

**Hydraulic Fracking and Liability:  
*Ely v. Cabot Oil & Gas Corporation***

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*Abstract*

*This paper argues that strict liability should not attach to the activity of hydraulic fracking because it does not constitute an abnormally dangerous activity. The Federal Middle District of Pennsylvania's decision in Ely v. Cabot Oil & Gas Corporation illustrates how a court should analyze such an issue in accordance with Sections 519 & 520 of the Restatement (Second) of Torts (1977). Part I of this paper introduces the hydraulic fracturing process. Part II discusses the case in depth and the analysis that the court utilized. Part III highlights the historical precedent surrounding the topic of hydraulic fracking and strict liability to show that no such liability has been recognized. Finally, part IV argues that the traditional Restatement approach is an effective and detailed way to determine whether hydraulic fracking is an abnormally dangerous activity, and shows that no such determination can be made; therefore, no strict liability can attach to hydraulic fracking.*

**I. INTRODUCTION**

When landowners lease their property and mineral rights to an oil and gas company, often times the local lessors are thrilled to contract to receive signing bonuses with the potential for reoccurring royalty payments for property acreage and depth rights (upon production) that the lessors have no productive use for; however, many of those lessors are unprepared to deal with the effects of the everyday business of drilling and hydraulic fracking. Dimock Township, located in Susquehanna County, Pennsylvania, was one such community where many of the landowners in the area granted oil and gas leases to Cabot Oil & Gas Corporation (Cabot) which

permitted Cabot to explore geophysically, for the purposes of, drilling, operating, and producing of oil, gas, and minerals contained on and within the land.<sup>1</sup>

*A. The Productive Shales in Pennsylvania - Marcellus & Devonian*

In order to appreciate hydraulic fracturing cases, it is beneficial to know what geophysical formations are being utilized in the production process. The Marcellus Shale is a deep geological formation, between 4,000 to 8,500 feet below the surface, which was formed 380 million years ago and spans roughly 95,000 square miles across West Virginia, Pennsylvania, Ohio and New York. Sixty percent of Pennsylvania is underlain by the Marcellus.<sup>2</sup> As the shale formed, natural gas was trapped within the fractures and is estimated to contain 500 trillion cubic feet of natural gas which would be worth over \$1 trillion and fuel the entire United States for two years even if only ten percent of that gas was extracted.<sup>3</sup>

The Upper Devonian Shale (UD) is located right above, and roughly three times thicker than, the Marcellus Shale.<sup>4</sup> The UD is located in Pennsylvania, West Virginia, New York, Ohio, Kentucky, and some in Virginia and Tennessee; however, Southwest Pennsylvania is where the greatest gas in place<sup>5</sup> of the UD is located.<sup>6</sup>

*B. The Hydraulic Fracking Process*

To understand hydraulic fracking and its potential designation as an abnormally dangerous activity, it is best to begin with a look into what the hydraulic fracking process entails. Hydraulic

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<sup>1</sup> Ely v. Cabot Oil & Gas Corp., No. 3:09-CV-2284, 2014 WL 4071640 \*1-2 (M.D. Pa. 2014).

<sup>2</sup> Pennsylvania Independent Oil and Gas Association, Oil and Gas from Shale Resources, <http://www.pioga.org/education/oil-and-gas-from-shale-resources/> (accessed January 27, 2015)

<sup>3</sup> *Id.*

<sup>4</sup> Natural Gas Intel's Shale Daily, Information on the Upper Devonian and Huron Shales, <http://www.naturalgasintel.com/udhinfo> (accessed January 28, 2015).

<sup>5</sup> Gas in place refers to the total volume of gas that is found to exist within the desired shale formation prior to production. Green Peace, Shale Gas: What do estimates mean?, <http://www.greenpeace.org.uk/newsdesk/energy/analysis/shale-gas-what-do-estimates-mean> (accessed January 29, 2015).

<sup>6</sup> *Id.*

fracking is the stimulation of wells which are drilled vertically, horizontally, or a combination, to maximize the extraction of subsurface resources, such as natural gas and oil.<sup>7</sup> The length of the wells can be thousands of feet deep and continue for more than a mile horizontally.<sup>8</sup> The well stimulation process begins with oil and gas operators drilling a well (which is encased in multiple steel pipes – casing strings – and cemented along the wellbore) to the depth of the desired geological formation.<sup>9</sup> In Pennsylvania, the shale formations are typically at least a mile below the groundwater sources.<sup>10</sup>

Once the wells are drilled then fracturing fluids<sup>11</sup> are injected to break open the subsurface geological formations, which subsequently expand the fractures in the belowground rock surrounding the well.<sup>12</sup> This controlled high pressure injection allows natural gas to flow to the well head.<sup>13</sup> Next, propping agents (nitrogen and sand, etc.) are pumped into the formation to keep the cracks which allow the natural gas to easily escape through the formation's pores and into the wells which bring the gas to the surface.<sup>14</sup>

In addition to the gas coming to the surface, the internal pressure of the wells cause flowback, which is the flow of the fracking fluids back to the surface to be stored before

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<sup>7</sup> Neal J. Manor, "What the Frack?" Why Hydraulic Fracturing Is Abnormally Dangerous and Whether Courts Should Allow Strict Liability Causes of Action, 4 Ky. J. Equine, Agric. & Nat. Resources L. 459, 461 (2012).

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

<sup>9</sup> Pennsylvania Independent Oil and Gas Association, Hydraulic Fracturing Process, <http://www.pioga.org/education/hydraulic-fracturing-process/> (accessed January 23, 2015).

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

<sup>11</sup> Fracture treatments typically utilize very low concentrations of chemical additives, between 3 and 12, depending on the specific conditions of the individual well; however, the general makeup of fracture fluids is water consisting of 98% to 99.2% with chemical additives usually around only 0.5% to 2%. Frac Focus Chemical Disclosure Registry, Chemical Use in Hydraulic Fracturing, <http://fracfocus.org/water-protection/drilling-usage> (accessed January 10, 2015).

<sup>12</sup> *Ely*, 2014 WL 4071640 at \*461-62.

<sup>13</sup> Marcellus Shale Coalition, Hydraulic Fracturing, <http://marcelluscoalition.org/marcellus-shale/production-processes/fracture-stimulation/> (accessed January 21, 2015).

<sup>14</sup> *Ely*, 2014 WL 4071640 at \*462.

disposal. Disposal occurs in one of two ways, either discharging the fluid into surface water, known as flow-back water, or injecting it underground.<sup>15</sup> Only a small percentage of the flow-back is discharged into underground injection wells which are regulated by the Environmental Protection Agency (EPA).<sup>16</sup> However, flow-back occurring in the Appalachian Basin is almost entirely recycled and repurposed for fracturing other wells.<sup>17</sup>

The flowback discharge into surface water is regulated by the National Pollutant Discharge Elimination System (NPDES) which requires pre-treatment at a water treatment plant regulated by the EPA through the Underground Injection Control (UIC) program and constitutes a Class II injection well.<sup>18</sup> Owners and operators of such wells are required to meet permit requirements for all stages of the well's production such as the construction, operation, monitoring, and testing of the wells which are regularly inspected.<sup>19</sup>

### *C. General Concerns*

As with any industry, there are many concerns with hydraulic fracking. Some such concerns are that fracking causes: contamination of groundwater, stress on the surrounding water supply, wastewater mismanagement, air quality issues, and non-disclosure of chemicals utilized in fracking.<sup>20</sup>

## *II. Ely v. Cabot Oil & Gas Corporation*

### *A. Procedural History*

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<sup>15</sup> *Id.*

<sup>16</sup> Marcellus Shale Coalition, Natural Gas – Production Policies – Water, <http://marcelluscoalition.org/marcellus-shale/production-processes/water/> (accessed January 10, 2015).

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

<sup>18</sup> *Ely*, 2014 WL 4071640 at \*462.

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

<sup>20</sup> Oil & Gas Monitor, Top Environmental Concerns in Fracking, <http://www.oilgasmonitor.com/top-environmental-concerns-fracking/1557/> (accessed February 1, 2015).

On November 19, 2009, the initial lawsuit against defendants, Cabot Oil & Gas Corporation and GasSearch Drilling Services, was filed by 44 plaintiffs, collectively suing the drilling companies, in order to receive compensation for damage to property and injuries that plaintiffs asserted were a direct result of defendants' drilling for natural gas in Dimock.<sup>21</sup> However, a majority of the plaintiffs settled with defendants and, upon the filing of the present case on April 23, 2014, only 12 plaintiffs remained.<sup>22</sup>

The present case comes up from the United States Magistrate Judge Martin C. Carlson, who concluded on January 9, 2014, that natural gas drilling operations are not abnormally dangerous and this matter should be addressed under traditional negligence principles.<sup>23</sup> Upon reaching this conclusion, Judge Carlson made a recommendation to grant the defendants' motion for summary judgment on the plaintiffs' strict liability claims.<sup>24</sup> Following the Magistrate Court's holding, the plaintiffs filed objections on January 23, 2014, and the defendants responded to those objections. Then the matter came before the Federal Middle District of Pennsylvania Judge John E. Jones, III. The plaintiffs then asserted, *inter alia*, that defendants' use, operation, and storage of hazardous chemicals and combustible gases were a toxic and hazardous nature such that they were able to cause grave damage to personal property and personal injury and were therefore ultra-hazardous and also abnormally dangerous.<sup>25</sup>

### *B. Factual Background*

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<sup>21</sup> *Ely*, 2014 WL 4071640 at \*1.

