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AT THE INTERSECTION OF WALL STREET AND MAIN:  
IMPACTS OF HYDRAULIC FRACTURING ON RESIDENTIAL  
PROPERTY INTERESTS, RISK ALLOCATION, AND  
IMPLICATIONS FOR THE SECONDARY MORTGAGE MARKET\*

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I. AT THE INTERSECTION OF WALL STREET AND MAIN

Unconventional gas drilling—that combination of high volume hydraulic fracturing and horizontal drilling for shale (methane) gas (a.k.a. “fracking”) affects Americans in ways which are not immediately obvious. Ways involving repercussions from residential fracking and lacking regulatory oversight which go beyond the Halliburton Loophole.<sup>1</sup> Homeowners with unconventional gas drilling operations host two Wall Street investments courtesy of their residential property: one derived from a gas lease, the other from a home mortgage.<sup>2</sup> The mere existence of a signed gas lease enables the gas company to leverage it to

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<sup>1</sup> See *FAQs: What is the Halliburton Loophole?*, INDEP. WATER TESTING, <http://www.independentwatertesting.com/faqs.html> (last visited Mar. 1, 2014).

<sup>2</sup> See DEBORAH ROGERS, *SHALE AND WALL STREET: WAS THE DECLINE IN NATURAL GAS PRICES ORCHESTRATED?* 7–8 (2013), <http://shalebubble.org/wp-content/uploads/2013/02/SWS-report-FINAL.pdf>.

obtain investors and financing.<sup>3</sup> The mere existence of a signed gas lease can affect the home's appraised value and the homeowner's ability to obtain a mortgage loan, homeowner's insurance, and sell the residence.<sup>4</sup> The cumulative effect of unconventional gas drilling on residences in the thirty to thirty-five states where operations occur, or are planned, poses a potential threat to the nation's \$6.7 trillion secondary mortgage market, since the secondary mortgage market is supported by an unknown number of mortgages affected by residential fracking.<sup>5</sup>

Projections for recovery of shale gas change from year to year with estimates increasing in certain shale plays and decreasing in others.<sup>6</sup> Furthermore, there is data indicating that "[t]he true extent of unconventional oil and natural gas reserves in the United States is uncertain . . . because assessments of technically recoverable reserves are far more predictive than they are factual."<sup>7</sup> Homeowners with a gas lease seek to reap significant royalties during the gas boom while maintaining the long-term value of the family residence. According to a Penn State report, 60 percent or more of the gas could be extracted in the first year with a steadily declining curve thereafter.<sup>8</sup>

Shale gas investors, including New York State's pension fund, hope to cash in on the shale gas boom.<sup>9</sup> Unconventional gas drilling requires access to substantial cash flow. During the past several years Wall Street private equity investment firms, such as KKR, have raised billions of dollars from investors who seek high returns

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<sup>3</sup> See *id.* at 11–12.

<sup>4</sup> See Ian Urbina, *A Rush to Sign Leases for Gas Runs into Mortgage Restrictions*, N.Y. TIMES, Oct. 20, 2011, at A1.

<sup>5</sup> *About FHFA*, FED. HOUS. FIN. AGENCY, <http://www.fhfa.gov/Default.aspx?Page=4> (last visited Mar. 1, 2014); Jim Malewitz, *States Scramble to Regulate Fracking*, PEW CHARITABLE TRUSTS (May 9, 2012), <http://www.pewstates.org/projects/stateline/headlines/states-scramble-to-regulate-fracking-85899385716>.

<sup>6</sup> Compare U.S. ENERGY INFO. ADMIN., AEO2013 EARLY RELEASE OVERVIEW 10 (2012), available at [http://www.eia.gov/forecasts/aeo/er/pdf/0383er\(2013\).pdf](http://www.eia.gov/forecasts/aeo/er/pdf/0383er(2013).pdf) (estimating higher natural gas production than in 2012), with U.S. ENERGY INFO. ADMIN., AEO2012 EARLY RELEASE OVERVIEW 9 (2012), available at [http://www.eia.gov/forecasts/aeo/er/pdf/0383er\(2012\).pdf](http://www.eia.gov/forecasts/aeo/er/pdf/0383er(2012).pdf) (estimating higher natural gas production than in 2011); see also Tripp Brockway, *USGS Releases New Estimates for Oil and Gas Reserves in Dakotas and Montana*, CTR. FOR NEW AM. SEC. (May 2, 2013), <http://www.cnas.org/blog/usgs-releases-new-estimates-for-oil-and-gas-reserves-in-dakotas-and-montana-7484> (describing increase in natural gas production in certain regions and decreases in others).

<sup>7</sup> Brockway, *supra* note 6.

<sup>8</sup> KRISTA WEIDNER ET AL., NATURAL GAS EXPLORATION: A LANDOWNERS GUIDE TO FINANCIAL MANAGEMENT 5 (2009), <http://pubs.cas.psu.edu/FreePubs/pdfs/ui394.pdf>.

<sup>9</sup> Ian Urbina, *Lawmakers Seek Inquiry of Natural Gas Industry*, N.Y. TIMES, June 29, 2011, at A12.

and must accept the risk and volatility that goes along with it.<sup>10</sup> KKR's website indicates an affinity for investing in energy—yet KKR also handles mortgaged backed securities.<sup>11</sup> Goldman Sachs is another Wall Street firm which describes itself “[a]s a major player in the Energy Sector” with expertise spanning “from unconventional oil and gas” to renewable energy sources.<sup>12</sup> Goldman Sachs also handles residential loan trading and secondary mortgage market investments.<sup>13</sup> Traditionally, investors in mortgaged backed securities include pension managers for municipal governments, credit unions, colleges, and other institutions focused on more stable investments even though they typically yield lower returns.<sup>14</sup>

The mortgage market is showing signs of a rebound following the mortgage crisis of 2007; yet, Wall Street's robust embrace of unconventional gas drilling raises questions about whether people's Main Street homes and Wall Street's alternate support of the secondary mortgage market can remain intact in the presence of this drilling rush. While this article does not purport to resolve this critical question, it does attempt to identify conflicts between gas leases and mortgage loans, potential repercussions resulting from the conflicts, and it proposes solutions: preventative actions intended to preserve residential and farm properties and fortify the mortgage market in the presence of unconventional gas drilling.

The approximately decade old combination of high volume hydraulic fracturing with its millions of gallons of chemically treated frackwater and resulting volumes of toxic, radioactive waste, combined with multi-directional mile-long horizontal pipelines which enable high volume drilling across various properties, is responsible for revolutionizing homeownership across

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<sup>10</sup> See ROGERS, *supra* note 2, at 1; Clifford Krauss & Eric Lipton, *After the Boom in Natural Gas*, N.Y. TIMES, Oct. 21, 2012, at BU1.

<sup>11</sup> See KKR FIN. HOLDINGS, LLC, ANNUAL REPORT 2012: A FLEXIBLE MANDATE FOR A CHANGING WORLD 35 (2013), [http://files.shareholder.com/downloads/KFN/2790462042x0x647230/88B1E3D5-D702-4E05-9837-F7E1D525EE4C/KFN\\_Annual\\_Report\\_single\\_page\\_PDF\\_without\\_ILB\\_and\\_blank\\_pages\\_.pdf](http://files.shareholder.com/downloads/KFN/2790462042x0x647230/88B1E3D5-D702-4E05-9837-F7E1D525EE4C/KFN_Annual_Report_single_page_PDF_without_ILB_and_blank_pages_.pdf) (discussing the mortgage-backed securities invested in by KKR); *Energy & Infrastructure*, KKR, <http://www.kkr.com/businesses/private-markets/energy-infrastructure> (last visited Mar. 1, 2014).

<sup>12</sup> *Alternative Energy Group*, GOLDMAN SACHS, <http://www.goldmansachs.com/what-we-do/investing-and-lending/middle-market-financing-and-investing/alternative-energy/index.html> (last visited Mar. 2, 2014).

<sup>13</sup> See Goldman Sachs Grp., Annual Report (Form 10-K), at 61 (Mar. 1, 2013).

<sup>14</sup> See *Staff Report: Enhancing Disclosure in the Mortgage-Backed Securities Markets*, U.S. SEC & EXCHANGE COMMISSION, <http://www.sec.gov/news/studies/mortgagebacked.htm> (last updated Feb. 3, 2003).

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America.<sup>15</sup> According to former Mobil Oil executive Louis W. Allstadt, who oversaw Mobil's side of its merger with Exxon, the difference in using these combined technologies

is the volume of fracking fluids and the volume of flow-back that occurs in these wells. It is 50 to 100 times more than what was used in the conventional wells.

The other [difference] is that the rock above the target zone is not necessarily impervious the way it was in the conventional wells. And to me that last point is at least as big as the volume. The industry will tell you that the mile or two between the zone that's being fracked is not going to let anything come up.

But there are already cases where the methane gas has made it up into the aquifers and atmosphere. Sometimes through old well bores, sometimes through natural fissures in the rock. What we don't know is just how much gas is going to come up over time. It's a point most people haven't gotten. It's not just what's happening today. We're opening up channels for the gas to creep up to the surface and into the atmosphere. And methane is a much more potent greenhouse gas in the short term—less than 100 years—than carbon dioxide.<sup>16</sup>

And with respect to reliability and resilience of the infrastructure:

What you [also] don't know [is that] when you plug that well, how much is going to find its way to the surface without going up the well bore. And there are lots of good indications that plugging the well doesn't really work long-term. There's still some pressure down there even though it's not enough pressure to be commercially produced. And sooner or later the steel casing there is going to rust out, and the cement sooner or later is going to crumble. We may have better cements now, we may have slightly better techniques of packing the cement and mud into the well bore to close it up, but even if nothing comes up through the fissures in the rock layers above, where it was fracked, those well bores will

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<sup>15</sup> See generally Ellen Cantarow, *Former Mobil VP Warns of Fracking and Climate Change*, TRUTHOUT (July 19, 2013), <http://www.truth-out.org/news/item/17605-former-mobil-vp-warns-of-fracking-and-climate-change> (describing the shift towards nonconventional drilling and the dangers associated with that process); Elisabeth N. Radow, *Homeowners and Gas Drilling Leases: Boon or Bust?*, N.Y. ST. B.J., Nov.–Dec. 2011, at 10, 12 (describing the effects of residential fracking on homeownership).

