

# Basic Forensic Watershed Monitoring Procedures

How to recognize, document and report  
possible violation of environmental laws

# Goal

To educate the general public in becoming a useful extension for regulatory and/or enforcement bodies...

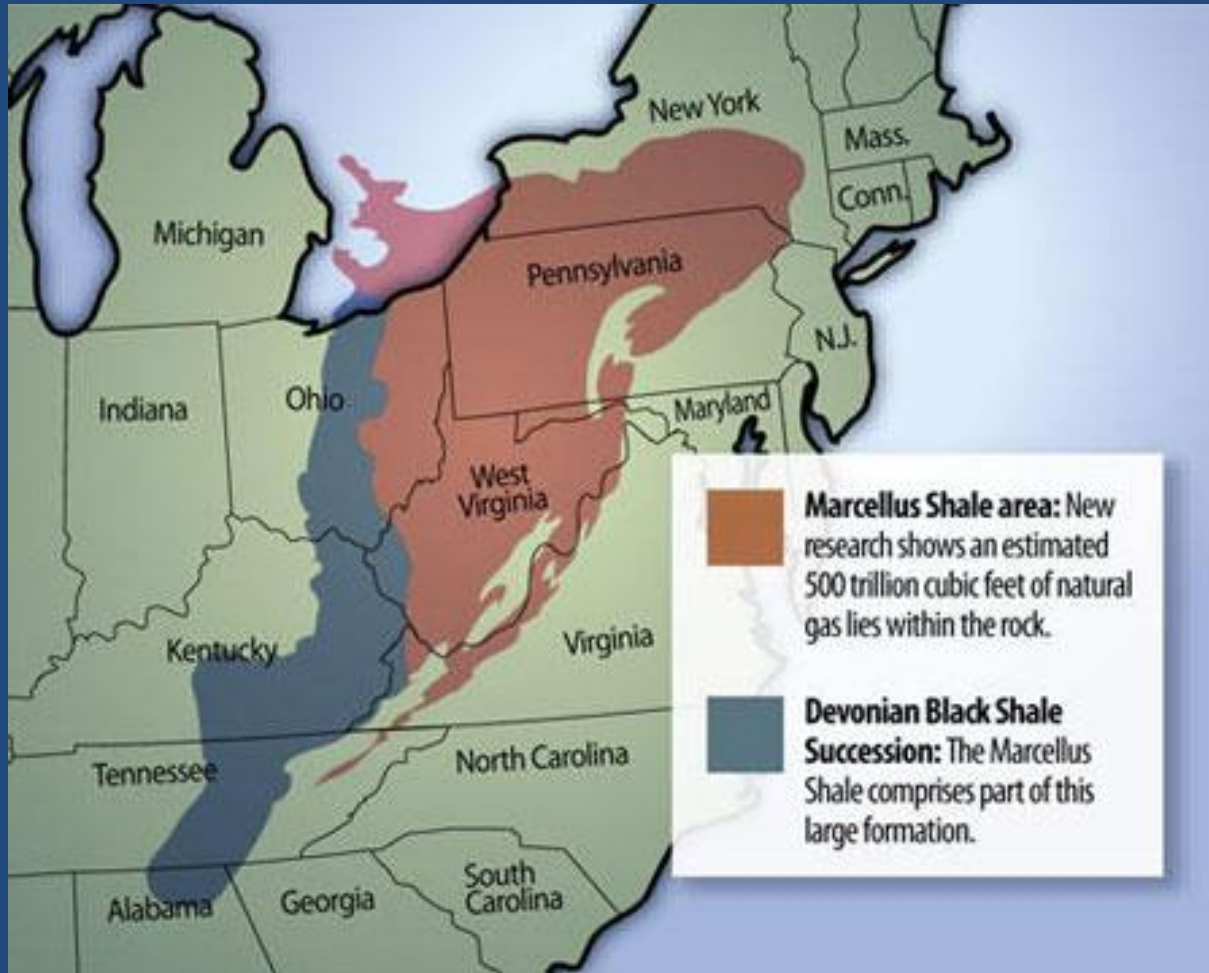


# Overview

- The Gas Industry
- Regulation and Enforcement
- Observational Skills
- Documentation



