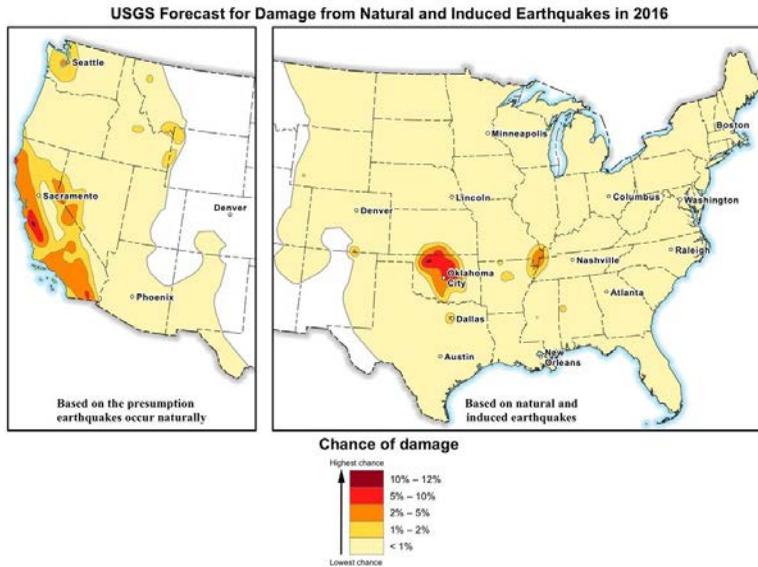
<sup>85</sup> Christopher M. Matthews & Bradley Olson, *Oil is Above \$70, but Frackers Still Struggle to Make Money*, WALL ST. J., <https://www.wsj.com/articles/oils-at-70-but-frackers-still-struggling-to-make-money-1526549401> (last visited Jan. 10, 2020).

<sup>86</sup> Tony Dutzik et al., *The Costs of Fracking*, ENV'T OHIO RES. & POL'Y CENTER, <https://www.ourenergypolicy.org/wp-content/uploads/2012/10/The-Costs-of-Fracking-vOH.pdf> (last visited Jan. 10, 2020).

<sup>87</sup> *Id.*

<sup>88</sup> *Id.*

Geological Survey (the “USGS”) released a map which documents increased seismic activity below the earth’s surface.<sup>89</sup>



USGS map displaying potential to experience damage from natural or human-induced earthquakes in 2016. Chances range from less than 1 percent to 12 percent.

Mark Petersen, head of the mapping project, went on to say that “most of the quakes are attributable to wastewater disposal from oil and gas drilling. The water is injected deep into the ground below drinking water aquifers. The increased pressure from the water can cause local faults . . . to slip, causing earthquakes.”<sup>90</sup> Taking Oklahoma, for example, with an estimated 500 magnitude-3 earthquakes in 2016 alone.<sup>91</sup> Scott Harvey, assistant professor at the Oklahoma University School of Civil Engineering, has said that “[t]he larger earthquakes—magnitude 4.0 and larger—have the potential to damage structures. . . .”<sup>92</sup> Many individuals in places like Oklahoma were being forced

<sup>89</sup> *USGS Forecast for Damage from Natural and Induced Earthquakes in 2016*, USGS, <https://www.usgs.gov/media/images/usgs-forecast-damage-natural-and-induced-earthquakes-2016> (last visited Jan 3, 2020).

<sup>90</sup> Jason Daley, *New USGS Map Shows Man-Made Earthquakes Are on the Rise*, SMITHSONIAN MAG., <https://www.smithsonianmag.com/smart-news/new-usgs-map-shows-man-made-earthquakes-rise-180958595/> (last visited Jan. 3, 2020).

<sup>91</sup> Kailey Garcia, *Who Pays the Price for Oklahoma’s Man-Made Earthquakes?*, WHO, WHAT, WHY, <https://whowhatwhy.org/2018/11/13/who-pays-the-price-of-oklahomas-man-made-earthquakes/> (last visited Jan. 15, 2020).

