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Photo by: Kari Matsko

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States do not enforce oil and gas extraction regulations EXECUTIVE SUMMARY

EXECUTIVE SUMMARY— A CRISIS IN PUBLIC OVERSIGHT

The U.S. faces a crisis in the enforcement of rules governing the oil and gas industry. The shale gas and shale oil boom has brought an expansion of oil and gas activity unseen in many parts the country since the 19th century. Unfortunately, as this report shows, states are dangerously unprepared to oversee current levels of extraction, let alone increased drilling activity from the shale boom.

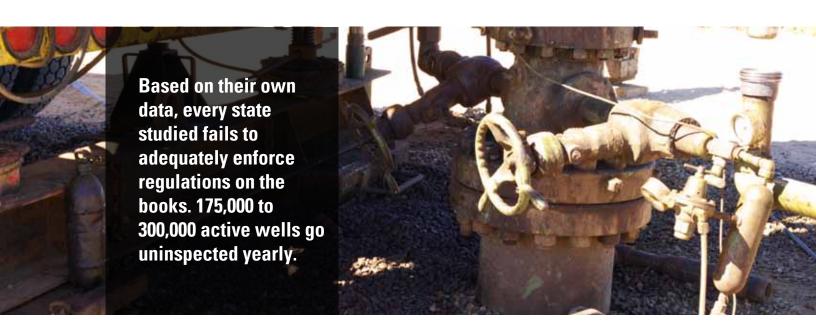
Battles over rulemakings can be intense – stakeholders spend considerable effort to influence the process whenever regulations are created or revised. They do so because they believe that rules matter – that after the rules are created, the government will enforce them. This report reveals, in the case of state oil and gas rules, that is simply not true.

Based on their own data, every state we studied fails to adequately enforce regulations on the books.

Among our findings:

- Every year hundreds of thousands of oil and gas wells 53 to 91% of wells in the states studied (close to 350,000 active wells in the six states in 2010) – are operating with no inspections to determine whether they are in compliance with state rules.
- When inspections do uncover rule violations, the violations often are not formally recorded – and the decision whether or not to record a violation is often left to the discretion of the individual inspector.
- When violations are recorded, they result in few penalties.
- When penalties are assessed, they provide little incentive for companies to not offend again.

The full report examines in detail the current state of oil and gas enforcement in Colorado, New Mexico, New York, Ohio, Pennsylvania and Texas. It also addresses systemic factors that impede enforcement. Woven throughout are commonsense recommendations to fix the problem.



Inspections Inadequately Staffed, ARBITRARILY CARRIED OUT

1

INSPECTION CAPACITY — EGREGIOUSLY LACKING

Overall, and without exception, inspection capacity for each of the six states examined is egregiously lacking.

However, there is significant variation in inspection capacity among the states. Inspectors in New Mexico and Texas have much larger workloads than their counterparts in other states. (See Chart 1 at right.) The average number

of inspections carried out by each inspector in 2010 varied from as few as 154 (New York) to 1,598 (New Mexico). The total number of inspections in Colorado and Pennsylvania was similar (approximately 16,000), but Colorado performed the inspections with one-fifth of the number of inspectors as Pennsylvania.

In all six states, the number of wells that go uninspected each year is immense.

For example, in 2010 Pennsylvania inspectors were unable to monitor more than 82,000 active wells (91% of the state's active wells), Ohio failed to inspect more than 58,000 wells (91% of active wells), and Texas inspectors did not inspect approximately 139,000 wells (53% of active wells). (See Chart 2 at right.)

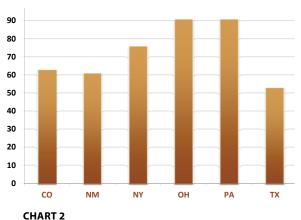
A few states have developed guidelines or made statements regarding how frequently wells should be inspected. For example, Pennsylvania recommends at least five inspections, and New York recently announced it would require at least 13

inspections of each well during the drilling and completion stages, and Pennsylvania recommends at least one inspection per year thereafter for producing wells. Despite the importance of monitoring potential contamination from inactive and plugged wells, no states have explicit requirements for periodic inspections of these wells.

None of the six states come anywhere near to meeting this recommended inspection guideline.