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

<sup>23</sup> *Id.* at \*15.

<sup>24</sup> *Id.* at \*16.

<sup>25</sup> *Id.* at \*4.

The 12 plaintiffs in this case are: Nolen Scott Ely, as the Executor of the estate for his deceased father, Kenneth R. Ely<sup>26</sup> (Estate); Nolen Scott Ely<sup>27</sup> and Monica L. Marty-Ely, both individually and as parents of their three minor children (the Elys); and Ray and Victoria Hubert<sup>28</sup>, both individually and as parents of their minor child, in addition to one child who has now reached the age of majority, Angel Hubert (Huberts).<sup>29</sup> Plaintiffs alleged that the defendants caused damage to the plaintiffs' property and personal injuries to their health due to the defendants' numerous oil and gas drilling facilities allegedly releasing, spilling, and discharging hazardous chemicals, combustible gases, and industrial wastes.<sup>30</sup>

The twelve plaintiffs asked the United States District Court for the Middle District of Pennsylvania to decide a national issue of first impression in determining whether natural gas hydraulic fracturing is an ultra-hazardous activity which gives rise to strict liability in tort.<sup>31</sup> Specifically, the plaintiffs asserted, *inter alia*, that defendants' use, operation, and storage of hazardous chemicals and combustible gases were of such a toxic and hazardous nature that the operational processes were able to cause grave damage to personal property and personal injury and were therefore ultra-hazardous and also abnormally dangerous.<sup>32</sup>

District Court Judge Jones adopted the report of United States Magistrate Judge Carlson.<sup>33</sup> The court held that because natural gas drilling operations, such as hydraulic fracking, are not

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<sup>26</sup> Kenneth R. Ely gave Cabot an oil and gas lease on September 12, 2006; he died May 20, 2009, and his son, Nolen Scott Ely, was appointed executor of his estate. *Ely*, 2014 WL 4071640 at \*2. Nolen does not live on the property; however, Kenneth Ely's widow, Emmagene Samoy-Ely, resides on the property but settled with defendants. *Id.*

<sup>27</sup> Nolen Scott Ely granted an oil and gas lease to Cabot on June 4, 2007. *Id.*

<sup>28</sup> Ray and Victoria Hubert entered into an oil and gas lease with Cabot on June 8, 2007. *Ely*, 2014 WL 4071640 at \*3.

<sup>29</sup> *Id.* at \*1.

<sup>30</sup> *Id.* at \*4.

<sup>31</sup> *Id.* at \*1.

<sup>32</sup> *Id.* at \*4.

<sup>33</sup> *Id.* at \*1.

abnormally dangerous, the theory of strict liability does not apply.<sup>34</sup> Judge Jones adopted Magistrate Judge Carlson's recommendation and then granted the defendants' motion for summary judgment on the plaintiffs' strict liability claims.<sup>35</sup>

In reaching this decision, the court first noted in its analysis that Kenneth R. Ely's estate alleged ground contamination; however, it was not due to hydraulic fracking by the defendants.<sup>36</sup> Secondly, Judge Jones agreed with Magistrate Judge Carlson that the defendants did not drill on Nolen Scott Ely's property; however, the Elys argue that their water supply is within 1,000 feet of Cabot's natural gas wells – Gesford 3 and Gesford 9.<sup>37</sup> The Elys claim to suffer from headaches, rashes, and upset stomachs beginning around September 2008 when the Defendants began to drill in Dimock.<sup>38</sup> The court reasoned that the Elys did not support their allegation with evidence to sufficiently prove that the defendants' drilling in Dimock affected their water supply.<sup>39</sup> This determination was made, despite the Elys utilizing a hydrology expert's testimony.<sup>40</sup> Additionally, the court held that the Elys failed to substantiate their claims of alleged medical symptoms resulting from water supply contamination with expert medical testimony.<sup>41</sup> Lastly, the Elys presented no evidence that they are or were suffering from any personal injuries as a result of defendant's drilling in Dimock.

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<sup>34</sup> *Id.* at \*15.

<sup>35</sup> *Id.* at \*1.

<sup>36</sup> *Id.* at \*2.

<sup>37</sup> *Id.*

<sup>38</sup> *Id.*

<sup>39</sup> *Id.*

<sup>40</sup> Paul Rubin, hydrologist expert, stated that due to observing specific chemical contaminants in the Ely's water supply that their water had been affected by unidentified problems with Cabot's wells in Dimock and consumption of that water presented a threat to human health and safety, no one, including the plaintiffs, should be subjected to drinking the water. *Id.*

<sup>41</sup> *Id.*

The third issue the court addressed was Ray and Victoria Hubert's claim that the defendants' drilling in Dimock adversely affected their water supply as early as 2007.<sup>42</sup> While the Huberts claimed to suffer from rashes, the family failed to bring personal injury claims and even waived their claim for medical monitoring.<sup>43</sup> Furthermore, the Huberts' property was not subjected to drilling, and did not have any oil wells installed by Cabot, similar to the Elys.<sup>44</sup> Furthermore, the Huberts<sup>45</sup> had not even been living on their land for the prior twenty-two years, but instead have been living on the Ely Property in a trailer for that time.<sup>46</sup>

The wells at issue in this case are the Gesford 3 well, Gesford 3S well, and the Gesford 9 well. Therefore, moving forward the court looked to Gesford 3 and Gesford 9, located upon the Ely property, on which both the Elys and the Huberts resided. Cabot began drilling the Gesford 3 gas well around September 25, 2008; however, it was temporarily plugged around October 9, 2008, and was never used to hydraulically frack.<sup>47</sup> The rig that drilled the Gesford 3 well was moved to the same well pad to drill the Gesford 3S gas well on October 13, 2008, which was hydraulically fracked around March 20, 2009.<sup>48</sup> The Gesford 3 gas well was re-permitted and renamed the Gesford 9 gas well around August of 2009.<sup>49</sup> The Gesford 9 well was not drilled into the Marcellus Shale depth, but rather it was drilled 1,911 feet for production out of the Devonian shale, which is shallower.<sup>50</sup> Hydraulic fracking never occurred at the Gesford 9 gas

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<sup>42</sup> *Ely*, 2014 WL 4071640 at \*3.

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

<sup>44</sup> *Id.*

<sup>45</sup> Additionally, the Huberts' oldest child, Angel Hubert, has not resided with the family since September of 2009, even when this suit originated; however, the Huberts' minor child has lived with the family in the trailer since birth. *Id.*

<sup>46</sup> *Id.*

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

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

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

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



well, and it was plugged and abandoned around May 23, 2010.<sup>51</sup> Similarly, the Gesford 3S gas well was plugged and abandoned around that same day.<sup>52</sup>

### *C. The Court's Opinion*

As to whether or not strict liability in tort specifically attaches to the activity of natural gas drilling, the court examined existing case law.<sup>53</sup> Pennsylvania does observe strict liability as a tort cause of action when there is an ultra-hazardous and abnormally dangerous activity. Sections 519 and 520 of the Restatement (Second) of Torts have been adopted by the Superior Court of Pennsylvania to determine under what circumstances an activity constitutes an abnormally dangerous activity.<sup>54</sup> Section 519 of the Restatement makes a person who is engaged in an abnormally dangerous activity subject to liability for harm resulting from that activity despite the person's use of the greatest care in preventing harm.<sup>55</sup> Section 520 lists the factors that determine if an activity constitutes an abnormally dangerous one.<sup>56</sup> The factors are:

(1) the existence of a high degree of risk of some harm to the person, land or chattels of others; (2) likelihood that the harm that results from it will be great; (3) inability to eliminate the risk by the exercise of reasonable care; (4) extent to which the activity is not a matter of common usage; (5) inappropriateness of the activity to the place where it is carried on; and (6) extent to which its value to the community is outweighed by its dangerous attributes.<sup>57</sup>

After analyzing Pennsylvania case law, this court observed that traditionally courts deciding cases involving hydraulic fracking have habitually refused to label varying oil and gas

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<sup>51</sup> *Id.*

<sup>52</sup> *Id.*

<sup>53</sup> *Ely*, 2014 WL 4071640 at \*9 (citing *Tucker v. Southwestern Energy Co.*, No. 11-44, 2012 WL 528253 (E.D.Ark. Feb. 17, 2012); *Berish v. Southwestern Energy Production Co.*, 763 F.Supp.2d 702 (M.D.Pa.2011); *Fiorentino v. Cabot Oil & Gas Corp.*, 750 F.Supp.2d 506 (M.D.Pa.2010)).

<sup>54</sup> *Ely*, 2014 WL 4071640 at \* 9.

<sup>55</sup> *Id.* (citing R.2d of Torts § 519(1)(1977)).

