

# EXECUTIVE SUMMARY

## VIOLATIONS OF WATER QUALITY STANDARDS FROM GAS PRODUCTION IN ARKANSAS





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**Find the full report at [www.ARPANEL.org](http://www.ARPANEL.org)**

*Front cover:*

*Arkansas Department of Environmental Quality inspection form.*

*One of several roll-offs used for the transportation of oil-based mud with mud accumulations on top.*

*All photos are pulled from ADEQ inspection reports.*

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# EXECUTIVE SUMMARY

A new analysis of state inspection records from natural gas drilling and production sites in the Fayetteville Shale contains several startling revelations:

- » The industry is responsible for widespread violations of Arkansas clean water standards;
- » Companies are not following their own standards and best management practices in most cases;
- » The Arkansas Department of Environmental Quality is doing little to enforce these violations or ensure corrective actions are taken to protect water supplies.

Over five hundred individual violations of water and other environmental laws were found in 289 inspections of natural gas drilling and production sites between July 2006 and August 2010. Significant pollution issues were contained in three-quarters of the inspections with violations. Gas companies were out of compliance 54 percent of the times they were inspected. Only 538 inspections were conducted over the four-year period. Violation rates are high for several companies who claim to follow best management practices that are more stringent than state laws.

Inspections were made because of complaints or reports of incidents, or during routine inspections. Violations were found in more than half of the 247 routine inspections, which emphasizes the importance of frequent routine inspections. If this trend is also true of all uninspected wells during the reporting period, over 1700 wells in Arkansas may have had unreported, continuing violations that put public health, water and air at risk.

In the case of incident reports and complaints, ADEQ met their goal of a 48-hour response time in only 52% of inspections.

The inspection reports that reveal violations seldom include any information on whether violations were remediated or what enforcement actions were taken by

ADEQ, such as penalties for violations or evidence of increased scrutiny of the violator's other operations. In fact, ADEQ conducted only nine follow-up inspections despite more than 500 violations over the four-year period.

More than 3,000 current gas wells in Arkansas need more oversight, including associated compressor stations, waste disposal sites and thousands of miles of new roads and pipelines. Thousands more wells are planned. Four new inspectors were added in 2011 to help with the workload, but they are obligated first to oversee drilling activity on Arkansas Game and Fish lands, which are better protected than private lands.

This report adds evidence that Arkansas needs stronger protections for clean water, more manpower and more resources to adequately inspect the current natural gas drilling operations throughout the Fayetteville Shale Play. Further, the Arkansas Department of Environmental Quality needs a stronger commitment to robust inspection and enforcement to protect the state's water resources.



***Oily waste under a frac tank from a spill or leak.***

## Recommendations

1. ADEQ should inspect each well site, compressor station, pipeline, injection well site, land farm and other industry facility at least once annually. Every violation should trigger mandatory follow-up inspections and increased inspections of the violator's other facilities within the state. Repeat violations should result in revocation of permits and a ban on future permits to operate.
2. ADEQ should improve its records so that inspection reports include all information about follow-up remediation and enforcement actions taken as a result of the inspection.
3. ADEQ should create and file an annual report with the Joint Performance Review Committee of the Arkansas Legislature detailing inspections performed, violations found, remediations ordered, and other sanctions proposed and enforced. The report should be easily accessible to the public.
4. ADEQ's oversight of the oil and gas industry should reflect industry growth to ensure that clean air and water are protected for the benefit of all Arkansans.
5. ADEQ should increase cross-training with Arkansas Oil and Gas Commission (AOGC) so that AOGC inspectors can assist ADEQ with environmental impact inspections.



*Leaking reserve pit with improper lining.*



*Correctly lined reserve pit with over 2 feet of freeboard.*

# INTRODUCTION

The Arkansas Department of Environmental Quality (ADEQ) creates and enforces standards to protect clean air, water and land in Arkansas. It provides oversight for every major industry, including the natural gas industry. This report aims to analyze the effectiveness of its current inspection and enforcement regime in regulating the natural gas industry.

All complaint, inspection and enforcement files for gas operations within the Fayetteville Shale from 2006 through 2010 were requested from ADEQ. A few of the files received were from outside the Fayetteville Shale area. Each of the 538 files were recorded in a database and analyzed as a whole to create the following report, which provides an assessment of violations and agency response over the past four years. The report shows that the natural gas industry is not operating as responsibly as it claims.



*Oil field waste discharging from a drilling pad into a tributary of aptly named Bad Luck Creek.*



*Drilling fluids running off of a well pad.*



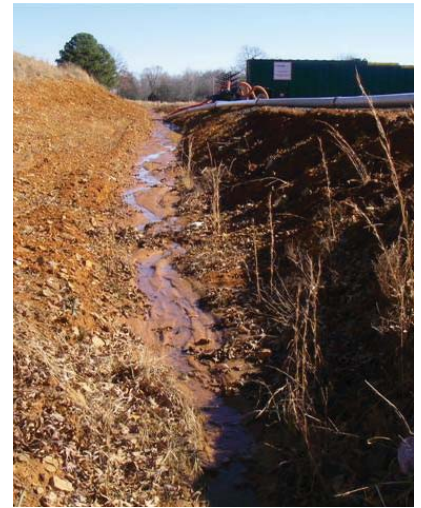
*A pipe running from a well pad discharges fluid into a drainage ditch.*



***Drilling mud leaking from tanks at a land farm that has since been shut down.***



***Spill observed on pad.***



***Sediment erosion from north edge of the pad.***



***Drilling fluids leaked or spilled on the ground.***



***Sediment erosion from west edge of the pad.***



***Evidence of sediment runoff west of pad continues into grassy field.***

## **Commissioned and Released by the Arkansas Public Policy Panel**

**The Panel** is a statewide 501(c)(3) organization dedicated to achieving social and economic justice by organizing citizen groups around the state, educating and supporting them to be more effective and powerful, and linking them with one another in coalitions and networks. The Panel seeks to bring balance to the public policy process in Arkansas.

Research assistance for this report was provided by **Stephen S. Gross**, and Panel interns **Acadia Roher** and **Jane Derrick**.

***Back cover photo:***

***Unauthorized reserve pit, improper waste disposal.***

*Arkansas Department of Environmental Quality investigation report.*