<sup>92</sup> *Id.*

to try to obtain compensation from their own insurance companies, which often failed because, as “[t]he Oklahoma Department of Insurance says on its website . . . [,] houses built with brick or rock are not usually covered under standard earthquake insurance, or sometimes not at all.”<sup>93</sup> Large oil companies in these situations “refuse to provide aid or take responsibility for their actions.”<sup>94</sup> As such, if the individuals seek indemnification they must proceed with a judicial process to be awarded damages. Holding each corporation accountable in such a way is made *significantly* more difficult by the lack of information available to the public because of negligible reporting requirements.

## B. Environmental Concerns

### 1. Environmental Health

Though fracking has been used with relative frequency over the last few decades, little is known about the long-term effects of horizontal drilling on the environment. The following is by no means an exhaustive list of the concerns raised by various environmentalist groups: contamination of groundwater, methane pollution, exposure to toxic chemicals, waste disposal, fracking-induced earthquakes, infrastructure degradation, and workplace safety.<sup>95</sup> Additionally, “[f]racking’s consumption of water is rising quickly at a time when much of the United States is suffering from drought”<sup>96</sup>, and [t]he loss of a recreational or commercial fishery due to spills, excessive withdrawals of water, or changes in water quality caused by the cumulative effects of fracking . . . can have devastating impacts on local businesses.<sup>97</sup> “Widespread land clearance for fracking jeopardizes the ability of the forest to continue to produce . . . valuable services.”<sup>98</sup> Perhaps the biggest long-term environmental effect of fracking relates to pollution of the atmosphere. “Fracking’s primary impact on the climate is through the release of methane, which is a far more potent contributory to global warming than carbon dioxide.”<sup>99</sup> In addition to biosphere impacts,

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<sup>93</sup> *Id.*

<sup>94</sup> *Id.*

<sup>95</sup> Joe Hoffman, *Potential Health and Environmental Effects of Hydrofracking in the Williston Basin, Montana*, CARLETON COLLEGE, [https://serc.carleton.edu/NAGTWorkshops/health/case\\_studies/hydrofracking\\_w.html](https://serc.carleton.edu/NAGTWorkshops/health/case_studies/hydrofracking_w.html) (last visited Nov. 25, 2019).

<sup>96</sup> Mark Golden, *Stanford-led study assesses the environmental costs and benefits of fracking*, STAN., <https://news.stanford.edu/news/2014/september/fracking-costs-benefits-091214.html> (last visited Feb. 6, 2020).

<sup>97</sup> Tony Dutzik et al., *The Costs of Fracking*, ENV’T OHIO RES. & POL’Y CENTER, <https://www.ourenergypolicy.org/wp-content/uploads/2012/10/The-Costs-of-Fracking-vOH.pdf> (last visited Jan. 10, 2020).

<sup>98</sup> *Id.*

<sup>99</sup> *Id.*

biological concerns exist for those who are exposed to fracking activity or its waste.

## 2. *Human Health*

A new study published in the Oxford Research Encyclopedia of Global Public Health linked fracking to preterm births, high-risk pregnancies, asthma, migraine headaches, fatigue, nasal and sinus symptoms and skin disorders.<sup>100</sup> Additionally, “[c]hemical components of fracking fluids . . . have been linked to cancer, endocrine disruption, and neurological and immune system problems.”<sup>101</sup> One example of such issues comes from part of Pennsylvania in which “residents living near one fracking well site . . . complained of rashes, blisters and other health effects that they attribute to a wastewater impoundment.”<sup>102</sup> What exacerbates these troubling facts is the fact that “[t]he legal system offers little relief for those whose health is impacted by chemically tainted air or water.”<sup>103</sup> Even if a sick individual were to attempt judicial process to seek retribution against those fracking companies, the process is extremely complex, takes significant time and money, and the burden of proof is relatively high as the plaintiff must prove *both* that “he or she has been exposed to a *specific toxic chemical* linked to the health effects that they are experiencing *and* that the *exposure was caused by the defendant*. . . .”<sup>104</sup> Causation can be difficult to prove in the simplest of cases, making cases in which local and federal statutes allow for the privatization of information and minimal reporting that much more difficult.