<sup>16</sup> Cantarow, *supra* note 15 (alteration in original).

deteriorate over time. And there is at least one study showing that 100 percent of plugs installed in abandoned wells fail within 100 years and many of them much sooner.<sup>17</sup>

Currently, the gas industry dominates control of what happens on and under the contiguous tracts of residential land which collectively comprises each 640 plus acre spacing unit on and under which drilling and fracking occurs. Homeowners beware.

#### A. *Attributes of Home Ownership*

“A home represents a family’s most valuable asset”: financially, spiritually, and otherwise.<sup>18</sup> The property’s value is derived from a bundle of rights: the right to construct, obtain a mortgage loan, lease and sell the property, the expectation of clean running water, electricity, a “roof over one’s head,” “peaceful sanctuary,” and a safe place to raise children and grow our food.<sup>19</sup> We Americans pay for these rights when we purchase our homes. We expect these rights to continue until we sell our homes. Homeowners on Main Street across the United States expect the property value to increase over time, or at least not to diminish. So does the mortgage market—Wall Street’s investors depend upon it. So does local and state government; our tax base depends upon it.

#### B. *The Gas Lease*

Up to now, home has represented one place people have control. Gas leases take away homeowner control in several ways. Standard gas leases grant to the gas company the right to use “undesignated portions of the surface” for operations.<sup>20</sup> This includes the right to install easements for roads, utilities and underground storage for gas and other “reasonable and convenient easements’ for the existing wells, pipelines, pole-lines, roadways and other facilities.”<sup>21</sup> These other facilities can include compressor stations and pipelines. The standard gas leases are silent regarding funding or maintenance of the potentially perpetual easements. A standard

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<sup>17</sup> *Id.* (alteration in original).

<sup>18</sup> Radow, *supra* note 15, at 13.

<sup>19</sup> *Id.* at 13–14.

<sup>20</sup> *Id.* at 15; see also JUDON FAMBROUGH, HINTS ON NEGOTIATING AN OIL AND GAS LEASE 2 (2002), <http://recenter.tamu.edu/pdf/229.pdf> (“With few exceptions, the grant of an oil and gas lease carries the implied right to use as much of the surface area as is *reasonably necessary* to explore and produce the oil and gas. Most leases expand these implied rights and explicitly permit a wide range of surface activities.”).

<sup>21</sup> Radow, *supra* note 15, at 16.

gas drilling lease does not obligate the company to maintain or repair the infrastructure it constructs or fully restore the property to its predrilling condition.<sup>22</sup> Gas leases are often silent on allocation of risk and liability.<sup>23</sup> To the extent the gas lease delegates rights of property use to the gas company, this corresponds to a diminution of the homeowner's use and enjoyment of those attributes of the residence and by extension, its market value.<sup>24</sup>

### C. *The Risks*

The gas companies' 10-Ks, filed with the Securities and Exchange Commission ("SEC"), characterize unconventional gas drilling as subject to many risks.<sup>25</sup> They include in the list of hazards: blow-outs, fires, explosions, cement and pipe failure, casing collapse, pipeline ruptures or spills, chemical spills, mechanical failure, craterings, pressure or irregularities in formations, accidental, uncontrollable flows of oil, natural gas or well fluids, pollution, releases of toxic natural gas and other environmental hazards and risks.<sup>26</sup> If any of these hazards occur, they can result in substantial losses as a result of: injury or loss of life, severe damage or destruction of property, equipment and natural resources, *including water*.<sup>27</sup>

Contaminated water affects property use and property value.<sup>28</sup> Currently, the public is focused on whether there exists a link between the hydraulic fracturing phase of the multi-step shale gas

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<sup>22</sup> See, e.g., Karen L. Ellmore, Annotation, *Duty of Oil or Gas Lessee to Restore Surface of Leased Premises Upon Termination of Operations*, 62 A.L.R. 4th 1153, at \*8 (2013); FAMBROUGH, *supra* note 20, at 7 ("[T]he lessee is under no legal obligation to restore the surface when production ceases. . . . [Unless] the mineral owner . . . wish[es] to insert some provisions in the lease pertaining to surface damages.").

<sup>23</sup> See Radow, *supra* note 15, at 16.

<sup>24</sup> See Barclay Nicholson & Kadian Blanson, *Tracking Fracking Case Law: Hydraulic Fracturing Litigation*, NAT. RES. & ENV'T, Fall 2011, at 25, 25–28; see also Aaron Stemplewicz, *The Known "Unknowns" of Hydraulic Fracturing: A Case for a Traditional Subsurface Trespass Regime in Pennsylvania*, 13 DUQ. BUS. L.J. 219, 219–20 (2011) (describing a lawsuit in which plaintiffs sought damages for, among other things, loss of enjoyment of property resulting from defendant's alleged hydraulic fracturing near their properties).

<sup>25</sup> See, e.g., Chesapeake Energy Corp., Annual Report (Form 10-K), at 21–22 (March 1, 2013).

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

<sup>27</sup> See *id.*

<sup>28</sup> Lucija Muehlenbachs, Elisheba Spiller & Christopher Timmins, *The Housing Market Impacts of Shale Gas Development* 37–39 (Nat'l Bureau Econ. Research, Working Paper No. 19796, 2014), available at <http://goo.gl/TuoZ6R>.

extraction process and water contamination.<sup>29</sup> A recently released EPA power point presentation regarding its Dimock, Pennsylvania water analysis reflects an apparent nexus between gas drilling operations and contaminated water.<sup>30</sup>

Exclusive focus on the hydraulic fracturing phase obscures the fact that adverse impacts to water occur at various phases in the multi-step gas extraction process, not just the fracturing phase.<sup>31</sup> Water contamination can also occur from cracked well casings, pipeline ruptures or surface spills, over-turned trucks, inappropriate waste disposal into rivers and streams, onto roads for dust control, de-icing, and releases of dangerously high levels of methane gas from drilling into the earth, as occurred in Dimock.<sup>32</sup> New York has an estimated forty-eight thousand unplugged and abandoned oil and gas wells, some of which may provide an unwelcome pathway for future well-water contamination should New York proceed with unconventional gas drilling.<sup>33</sup> A home without potable water won't sell. A farm without potable water will fail.

While water contamination from gas drilling operations is the most discussed adverse impact to a residence's use and value, structural damage to the residence represents another cause for concern. Gas drilling operations involve seismic testing which causes vibrations, moving earth, use of explosives, drilling wells and fracturing shale using extreme high pressure and deep well injection of the toxic waste, where permitted.<sup>34</sup> For example, the Youngstown, Ohio region logged more than 100 earthquakes in 2011 which have been linked to deep well injection of hydraulic fracturing waste.<sup>35</sup>

According to the U.S. Geological Survey:

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<sup>29</sup> See Steve Horn, *Exclusive: Censored EPA PA Fracking Water Contamination Presentation Published for First Time*, DESMOGBLOG.COM (Aug. 05, 2013, 10:23 AM), <http://desmogblog.com/2013/08/05/censored-epa-pennsylvania-fracking-water-contamination-presentation-published-first-time>.

<sup>30</sup> *Id.*

<sup>31</sup> See Mark Drajem, *EPA Official's Report Links Fracking to Methane in Pa. Town's Water*, WASH. POST, July 30, 2013, at A11.

<sup>32</sup> *See id.*

<sup>33</sup> See *Oil, Gas and Solution Salt Mining in New York State*, N.Y. ST. DEP'T ENVTL. CONSERVATION, <http://www.dec.ny.gov/energy/205.html> (last visited Mar. 2, 2014); Ronald E. Bishop, *Historical Analysis of Oil and Gas Well Plugging in New York: Is the Regulatory System Working?*, 23 NEW SOLUTIONS 103, 104 (2013), available at <http://goo.gl/1UeroH>.

<sup>34</sup> See Charles Q. Choi, *Confirmed: Fracking Practices to Blame for Ohio Earthquakes*, NBCNEWS (Sept. 4, 2013, 3:54 PM), <http://www.nbcnews.com/science/fracking-practices-blame-ohio-earthquakes-8C11073601?ocid=msnhp&pos=4>.

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

The number of earthquakes has increased dramatically over the past few years within the central and eastern United States. Nearly 450 earthquakes magnitude 3.0 and larger occurred in the four years from 2010–2013, compared with an average rate of 20 earthquakes per year observed from 1970–2000.