4,500 4,000 3,500 3,000 2.500 2,000 1,500 1,000 500 n СО NM NV ОН PΑ тх

CHART 1
Active wells per inspector, 2011



Active wells, percent uninspected, 2010

Some states, such as Pennsylvania, Colorado, and Ohio, have increased their overall oil and gas agency budgets in response to increased drilling. Even with the budget increases, however, funding remains insufficient to provide for thorough and adequate inspections of oil and gas activities.

Additionally, inspectors are rarely provided with the equipment necessary to catch all of the problems that may be occurring at oil and gas facilities. For example, there may be leaks or air emissions that pose health and safety concerns but cannot be seen and often not smelled. It is possible to instantaneously detect air emissions, but few oil and gas agencies have the equipment to do so.

RECOMMENDATION: Inspection capacity needs to be increased in all states. This can be accomplished by increasing agency budgets, staff numbers, and employee remuneration to retain experienced staff.

RECOMMENDATION: Agencies should establish required minimum inspector-to-well ratios, and annual-inspections-per-well requirements for each stage of well development (including inactive wells, which fail over time). Also, follow-up inspections should be conducted as frequently as is necessary to ensure that violations have been corrected in a timely and complete manner.

RECOMMENDATION: To ensure consistency of inspections across a state, agencies should develop binding inspection protocols on how to carry out inspections, and how to document and respond to violations.

RECOMMENDATION: To ensure that actual operating conditions are observed, the bulk of inspections should not be announced or planned in advance with the operator.

RECOMMENDATION: State agencies should invest in equipment to help inspectors detect emissions from oil and gas facilities as a matter of everyday practice, not as an exceptional procedure.

RECOMMENDATION: Companies should be required to transparently conduct comprehensive and ongoing environmental monitoring of air, water, and soil in order to

detect concentrations of emissions that can damage ecosystems or cause acute or chronic health problems for workers and residents.

RECOMMENDATION: Statistics on inspections and individual inspection files should be recorded in an electronic format that is easy to use and available to the public.

RECOMMENDATION: Agencies should increase fees for permits related to oil and gas development to help cover the costs of inspection, monitoring, and enforcement.

RECOMMENDATION: Oil and gas agencies should continue to press state legislatures to increase agency enforcement budgets. In states where oil and gas severance taxes are collected, oil and gas agencies should request that sufficient funds from this income source be allocated to their agencies to cover enforcement budgets.

PUBLIC INSPECTORS

Citizens living in or near oil and gas fields have the potential to play an important role in aiding agency enforcement staff because they live with the development on a daily basis. Other than workers at a well site or facility, citizens are the ones most likely to notice when problems such as spills and releases occur.

Information gathered for this report suggests that citizen complaints have led to inspections that have, in turn, found violations. Unfortunately, the agency responses to citizen complaints have not always been immediate or thorough, and there may be little or no follow-up with the citizen who filed the complaint. Also, many states do not track citizen complaints in a manner that allows either agency staff or citizens to determine whether or not complaints have been adequately resolved.

Texas prioritizes citizen complaints about active pollution or safety, and requires inspectors to respond, typically within 24 hours. This is just a policy, however, that would be much more beneficial codified as an enforceable regulation so that inspectors would be required to take citizen complaints, pollution events, and other hazards seriously.

States should require minimums for inspector-to-well ratio, and annual inspections per well.



Photo by Nadia Steinzor

RECOMMENDATION: Agencies should be required to maintain publicly accessible complaint databases that include basic information including the operators and/or oil and gas facilities, if an inspection occurred as a result of the complaint, any violations found, any enforcement actions taken, and when and how the complaint was fully resolved.

RECOMMENDATION: Agencies should be required to publish a binding policy that outlines how to respond to citizen complaints (e.g., required response time, follow-up procedures) to ensure fair treatment of all complaints, transparency, and clear communication with the public.

Violations INFREQUENTLY AND UNEVENLY ASSESSED

2

INFORMATION ON OIL- AND GAS-RELATED VIOLATIONS IS POORLY TRACKED IN MOST STATES

In New Mexico and Colorado, information on violations is accessible on a well-by-well basis but statistics on the overall number of violations are not publicly available. In New York no data on violations are available. Texas tracks statistics on violations, but up until this year, statistics were not published in an online, publicly accessible format.

Currently, statistics on violations are not a reliable indica-

tor of non-compliance because not all operators who break the rules are issued violations. For example, in Colorado, even though some inspections are "unsatisfactory," violations of rules may not be recorded. And, if the violations are not recorded, these unsatisfactory inspections become invisible to the public.