## VI. RECAPITULATION AND ANALYSIS

The decision of *In re Clovis Oncology, Inc. Derivative Litigation* serves as another “reminder to directors of their duty of oversight obligations.”<sup>105</sup> While it may be difficult to immediately see similarities between pharmaceutical and fracking corporations, it should be reiterated that the fiduciary duties imposed

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<sup>100</sup> Irena Gorski & Brian S. Schwartz, *Environmental Health Concerns From Unconventional Natural Gas Development*, OXFORD RESEARCH ENCYCLOPEDIAS (Feb. 2019), <https://oxfordre.com/publichealth/view/10.1093/acrefore/9780190632366.001.0001/acrefore-9780190632366-e-44>.

<sup>101</sup> Tony Dutzik et al., *The Costs of Fracking*, ENV’T OHIO RES. & POL’Y CENTER, <https://www.ourenergypolicy.org/wp-content/uploads/2012/10/The-Costs-of-Fracking-vOH.pdf> (last visited Jan. 10, 2020).

<sup>102</sup> *Id.*

<sup>103</sup> *Id.*

<sup>104</sup> *Id.* (emphasis added).

<sup>105</sup> Stephanie C. Evans & Alan J. Wilson, *Another Reminder From Delaware About the Duty of Oversight*, WILMERHALE, <https://www.wilmerhale.com/en/insights/blogs/focus-on-audit-committees-accounting-and-the-law/20191028-another-reminder-from-delaware-about-the-duty-of-oversight> (last visited Jan. 20, 2020).

on directors and agents are universal. That being said, irrespective of field, administrators have legal obligations to make informed decisions, oversee operations and business practices, and to conduct one's self in a manner suitable to the best interest of the corporation and investors.<sup>106</sup> Despite the fact that current regulations permit negligible disclosure with respect to fracking, continued public interest and heightened concern about environmental stability should encourage these companies to get ahead of trends and develop more transparent strategies regarding documentation and reporting.

Concerns surrounding the hydraulic fracturing industry are growing rapidly, with suits being filed throughout the country seeking damages and information. Some of these suits relate specifically to the adverse environmental effects of fracking, while others relate to the unfulfilled promises of financial gain. Take, for example, a developing situation in Louisiana. The “[f]ormer Attorney General of Louisiana, Charles C. Foti, Jr., Esq., a partner at the law firm of Kahn Swick & Foti, LLC (“KSF”), announce[d] that KSF has commenced an investigation into Oasis Petroleum Inc. (NYSE:OAS).”<sup>107</sup> The investigation focuses primarily “on whether Oasis’ officers and/or directors breached their fiduciary duties to Oasis’ shareholders or otherwise violated state or federal laws.”<sup>108</sup> These concerns extend beyond members of the public who are completely uninvolved in the practice of fracking, and are shared by members within the oil and gas business.

Steve Schlotterbeck, who led drilling company EQT as it expanded to become the nation’s largest producer of natural gas in 2017<sup>109</sup>, spoke at a conference in Pittsburg. During his presentation, he candidly informed the audience of his opinion on the industry, stating that: “[t]he shale gas revolution has frankly been an unmitigated disaster for any buy-and-hold investor in the shale gas industry with very few limited exceptions.”<sup>110</sup> This opinion is supported by the numbers as well with “spending outweigh[ing] income for a group of 29 large public shale gas companies by \$6.7 billion in 2018, bringing

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<sup>106</sup> DAVID G. EPSTEIN, ET. AL., *BUSINESS STRUCTURES* 225-44 (West Academic et al. eds., 5th ed. 2019). See also *Smith v. Van Gorkom*, 488 A.2d 858 (Del. 1985).

<sup>107</sup> *Oasis Petroleum Investigation Initiated by Former Louisiana Attorney General: Kahn Swick & Foti, LLC Investigates the Officers and Directors of Oasis Petroleum Inc.*, AP NEWS, <https://apnews.com/7ac451b9a51f4a198cd7bf6daa049f6a> (last visited Jan. 25, 2020).

<sup>108</sup> *Id.*

<sup>109</sup> Sharon Kelly, *Former Shale Gas CEO Says Fracking Revolution Has Been ‘A Disaster’ For Drillers, Investors*, DESMOG, <https://www.desmogblog.com/2019/06/23/former-shale-gas-ceo-says-shale-revolution-has-been-disaster-drillers-investors> (last visited Jan. 30, 2020).