....  
USGS scientists have found that at some locations the increase in seismicity coincides with the injection of wastewater in deep disposal wells. Much of this wastewater is a byproduct of oil and gas production and is routinely disposed of by injection into wells specifically designed and approved for this purpose.<sup>36</sup>

Any of these invasive gas-drilling operations can cause a home's foundation to falter and walls to crack, making the residence unsafe to inhabit. For example, in August 2013, two couples in Johnson County, Texas situated above the Barnett Shale, filed what their lawyers report may become a certified class action lawsuit claiming that fracking caused damage to residents' real estate and homes.<sup>37</sup> The lawsuit alleges "the plaintiffs . . . [experienced] 'significant structural damage' to their property because of the earthquakes . . . [which they believe] are a direct result of fracking in the area."<sup>38</sup>

#### *D. Financing and Assigning Gas Leases*

Gas leases give the gas company the right to pledge as collateral or sell and assign the gas lease (or interests in the gas lease) without homeowner consent.<sup>39</sup> This uncharacteristic right of a lessee saves the gas industry the time consuming step of involving the homeowner in its operations. It also deprives the homeowner of any control over the family's most valuable asset since there is no homeowner opportunity to determine who ultimately controls the lessee's position under the gas lease, which contractors can enter

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<sup>36</sup> William Ellsworth et al., *Man-Made Earthquakes Update*, USGS (Jan 17, 2014, 1:00 PM), [http://www.usgs.gov/blogs/features/usgs\\_top\\_story/man-made-earthquakes/](http://www.usgs.gov/blogs/features/usgs_top_story/man-made-earthquakes/).

<sup>37</sup> Tammye Nash, *Property Owners Sue for Fracking Damages*, CLEBURNE TIMES-REV. (Cleburne, Tx.), Aug. 1, 2013, at 1.

<sup>38</sup> *Id.*; see also Paul Batistelli, *Fracking's Newest Hazard: Earthquakes*, ENN (Sept. 4, 2013 9:06 AM), <http://blog.enn.com/?p=3496> (discussing a recently settled lawsuit filed by Arkansas homeowners against several oil companies).

<sup>39</sup> See *Landowner's Guide to Oil & Gas Leasing*, N.Y. ST. DEP'T ENVTL. CONSERVATION <http://www.dec.ny.gov/energy/1553.html> (last visited Mar. 2, 2014); 9 AM. JUR. LEGAL FORMS 2D *Gas and Oil Lease—With Pooling Rights* § 129:6 (2013).



their private property, or the quality and safety of the work they perform.

The practice of leveraging an interest (i.e., the right to extract shale oil or gas) in real property to finance drilling operations has been applied liberally to the development of the shale gas revolution sweeping the country.<sup>40</sup> What distinguishes this borrowing practice from the more typical leveraged real estate financing is that the gas companies often don't own the land: they lease it.

Calculation of America's actual supply of recoverable and marketable shale gas will remain unknown until the actual extraction and processing occurs. To the extent Wall Street pledges gas leases and other gas company assets as collateral to finance future operations based on optimistic projections of shale gas recovery, and those optimistic projections fail to materialize in one or more regions, it will be reflected in returns to investors and royalties to homeowners. In addition, the homeowner's land and its long-term value may be compromised if the operating company shuts down operations and moves on, but fails to restore the residential property to its pre-drilling condition.<sup>41</sup> For the period a gas company does perform operations on the residential property, consider as well that while a mortgage lender expects the residence and land to retain its value for the life of the loan, a profit seeking gas driller—and by extension its investors—seeks to extract the gas from that same property with minimal regulation and expense.

## II. AN INSURANCE INDUSTRY ASSESSMENT OF THE RISKS INVOLVED IN UNCONVENTIONAL DRILLING

According to an October 2011 insurance industry article entitled, *New Technology Creates New Insurance Issues for Oil and Gas Lease Operators*, the “40-stage fracking operations on 10,000-foot horizontal laterals” has created an “[i]ncrease in blowouts during the completion [and] fracking stage”; “in blowouts involving communication between multiple wells”; by casing and cementing failure; and by surface events.<sup>42</sup> According to the author, Pascal

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<sup>40</sup> See *Oil and Gas Leasing Tips*, MINERALHUB, <http://www.mineralhub.com/2010/09/oil-and-gas-leasing-tips-part-one/> (last visited Mar. 2, 2014); W. VA. AGRABILITY PROJECT, FARM PLANNING FOR THE FUTURE: MINERAL LEASES (2013), <http://agrability.ext.wvu.edu/r/download/153785>.

<sup>41</sup> See Dan Frosch, *State May Act to Plug Abandoned Wyoming Wells as Natural Gas Boom Ends*, N.Y. TIMES, Dec. 25, 2013, at A16.

<sup>42</sup> Pascal Ray, *New Technology Creates New Insurance Issues for Oil and Gas Lease Operators*, AMWINS GROUP, INC.,

Ray:

While fracking has been the cause of some of the blowout increases, producing wells and plugged and abandoned wells are experiencing underground blowouts from the failure of old and corroded casings. These underground blowouts can lead to cratering events that are costly and difficult to bring under control. Underground blowouts can be much more expensive to bring under control than surface blowouts, yet many operators do not insure these wells or have high enough limits for them.<sup>43</sup>

Ray also reported an increase in surface and water table pollution events associated with fracking, which can result in expensive claims and rapidly erode insurance limits.<sup>44</sup>

#### A. *No Lease Insurance Provisions*

Standard, non-negotiated, gas leases fail to mention insurance or indemnification.<sup>45</sup> Unless the gas lease effectively delegates to the gas company the responsibility for its activity, that obligation potentially remains with the homeowner. For reasons explained below, even if the gas lease does obligate the gas company to obtain insurance and indemnify the homeowner, unless it is carefully drafted the homeowner may not be adequately covered, since homeowner's insurance excludes from coverage the types of hazards associated with unconventional drilling.<sup>46</sup> This was confirmed in a July 2012 press release by Nationwide Mutual Insurance Company stating that:

Nationwide's personal and commercial lines [of] insurance policies were not designed to provide coverage for any fracking-related risks.

....

From an underwriting standpoint, we do not have a comfort level with the unique risks associated with the fracking process to provide coverage at a reasonable price. Insurance is a contract and it is designed to cover certain

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[http://www.amwins.com/SiteCollectionDocuments/Client%20Advisories/Client\\_Advisory-fracking-COW-6.11.pdf](http://www.amwins.com/SiteCollectionDocuments/Client%20Advisories/Client_Advisory-fracking-COW-6.11.pdf) (last visited Mar. 2, 2014).

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

<sup>44</sup> *See id.*

<sup>45</sup> *See, e.g., Gas and Oil Lease—With Pooling Rights, supra* note 39, § 129:6.

<sup>46</sup> *See* Press Release, Nationwide Mut. Ins. Co., Nationwide Statement Regarding Concerns About Hydraulic Fracturing (July 13, 2012), <http://www.nationwide.com/newsroom/071312-FrackingStatement.jsp>.

risks. Risks like natural gas and oil drilling are not part of our contracts, and this is common across the industry.<sup>47</sup>

This fact was reconfirmed in March 2013:

Fracking-related damage, insurance industry insiders say, is not covered under a standard homeowner's insurance policy. Neither is damage caused by floods, earthquakes or earth movement, which insurers call exclusions.

"[Fracking is] deemed an exclusion in the same way earthquake or earth movement is," said Mike Barry, vice president of media relations at the Insurance Information Institute, a nonprofit institute funded by the insurance industry.

. . . .

[According to company spokesman Dave Phillips,] State Farm [Insurance] does not have a fracking endorsement for private residences, but does have earthquake, earth-movement and sinkhole endorsements available in most areas . . . .

"But there needs to be a conversation as to whether fracking would be covered under that, if at all," Phillips said.

The endorsements don't guarantee that fracking-related damage will always be covered.<sup>48</sup>

In August 2013, Lebanon, New York's town supervisor Jim Goldstein alerted his constituents:

I have reached out on behalf of a constituent who had their homeowner's insurance renewal for their home and farm in Lebanon denied because there is a gas well on their property.

I confirmed through the insurance agent, who writes a lot of policies in southern Madison County, that this is a new trend and will come up as property owners fill out renewal applications.

The property owner reports no history of payment problems or incidents on the property . . . .<sup>49</sup>

This last example is of particular importance because New York

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

<sup>48</sup> Patti Conley, *Fracking-Related Damages Not Covered*, SHALEREPORTER (Mar. 1, 2013, 1:00 PM), [http://www.shalereporter.com/industry/article\\_2cbf4e02-4f96-52cb-9264-e169b706b05a.html](http://www.shalereporter.com/industry/article_2cbf4e02-4f96-52cb-9264-e169b706b05a.html).

<sup>49</sup> *Lebanon Resident Loses Homeowner's Insurance Due to Presence of Gas Well*, HVPA RES. ARCHIVES (Aug. 10, 2013, 8:18 AM), <http://forum.huntervalleyprotectionalliance.com/viewtopic.php?f=3&t=654>.

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State has not yet given a green light for unconventional gas drilling. Yet, insurance underwriters understand the potential for property damage associated with the practice and apparently seek to avoid the expense of defending claims unrelated to what their policy covers.

If a homeowner experiences loss or property damage or is named as a defendant in a lawsuit from someone else who experiences the loss, the homeowner may be on his or her own defending the claim.<sup>50</sup> It is therefore in the best interest of any homeowner living in the presence of gas drilling, either directly or nearby, to determine in consultation with their insurance underwriter whether, and under what circumstances, their homeowner's insurance will provide coverage if gas drilling operations result in a casualty or property damage. To the extent the homeowner has not yet signed a gas lease and intends to, the wisest course, with the assistance of counsel, is to require the gas drilling company to (i) name the homeowner as an additional named insured on its general liability policy and self-insure beyond the policy limits; (ii) pay for homeowner's insurance, regardless of cost, should the homeowner be denied coverage on his or her own homeowner's policy as a result of the drilling activity; and (iii) provide for indemnification, which survives termination of gas drilling operations, for related loss or property damage. While these lease provisions will not guaranty coverage for a homeowner's loss, due to factors discussed below, they will demonstrate the parties' intentions for risk allocation not otherwise present in standard gas leases. To support potential future claims, the insurance provision should require, prior to commencement of gas drilling operations, a baseline water test paid for by the gas driller yet performed by an independent company approved by the homeowner which would show chain of custody of the water sample and otherwise be legally admissible in a court action. Date stamped photographs of the interior and exterior of the residential structure should also be taken and archived by the homeowner prior to drilling operations. A baseline property survey showing boundaries and predrilling encroachments, if any, would be useful as well.