New Mexico is particularly troublesome in the discretion afforded to inspectors to decide whether or not to issue a Letters of Violation. Because of this unfettered discretion, operators may receive different treatment simply because their site is visited by inspector X instead of inspector Y, or their well is located in a district A rather than district B.

Largely as a consequence of the discretion in the field and the lack of systematic reporting, there is no clear trend in violations data for the six states examined for this report. Violations have increased in some states, decreased in others, or have fluctuated from year to year with no discernible pattern.

In Pennsylvania, violations have increased in the past few years. Violations had been on the decline in Ohio, but increased in 2011. In both of these states, it appears that when the number of inspections increases, more violations are found.

When is a violation not a violation? When an inspector decides it isn't. Without standard violation issuance, it is impossible to get an accurate picture of operator (non)

compliance.



Photo by Tim Ruggiero

In Texas, the number of violations found by inspectors decreased between 2006 and 2010, but with more than 70,000 violations identified in 2010, it is clear that a very serious problem with compliance still exists. Texas inspectors find more violations per inspection than their counterparts in other states.

What data are available indicate that even where violation reports are routinely made, they are ineffective in getting companies to come into compliance. The data show that companies continue to violate the same rules at many well sites and the same rules get violated year after year.

RECOMMENDATION: Agencies should issue notices of violation whenever rules are broken. If combined with adequate penalties, these could greatly deter potential violators.

RECOMMENDATION: Agencies should monitor and analyze violations data to better understand where to focus their enforcement efforts.

RECOMMENDATION: Agencies should document violations in a consistent manner with clear definitions, and publish statistics and details of violations in a publicly accessible, online, searchable format.

RECOMMENDATION: Agencies should track operators that repeatedly violate rules and/or refuse to resolve problems in a timely manner. Operators that demonstrate a pattern of noncompliance should be singled out for stronger enforcement action.

RECOMMENDATION: When serious violations occur, such as well blowouts, significant chemical spills, waste dumping, or illegal venting, the associated facilities should generally be shut down until the environmental and property impacts are fully remediated.

Enforcement Action/Sanctions INFREQUENTLY ASSESSED AND TOO SMALL TO DETER

3

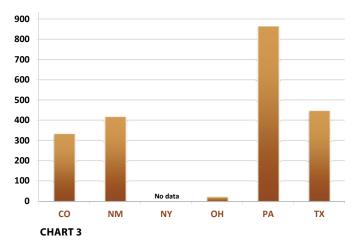
ENFORCEMENT ACTIONS DO NOT APPEAR TO BE CONSISTENTLY APPLIED IN MOST STATES

When violations are found, oil and gas agencies have a variety of enforcement options. These include informal conversations with operators, letters alerting operators to issues of non-compliance, orders requiring operators to come into compliance by a certain date, or the assessment of penalties for violations.

In 2010, for the six states reviewed, Pennsylvania had 866 enforcement actions, Colorado had 332 and Texas had 447 enforcement *referrals* – recommendations to enforce, not actual enforcement actions. Ohio, New York, and New Mexico undertake very few enforcement actions every year. (See Chart 3.)

Although Pennsylvania took the most enforcement actions, the percentage of violations resulting in enforcement action is decreasing in that state as the gas industry expands. In 2008, enforcement action was taken on more than half of the oil and gas violations in Pennsylvania, but by 2011 action was taken on less than a quarter of violations. (See Chart 4.)

Despite the shale oil and gas boom, enforcement actions have not kept pace. The numbers of enforcement actions and total dollar amount in penalties have either remained fairly constant or have dropped in all six states over the past few years. The only exception is Colorado, where penalties collected in 2010 and 2011 increased because a backlog of old enforcement cases was finally addressed.



Number of enforcement actions taken, 2010

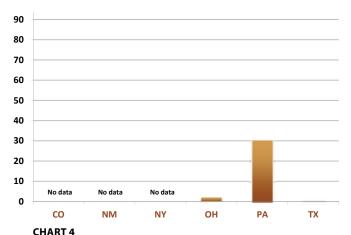
FINANCIAL PENALTIES

One of the enforcement options with the greatest potential to deter irresponsible operators is the financial penalty, i.e. fines.