<sup>56</sup> *Ely*, 2014 WL 4071640 at \* 9.

<sup>57</sup> *Id.* (citing *Restatement (Second) of Torts*, § 520).

operations as ultra-hazardous activities.<sup>58</sup> *Melso v. Sun Pipe Line Company*<sup>59</sup> was one such similar case that the Pennsylvania Superior Court relied upon where the court determined that the lower court erred in holding that the operation of a petroleum pipeline was an abnormally dangerous activity.<sup>60</sup> As no Pennsylvania court had ever reached a determination that oil and gas operations are ultra-hazardous, the plaintiffs were asking this court to predict the future of Pennsylvania judiciary finding, but the court did consider the evidence in accordance with the Restatement's six factors and Pennsylvania law on this topic.<sup>61</sup>

i. *The Court's Restatement Application*

The first factor - the existence of a high degree of risk of some harm to the person, land or chattels of others - focuses on whether the activity itself is abnormally dangerous.<sup>62</sup> Both courts found that the plaintiffs failed to carry the burden with respect to these factors as a result of the defendant's persuasive showing by various reports, data analysis, and expert commentary that hydraulic fracking's risks are minimal if done properly.<sup>63</sup> This determination resulted from numerous reports. One of the reports from the Pennsylvania General Assembly, done by The Center for Rural Pennsylvania,<sup>64</sup> showed that the chemistry of the water in the surrounding area of the gas drilling in Dimock did not appear to be substantially affected.<sup>65</sup> Similarly, evidence

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<sup>58</sup> *Ely*, 2014 WL 4071640 at \*10.

<sup>59</sup> *Melso v. Sun Pipe Line Co.*, 394 Pa. Super. 578, 586, 576 A.2d 999, 1003 (1990) (cited in *Ely*, 2014 WL 4071640 at \*10).

<sup>60</sup> *Ely*, 2014 WL 4071640 at \*10.

<sup>61</sup> *Id.*

<sup>62</sup> *Id.*; see *Smith v. Weaver*, 445 Pa. Super. 461, 665 A.2d 1215, 1219 (Pa. Super. Ct. 1995).

<sup>63</sup> *Ely*, 2014 WL 4071640 at \*10.

<sup>64</sup> The Center of Rural Pennsylvania is a bipartisan and bicameral legislative agency for the Pennsylvania General Assembly that works with the legislature, educators, state and federal executive branch to serve as a resource for rural policy for Pennsylvania's citizens. The Center for Rural Pennsylvania, Mission Statement, [http://www.rural.palegislature.us/about\\_mission\\_statement.html](http://www.rural.palegislature.us/about_mission_statement.html) (accessed February 1, 2015).

<sup>65</sup> *Ely*, 2014 WL 4071640 at \*5.

from other states showed that fracking only creates a low risk to water supplies.<sup>66</sup> The Pennsylvania Department of Environmental Protection (PDEP) also determined that any problems with drilling of natural gas wells which may result are lessened if the gas wells are properly constructed.<sup>67</sup>

As to the risks involved in relation to the environment, the plaintiffs selected specific language from Cabot's 10-K report, filed with the Securities Exchange Commission, in which Cabot stated potential financial risks to the company as a result of its operations; however, the court in this case determined that the quotations do not establish an acknowledgement that drilling activities are inherently highly risky to property or people.<sup>68</sup> As a result, the Magistrate and District Judge both agreed that drilling has not been shown to have adverse effects on the water supplies' chemistry in rural localities.<sup>69</sup> Because the plaintiffs focused on arguments that addressed the alleged repercussions of fracking,<sup>70</sup> not the fracking process itself, and because they lacked evidence to support their position, the court held that the plaintiffs failed to carry the burden and show that there was an existence of a high degree of risk of some harm to the person, land or chattels of others.<sup>71</sup>

The second factor - the likelihood that the harm that results from it will be great - focuses on whether the risk of injury of drilling operations are properly conducted will be significant.<sup>72</sup>

Plaintiffs utilized a surface blasting case to attempt to show an analogy to modern fracking,

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<sup>66</sup> *Id.* at \*10.

<sup>67</sup> *Id.*

<sup>68</sup> *Id.* at \*11.

<sup>69</sup> *Id.* at \*5.

<sup>70</sup> The Pennsylvania Department of Environmental Protection found in this case that the flaming water taps were the result of poor well construction and over-well pressurization, as opposed to the direct result of the actual fracking process. State Impact, [Tap Water Torches: How Faulty Gas Drilling Can Lead to Methane Migration](http://stateimpact.npr.org/pennsylvania/tag/methane-migration/), <http://stateimpact.npr.org/pennsylvania/tag/methane-migration/> (accessed February 1, 2015).

<sup>71</sup> *Ely*, 2014 WL 4071640 at \*10-11.

<sup>72</sup> *Id.* at \*11.

which the Pennsylvania Supreme Court held to be an ultra-hazardous activity.<sup>73</sup> However, the plaintiffs never explained the analogy between the two industries and both judges find that the evidence does not support the plaintiffs' position on this second factor.<sup>74</sup> Therefore, the court held that the plaintiffs failed to demonstrate that there was a likelihood that resulting harm from fracking would be great.

The third factor - the inability to eliminate the risk by the exercise of reasonable care - focuses on the acknowledgement that the evidence shows that risks are substantially decreased when due care is exercised but not all risk of injury is eliminated.<sup>75</sup> But the court reasoned that the plaintiffs offered little evidence to substantiate their claims that the drilling of the pertinent wells, Gesford 3S or Gesford 9 located on the Ely's property, caused contamination of plaintiffs' water supply.<sup>76</sup> Plaintiffs offered only expert report by Anthony Ingraffea, who described potential negligence, on the defendants' part, in the fluid migration from wells possibly being a result of lack of due care and faulty well design and or construction.<sup>77</sup> The judge further determined that Ingraffea's report failed to speak to whether or not contamination would be possible even if the natural gas wells were drilled correctly.<sup>78</sup> Additionally, plaintiffs failed to submit evidence to show that natural gas drilling's risks could not be eliminated if due care is exercised.<sup>79</sup> Rather, the report tended to show a focus on negligence.<sup>80</sup> Lastly, plaintiffs provided no expert testimony that drilling by hydraulic fracking effected plaintiff's property or water.<sup>81</sup> Additionally, the plaintiffs asserted that because the PDEP had enforcements upon the

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<sup>73</sup> *Id.* at \*12.

<sup>74</sup> *Id.*

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

<sup>76</sup> *Id.* at \*4.

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

<sup>78</sup> *Id.*

<sup>79</sup> *Id.*

<sup>80</sup> *Id.* at \*12.

<sup>81</sup> *Id.* at \*4.

defendants (because it had identified instances where drilling operations may have damaged water supplies) that their activities should be upheld to the level of strict liability.<sup>82</sup> The court determined it was not in accordance with Pennsylvania, or any state, law to do so.<sup>83</sup>

The defendants presented a Manhattan Institute<sup>84</sup> report indicating that the economic benefits of drilling significantly outweigh the costs to the environment that may result from its operations.<sup>85</sup> The report also refutes the possibility of water contamination in asserting that in the over sixty years that hydraulic fracking has been occurring there has been no migration of fracking operation's byproduct from the formations containing the gas shale into the above water tables.<sup>86</sup> Accordingly both judges concurred that the environmental impacts that may result from drilling operations have over time decreased as newer technologies have arisen to lessen the environmental costs.<sup>87</sup> The court agrees with the PDEP in holding that even though risks may result from drilling operations, the risks can be greatly decreased when due care is exercised.<sup>88</sup>

The fourth factor - the extent to which the activity is not a matter of common usage - was found to show that fracking has become a common and integral part of rural communities like Susquehanna County, despite the plaintiffs' assertion that fracking was novel in Dimock Township until its introduction in the past ten years.<sup>89</sup> This holding was based on a report that was included, *inter alia*, in evidence which showed that there have been more than 2.5 million fracture operations worldwide since 1949; and more specifically, Susquehanna County,

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<sup>82</sup> *Id.* at \*12.

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

<sup>84</sup> The Manhattan Institute is a non-profit "think tank whose mission is to develop and disseminate new ideas that foster greater economic choice and individual responsibility." <http://www.manhattan-institute.org/about/> (accessed January 27, 2015).

<sup>85</sup> *Ely*, 2014 WL 4071640 at \*6.

<sup>86</sup> *Id.*

<sup>87</sup> *Id.* at \*5.

<sup>88</sup> *Id.* at \*12.

<sup>89</sup> *Id.* at \*13.