While mortgage-free properties do not have to have homeowner's insurance coverage, mortgaged properties do.<sup>51</sup>

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<sup>50</sup> See ELISABETH N. RADOW, TESTIMONY SUBMITTED TO THE DELAWARE RIVER BASIN COMMISSION 3 (2013), available at <http://www.damascuscitizensforsustainability.org/wp-content/uploads/2013/10/Radow-Testimony-Revised.pdf>.

<sup>51</sup> *Id.* at 3–4.

[A] mortgaged residence without homeowner's insurance constitutes an incurable mortgage default. If the homeowner/borrower cannot obtain replacement coverage in the marketplace, he or she would have to pay the substantially more expensive "forced insurance" premiums arranged through the originating bank or loan servicer (which coverage inures only to the benefit of the bank, not the homeowner), or risk losing the mortgage loan altogether and face foreclosure.<sup>52</sup>

### *B. Under-Insured Gas Industry*

According to 10-K's filed by publicly traded gas companies, the companies maintain insurance against some—but not all—of the potential risks and losses associated with their operations.<sup>53</sup> In addition, no disclosure is made in the 10-Ks ensuring that the companies have segregated sufficient liquid assets to apply toward the uninsured and underinsured adverse impacts caused by their operations.<sup>54</sup> Indeed, the 10-Ks state such impacts could cause the company (and by extension, its investors) financial harm.<sup>55</sup> In short, the gas companies are not fully insured either because they elect not to purchase the coverage or industry insurers are reducing the scope of coverage of what insurable losses it will cover, or both. If this is the case, then who pays?

This multi-step unconventional gas extraction process involves various subcontractors, with allocation of risk spread among these companies in ways which are not disclosed to the homeowner.<sup>56</sup> The homeowner, as lessor under the gas lease, is in privity of contract with the entity with which it signed the gas lease, not the subcontractors.<sup>57</sup> Once the lease is assigned, it may become difficult, if not impossible, for the homeowner to track who controls the gas leasehold. For this reason, if a gas lease is under negotiation and not yet signed, the homeowner's attorney should draft the insurance and indemnification provision to extend to the

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

<sup>53</sup> Chesapeake Energy Corp., *supra* note 25, at 21–22.

<sup>54</sup> RADOW, *supra* note 50, at 3–4.

<sup>55</sup> See Chesapeake Energy Corp., *supra* note 25, at 21–22.

<sup>56</sup> Doug McLeod, *The Coming Conflicts: The Potential Environmental Liability and Related Issues Pursuant to Fracking Present a Variety of Risks—and the Possibility of Fingerprinting*, RISK AND INS., Oct. 1, 2012, at 26, 27.

<sup>57</sup> *Id.* ("Many parties in oil and gas development also include indemnification and contribution clauses in their contracts: Drilling and other subcontractors, for example, might agree to indemnify a well operator for liabilities arising from their work.").

drilling company's subcontractors and assigns. Further, while there is no current legal requirement to record the entire gas lease or deliver to the homeowner a notice of lease assignments, these terms should be added to the lease.

### C. Compulsory Integration

If Governor Andrew Cuomo's administration were to grant drilling permits for unconventional drilling, in any New York County, there is no documented evidence to indicate that unanimity of residents favor drilling. However, there are segments of the population which do. Gas drillers seek a 640-plus acre contiguous landmass to make unconventional drilling permissible under New York law.<sup>58</sup> Suppose, as is the case, that pro-drilling and anti-drilling property owners live or control property situated side by side. How would a gas company access the gas? The answer is through "involuntary compulsory integration."

New York's Environmental Conservation Law ("ECL"), section 23-0901 delegates to the New York Department of Environmental Conservation ("DEC"), upon application from a gas drilling operator, and after notice and a hearing, the authority to force a protesting property owner into a spacing unit if the drilling company otherwise asserts that it controls, by lease or deed, 60 percent of the land mass required for that spacing unit.<sup>59</sup> This type of statute, also known as "forced pooling," exists in varying forms in thirty-nine states.<sup>60</sup> The current statute evolved from a prior statute that codified the common law "rule of capture" which was crafted to provide equitable royalty payments among property owners living within the boundary of a spacing unit, for extracted *liquid* oil or gas which *flowed freely* underground from one property to another and up a single well bore;<sup>61</sup> *not*, as is the case here, where horizontal drilling is required under and through the protesting person's property to extract the *trapped* methane gas.<sup>62</sup>

Application of this statute to private property owners using the current technology has been characterized by opponents as

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<sup>58</sup> N.Y. ENVTL. CONSERV. LAW § 23-0501(1)(b)(1)(6)(xi) (McKinney 2013).

<sup>59</sup> N.Y. ENVTL. CONSERV. LAW § 23-0901(2), (6) (McKinney 2013).

<sup>60</sup> See Marie C. Baca, *State Laws Can Compel Landowners to Accept Gas and Oil Drilling*, PROPUBLICA (May 19, 2011), <http://projects.propublica.org/tables/forced-pooling>.

<sup>61</sup> See BRUCE M. KRAMER & PATRICK H. MARTIN, 1 THE LAW OF POOLING & UNITIZATION §2.01 (3d ed. 2013).

<sup>62</sup> Lindsey Trachtenberg, Note, *Reconsidering the Use of Forced Pooling for Shale Gas Development*, 19 BUFF. ENVTL. L.J. 179, 202 (2012).

government sanctioned trespass.<sup>63</sup> Opponents also consider this an unconstitutional taking without just compensation.<sup>64</sup> It is asserted that the extracted methane gas is for private gain and probable export to foreign countries. The statute provides no up-front payment, but entitles the protesting property owner “to the lowest royalty [paid] in an existing lease in the spacing unit, but no less than one-eighth.”<sup>65</sup> In today’s economy (and with no legal obligation to drill, at all), it is conceivable no royalties would be paid, particularly since royalties to leaseholders are *net* of all operating expenses. The protesting property owner has no opportunity to review the books and records of the company to confirm its payment. For that matter, neither do parties who voluntarily leased their land under standard gas leases.

The compulsory integration statute does not specifically prescribe setbacks between the underground lateral pipes and the residence or preclude the granting of other property uses included in standard leases.<sup>66</sup> This potentially broad allocation of rights to the gas company eliminates the force pooled homeowner’s ability to control the homestead. The statute also creates for the protesting property owner potential liability for the driller’s acts by not expressly holding the driller responsible.<sup>67</sup> These impacts on property ownership also potentially jeopardize the home’s value, access to a mortgage, homeowner’s insurance, and the homeowner’s ability to sell the property.<sup>68</sup> The ECL permits objection by homeowners to forced pooling so long as they have a scientific basis; a conflict with an existing or contemplated contract (such as a mortgage) is not among the list of criteria for DEC to consider.<sup>69</sup> Whether a driller’s rights of compulsory integration are subordinate or superior to a mortgage contract between a homeowner and its lender or a homeowner and its insurer requires clarification. It is reasonable to conclude that any governmental entity which forces a property owner against his or her will into a spacing unit for gas drilling purposes opens up the government to litigation from property owners who become unable to mortgage, insure, or sell their home

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

<sup>64</sup> See, e.g., Bruce M. Kramer, *Compulsory Pooling and Unitization: State Options in Dealing with Uncooperative Owners*, 7 J. ENERGY L. & POL’Y 255, 275 (1986).

<sup>65</sup> N.Y. ENVTL. CONSERV. LAW § 23-0901(3)(a)(3) (McKinney 2013).

<sup>66</sup> See *id.* § 23-0901(5).

<sup>67</sup> See *id.* § 23-0901(3)(a)(3); Radow, *supra* note 15, at 18.

<sup>68</sup> *Id.* at 18, 19.

<sup>69</sup> N.Y. ENVTL. CONSERV. LAW § 25-0503(3)(c) (McKinney 2013); Radow, *supra* note 15, at 18.

or farm as a result. Since New York has not yet embarked on unconventional drilling, this statute has not yet been fully tested in court.

#### *D. Mortgages*

Paragraphs eighteen and twenty-one of the standard mortgages used in the secondary mortgage market prohibit, respectively, the transfer of an interest in the real property (which includes entering into a gas lease) without lender consent, and the presence of hazardous materials and hazardous activity consistent with the practices characterized by unconventional gas drilling operations.<sup>70</sup> Gas leases permit the presence of hazardous activity and hazardous substances on a homeowner's property. This includes use of explosives at various stages, and the presence of truck convoys carting millions of gallons of chemically treated water for fracking to the well site, other trucks which hold the toxic, radioactive fracking waste on-site and those which transport it for treatment and disposal.<sup>71</sup> Mortgages prohibit the presence, use, storage, or release of any hazardous substances on, under, or about the mortgaged property, including gasoline, other flammable or toxic petroleum products, volatile solvents, and radioactive materials, among other things.<sup>72</sup> Fracking introduces potentially all of these constituents onto the residential property.