Data from Texas and Pennsylvania show that numerous oil and gas operators are repeat violators. For example, in 2009 Chesapeake Energy had 123 violations. In 2010, Chesapeake



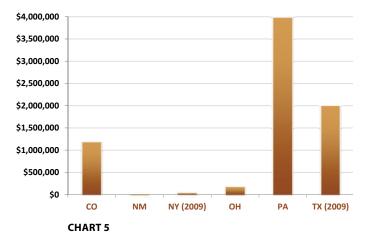
received the largest oil and gasrelated fine in Pennsylvania history, which should have improved Chesapeake's subsequent behavior. However, the next year the company's compliance record actually got worse in 2011 Chesapeake had 161 violations.



Percent of violations for which enforcement action was taken, 2010

The likely reason fines are failing as a deterrent is that the dollar amounts are too low. In 2010 Pennsylvania and Colorado collected about a million dollars each in total penalties. Ohio, New York, and New Mexico each collected less than \$200,000. Penalty data for 2010 could not be found for Texas, but in 2009 the state collected more than \$2 million in penalties from oil and gas violations. (See Chart 5.)

To illustrate this issue, the value of the gas from one average Marcellus shale gas well is \$2.9 million.\(^1\) So, the value of the gas in one well is greater than the total penalties collected by each state in 2010. And in 2010 there were between 10,000 and 260,000 active wells in each state we studied. So there is no financial incentive in the current value of the fines to operate wells in a more responsible manner – it is cheaper to simply accept a small fine and keep on operating without change.



Penalties collected for violations, 2010/2009

The explanation for these low fine totals: maximum penalties are set by outdated state statutes.

New Mexico has not updated its penalty schedule since 1934, while many other states have not changed penalties in the past few decades. Pennsylvania recently increased the maximum penalty for violations at

There is no financial incentive in the current value of the fines to operate wells in a more responsible manner – it is cheaper to pay the fine and keep on operating without change.

unconventional oil and gas wells from \$25,000 to \$75,000 plus \$5,000 for each day that the violation continues. It is too soon to know if the increase will improve operator compliance.

RECOMMENDATION: Agencies should develop policies that set the appropriate enforcement action for different types of violations, and require all inspectors to consistently adhere to these policies. Policies should include escalating penalties/enforcement for operators who repeatedly violate rules and multiple offenses of the same type, and possibly mandatory enforcement actions for significant violations.

RECOMMENDATION: Agencies should codify their penalty schedules to reduce the discretion used in assessing the amount of a fine.

RECOMMENDATION: Penalties must be increased so that they are sufficient to deter future violations. Penalty amounts should include the following considerations: the actual impact of the type of violation in question (e.g., permanent damage to drinking water supplies or wildlife habitat), the true subsequent cost to the public with regard to remediation and continued oversight, and the economic value that would have been realized by the operator had the violation gone undetected.

RECOMMENDATION: Agencies should publicize significant penalties to highlight bad actors, as a means of deterring other companies from violating the rules.



¹ EIA 6/2012 wellhead price: \$2.54 per 1,000 cubic feet. http://www.eia.gov/dnav/ng/hist/n9190us3M.htm USGS 7/2012 mean "estimated ultimate recovery" of an Interior Marcellus well: 1.158 billion cubic feet http://pubs.usgs.gov/of/2012/1118/OF12-1118.pdf

OPERATION SUSPENSION/PREVENTION

In addition to penalties, most states have even stronger tools to deter violations:

- The power to suspend operations where violations occur; and
- The power to prevent an operator from receiving new permits to drill when they control other operations that are in violation of the rules.

These tools are more powerful because they stop revenue generation. Wells that can't produce gas also can't generate revenue. And an operator who can't receive new permits will have a much harder time attracting new investment capital.

"Bad actor" rules prevent operators in violation at one operation from receiving new permits to drill at other locations. Pennsylvania and Colorado have this provision, although there are constraints on its use. For example, in Colorado there has to be evidence of a "knowing and willful pattern of violation." Even with this threshhold, however, Colorado regulators have denied some operators new permits to drill.

Most states in this review have some form of regulatory power to suspend operations at a site that is in violation of the rules. These powers can take different forms, including

- Cease and desist orders that leave the operating permit and lease intact,
- Powers to suspend, modify and revoke the permit but leave the lease intact, and
- The power to sever the operator's underlying lease.

Although these powers exist, all states we examined that have them have two things in common: 1) They use them very rarely and 2) The decision making process through which they are used is largely hidden to the public.