Pennsylvania has had more than 649 wells drilled since 2000 with 99.5% of those being hydraulically fracked since 2009.<sup>90</sup> And since 2000, the PDEP has sanctioned over 6300 Marcellus Shale wells.<sup>91</sup> Additionally, 97% of the wells located in Dimock, the plaintiff's township of residence, were for hydraulic fracking purposes.<sup>92</sup> As a result, the Magistrate and District Judge both agreed that the evidence supported the determination that natural gas drilling was common and an increasing essential part of our modern industrial society.<sup>93</sup> Thus, a finding was made against strict liability upon this factor.<sup>94</sup>

The plaintiffs claim that the fifth factor - the inappropriateness of the activity to the place where it is carried on - was met by the defendants allegedly maintaining their operations too close to plaintiffs' water sources, despite the plaintiffs willingly granting leases to the defendants to explore for natural gas within the boundaries and depths of their properties.<sup>95</sup> Another report included in the Pennsylvania General Assembly's record evidence showed that the state's requirement that gas wells be 200 feet from any and all water supplies was proper.<sup>96</sup> In addition, both judges held that as the defendant's drilling of its wells were in conformance with the setback requirements, the plaintiffs' assertions were null because the wells were drilled subject to their respective valid leases and complied with legal requirements of setback.<sup>97</sup> Thus, the Magistrate and District Judge both agreed that the evidence supported the determination that the fifth factor was not met and no strict liability could be found upon this factor.<sup>98</sup>

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<sup>90</sup> *Id.* at \*5.

<sup>91</sup> *Id.*

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

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

<sup>94</sup> *Id.* at \*13.

<sup>95</sup> *Id.*

<sup>96</sup> *Id.* at \*5.

<sup>97</sup> *Id.* at \*13.

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

The sixth factor - the extent to which its value to the community is outweighed by its dangerous attributes - was particularly important in the determination of this case as the judges noted that the Superior Court had held before that this element may show that the activity's value to the community may be greater than the danger that it presents to the community such that the community will not regard it as an abnormal danger.<sup>99</sup> The Restatement also notes that if the activity is central to the economic well-being of the community then the value of the activity is of special importance.<sup>100</sup> The court looked to a report called *Economic Impacts of Marcellus Shale in Pennsylvania* (the MSETC 2009 Report) which found that the Marcellus Shale development in 2009 alone ranged in an economic impact of between 23,385 to 23,884 jobs, \$3.1 to \$3.2 billion in 2009, which included \$1.2 billion in labor income, and practically increased Pennsylvania's economy by \$1.9 billion.<sup>101</sup> The MSETC report further indicated that 28% of businesses, surveyed in 2009, saw increases in their sales due to drilling and that every additional well which is drilled produces thirty jobs and \$4 million revenue to the state.<sup>102</sup> Another report, *Economic Impacts of Marcellus Shale in Susquehanna County: Employment and Income in 2010*, revealed that the county held the fifth most Marcellus Shell wells in the state.<sup>103</sup> Specifically, the royalty income from those wells had increased 800% from 2007 to 2009 which helped to reduce the economic pressure from unemployment within Susquehanna County.<sup>104</sup> Thus, the court found that individuals and their communities directly reap some of the economic benefits that are disbursed from natural gas drilling.<sup>105</sup>

ii. *The Court's Holding*

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<sup>99</sup> *Id.* at \*14.

<sup>100</sup> *Id.*

<sup>101</sup> *Id.* at \*6.

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

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

<sup>104</sup> *Id.*

<sup>105</sup> *Id.*

Overall, the court held that the plaintiffs failed to sufficiently plead their argument and the court determined that oil and gas drilling operations do not constitute ultra-hazardous activities and thus do not amount to strict liability.<sup>106</sup> Furthermore, traditionally courts hearing such cases have refused to find oil and natural gas drilling ultra-hazardous or abnormally dangerous, but have rather held that traditional negligence principles should be applied to claims for property damage and personal injury that plaintiffs allege resulted from natural gas drilling operations.<sup>107</sup>

### III. HISTORICAL PRECEDENT IN ACCORDANCE WITH HOLDING STRICT LIABILITY DOES NOT ATTACH TO HYDRAULIC FRACKING

The legal issue presented in this case is one of first impression, on a national scale, to determine whether or not hydraulic fracking constitutes an ultra-hazardous activity which gives rise to strict liability in tort. Strict liability in tort is limited to the kind of risk of harm which makes an activity abnormally dangerous. Originally this was referred to as a “non-natural use of land,” then an “ultra-hazardous activity” in R.1d, and now as an “abnormally dangerous activity” in R.2d. Both sections 519 and 520 of the Restatement (Second) of Torts determine under what circumstances an activity constitutes an abnormally dangerous activity.<sup>108</sup> Sections 519 and 520 of the Restatement (Second) of Torts have been adopted by the Superior Court of Pennsylvania.<sup>109</sup>

#### A. *The Restatement Approach*

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<sup>106</sup> *Id.* at \*15.

<sup>107</sup> *Id.*

<sup>108</sup> *Id.* at \*9.

<sup>109</sup> *Id.*; see *Banks v. Ashland Oil Company*, 127 F. Supp.2d 679, 680 (E.D. Pa. 2001) (cited in *Fiorentino v. Cabot Oil & Gas Corp.*, 750 F. Supp. 2d 506, 512 (M.D. Pa. 2010)); (Despite Pennsylvania’s lack of absolute settlement of the common law doctrine of strict liability, the Superior Court of Pennsylvania has adopted Sections 519 and 520 in several cases); *Smith v. Weaver* 445 Pa. Super. 461, 470–71, 665 A.2d 1215, 1219–20 (Pa. Super. 1995) (cited in *Fiorentino*, 750 F. Supp. 2d at 512 (M.D. Pa. 2010)).



Section 519 of the Restatement makes a person who is engaged in an abnormally dangerous activity subject to liability for harm resulting from that activity despite the person's use of the greatest care in preventing harm.<sup>110</sup> Section 520 lists the factors that determine if an activity constitutes an abnormally dangerous one.<sup>111</sup> Those factors are:

(1) the existence of a high degree of risk of some harm to the person, land or chattels of others; (2) likelihood that the harm that results from it will be great; (3) inability to eliminate the risk by the exercise of reasonable care; (4) extent to which the activity is not a matter of common usage; (5) inappropriateness of the activity to the place where it is carried on; and (6) extent to which its value to the community is outweighed by its dangerous attributes.<sup>112</sup>

Generally, strict tort liability is limited to certain activities such as: blasting, storage of explosives, fumigation, crop dusting, storage of flammable liquids, maintenance of hazardous waste sites, and rocket testing.

#### *B. The First Application of the Legal Theory*

The most prominent case in which the doctrine of strict liability for abnormally dangerous activities was applied is the old English case of *Rylands v. Fletcher*.<sup>113</sup> The issue in this case was that the defendants' reservoir broke and caused an abandoned coal mine shaft to be filled with water, thereby flooding the plaintiff's connected mine. The House of Lords held the defendants strictly liable because they had made a non-natural use of their land in creating the reservoir and thus caused an increase in danger to persons, land, or chattels.<sup>114</sup> The reason it was a non-natural use of the land was because of the general rule that "a person who, for his own purposes, br[ings] on his land and collect[s] and ke[eps] there anything likely to do mischief if it

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<sup>110</sup> *Ely*, 2014 WL 4071640 at \*9 (citing R.2d § 519(1)(1977)).

<sup>111</sup> *Ely*, 2014 WL 4071640 at \*9.

<sup>112</sup> *Id.* (citing *Restatement (Second) of Torts*, § 520).

<sup>113</sup> *Rylands v. Fletcher*, 1868 WL 9885 (1868).

<sup>114</sup> *Id.*

escap[es], ha[s] to keep it in at his peril; and if he d[oes] not do so, he [is] prima facie answerable for all the damage which [is] the natural consequence of its escape.”<sup>115</sup>

### C. The Traditional Approach in the United States & Pennsylvania

Traditionally courts across the United States that have heard claims for attaching strict liability to hydraulic fracking operations have refused to reach the point of actually deciding on the legal issue to label the activities ultra-hazardous because the courts have left such claims to be determined on a full record at the summary judgment stage.<sup>116</sup> Pennsylvania courts are clear that summary judgment “should be entered only where the pleadings, depositions, answers to interrogatories and admissions on file show that there is no genuine issue of material fact and the moving party is entitled to judgment as a matter of law.”<sup>117</sup>

While courts throughout the United States have never had to actually decide whether or not hydraulic fracking is an activity attached to strict liability, courts have heard the claim or heard similar cases. One such case is *Tucker v. S.W. Energy Company*.<sup>118</sup> In *Tucker*, the plaintiffs asserted that the oil and gas company was operating an ultra-hazardous activity and thus strictly liable for the plaintiffs’ damages resulting from the company’s activity including hydraulic fracturing.<sup>119</sup> The court determined that the question of whether or not fracking

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<sup>115</sup> *Id.*

<sup>116</sup> *Ely*, 2014 WL 4071640 at \*10.

<sup>117</sup> See *Hedlund Mfg. Co. v. Weiser, Stapler & Spivak*, 539 A.2d 357, 358 (Pa. 1988) (cited in *Melso*, 576 A.2d at 1003) (holding that Pa.R.Civ.P. Rule 1035 prevented the granting of the summary judgment motion because there were genuine issues as to material facts in the case); *Gabovitz v. State Auto Ins. Ass’n*, 523 A.2d 403, 405 (Pa.Super. 1987) (cited in *Melso*, 576 A.2d 999 at 1003) (finding defendants were not entitled to summary judgment because there still remained genuine factual issues as to the equitable estoppel claim); *Williams v. Pilgrim Life Ins. Co.*, 452 A.2d 269, 270 (Pa.Super. 1982) (cited in *Melso*, 576 A.2d at 1003) (holding summary judgment was precluded as a result of double indemnity clauses in the policy at issue).