<sup>110</sup> *Id.*

the groups 2010 to 2018 cash flow to a total of *negative* \$181 billion. . . .”<sup>111</sup> This information should be alarming to many, including investors and legislators alike. Those with the ability to create legally enforced standards should recognize this as an opportunity to protect their constituents by requiring accountability and candor in reporting by fracking companies.

As discussed previously, the regulations and mandated reporting imposed on hydraulic fracturing companies is marginal and allows for several exemptions on the basis of “trade secrets” privilege. These policies expose Americans to risk, both financial and physical. It is also true that as the law currently stands, “[t]he oil and gas industry is unlikely ever to be held accountable for many of the costs of fracking. . . .”<sup>112</sup> As the industry grows, the precariousness of the situation does too, and many legislators could benefit from initiating new programs to ensure safe disposal of toxic wastewater. Such would require more stringent and transparent reporting in an effort to better protect the American citizenry and would also likely necessitate a new governmental body to oversee and monitor business practices. “If fracking is to continue, the minimum that citizens should expect is the enforcement of tough rules to reduce fracking damage and up-front financial assurances that guarantee that the oil and gas industry cleans up the damage it does cause and compensates any victims.”<sup>113</sup> This is a highly politicized issue and will likely take time before coming to fruition. That being said, many fracking companies could protect themselves from future liability by implementing new reporting requirements proactively.

Many would agree that executing new reporting and cultural standards within a company is easier without the stress of penalty. The directors of these large fracking organizations are aware of their fiduciary duties to the public, shareholders, and in overseeing company behavior to ensure the safest execution of business practices possible.<sup>114</sup> The insufficient current regulations have created “a disincentive for the industry to take action to prevent accidents and environmental contamination”, and have resulted in a public citizenry that is uninformed and unable to access information that could be vital to their health and financial security.<sup>115</sup> As the public becomes more aware of this, and as

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<sup>111</sup> *Id.* (referencing a March 2019 report by the Institute for Energy Economics and Financial Analysis) (emphasis added).

<sup>112</sup> Tony Dutzik et al., *The Costs of Fracking*, ENV’T OHIO RES. & POL’Y CENTER, <https://www.ourenergypolicy.org/wp-content/uploads/2012/10/The-Costs-of-Fracking-vOH.pdf> (last visited Jan. 10, 2020).

<sup>113</sup> *Id.*

<sup>114</sup> DAVID G. EPSTEIN, ET. AL., BUSINESS STRUCTURES 225-44 (West Academic et al. eds., 5th ed. 2019). See also *Smith v. Van Gorkom*, 488 A.2d 858 (Del. 1985).

<sup>115</sup> Dutzik, *supra* note 108.

incidents of health problems and environmental destruction increase, the demand for revelations and accountability on behalf of the corporations and the directors will likely surge. Addressing this *internally* and *proactively* would likely insulate companies that trade in shale, and the directors who run them, from liability. This would be a particularly advantageous approach for an industry that has a lengthy reputation for being unprofitable.

## VII. SUGGESTION ABRIDGED

Executive officials within large oil and gas corporations should take action to get *ahead* of regulatory changes. An effort to become more transparent with the public, investors and the government would recharacterize fracking companies as contributing corporate entities as opposed to organizations that are self-serving at the expense of the uninformed American. Assuring disclosure would protect individual directors, officers, and corporations from potential litigation, and could alleviate many of the concerns residents and investors share. Furthermore, state legislatures and the federal government would be well advised to implement heightened reporting requirements as an attempt to curtail all of the potentially catastrophic environmental, biological, and fiscal effects of unregulated oil extraction.

## CONCLUSION

Investors and consumers alike were initially excited about the opportunities fracking presented. The potential adverse effects from hydraulic fracturing are alarming, much like those associated with underperforming drugs targeted at cancer cells. In order for directors, irrespective of their field of work, “to satisfy their duty of loyalty, [they] must make a good faith effort to implement an oversight system and then [actually] monitor it.”<sup>116</sup> In order to do so, fracking companies would benefit substantially from executing a more stringent reporting and documenting practice.

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<sup>116</sup> Marchand v. Barnhill, 212 A.3d 805, 821 (Del. 2019).

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