Standard mortgages also prohibit borrowers from committing waste, damage or destruction or causing substantial change to the mortgaged property or allowing a third party to do so.<sup>73</sup> Mortgages contain these covenants to protect and preserve the lender's collateral.<sup>74</sup> Nationwide, people own properties encumbered by mortgages and gas leases. By all accounts, most homeowner-borrowers did not obtain lender consent prior to entering into the gas lease. The lender will not know about the presence of the gas lease or the potential for harm to the mortgage collateral until the damage occurs. This ex post facto notice could create ripple effects for investors in the secondary mortgage market who rely upon

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<sup>70</sup> FANNIE MAE/FREDDIE MAC, N.Y. SINGLE FAMILY MORTGAGE 15–17, available at [www.freddiemac.com/uniform/doc/3033-NewYorkMortgage.doc](http://www.freddiemac.com/uniform/doc/3033-NewYorkMortgage.doc).

<sup>71</sup> See William Yukstas, Note, *Managing Fractions: The Role of Local Government in Regulating Unconventional Natural Gas Resources—Recommendations for New York*, 11 CARDOZO PUB. L. POL'Y & ETHICS J. 563, 569–70 (2013).

<sup>72</sup> FANNIE MAE/FREDDIE MAC, *supra* note 70, at 17–18.

<sup>73</sup> See *id.* at 10.

<sup>74</sup> Radow, *supra* note 15, at 20.



compliance with the borrower's mortgage covenants.

When considering the impacts of gas leases on mortgages and the role of the lender, it helps to divide the inquiry into two categories: one category consisting of properties already encumbered by a gas lease when the mortgage was granted, the existence of which should be reflected in the originating lender bank's title search (probably as a memorandum of lease), and the second category consisting of mortgaged properties encumbered by the mortgage before the homeowner/borrower signs a gas lease. This latter category will be discussed more fully below.

Ninety percent of America's residential mortgage loans are sold into the secondary mortgage market.<sup>75</sup> Consistent with this, the originating banks underwrite residential loans using mortgage underwriting guidelines prescribed by the secondary market.<sup>76</sup> While credit reports and financial statements help the lender evaluate the borrower's ability to pay the mortgage loan, lenders rely on the property appraisal to accurately assess risk and value the property through use of these guidelines.<sup>77</sup>

These underwriting guidelines predate the multi-step, multidirectional (horizontal) unconventional drilling process currently in use. While the property appraisal guidelines cover a broad range of criteria, they do not specifically contemplate certain steps involved with residential fracking.<sup>78</sup> For example, the site guidelines omit from consideration the use of lateral pipes and horizontal drilling, on-site presence of chemically treated frackwater, on-site hydraulic fracturing/radioactive waste storage, compressor stations and flaring gas, among others; each of which can impact the use and safety of the residential property.<sup>79</sup> As a result, the appraisal report delivered to the lender may omit the full picture. The timing of the mortgage underwriting, in the context of

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<sup>75</sup> CONG. BUDGET OFFICE, FANNIE MAE, FREDDIE MAC, AND THE FEDERAL ROLE IN THE SECONDARY MORTGAGE MARKET viii–ix (2010), available at <http://www.cbo.gov/sites/default/files/cbofiles/ftpdocs/120xx/doc12032/12-23-fanniefreddie.pdf>.

<sup>76</sup> Gregory Erich Phillips, *Everything You Need to Know About the Secondary Mortgage Market*, SMARTASSET BLOG (Aug. 16, 2013), <http://www.smartasset.com/blog/housing/everything-you-need-to-know-about-the-secondary-mortgage-market/>.

<sup>77</sup> FANNIE MAE, GUIDANCE FOR LENDERS AND APPRAISERS 1 (2009), [https://www.fanniemae.com/content/fact\\_sheet/appraisal-guidance.pdf](https://www.fanniemae.com/content/fact_sheet/appraisal-guidance.pdf).

<sup>78</sup> See U.S. DEPT OF HOUS. AND URBAN DEV., VALUATION ANALYSIS FOR SINGLE FAMILY ONE-TO FOUR-UNIT DWELLINGS (4150.2), at 2-0 to -12 (1999) [hereinafter HUD, VALUATION ANALYSIS], available at <http://www.hud.gov/offices/adm/hudclips/handbooks/hsggh/4150.2/41502c2HSGH.pdf>.

<sup>79</sup> See *id.*

the gas driller's schedule, is also critical since an appraiser is not obligated to anticipate all potential uses; more emphasis is placed on what is observed and can be gleaned from a property inspection and the recorded documents.

With respect to the gas lease itself, often only a memorandum of lease is recorded, not the entire lease.<sup>80</sup> This makes underwriting a challenge since a memorandum of the lease is not likely to disclose the myriad attributes of property ownership that have been granted to the gas company, and the obligations and liability exposure which have been retained by the property owner. For example, standard gas leases grant to the gas company/lessee the right to use the homeowner's land surface for operations without designating in the written terms or an exhibit the locations reserved for use by the homeowner.<sup>81</sup> This effectively grants the entire land surface to the gas company (except the residence itself and possibly, limited setbacks); and this effect is not eliminated by the subsequent government approved site plan for the spacing unit and well pad unless the lease itself is later amended.

Currently the Federal Housing Administration ("FHA") insures mortgages which are sold into the secondary mortgage market to such entities as Fannie Mae and Freddie Mac (described below). The FHA's *Valuation Analysis for Single Family One- to Four- Unit Dwellings* issues site requirements (at section 4150.2) for FHA-insured mortgages, which are to be considered by the property appraiser before the property valuation process can begin.<sup>82</sup> According to FHA, "[t]he appraisal process is the lender's tool for determining if a property meets the minimum requirements and eligibility standards for a FHA-insured mortgage."<sup>83</sup> Health and safety of the occupants is of importance along with the long-term preservation of the real estate.<sup>84</sup> A review of the site analysis guidelines reveals numerous circumstances under which an appraiser would caution or even recommend rejection of a residence if it is in proximity to current or future gas drilling.<sup>85</sup> These include (from a variety of subsections):

(i) Rejection recommended for observed and anticipated inharmonious use that presents a danger to "health or safety of the

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<sup>80</sup> Radow, *supra* note 15, at 19.

<sup>81</sup> *See id.* at 15-16.

<sup>82</sup> HUD, VALUATION ANALYSIS, *supra* note 78, at 2-0.

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

<sup>84</sup> *See id.* at 2-1 to -3.

<sup>85</sup> *See id.* at 2-1 to -12.

occupants or the economic security of the property.”<sup>86</sup>

(ii) “[I]nfiltration of commercial, industrial or nonconforming use.”<sup>87</sup>

(iii) Rejection for observed hazard and/or nuisance, including “subsidence, flood zones, unstable soils, [and] traffic hazards.”<sup>88</sup>

(iv) Rejection recommended for observed environmental contaminants, noxious odors, offensive sights or excessive noise which endanger the improvements or affect the livability of the property or the health and safety of the occupants.<sup>89</sup>

(v) “No existing dwelling may be located closer than 300 feet from an active or planned drilling site. Note that this applies to the site boundary, not to the actual well site.”<sup>90</sup>

(vi) No existing dwelling may be located closer than three hundred feet from an abandoned well without a letter “from [a] responsible authority in the state government stating that the subject well was safely and permanently abandoned”; if such letter is obtained the residence can be within ten feet.<sup>91</sup>

(vii) Existence of hydrogen sulfide gas emissions.<sup>92</sup>

(viii) Existence of a “slush pit” which contains drilling “mud.”<sup>93</sup>

(ix) “A dwelling or [other] property improvement near high-pressure gas, liquid petroleum pipelines or other volatile and explosive products—both above ground and subsurface must be located outside of the outer boundary of the pipeline easement” (and in any event must be at least ten feet away).<sup>94</sup>

(x) “Excessive smoke, fog, chemical fumes, noxious odors, stagnant ponds or marshes, poor surface drainage and excessive dampness.”<sup>95</sup>

Except in those instances where the FHA mandated site analysis requires the appraiser to comment on future anticipated use, the appraisal can be expected to contain only what is observed. If gas drilling operations have not yet begun, what would have been an obvious red flag if observed will go unnoticed and potentially unnoted. Further, an appraiser who is unfamiliar with the footprint

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<sup>86</sup> *Id.* at 2-1.

<sup>87</sup> *Id.* at 2-3.

<sup>88</sup> *Id.* at 2-4.

<sup>89</sup> *Id.* at 3-7, 3-8.

<sup>90</sup> *Id.* at 2-6.

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

<sup>92</sup> *Id.* at 2-7.

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

<sup>94</sup> *Id.* at 2-9.

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

and impacts associated with unconventional gas drilling may fail to check for the lender the cautionary boxes which project future use. For example, a literal reading of the note to the 300-foot setback requirement, which states: “[T]his applies to the site boundary, not to the actual well” would apply to *any* property located within the 640-foot-plus acre spacing unit and all properties surrounding its perimeter.<sup>96</sup> An appraiser who is unfamiliar with the parameters of the spacing unit site boundary may overlook this.

### *E. The Secondary Mortgage Market*

The secondary mortgage market was originated to provide sources of funding to make home mortgage loans affordable.<sup>97</sup> It is comprised of:

(i) The originating lender which makes the mortgage loan to the homeowner, such as local and national banks. Funds for future mortgage loans are made available to these lenders when they sell current mortgage loans to purchasers in the secondary mortgage market.