<sup>118</sup> *Tucker v. S.W. Energy Co.*, No. 1:11-CV-44-DPM, 2012 WL 528253 \*3 (E.D. Ark. 2012) (cited in *Ely*, 2014 WL 4071640 at \*9).

<sup>119</sup> *Tucker*, 2012 WL 528253 at \*3. (cited in *Ely*, 2014 WL 4071640 at \*9) (citing *Document No. 2 (Tucker)*, at 11.)

constitutes an ultra-hazardous activity is a question of law which the court could not determine because the record lacked sufficient information<sup>120</sup> to make the factual judgment.<sup>121</sup> Therefore, the court determined that a claim of strict liability's legal sufficiency should be determined on a full record at the summary judgment stage.<sup>122</sup>

*In Melso v. Sun Pipe Line Company*<sup>123</sup> appellants, in Bucks County, Pennsylvania, brought suit for a gasoline spill when a pipeline burst<sup>124</sup> causing petroleum to spill onto the surrounding land.<sup>125</sup> As a result, gasoline vapors entered the residents' basements for multiple months after the accident and the appellants sued for alleged property damages and personal injuries.<sup>126</sup>

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<sup>120</sup> The court determined that the plaintiff's complaints were overwhelmingly conclusionary and filled with general statements, rather than stating specific facts about individual tracking operations by specific fracking companies utilizing particular substances to allegedly cause the plaintiffs' asserted problems with air and water. *Tucker*, 2012 WL 528253 at \*1-2 (cited in *Ely*, 2014 WL 4071640 at \*9). The Tuckers asserted that the defendant companies and fracked wells within one mile from their property, and that before the companies began operations the Tuckers' well water was fine but afterwards the water began to smell, and recent testing showed that a poisonous chemical used in fracking fluid, alpha methylstyrene, was present in the water. *Tucker*, at 1 (cited in *Ely*, 2014 WL 4071640 at \*9). The Berrys claimed that the defendants' fracked wells within three miles of their property led to the contamination of their well water and ponds with methane and hydrogen sulfide. *Id.* Although Southwester Energy made efforts to resolve the problem, the Berrys claim that substances continued to be ejected from the well into the air, thereby polluting their property. *Id.*

<sup>121</sup> *Tucker*, 2012 WL 528253 at \*3 (cited in *Ely*, 2014 WL 4071640 at \*9).

<sup>122</sup> *Id.*; see also *Fiorentino*, 750 F. Supp. 2d at 512 (cited in *Ely*, 2014 WL 4071640 at \*9) (holding the record was at too early a juncture to allow the court to sufficiently develop an informed decision on whether the plaintiffs' strict liability reasoning should apply to gas-well drilling operations); *Berish v. Southwestern Energy Production Co.*, 763 F.Supp.2d 702, 706 (M.D.Pa.2011) (cited in *Ely*, 2014 WL 4071640 at \*9) (holding that a finding of strict liability typically occurs after discovery has been completed and thus the court had to wait for a more developed record since the case was not at that point).

<sup>123</sup> *Melso*, 576 A.2d at 999 (cited in *Ely*, 2014 WL 4071640 at \*10).

<sup>124</sup> Workmen installing underground cables hit a pip carrying petroleum and caused it to break which resulted in roughly 50,000 gallons of petroleum to spill into the surrounding land. *Melso*, 576 A.2d at 1000 (cited in *Ely*, 2014 WL 4071640 at \*10).

<sup>125</sup> *Id.*

<sup>126</sup> *Ely*, 2014 WL 4071640 at \*1001.

The court applied Sections 519 and 520 of the Restatement to determine when an activity is abnormally dangerous, and the court reasoned that the harm at issue was a result of an intervening negligent act by the workmen installing cables and not a result of the defendants' actions, thus failing part (a)<sup>127</sup> of Restatement (Second) of Torts Section 520.<sup>128</sup> Secondly, analysis showed that it is common in today's highly industrialized society for natural gas and petroleum products to be transported on land, and thus failed part (d)<sup>129</sup> of Restatement (Second) of Torts Section 520.<sup>130</sup> Additionally, the court looked to Pennsylvania case law and determined that no Pennsylvania court had ever reached a determination that oil and gas operations are ultra-hazardous.<sup>131</sup> Therefore, the court in this case held that the lower court erred in holding that the operation of a petroleum pipeline was an abnormally dangerous activity.<sup>132</sup>

However, the Melso court did reach a determination that "the Free Pipe Line Act of 1883 does not impose strict liability upon the owner of a pipeline where damage to the line is caused by the negligence of a third party, and as a result of an intervening cause, petroleum leaks out of the pipe."<sup>133</sup> Thus in the converse, an oil and gas operator is subject to strict liability when petroleum leaks from its pipes without an intervening third party's negligent act. Yet, the strict liability referred to by this court is not in reference to whether or not hydraulic fracking constitutes an abnormally dangerous activity and results in strict liability in tort.

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<sup>127</sup> An activity is abnormally dangerous when... (a) [there is an] existence of a high degree of harm to the person, land, or chattels of others. *Restatement (Second) of Torts*, § 520(a).

<sup>128</sup> *Melso*, 576 A.2d at 1004 (cited in *Ely*, 2014 WL 4071640 at \*10).

<sup>129</sup> An activity is abnormally dangerous when... (d) [the] extent to which the activity is not a matter of common usage. *Restatement (Second) of Torts*, § 520(d).

<sup>130</sup> *Melso*, 576 A.2d at 1004 (cited in *Ely*, 2014 WL 4071640 at \*10).

<sup>131</sup> *Ely*, 2014 WL 4071640 at \*10.

<sup>132</sup> *Melso*, 576 A.2d at 1003 (cited in *Ely*, 2014 WL 4071640 at \*10).

<sup>133</sup> *Id.* at 1005.

Additionally, in *Smith v. Weaver*,<sup>134</sup> the appellants purchased an old gasoline station property from the appellees and once the appellants attempted to remove the underground storage tanks they discovered that two tanks were leaking water and waste substances.<sup>135</sup> The Pennsylvania Department of Environmental Resources determined the leak had caused the pollutants to contaminate the surrounding soil, which resulted in the appellants being forced to pay the costs associated with the cleanup in excess of \$70,000.<sup>136</sup> The appellants brought suit against the appellees for the underground storage tanks leaking hazardous substances, claiming that the appellees were strictly liable for the resulting damages.<sup>137</sup> The appellants wanted the focus to be on whether leaking hazardous substances from underground fuel tanks constituted an abnormally dangerous activity, rather than the underground tanks themselves.<sup>138</sup> However, the court held that even if a dangerous condition later develops, the focus should be on the activity itself - the storage of potentially hazardous substances in underground tanks.<sup>139</sup>

The court applied the Restatement factors for determining when an activity is abnormally dangerous and reasoned that the storage of gasoline and other petroleum products can be done and dispensed safely when reasonable care is utilized, thus the appellants failed part (c)<sup>140</sup> of the Restatement (Second) of Torts Section 520.<sup>141</sup> Second, the court found that the storage of the substances at issue were common and a part of our modern society, and failed part (d)<sup>142</sup> of the

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<sup>134</sup> *Smith v. Weaver*, 665 A.2d 1215 (Pa.Super. 1995) (cited in *Ely*, 2014 WL 4071640 at \*10).

<sup>135</sup> *Smith*, 665 A.2d at 1216-17 (cited in *Ely*, 2014 WL 4071640 at \*10).

<sup>136</sup> *Id.*

<sup>137</sup> *Smith*, 665 A.2d at 1219 (cited in *Ely*, 2014 WL 4071640 at \*10).

<sup>138</sup> *Id.*

<sup>139</sup> *Id.*

<sup>140</sup> An activity is abnormally dangerous when... (c) [there is an] inability to eliminate the risk by the exercises of reasonable care. *Restatement (Second) of Torts*, § 520(c).

<sup>141</sup> *Smith*, 665 A.2d at 1220 (cited in *Ely*, 2014 WL 4071640 at \*10).

<sup>142</sup> An activity is abnormally dangerous when... (d) [the] extent to which the activity is not a matter of common usage. *Restatement (Second) of Torts*, § 520(d).