RECOMMENDATION: Agencies should send a clear message that non-compliance will not be tolerated by making greater use of the range of enforcement tools at their disposal. All states must have the power to shut down production and the ability to suspend or modify existing permits and deny new permits until an operator's existing wells are in compliance.

RECOMMENDATION: To increase the deterrence value of these enforcement actions, agencies should track and publicize the use of cease and desist orders, shutting-in of wells, and placing holds on permits, and make data on these actions publicly available.

CITIZEN ENFORCEMENT

In most states, citizens lack the statutory right to challenge companies that fail to comply with oil and gas rules. Although these "citizen suit" provisions exist in many federal laws, and have been used effectively to stimulate better compliance, they are notably absent in the majority of state environmental laws. This point is especially critical in light of the lack of adequate enforcement staffing and resources available to state agencies.

Other issues that act as barriers to citizen involvement in enforcement efforts include a lack of cooperation between state agencies and citizens, intimidation by industry representatives of citizens who try to document problems or publicly express concerns with industry practices, and lack of training that would enable citizens to spot and properly document violations. Additionally, the inaccessible nature of key information (e.g., data on oil and gas permits, wells, and enforcement and compliance records) can make it difficult for citizens to monitor operations or conduct thorough file reviews in order to make objections or push for enforcement in specific cases.

RECOMMENDATION: States should add citizen suit provisions to oil and gas statutes and environmental statutes that pertain to oil and gas operations. This would enable citizens to hold companies accountable for following rules to protect the environment, public health and safety, and, in turn, facilitate the prevention and remediation of damage caused to individuals and property.

Inaccessible enforcement data inhibits the public from knowing about risks to their communities; watchdogging regulatory agencies; and pressuring operators to comply with the law.



Other Factors IMPEDING ENFORCEMENT

4

STAFFING ISSUES

The relationship between oil and gas agency staff and the industry they regulate is often very close. In some states, agency employees are even allowed to receive small gifts from oil and gas companies. This issue, as well as the movement of employees between public oil and gas agencies and private companies raises questions as to the impartiality of state regulators – and thus their ability to fully hold violators accountable.

Relatively low agency salaries are a serious problem in many states, and act as a barrier to enlisting and retaining

experienced inspection and enforcement staff. There are many examples of agency employees who have opted to leave government for higher-paying industry jobs. This represents not only a loss of institutional knowledge; it also wastes taxpayer dollars that have been invested in training these public servants. Clearly, state agencies need to increase their staffing budgets in order to hold on to valuable employees, for without experienced staff, inspection and enforcement programs cannot be effective.

RECOMMENDATION: To avoid conflict-of-interest issues, oil and gas inspectors and enforcement staff should not be allowed to receive gifts from oil and gas companies or employees.

RECOMMENDATION: Laws should prohibit past employees of oil and gas agencies from representing or assisting private companies with matters relating to the agency. Ex-agency staff should also be restricted from disclosing the state's con-

fidential information to their private sector employers.

RECOMMENDATION: Enforcement staff wages and benefits should be increased to make public employment more competitive.

DATA TRACKING AND TRANSPARENCY

In 2011, the Texas Sunset Commission criticized the RRC for its poor tracking of serious violations and repeated violations by the same operator, writing that without this type of information, "the Commission cannot determine or ensure effective and consistent enforcement across the state." The same poor tracking and record-keeping was found in all states examined in this report.

Not only are resources needed for better tracking of violations, there is also a need to improve data collection and reporting of inspections, penalties, enforcement actions

and citizen complaints to enhance transparency and public accountability.

RECOMMENDATION: Agencies need to document, track, and publish annual or quarterly statistics on inspections, violations, penalties, different types of enforcement actions, and complaints.

RECOMMENDATION: All data on inspections, violations, penalties, enforcement actions and complaints should be made publicly available through searchable, downloadable, online databases. Only then can the public analyze aggregate data, look up specific cases, and determine resolution of violations or complaints.



Without expert, independent staff, regulatory enforcement cannot be effective.

BIAS TOWARD OIL AND GAS PERMITTING, NOT ENFORCEMENT

During oil and gas booms, state agencies typically come under pressure from the oil and gas industry (as well as some elected officials) to expedite permits for drilling and other oil and gas development processes. By reducing the time spent on reviewing permits, agencies are less likely to consider site-specific permit conditions, which could ultimately impede enforcement actions.