(ii) The secondary mortgage market purchases the loans originated by the originating lender. It consists of private companies with government support: Federal National Mortgage Association aka Fannie Mae; Federal Home Loan Mortgage Association aka Freddie Mac; and Government National Mortgage Association aka Ginnie Mae) as well as other financial institutions (including banks and insurance companies).<sup>98</sup>

According to the Federal Housing Finance Agency (“FHFA”), which was created in 2008 to “provide effective supervision, regulation and housing mission oversight of Fannie Mae, Freddie Mac and the Federal Home Loan Banks . . . , [a]s of September 2010, the combined debt and obligations of [Fannie Mae, Freddie Mac and the Federal Home Loan Banks] totaled \$6.7 trillion” with Fannie Mae and Freddie Mac guarantying “65% of new mortgage originations.”<sup>99</sup>

Once in the secondary market, multiple home mortgages with similar characteristics (theoretically, including similar risk factors)

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<sup>96</sup> *Id.* at 2-6.

<sup>97</sup> CONG. BUDGET OFFICE, FANNIE MAE, FREDDIE MAC, AND THE FEDERAL ROLE IN THE SECONDARY MORTGAGE MARKET 1 (2010), <http://www.cbo.gov/sites/default/files/cbofiles/ftpdocs/120xx/doc12032/12-23-fanniefreddie.pdf> [hereinafter CBO, FANNIE MAE, FREDDIE MAC].

<sup>98</sup> *See id.* at 1-2.

<sup>99</sup> *About FHFA, supra* note 5.

are pooled together and a derivative of the mortgage called a *residential mortgage backed security* (“RMBS”) is sold to investors, such as pension funds, in exchange for the amount loaned by the originating bank, which the originating bank (theoretically) then uses to make more affordable mortgage loans.<sup>100</sup> The borrower continues to make the monthly mortgage payment to the lender (or loan servicer) and that payment is passed through to the buyer of the mortgage backed security. The FHA, whose underwriting guidelines were discussed earlier, is the largest worldwide insurer of mortgage loans.<sup>101</sup> It guarantees payment on loans purchased by Fannie Mae and Freddie Mac and their kin, so the risk to investors with FHA-insured investments theoretically should be negligible.<sup>102</sup> Yet, in the wake of the 2007 mortgage crisis, American taxpayers were called upon to bail out the so-called toxic loans.<sup>103</sup> It is also the case that, even with the bailout, many investors were not made whole.<sup>104</sup> As recently as August 31, 2013, the National Credit Union Administration disclosed its lawsuit against Morgan Stanley for allegedly misrepresenting the quality of the residential mortgages included in securities sold to two now defunct credit unions.<sup>105</sup>

The question arises then, whether there could be another mortgage crisis if a cumulative number of mortgaged homes in the thirty to thirty-five states with current and intended residential fracking experience water contamination or structural damage as a result of, or coincidentally with, unconventional gas drilling operations, rendering the residential mortgage collateral unmarketable and the borrower unable or unwilling to pay off the loan.

### III. WHAT EFFECT DOES RESIDENTIAL FRACKING HAVE ON A HOMEOWNER WHO WANTS A MORTGAGE LOAN?

Some national banks are taking precautions when asked to loan on properties with gas leases; others are just saying “no” to

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<sup>100</sup> See CBO, FANNIE MAE, FREDDIE MAC, *supra* note 97, at 1.

<sup>101</sup> *The Federal Housing Administration (FHA)*, HUD.GOV, [http://portal.hud.gov/hudportal/HUD?src=/program\\_offices/housing/fhahistory](http://portal.hud.gov/hudportal/HUD?src=/program_offices/housing/fhahistory) (last visited Mar. 3, 2014).

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

<sup>103</sup> Margaret Chadbourn, *Taxpayers Close to Breaking Even on Fannie Mae, Freddie Mac Bailout*, REUTERS (Nov. 7, 2013, 2:55 PM), <http://www.reuters.com/article/2013/11/07/us-usa-housing-idUSBRE9A617E20131107>.

<sup>104</sup> Danielle Douglas, *NCUA Sues Bank Over Mortgage Losses*, WASH. POST, Aug. 31, 2013, at A16.

<sup>105</sup> *See id.*

residential mortgage loans with residential fracking.<sup>106</sup> Local lenders may decide to make such a loan if the bank has valuable depositors with oil and gas interests, or for other business reasons.<sup>107</sup> Because the secondary mortgage market underwriting guidelines will raise potential red flags regarding the property's conformity to secondary market standards,<sup>108</sup> the originating lender may have to keep the loan in its private loan portfolio (a "portfolio loan") and not sell it into the secondary mortgage market. A "portfolio loan" is likely to contain one or more of the following terms to protect the originating lender against the elevated risks associated with the property: a large buffer around the residence, a larger than typical loan to value ratio (50 percent), and a higher interest rate.<sup>109</sup>

It is possible that certain originating banks have continued to make residential mortgage loans on properties encumbered by gas leases, which are then sold into the secondary mortgage market, possibly due to underwriting that did not include a review of the full lease or an appraisal that does not reflect the full scope of future gas drilling operations. This action exposes these originating banks to liability at a later date if FHFA or harmed investors in the secondary mortgage market seek recourse against the originating bank because the residential collateral supporting the residential mortgage backed security experiences adverse impacts, such as water contamination or structural damage transforming it into a toxic asset. Here's why: When an originating bank assigns mortgage loans to the secondary mortgage market for securitization as residential mortgage backed securities, it represents, in writing, that it has searched the title and fully vetted the residential property for activity that could impair the property's value.<sup>110</sup>

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<sup>106</sup> See Radow, *supra* note 15, at 21; Urbina, *supra* note 4, at A1; GREG MAY, WHITE PAPER OF MARCH 24, 2011: GAS AND OIL LEASES IMPACT ON RESIDENTIAL LENDING 4 (2011), available at <http://goo.gl/gdM3IU>.

<sup>107</sup> See Roger Drouin, *Fracking Boom Could Lead to Housing Bust*, GRIST (Aug. 16, 2013, 7:57 AM), <http://grist.org/climate-energy/fracking-boom-could-lead-to-housing-bust/>.

<sup>108</sup> See Radow, *supra* note 15, at 18; Urbina, *supra* note 4, at A1; MAY, *supra* note 106, at 3.

<sup>109</sup> Portfolio loans are not sold in the secondary market, requiring the lender to retain the investment for the length of the mortgage. See *Portfolio Loan*, BROKER OUTPOST, <http://www.brokeroutpost.com/reference/19613.htm> (last visited Mar. 3, 2014). Because of the nature of the risk, such lenders charge higher interest rates and take other measures to protect themselves. See *id.*

<sup>110</sup> See, e.g., FANNIE MAE, SELLING GUIDE: FANNIE MAE SINGLE FAMILY §§ A2-2-01, A2-2.1-02 (2013), <https://www.fanniemae.com/content/guide/sel102213.pdf>; *Seller Authorized to Sell Mortgage; Purchase Documents Authorized*, FREDDIE MAC (July 20, 2013), <http://www.freddiemac.com/singlefamily/guide/> (follow the "AllRegs" hyperlink; then follow "Single-Family Seller/Service Guide, Bulletins and Industry Letters" drop down menu; then

These representations are made with respect to the state of facts in effect as of the date the mortgage loan is made.<sup>111</sup> If a gas lease was already in effect and the originating lender granted the loan anyway, it will be potentially responsible to buy back that loan and owe whatever additional damages may be payable in connection with unwinding the loan assignment.<sup>112</sup>

One bank is taking charge of such a contingency. Santander Bank, N.A. (formerly called Sovereign Bank, N.A.), a national lender, now requires as a condition to residential loan closings that the borrower sign and record a mineral, oil, and gas rights rider to the mortgage, which stays in effect for the duration of the mortgage.<sup>113</sup> It prohibits leasing the surface or subsurface of the property for minerals, oil, or gas extraction and requires the borrower to take affirmative steps to prevent renewal or expansion of rights under any existing lease or similar prior grant.<sup>114</sup> The covenant restricting this use entitles the bank to injunctive or equitable relief to bring the property back into conformity and requires the borrower to pay all bank and attorneys' fees incurred as a result.<sup>115</sup>

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follow "Single Family Seller/Servicer Guide, Volume 1" drop down menu; then follow "Chs. 22–28: General Mortgage Eligibility" drop down menu; then follow "Chapter 22: General Mortgage Eligibility" dropdown menu; then follow "22.27: Seller Authorized" hyperlink); *see also* Urbina, *supra* note 4, at A1 (noting that originating banks must guarantee their mortgages to sell them in the secondary market); Memorandum from David H. Carpenter, Legislative Attorney, Cong. Research Serv., to Rep. Carolyn Maloney, U.S. House of Representatives (Sept. 15, 2011), *available at* <http://goo.gl/rZGuk1> (stating that originating banks must sign binding contracts with Fannie Mae or Freddie Mac, representing that their mortgages comply with seller guidelines).

<sup>111</sup> FANNIE MAE, *supra* note 110, at §§ A2-2-01, A2-2.1-02.

<sup>112</sup> *Id.* § A2-3.2. Freddie Mac has similar repurchase procedures. *See* FREDDIE MAC, OVERVIEW OF FREDDIE MAC LOAN REPURCHASE AND APPEAL PROCESS (2013), [http://www.freddiemac.com/singlefamily/sell/pdf/loan\\_repurchase\\_appeal\\_process.pdf](http://www.freddiemac.com/singlefamily/sell/pdf/loan_repurchase_appeal_process.pdf); *Freddie Mac Remedies*, FREDDIE MAC (Aug. 1, 2013), <http://www.freddiemac.com/singlefamily/guide/> (follow the "AllRegs" hyperlink; then follow "Single-Family Seller/Servicer Guide, Bulletins and Industry Letters" drop down menu; then follow "Chs. 4-7: Seller/Servicer Requirements and Warranties" drop down menu; then follow "Chapter 6: General Warranties and Responsibilities of the Seller/Servicer" dropdown menu; then follow "6.12: Freddie Mac remedies" hyperlink); *see also* Urbina, *supra* note 4, at A1 (stating that local lenders may have to buy back mortgages on properties with gas leases that do not comply with mortgage rules).