Restatement (Second) of Torts Section 520.<sup>143</sup> Third, even though leaks resulting in significant harm may occur from these tanks, their presence at a gasoline station is proper, therefore, the appellants failed to meet part (f)<sup>144</sup> of the Restatement (Second) of Torts Section 520.<sup>145</sup> As a result, the court held that the operation of underground storage tanks at a gasoline station does not constitute an abnormally dangerous activity; therefore, the court found that no strict liability was permitted.<sup>146</sup>

This issue is also presented in, *Williams v. Amoco Prod. Company*,<sup>147</sup> a case decided by the Supreme Court of Kansas. Plaintiff landowners claimed natural gas escaped from two of the defendant's natural gas wells in the Hugoton gas field, and contaminated the landowners' irrigation water with natural gas.<sup>148</sup> The plaintiffs asserted that the defendant should be strictly liable for temporary damages for their crop loss and incidental equipment expense as a result of the defendant's abnormally dangerous activities.<sup>149</sup>

In this case, the court had to determine whether or not strict liability applied to the escape of natural gas from a natural gas well into groundwater and thereafter into irrigation water.<sup>150</sup> The court adopted Sections 519 and 520 of Restatement (Second) of Torts to determine whether natural gas operations are abnormally dangerous.<sup>151</sup> The court first considered part (a)<sup>152</sup> of the Restatement (Second) of Torts, Section 520, and reasoned in agreement with the defendant,

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<sup>143</sup> *Smith*, 665 A.2d at 1220.

<sup>144</sup> An activity is abnormally dangerous when... (f) [the] extent to which its value to the community is outweighed by its dangerous attributes. *Restatement (Second) of Torts*, § 520(f).

<sup>145</sup> *Smith*, 665 A.2d at 1220.

<sup>146</sup> *Id.*

<sup>147</sup> *Williams v. Amoco Prod. Co.*, 734 P.2d 1113 (Kan.1987) (cited in *Fiorentino*, 750 F. Supp. 2d at 511 (M.D. Pa. 2010)).

<sup>148</sup> *Id.* at 1116.

<sup>149</sup> *Id.* at 1118.

<sup>150</sup> *Id.* at 1121.

<sup>151</sup> *Id.* at 1123.

<sup>152</sup> An activity is abnormally dangerous when... (a) [there is an] existence of a high degree of harm to the person, land, or chattels of others. *Restatement (Second) of Torts*, § 520(a).

Amoco, that neither the operation of a natural gas well nor the substance itself poses a high degree of risk of harm to person, land, or chattels of others.<sup>153</sup> The court found that the presence of natural gas in aquifers has not resulted in explosions or polluted nearby water and land but instead reduces the rate at which water can be extracted from the aquifer.<sup>154</sup> Next, the court looked to part (d)<sup>155</sup> of the Restatement (Second) of Torts, Section 520, and again agreed with Amoco that natural gas drilling and operations are a matter of common usage, especially because the Hugoton Gas Field is the largest reservoir of natural gas in the world.<sup>156</sup> Therefore, the court ultimately held that the drilling and operation of natural gas wells are not abnormally dangerous activities and that such activity is not even considered a non-natural use of land.<sup>157</sup>

In conclusion, no court in the United States has had to directly confront the specific issue of whether hydraulic fracking constitutes an abnormally dangerous activity and is subject to strict liability. However, many cases throughout the history of the doctrine of strict liability for abnormally dangerous activities have pointed courts towards the determination that natural gas operations and any results, desired or undesirable, are not abnormally dangerous, and no strict liability is placed upon the defendants in such cases.

#### IV. THE TRADITIONAL FAILURE OF THE HYDRALIC FRACKING STRICT LIABILITY CLAIM

In recent years, plaintiffs have brought suit in opposition of hydraulic fracking under numerous legal theories such as: “negligence, damage to property, bodily injury, trespass, breach of duty to warn, nuisance, strict liability, fraudulent misrepresentation, breach of contract, loss of

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<sup>153</sup> *Williams*, 734 P.2d at 1123.

<sup>154</sup> *Id.*

<sup>155</sup> An activity is abnormally dangerous when... (d) [the] extent to which the activity is not a matter of common usage. *Restatement (Second) of Torts*, § 520(d).

<sup>156</sup> *Williams*, 734 P.2d at 1123.

<sup>157</sup> *Id.*

business, breach of quiet enjoyment, and increased risk of disease.”<sup>158</sup> Specifically, the present Ely case entails a claim that hydraulic fracking operators should be strictly liable for any and all resulting injury from their operations because fracking constitutes an abnormally dangerous activity.

*A. Hydraulic Fracking’s Presence in Ely v. Cabot Oil & Gas Corporation*

In the present Ely case, it is important to note that multiple gas wells are at issue; however, not all of them were hydraulically fracked and thus should not be entered as evidence to support the plaintiffs’ assertion that hydraulically fracking is an abnormally dangerous activity. The wells that were never hydraulically fracked were the Gesford 3 well which was moved to another location on the same well pad, re-permitted and renamed Gesford 9 well which was also never hydraulically fracked.<sup>159</sup> The Elys alleged that the Gesford 3 and Gesford 9 wells were in close proximity to their water supply, thereby resulting in chemical contamination of their water; however, these wells were not hydraulically fracked.<sup>160</sup> Only the Gesford 3S well was hydraulically fracked.<sup>161</sup> But none of the plaintiffs assert an injury in relation to the Gesford 3S well. Additionally, the Huberts resided on the Ely property and also allege hydraulically fracking of the wells close to them, the Gesford 3 and Gesford 9 wells, adversely affected their water supply.<sup>162</sup> Despite the lack of hydraulically fracked wells truly being at issue in this case, the court continues with the proper analysis for the determination of whether or not an activity is abnormally dangerous.

*B. Pennsylvania’s Treatment of Hydraulic Fracking Liability*

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<sup>158</sup> 4 Toxic Torts Litigation Guide § 44:14

<sup>159</sup> *Ely*, 2014 WL 4071640 at \*3.

<sup>160</sup> *Id.* at \*2.

<sup>161</sup> *Id.* at \*3.

<sup>162</sup> *Id.*



Pennsylvania courts have correctly determined that hydraulic fracking cannot be attached to strict liability because fracking does not constitute an abnormally dangerous activity. The Ely court properly utilized the analysis of the Second Restatement of Torts Section 520 to determine whether or not hydraulic fracking constitutes an abnormally dangerous activity. Such analysis is directly in line with how courts have traditionally determined whether any activity is an abnormally dangerous one which is subject to strict liability. Additionally, the Restatement analysis is proper because the Superior Court of Pennsylvania has adopted Sections 519 and 520 of the Restatement (Second) of Torts to determine under what circumstances an activity constitutes an abnormally dangerous activity.<sup>163</sup>

Section 520 of the Second Restatement of Torts provides the factors to be considered when determining whether an activity is abnormally dangerous or not. Those factors are:

- (a) existence of a high degree of risk of some harm to the person, land or chattels of others;
- (b) likelihood that the harm that results from it will be great;
- (c) inability to eliminate the risk by the exercise of reasonable care;
- (d) extent to which the activity is not a matter of common usage;
- (e) inappropriateness of the activity to the place where it is carried on; and
- (f) extent to which its value to the community is outweighed by its dangerous attributes.

Restatement (Second) of Torts Section 520. Therefore, in order for hydraulic fracking to be considered an abnormally dangerous activity resulting in strict liability, fracking must meet each of these factors. However, fracking fails to meet all the required factors.

### *C. The Restatement Approach to Ely*

In order for hydraulic fracking to be an abnormally dangerous activity, it would first have to present a high degree of risk of harm to the person, land, or chattels of others.<sup>164</sup> However, the fact that hydraulic fracking represents a recognized risk of some relative harm is not enough for

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<sup>163</sup> *Id.* at \*9.

<sup>164</sup> Restatement (Second) of Torts § 520(a) (1977).

it to constitute the high degree of risk of harm that is required under the Restatement. “The harm threatened must be major in degree, and sufficiently serious in its possible consequences to justify holding the defendant strictly responsible for subjecting others to an unusual risk.”<sup>165</sup> Yet operators do monitor their fracked wells by utilizing technology to geologically map and determine where the fracks is occurring in the subsurface to ensure no fracking is affecting the water table or geological formations other than the formation they are extracting from. Therefore, the court reached the correct result that hydraulic fracking does not present a high degree of risk of harm and thus no strict liability applies. However, discovering the details of operators’ fracking monitoring processes is difficult and is usually considered part of a company advantage and industry secret.

Second, the likelihood that the harm that might result from hydraulic fracking needs to be great.<sup>166</sup> The Restatement does recognize that an activity can be regarded as abnormally dangerous even if the likelihood that the great danger will take place is comparatively slight.<sup>167</sup> However, the likelihood that harm such as groundwater contamination would result is far from great. In fact, modern hydraulic fracking techniques have increased the horizontal lengths of the fractures and minimized the fracture vertically so as to reduce the likelihood that natural gas could escape to adjoining geological formations and decrease the potential for water inflow from surrounding formations.<sup>168</sup> Additionally, fracking cannot physically create vertical paths from the

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<sup>165</sup> Restatement (Second) of Torts § 520 (1977) (comments on clauses a & b).

<sup>166</sup> *Id.* § 520(b).

<sup>167</sup> *Id.* § 520 (comments on clauses a & b).