The bias is toward permitting at the expense of enforcement.

For example, in Pennsylvania the total review time for a drilling permit can be as short as 35 minutes. Such a cursory review leaves little time to consider and include necessary permit provisions or technical requirements to protect public health and the environment. In Pennsylvania, citizens have conducted research and file reviews that have exposed deficiencies in permits. But citizens do not have the resources to review all permits, nor should they be doing the work that agencies are charged to do.

RECOMMENDATION: Agencies should focus on a thorough review of permits and specific conditions related to the permit, including provisions that can be enforced or that are

more likely to result in regulatory violations, rather than focusing primarily on expediting permit approvals.

RECOMMENDATION: Agencies should require permitting staff to communicate with inspections staff and/or consult agency databases on inspections, violations, and enforcement actions to ensure that a company's history of compliance is given full consideration during the permitting process.

BURDEN OF PROOF

When violations of oil and gas rules involve pollution, state agencies or citizens often have to expend financial resources to conduct sampling and monitoring to show that industry impacted air, water, or health. In the absence of baseline information, these cases can be notoriously difficult to prove, and the industry is able to draw on a cadre of its own scientists to dispute data generated by agencies, independent labs, or citizen monitoring.

Furthermore, a high burden of proof is often placed on state agencies seeking to use some of their enforcement tools. For example, some enforcement actions may only be taken if there is an emergency situation or it can be shown that the violation is causing imminent danger to health and safety. This heavy burden of proof also falls on citizens who have experienced health impacts, or damage/contamination of their property - most citizens do not have the resources to scientifically prove health impacts or contamination of well water. Until there is a shift in the burden of proof requiring industry to prove that they have not caused harm, or at least a decrease in that burden, state agencies will not be able to fully use the enforcement tools available to them, citizens will be left with little recourse, and the bad industry actors will continue to get away with practices that harm human health and the environment.

RECOMMENDATION: Changes should be made to regulations to reduce the burden of proof that must be met before agencies can take enforcement action against operators that violate oil and gas rules.

RECOMMENDATION: Companies should be required to conduct pre-and post-drilling water (quality and quantity), air and soil monitoring. This baseline data should be submitted to oil and gas and other relevant agencies (e.g., environment departments), and be made publicly available so that it can be reviewed and utilized by citizens.

Photo by Sharon Wilson



The Path Forward

This report shows that states across the nation are betraying one of the basic agreements between government and the governed: to enforce the law. That betrayal feeds into the growing lack of confidence that government should be about equal treatment and not about financial or political clout.

This betrayal of the public interest also severely weakens state claims that they can protect the public from the impacts of the shale boom. A rule – even an improved rule – on the books means little if an oil or gas company knows that it can be ignored with little or no consequence.

To address the problem we call upon states to take the following steps:

1. ACKNOWLEDGE THAT PUBLIC HEALTH IS AT RISK BECAUSE STATE ENFORCEMENT OF EXISTING OIL AND GAS RULES IS BROKEN:

- More than half of all wells go uninspected year: hundreds of thousands of wells.
- Those companies that are found in violation are rarely penalized: ambiguous policies and rules leave the consequence for violations unclear to the public, companies and inspectors. Consequences appear to vary violation by violation.
- Penalties are so weak that it is cheaper for violators to pay the penalty than comply with the law.

2. FIX STATE ENFORCEMENT BY MAKING COMMON SENSE POLICY AND REGULATORY CHANGES:

- Writing into rule the minimum number of inspections/inspectors per number of wells, and providing adequate money and equipment to perform the inspections.
- Establishing clear rules so inspectors, companies, and the public know when operators are in violation, and the consequences.
- Formalize the public's role in enforcement, including sharing information
 with the public and allowing citizen suits. The public lives with gas development in their communities they often know of violations before anyone
 else, including inspectors.

3. UNTIL STATE ENFORCEMENT IS FIXED, REFUSE NEW PERMITS TO DRILL:

 Oil and gas regulations are the law of the land. Oil and gas extraction is permitted on a well-by-well basis, conditioned upon compliance with the law. Until states can demonstrate in good faith that they are upholding the, they cannot maintain the public trust if they continue to permit new drilling. A rule – even an improved rule – means little if an oil or gas company knows that it can be ignored with little or no consequence.











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