<sup>113</sup> SOVEREIGN BANK, N.A., PROHIBITION OF LEASING MINERAL, OIL AND GAS RIGHTS RIDER (2013), <http://grist.files.wordpress.com/2013/08/rider.pdf>; *see* Jason Notte, *Fracking Leaves Property Values Tapped Out*, MSN MONEY (Aug. 21, 2013, 11:13 AM), <http://money.msn.com/now/post--fracking-leaves-property-values-tapped-out> (noting that mortgages "prohibiting gas drilling" like the one employed by Sovereign Bank are "becoming more common").

<sup>114</sup> SOVEREIGN BANK, N.A., *supra* note 113.

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

Key Bank's Mortgage Group has the following lending guidelines:

No mortgages will be written on properties that have a Gas Well.

Key Bank can deny mortgage underwriting to homeowners whose properties are within 600 feet of a gas well.

No mortgages will be written on properties which have gas leases attached to them.

Property owner/gas rights lesser (sic) and gas companies can be held liable for damages.<sup>116</sup>

In another case, JPMorgan Chase refused to amend the terms of an existing borrower's refinancing agreement to permit a gas lease with BP.<sup>117</sup> "It's becoming wide-spread across the industry. Servicers and lenders are becoming more unwilling to approve a loan on these properties," said Amy Bonitatibus, vice president of communications for JPMorgan Chase. "At the end of the day, we may not even own the loan."<sup>118</sup>

What if the mortgage came first in time? Things become more complex once the loan is sold into the secondary mortgage market and the property owner later enters into a gas lease without the lender's consent. Once a mortgage loan is assigned by the originating bank, the originating bank or another entity will service the loan by sending out billing notices and possibly escrowing for taxes and homeowner's insurance, but neither the originating bank nor the loan servicer remains on the hook for any actions taken by the borrower *after* the date of the loan assignment.<sup>119</sup> Allocation of responsibility now enters a gray zone. As the assignee of the mortgage loan, the secondary market (insured by FHA) has to stand behind the collateral for anything that happens to that collateral after it takes title to it.<sup>120</sup> However, there exists no mechanism in

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<sup>116</sup> *Gas Well Policy Guidelines for Key Bank*, NEOGAP, <http://www.neogap.org/neogap> (last visited Mar. 3, 2014).

<sup>117</sup> Jamison Cocklin, *BP and Chase at Odds over Drilling Lease*, VINDY.COM (Mar. 10, 2013), <http://www.vindy.com/news/2013/mar/10/banks-build-roadblocks-to-riches-from-dr/?print>.

<sup>118</sup> *Id.*

<sup>119</sup> *Warranties and Representations By the Seller*, FREDDIE MAC (Oct. 16, 2012), <http://www.freddiemac.com/singlefamily/guide/> (follow the "AllRegs" hyperlink; then follow "Single-Family Seller/Servicer Guide, Bulletins and Industry Letters" drop down menu; then follow "Single Family Seller/Servicer Guide, Volume 1" drop down menu; then follow "Chs. 4-7: Seller/Servicer Requirements and Warranties" drop down menu; then follow "Chapter 6: General Warranties and Responsibilities of the Seller/Servicer" dropdown menu; then follow "6.11: Warranties and Representations by the Seller" hyperlink).

<sup>120</sup> *Id.*



the secondary mortgage market to check on the condition of the property once the loan is assigned. No one at FHA, FHFA or otherwise, at their direction, performs home visits to check on the mortgaged collateral. The assumption is that the borrower has promised to abide by the terms of the mortgage for the life of the mortgage loan including the covenant not to transfer an interest in the property (i.e., a gas lease to extract oil or gas) without the lender's consent, or permit hazardous activity or hazardous material onto the property. Thus, the real challenge is to make someone responsible for monitoring the collateral once it is in the secondary mortgage market. Investors in this multi-trillion dollar market rely on the condition of the residential collateral remaining intact for the duration of the loan.<sup>121</sup> Yet, this reliance is potentially misplaced.

#### IV. NON-DISCLOSURE AGREEMENTS: STIGMA AND FEAR PREVENT AFFECTED PEOPLE FROM SPEAKING OF THE HARM

At present it is difficult to assess the cumulative impacts of gas drilling on residential property because no formal data base exists. However, anecdotal accounts abound. The so-called *List of the Harmed* provides a wealth of verifiable news reports about people living across the country whose water, air, health, safety, and homes have been affected in the presence of unconventional shale gas drilling operations.<sup>122</sup> People, such as families in Dimock, Pennsylvania, Pavillion, Wyoming, and Parker County, Texas and elsewhere, nationwide, who allege well water contamination in actions against gas drilling companies, are typically forced to sign non-disclosure agreements in exchange for accepting water treatment systems or bottled water.<sup>123</sup> For obvious reasons this pattern makes assessing the scope of the problem impossible.

While a non-disclosure agreement binds the homeowner to secrecy, potentially for life, the terms the agreement contains and the effect the terms have on the residential property are time limited.<sup>124</sup> When a gas company agrees to provide a water treatment system or supply water in settlement of litigation, the

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<sup>121</sup> Radow, *supra* note 15, at 18.

<sup>122</sup> See *List of the Harmed*, PA. ALLIANCE FOR CLEAN WATER & AIR, <http://pennsylvaniaallianceforcleanwaterandair.wordpress.com/the-list/> (last updated Jan. 14, 2014).

<sup>123</sup> See *id.*

<sup>124</sup> See Transcript of In-Chambers Proceeding at 5, *Hallowich v. Range Res. Corp.*, 64 A.3d 13 (Pa. Super. Ct. 2011) (No. 2010-3954).

company's involvement for maintaining the treatment system or supplying the water will be time limited and likely pertain only to the settling parties.<sup>125</sup> Once the family moves, the gas company will not be obligated to maintain a water treatment system or deliver water to whomever the house is sold. If a time limited maintenance obligation on the part of the gas company does run with the land, at the point of offering the affected residence for sale, the condition of the residence's access to water will become known to prospective purchasers (and by extension, the public) even without access to the non-disclosure agreement.<sup>126</sup>

Public pressure exists to unseal non-disclosure agreements for the public benefit it provides, as was argued in *Hallowich v. Range Resources Corporation*.<sup>127</sup> If public pressure gains momentum culminating in Congressional hearings or investigations by our state and federal attorneys general, then litigants who were silenced will be able to speak openly. Testimony about impacts to their personal health and homes could benefit whole communities similarly situated which could use this information to prevent future similar harm. If this effort fails, then in time, as each of the affected residences comes onto the market for sale or is abandoned due to its lack of habitability, the truth will be revealed.

Not everyone whose property is adversely affected by gas drilling sues or signs a non-disclosure agreement. There are people for whom the stigma associated with well-water contamination or structural property damage imposes its own silence, lest it undermine the family's ability to obtain the best price on a resale. Fear also plays a role in communities where families who are adversely impacted and victimized by gas drilling operations become characterized as spoilers by unaffected neighbors wanting to reap the benefits of the shale gas boom, guilt-free.

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<sup>125</sup> See Marie Cusick, *Confidentiality Agreements Prevent Fracking Contamination Claims from Being Made Public*, STATEIMPACT (June 6, 2013 12:41 PM), <http://stateimpact.npr.org/pennsylvania/2013/06/06/confidentiality-agreements-prevent-fracking-contamination-claims-from-being-made-public/>.

<sup>126</sup> See, e.g., N.Y. REAL PROP. LAW § 462(1) (McKinney 2013). Whether or not the prospective seller elects to complete the property condition disclosure form, prospective home purchasers in regions with existing or contemplated drilling should also (i) seek contractual representations and warranties which address the water supply and structural integrity of the improvements; (ii) enlist an engineer to perform an inspection of the property; and (iii) perform base line water testing, a property survey, and 100-year title search prior to signing a purchase and sale contract.

<sup>127</sup> *Hallowich v. Range Res. Corp.*, 64 A.3d 13 (Pa. Super. Ct. 2012) (table decision); see Brief of Appellant, *Hallowich v. Range Res. Corp.*, 64 A.3d 13 (Pa. Super. Ct. 2012) (Nos. 234 WDA 2012, 235 WDA 2012), 2012 WL 7959337, at \*12.

New concerns regarding the ability to mortgage and insure a home are arising out of the proliferation of retooled older pipelines and newer ones crisscrossing under residences throughout the continent.<sup>128</sup> For example, on March 29, 2013 Exxon owned Pegasus pipeline burst open spilling at least hundreds of thousands of gallons of tar sands crude oil into the residential neighborhood of Mayflower, Arkansas, requiring dozens of families to evacuate.<sup>129</sup> In August, 2013 two unrelated pipeline explosions occurred in Illinois, one in Erie which required eighty families to temporarily evacuate their homes, another in Van Buren County which caused the temporary evacuation of twenty-five homes, affecting thirty-five to forty people.<sup>130</sup>

A home for sale without potable water or with structural damage will not qualify for a standard mortgage loan.<sup>131</sup> If the homeowner locates a purchaser willing to pay all cash, the homeowner should expect to sell the affected residence for a substantial loss. Parties interested in earning royalties from unconventional drilling may purchase the property at a steep discount exclusively for its commercial value, not with the intention of raising a family. For example, in connection with their settlement with Cabot Oil and Gas, Dimock, Pennsylvania residents Craig Sautner and Julie Sautner signed a nondisclosure agreement and moved.<sup>132</sup> A demolition permit issued to Cabot Oil and Gas was posted at the Sautners' former home on September 4, 2013, the day demolition of

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<sup>128</sup> See Urbina, *supra* note 4, at A1.