<sup>168</sup> Jeffrey C. King, Jamie Lavergne Bryan, Meredith Clark, Factual Causation: The Missing Link in Hydraulic Fracture-Groundwater Contamination Litigation, 22 DUKE ENVTL. L. & POL’Y F. 341, 350 (2012).

formations containing oil and gas to aquifers because there is significant vertical separation between these two subterranean formations.<sup>169</sup>

Secondly, the high permeability of the rock between the deep shale, which Marcellus Shale fracking drills for, and the shallow aquifer decreases the likelihood of any contamination because the fractures would encounter more permeable formations before even getting to the height of the aquifers.<sup>170</sup> As such, the more permeable formations would absorb the injected fluids and flow horizontally through that formation, not vertically into a shallow aquifer.<sup>171</sup> However, perhaps to more adequately determine whether or not water resource contamination has resulted from hydraulic fracturing, there should be a mandatory independent testing of the water sources both before and production has begun and after production has ceased. This way there would be a baseline for landowners to even argue against.

Additionally, the Safe Drinking Water Act<sup>172</sup> has an Underground Injection Control program designed to minimize risks to underground water sources (from the hydraulic fracturing injection fluids as discussed in Part I) with specific requirements for the appropriate well placement, construction, and production.<sup>173</sup> The program minimizes risks to underground water sources by setting minimum requirements for injection wells which are required to have either

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<sup>169</sup> *Id.*

<sup>170</sup> *Id.* at 351.

<sup>171</sup> *Id.*

<sup>172</sup> The Safe Drinking Water Act was passed by Congress in 1974 with the goal of protecting the United States' drinking water supply, by way of public health regulations, and was later amended to include regulations for the sources of drinking water – groundwater wells, reservoirs, springs, and rivers. United States Environmental Protection Agency, Basic Information about Injection Wells, <http://water.epa.gov/type/groundwater/uic/basicinformation.cfm> (accessed February 1, 2015). The Environmental Protection Agency (EPA) is authorized by the Act to set the national standards for acceptable levels of non-natural contaminants in drinking water; however, the EPA does not regulate small private wells servicing less than 25 individuals. *Id.*

<sup>173</sup> United States Environmental Protection Agency, Natural Gas Extraction – Hydraulic Fracturing, <http://www2.epa.gov/hydraulicfracturing#wastewater> (accessed February 1, 2015).

general or specific permits.<sup>174</sup> These requirements either: (1) command that either fluids directly, or indirectly, used do not violate drinking water standards or affect public health via the public water systems; or (2) safeguard that the injected fluids remain contained inside the well as well as within the desired injection zone.<sup>175</sup>

Lastly, the Groundwater Protection Council<sup>176</sup> found, in an April 2009 study, that the probability for hydraulic well stimulation to result in contamination of drinking water was one in 200 million.<sup>177</sup> Therefore, the likelihood that harm would result from fracking is not great and it can not constitute an abnormally dangerous activity resulting in strict liability.

Third, the risks associated with hydraulic fracking must be impossible to eliminate by the exercise of reasonable care.<sup>178</sup> Here, plaintiffs may have an argument that even with the exercise of reasonable care, oil and gas companies cannot wholly eliminate the risks associated with fracking, such as disturbance of subterranean formations and water table, because they are physically incapable of controlling the subterranean geologic formations during the process. However, operators are utilizing technology to map where the fractures are occurring below ground and are working to eliminate risks.

Additionally, arguments are made that hydraulic fracturing causes earthquakes; however, the typical seismic events that might occur during hydraulic fracturing is a negative 2 magnitude

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<sup>174</sup> United States Environmental Protection Agency, Basic Information about Injection Wells, <http://water.epa.gov/type/groundwater/uic/basicinformation.cfm> (accessed February 1, 2015).

<sup>175</sup> *Id.*

<sup>176</sup> The Groundwater Protection Council is a nonprofit organization of state groundwater regulators who promote conservation of ground water resources and comprehensive water protection via the balance of the use of best management practices and effective environmental water related laws. Groundwater Protection Council, About the Groundwater Protection Council, <http://www.gwpc.org/about-us> (accessed January 21, 2015).

<sup>177</sup> Pennsylvania Independent Oil & Gas Association, Hydraulic Fracturing Process, <http://www.pioga.org/education/hydraulic-fracturing-process/> (accessed January 23, 2015).

<sup>178</sup> Restatement (Second) of Torts § 520(c) (1977).

on the Richter Scale<sup>179</sup> which is generally labeled a microseismic event, and otherwise not felt on the surface and can only be measured underground.<sup>180</sup> Even the vibrations that a person would feel from a passing truck has a magnitude of 3.0 on the Richter Scale. In any case, studies have stated that it is impossible to be certain that earthquakes were a direct result of either hydraulic fracturing or simply a natural occurrence.<sup>181</sup>

Plaintiffs also generally argue that the oil and gas industry emits an excessively hazardous volume of greenhouse gases such as methane.<sup>182</sup> Yet any large scale industrial process is going to result in emissions (which the EPA regulates). The oil and natural gas industry in America is aware of its emissions and has implemented practices to decrease its methane emissions 17% from 1990 to 2012, while simultaneously increasing its oil and gas production 37%.<sup>183</sup> And the EPA makes it a point to say that these reduction in emissions are the result of increased voluntary reductions by the industry.<sup>184</sup> Additionally, from 2000 to 2012 the industry has invested \$81 billion in greenhouse gas-mitigating technologies and \$11 billion developing geothermal, solar, wind, biomass and other non-hydrocarbon resources.<sup>185</sup>

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<sup>179</sup> The Richter Scale estimates the energy felt during seismic activity, and with every whole number increase on the scale equates to 32 times more energy released. United States Geological Survey Earthquake Hazards Program, Measuring the Size of an Earthquake, <http://earthquake.usgs.gov/learn/topics/measure.php> (accessed February 5, 2015).

<sup>180</sup> Energy from Shale, Fracking and Earthquakes, <http://www.energyfromshale.org/articles/fracking-and-earthquakes> (accessed February 7, 2015).

<sup>181</sup> *Id.*

<sup>182</sup> Climate Progress; Methane Leaks Wipe Out Any Climate Benefit Of Fracking, Satellite Observations Confirm, <http://thinkprogress.org/climate/2014/10/22/3582904/methane-leaks-climate-benefit-fracking/> (accessed February 5, 2015).

<sup>183</sup> Energy from Shale, On Natural Gas Production and Methane Emissions, <http://www.energyfromshale.org/articles/energy-and-methane> (accessed February 1, 2015).

<sup>184</sup> Environmental protection Agency, Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2012, <http://www.epa.gov/climatechange/Downloads/ghgemissions/US-GHG-Inventory-2014-Main-Text.pdf> (accessed February 1, 2015).

<sup>185</sup> Energy from Shale, On Natural Gas Production and Methane Emissions, <http://www.energyfromshale.org/articles/energy-and-methane> (accessed February 1, 2015).

While an increase in subterranean monitoring, an understanding of microseismic events, and a decrease in emissions is not a complete elimination of risk, in order for fracking to constitute an abnormally dangerous activity resulting in strict liability, fracking must meet every single element of the Restatement and this is only one factor which plaintiffs might be able to meet.

Fourth, hydraulic fracking should not be a matter of common usage.<sup>186</sup> Restatement (Second) of Torts Section 520 explains that common usage refers to an activity that is customarily carried on by the majority of people in the community.<sup>187</sup> Typical risks of harm resulting from an activity of common usage thus do not infer that the activity is abnormally dangerous. The Ely court incorrectly analyzed fracking in relation to this point because the court should not only consider how common the activity is across the United States but also how many people in the United States hydraulically frack for natural gas. The Restatement's comments even refer to the nature of oil land and its drilling being vital to the public at large but that the number of people who are involved in the activity is relatively small in relation to the entire United States community.<sup>188</sup> Thus it seems that the activity is not necessarily a matter of common usage.

However, if the court looks specifically to the usage in Susquehanna County<sup>189</sup> where this case took place, which it did, then the court correctly shows that there is significant usage of hydraulic fracking specific to that locality. A report that was included, *inter alia*, in evidence showed that there have been more than 2.5 million fracture operations worldwide since 1949 and

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<sup>186</sup> Restatement (Second) of Torts § 520(d) (1977).

<sup>187</sup> *Id.* § 520 (comments on clause d).

<sup>188</sup> *Id.*

<sup>189</sup> Susquehanna County had a population of approximately 42,286 in 2013. United States Census Bureau, Quick Facts – Susquehanna County, Pennsylvania, <http://quickfacts.census.gov/qfd/states/42/42115.html> (accessed February 1, 2015).

more specifically, Susquehanna County, Pennsylvania has had more than 649 wells drilled since 2000 with 99.5% of those being hydraulically fracked since 2009.<sup>190</sup> And since 2000, the PDEP has sanctioned over 6,300 Marcellus Shale wells.<sup>191</sup> Additionally, 97% of the wells located in Dimock, the plaintiffs' township of residence, were for hydraulic fracking purposes.<sup>192</sup> Therefore, even though the court did not look to the number of people involved in hydraulic fracking, but went straight to the commonness of the activity itself, the court reached the correct result that hydraulic fracking constitutes a matter of common usage and that no strict liability applies.