<sup>129</sup> See Max Brantley, *Federal Agency Finds Probably Violations by ExxonMobil in Mayflower Pipeline Break, Sets \$2.6 Million Penalties*, ARK. TIMES ARK. BLOG (Nov. 6, 2013, 3:05 PM), <http://www.arktimes.com/ArkansasBlog/archives/2013/11/06/federal-agency-finds-probable-violations-by-exxonmobil-in-mayflower-pipeline-break-sets-26-million-penalties>; Mike Lee, *Decades of Ruptures from Defect Show Perils of Old Pipe*, BLOOMBERG (Sept. 2, 2013), <http://www.bloomberg.com/news/print/2013-09-02/decades-of-ruptures-from-defect-show-perils-of-old-pipe.html>.

<sup>130</sup> See Lee Hogan, *Van Buren County Residents Evacuated After Gas Explosion*, ARK. ONLINE (Mar. 4, 2013, 5:00 PM), <http://www.arkansasonline.com/news/2013/mar/04/van-buren-county-residents-allowed-back-hom-after-/>; Ryan Koronowski, *Natural Gas Pipeline Causes Cornfield to Explode in Western Illinois*, CLIMATEPROGRESS, (Aug. 13, 2013 11:07 AM), <http://thinkprogress.org/climate/2013/08/13/2457691/cornfield-explosion-in-western-illinois>.

<sup>131</sup> See, e.g., *Information for Real Estate Professionals: Buying or Selling a Home With a Well*, WELLCARE 1, 3 (May 2008), [http://www.watersystemscouncil.org/VAiWebDocs/WSCDocs/508083605\\_Buying\\_or\\_Selling\\_a\\_Home\\_with\\_a\\_Well.pdf](http://www.watersystemscouncil.org/VAiWebDocs/WSCDocs/508083605_Buying_or_Selling_a_Home_with_a_Well.pdf).

<sup>132</sup> See Vera Scroggins, *Cabot Demolishes Sautner House—9-4-13*, YOUTUBE (Sept. 4, 2013), <http://www.youtube.com/watch?v=AhxoksaMGTA> [hereinafter Scroggins, *Cabot Demolishes*]; Vera Scroggins, *Former Sautner Home Demolition by Cabot—9-4 and 9-5-13*, YOUTUBE (Sept. 7, 2013), <http://www.youtube.com/watch?v=OliJXa13dZM> [hereinafter Scroggins, *Former Sautner*].

the residence began.<sup>133</sup>

Over time, pockets, and potentially entire communities, of residential property with structural damage and well water contamination caused by gas drilling operations may trade their identity as residential communities for their highest and best use as industrial drilling zones. Until the shale gas supply is exhausted, family neighborhoods will lose that identity. Once the shale gas supply is exhausted, these regions may again return to residential living, if the aquifers recover and the well water contamination can be remediated.

## V. PROPOSED SOLUTIONS

### *A. Taking Responsibility in the Secondary Mortgage Market for Non-Conforming Residential Mortgage Loans: A Call for a National Registry*

The federal government is in the process of phasing out the government sponsored secondary mortgage market.<sup>134</sup> As described above, the current underwriting guidelines for the secondary mortgage market do not take into account the multi-step unconventional gas drilling process. What will happen to the mortgage underwriting guidelines when the responsibility for running the secondary mortgage market is entirely, or at least substantially, in private hands? Will there exist a patchwork of mortgage underwriting guidelines or a uniform approach? It is recommended that FHFA in collaboration with the Consumer Finance Protection Bureau and other appropriate participants consider as a condition to this transition, the creation of underwriting guidelines which fully address the risks of unconventional gas drilling and support a loan policy which requires approval based upon review of the entire gas lease and all related recorded documents. Title searches should be required to go back one hundred years (or more if necessary) as a matter of course in gas drilling regions to identify all potential older gas leases which remain in effect through nominal royalty payments, since they could be reactivated by the gas company/lessees in new ways to allow residential fracking, if the potential for profit presents itself.

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<sup>133</sup> Scroggins, *Cabot Demolishes*, *supra* note 132; Scroggins, *Former Sautner*, *supra* note 132.

<sup>134</sup> See Jackie Calmes, *Obama Backs Limits to U.S. Role in Mortgages*, N.Y. TIMES, Aug. 7, 2013, at A3.

In addition, it would be useful to require property appraisers valuing properties in shale plays to become acquainted with the details of the unconventional gas drilling lifecycle. The appraisal should also note the existence of current or anticipated gas drilling in the region since it is possible, through compulsory integration (or forced pooling), for a property owner to become involved in gas drilling activity without the existence of a gas lease. To properly underwrite a new loan in this era of residential fracking and provide for transparency with respect to allocation of rights and obligations, the entire gas lease, all amendments and assignments to the gas lease should be recorded, as a matter of law. These steps would enable the prospective lender to better assess current and future use of the property and reach a reasoned underwriting decision.

Whether or not a particular state engages in unconventional gas drilling operations, concerns remain regarding other states which do. Millions of Americans from all fifty states, Washington D.C. and Puerto Rico have pensions invested in the \$6.7 trillion dollar secondary mortgage market.<sup>135</sup> As investors, Americans expect the residential collateral which supports this market to remain intact for the life of the loan. With drilling going on, or planned, for approximately thirty-five states, the mortgage market needs a comprehensive management tracking system of all mortgaged properties, including split estates.

American homeowners and investors would benefit from establishing a nationally linked database of all gas leases which encumber residential property, other agreements granting similar extraction rights, and force pooled properties and a cross-reference of that collective database with all recorded home mortgages. The Internet, using appropriate software, could facilitate a search that identifies all properties nationwide which are encumbered by both a gas lease and a mortgage. Properties involved in gas drilling through compulsory integration or forced pooling could be identified as well, provided states which permit this practice also require recordation of the encumbrance in the same public records which record the deed. The FHFA, FHA or their respective equivalents would task people to monitor gas-leased properties supporting the secondary mortgage market.

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<sup>135</sup> See *About FHFA*, *supra* note 5.

*B. A Call for Reallocating Risk*

While attention is needed to underwrite mortgage loans which preserve the secondary mortgage market in the presence of residential fracking, attention must also be paid to the allocation of risk in drilling operations which can give rise to destabilizing home ownership and the mortgage market. Financial responsibility for gas drilling operations not addressed in gas leases can be allocated to the parties in control of gas drilling operations through the regulatory permitting process.

The goal would be to establish, as a condition to the issuance and continued good standing of gas drilling permits, an insurance and indemnification plan for *each spacing unit* (the “spacing unit risk management plan”), analogous to a construction site, which (i) names each property owner (by name, section, block, and lot) within the spacing unit—including a split estate—and the lender, if any, as additional named insured parties; (ii) establishes limits of comprehensive general liability insurance, pollution liability insurance and control of well insurance coverage on a well-specific basis (or its substantive equivalent) relative to the associated hazards and risks; (iii) other appropriate coverage for the site; and (iv) includes a liquid cash (or cash equivalent) component to cover both what is uninsurable and not insured, including long-term remediation.

In addition, if a property is or becomes subject to a mortgage, the plan will include homeowner’s insurance coverage consistent with the lender’s requirement, in the event this coverage is terminated by the carrier. These obligations would apply to any gas driller-affiliate or assignee which assumes responsibility under the permit and would likewise have to cover all subcontractors who perform work in connection with drilling operations. Indemnification under this plan would survive termination of drilling operations. (Municipalities could use this mechanism to establish an up-front fund for municipal impacts such as road and bridge repair and remediation from improper disposal or incomplete treatment of hydraulic fracturing waste.)

It is a given that best management practices and regulatory oversight will not eliminate accidents, human error, or abandoned, aging gas drilling infrastructures associated with unconventional drilling. Cumulative inventory of impacted residential property in shale states which is not restored can be expected to sell for a fraction of its former value, thereby reducing the associated transfer

tax and the assessed value/property tax.

An America where residential fracking operates at the intersection of Wall Street and Main cannot proceed as it is without fallout ahead. Attention to mortgage underwriting guidelines and establishing a national registry along the lines suggested here would bring clarity and transparency to a market whose stability homeowners and investors depend upon. The spacing unit risk management plan would help to restore balance to the relationship among homeowners who leased their land, those who are forced into a spacing unit through compulsory integration, and the gas drilling companies which control the drilling operations on and under homeowners' backyards. This manageable insurance and indemnification plan would encourage gas drillers to maintain safe practices (which would also benefit their workers on the front lines), and enable homeowners to maintain insurance coverage even if their insurer declines to renew their homeowner's insurance policy. The effect of this approach will help to reduce the incidence of mortgage defaults in the secondary mortgage market as well as under portfolio loans. It would likewise help preserve homeowners' property value and the real property tax base.

The assertion by the oil and gas industry that unconventional shale gas drilling using current technology can be performed safely lacks credibility. Industry public disclosure documents, risk assessment by the insurance industry, and regular reports of property damage and environmental impacts affecting Main Streets across the nation support a contrary conclusion. The complexities of the global economy, power brokering, and Wall Street's bullish embrace of shale gas extraction have obscured the common sense acknowledgement that Americans need a safe home more than we need fossil fuel extracted from beneath it. The solutions proposed here are intended to manage the economic risks confronting America's homeowners and secondary mortgage market investors, living at the intersection of Main Street and Wall Street, as we navigate the time-sensitive transition to sustainable energy options.