Fifth, the location in which hydraulic fracking occurs must be inappropriate.<sup>193</sup> Even an activity that is highly dangerous is not necessarily an abnormally dangerous activity if the location in which it is performed is relatively remote and presents only a slight potential to harm people and property of significant value. Therefore the inappropriateness of the location in which the activity is conducted is an important factor to consider in whether the danger is abnormal or not, and is why English cases such as *Rylands v. Fletcher*<sup>194</sup> said that the defendant had made a non-natural use of the land by physically altering the land to create a reservoir which broke and flooded the plaintiff's mine shaft. Similarly, one example of an activity that is inevitably associated with serious risks of harm to others despite where the operation occurs is the use of atomic energy which poses serious risks even when worked on in remote locations, as opposed to the storing of explosives which involves serious risks only when not located in a remote place.<sup>195</sup> In the case of hydraulic fracking, the likelihood of harm is not great but rather has been part of the United

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<sup>190</sup> *Ely*, 2014 WL 4071640 at \*5.

<sup>191</sup> *Id.*

<sup>192</sup> *Id.*

<sup>193</sup> Restatement (Second) of Torts § 520(e) (1977).

<sup>194</sup> *Rylands*, 1868 WL 9885.

<sup>195</sup> Restatement (Second) of Torts § 520 (1977) (comments on clauses a & b).

States economy for decades<sup>196</sup> and the location of the fracking operations are traditionally placed in accordance with industry standards and pooling agreements.

In the present case, the fracking was occurring in Dimock Township of Susquehanna County, Pennsylvania, throughout the community. But the very nature of drilling for oil and gas has always been relatively close to landowners' residences because the landowners are the ones who choose to lease their own land to the oil and gas companies. The landowners contract for their specific upfront bonus payment and annual rents based on the amount of acreage they will be leasing to the company, as well as all the additional terms of their contract for remediation, spacing, fencing, indemnity, termination, etc. While the nature of the industry lends itself to a typical disparate negotiating position between landowners and operators, land and mineral interest owners are always advised to seek counsel before signing an oil and gas lease.

Additionally, interest holders can include specific provisions in their lease to minimize an operator's direct impact on their personal property by including provisions prohibiting the erection of a well pad upon their own land, the duty of an operator to return the property to its prior state upon the abandonment of the well, preventing operators from utilizing water on the premises, compensation for crops, timber, and livestock, etc.<sup>197</sup> Thus ultimately if landowners sign a lease they have chosen, at some level, to recognize oil and gas drilling and fracking as an acceptable and normal risk in their community and to profit from the production.

The location of the specific fracked well site is chosen by the oil and gas companies based upon the terms of the individual contracts and or unit agreements for the locality combined

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<sup>196</sup> The first well in the United States to be hydraulically fractured was done in 1949 and the processes has been used in the United States now for 66 years. Geology.com, Hydraulic Fracturing of Oil & Gas Wells Drilled in Shale, <http://geology.com/articles/hydraulic-fracturing/> (accessed February 1, 2015).

<sup>197</sup> Pennsylvania Independent Oil & Gas Association, Education – Landowners, <http://www.pioga.org/education/landowners/> (accessed February 1, 2015).



with the engineering requirements for drilling and fracking. While fracking does occur in the middle of seemingly deserted areas it also occurs in relative proximity to people. And the court reasoned that a report by the Pennsylvania General Assembly showed that the wells at issue complied with the state's 200 foot spacing requirement from any water supplies.<sup>198</sup> Additionally, the court found that the defendant's drilling of its wells were in conformance with the setback requirements and as such, the plaintiffs' assertions were null because the wells were drilled subject to their respective valid leases and complied with legal requirements of setback.<sup>199</sup> Therefore, even though the wells at issue (which only one was hydraulically fracked) were located in relatively close proximity to persons in the community, the court reached the correct result that the wells were in compliance with all regulations and contracts and were appropriately located and no strict liability applied.

Sixth and lastly, courts would have to find that the value of hydraulic fracking to the community would not be outweighed by its dangerous attributes. However, when a community is largely devoted to the activity which may be dangerous and the community's well-being depends on the activity then the activity will not be regarded as an abnormally dangerous activity.<sup>200</sup> The reasoning behind this factor is that if an activity is of great value and importance to a community then punishing the operators of the activity by attaching strict liability to the activity would result in negative consequences. The negative consequences for the community might be that the operations of any such activity may choose to move the activity out of the community and into a more remote location, thus hurting the local community.

The court was correct to utilize a report called *Economic Impacts of Marcellus Shale in Pennsylvania* (the MSETC 2009 Report) because the report laid out specific statistics of

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<sup>198</sup> *Ely*, 2014 WL 4071640 at \*5.

<sup>199</sup> *Id.* at 13.

<sup>200</sup> Restatement (Second) of Torts § 520 (1977) (comments on clause f).

Marcellus Shale drilling's impact and added value to the community. The report found that the Marcellus Shale development in 2009 alone ranged in an economic impact of between 23,385 to 23,884 jobs, \$3.1 to \$3.2 billion in 2009, which included \$1.2 billion in labor income, and practically increased Pennsylvania's economy by \$1.9 billion.<sup>201</sup> The MSETC report also indicated that 28% of businesses, surveyed in 2009, saw an increase in their sales due to drilling and that every additional well which is drilled produces thirty jobs and \$4 million revenue to the state.<sup>202</sup>

Another report, *Economic Impacts of Marcellus Shale in Susquehanna County: Employment and Income in 2010*, revealed that the county held the fifth most Marcellus Shell wells in the state.<sup>203</sup> Specifically, the royalty income from those wells had increased 800% from 2007 to 2009 which helped to reduce the economic pressure from unemployment within Susquehanna County.<sup>204</sup>

Additionally, the Pennsylvania Public Utility Commission (PUC)<sup>205</sup> reports that the Act 13 impact fees<sup>206</sup> have given back substantial sums of money to the Pennsylvania counties for a total of: \$225,752,000.00 in 2013; \$202,472,000.00 in 2012; and \$204,210,000.00 in 2011.<sup>207</sup> Susquehanna County specifically, in 2013, received \$5,456,748.60 in impact fees from

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<sup>201</sup> *Ely*, 2014 WL 4071640 at \*6.

<sup>202</sup> *Id.*

<sup>203</sup> *Id.*

<sup>204</sup> *Id.*

<sup>205</sup> The PUC is funded by the assessment of regulated public utilities, and works to protect the public's interest by ensuring reliable and safe utility service and educating consumers about smart utility choices and advancing technology in environmentally centered ways. Pennsylvania Public Utility Commission, *About the PUC*, [http://www.puc.state.pa.us/about\\_puc.aspx](http://www.puc.state.pa.us/about_puc.aspx) (accessed February 1, 2015).

<sup>206</sup> As a result of Pennsylvania's Act 13, an operator must pay an impact fee for every well drilled for gas into the Marcellus Shale, and the fee varies each year based upon the Consumer Price Index and natural gas prices. State Impact, *The oil & gas of your land: your guide to Act 13*, <http://stateimpact.npr.org/pennsylvania/tag/impact-fee/> (accessed February 1, 2015).

<sup>207</sup> Pennsylvania Public Utility Commission, *Impact Fees*, <https://www.act13-reporting.puc.pa.gov/Modules/PublicReporting/Overview.aspx> (accessed February 1, 2015).

operators, making it the third highest receiving county in 2013.<sup>208</sup> And while the majority of those funds given to Pennsylvania counties in 2013 were not reported back in how the funds were utilized, the counties did invest in their communities via \$992,370.00 towards public infrastructure construction, \$800,000.00 towards emergency preparedness and public safety, and \$296,307.00 towards Social Services just to list a few contributions.<sup>209</sup>

Thus, it is easy to see the significant value that fracking brings to not only Pennsylvania but also more specifically Susquehanna County. Therefore, the court found that natural gas drilling's economic benefits are disbursed to individuals and their communities and fracking presents a great value to the community which is not outweighed by its dangerous attributes.<sup>210</sup>

As a result, the Ely court correctly determined that hydraulic fracking could not be found to meet all of the strict six factors required by the Restatement (Second) of Torts Section 520 and is not an abnormally dangerous activity which results in strict liability. Thus the legislature need not take action on this issue because the courts understand how to determine whether or not an activity is an abnormally dangerous activity because the Superior Court of Pennsylvania has adopted Sections 519 and 520 of the Restatement (Second) of Torts to determine under what circumstances an activity constitutes an abnormally dangerous activity.<sup>211</sup> However, the legislature should find a way to step in and work with operators at some level to help communities whose wells become contaminated, whether naturally or as a result of fracking, to provide the community with an alternative water supply.

Lastly, even though landowners with contaminated water supplies have limited legal remedies, such as strict liability, they could potentially pursue: property claims against either

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<sup>208</sup> *Id.*

<sup>209</sup> *Id.*

<sup>210</sup> *Ely*, 2014 WL 4071640 at \*6.

<sup>211</sup> *Id.* at \*9.

their neighbors who do sign oil and gas leases, or against operators for potential violations of Federal or State laws; breach of contract claims, if the landowner signs a lease, based upon specific and implied provisions of their lease; or claims of fraud if an operator were to lie and misrepresent chemicals they utilized and their compliance with associated regulations.