# Gas Drilling Primer

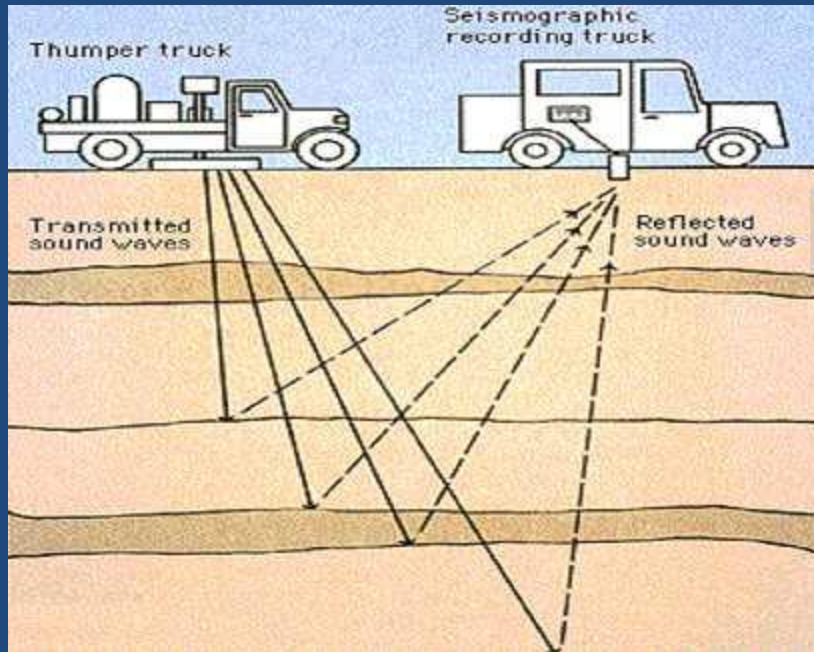


# What Are They Doing and Why?

- Resource Identification
- Test Well
- Production Well:
  - Including fracturing and related infrastructure
    - Pipelines, compressors, condensate collectors, storage, chemicals, housing and offices...etc.



# Resource Identification



Thumper Truck

# Drilling Rigs



- A "triple rig" is able to put three joined 30-foot lengths of drilling pipe (a 90-foot stand) into a gas well at once
- These 1,000-horsepower drilling rigs have typically been drilling down over 1-1/4 miles (6,700 feet) and then horizontally over 1/2 mile (3,000 feet) to reach Marcellus Shale gas

# Operation Facilities



## MOBILE HOMES AND OFFICES

- These and other trailers will hold personnel and supplies for 24 hours a day, 7 days a week drilling operations

# Water...and Chemicals



- Frac tank



# Drill Pad Development



# Regulation and Enforcement

NYS Department of Environmental Conservation Division of Mineral Resources

- Drilling Regulations and Inspections
- Environmental Law Violations
- Spills & Discharges
- Well Spacing
- Gas Storage



# Regulation and Enforcement

NYS Department of Public Services

- Gas Pipeline Routing and Safety

Soil and Water Conservation District

- Stormwater Controls

NYS Department of Public Health

- Drinking Water Concerns

Susquehanna River Basin Commission

- Water Withdrawals



# The Educated Observer

1. Do not put yourself in danger.
  - Don't wade in flooding streams because you think someone is dumping something
  - Don't stick your finger or hands in unknown substances
  - Be non-confrontational if approached
  - If asked, explain who you are and why you are there
  - If violence seems imminent, get out of the situation and make appropriate contacts

# The Educated Observer (cont.)

2. Treat others as you want to be treated.  
Follow the law. Do not trespass. Do not cut gates or otherwise damage property.
3. Know the difference between illegal and legal activities. A truck removing water from a stream may not necessarily be illegal, depending on its end use and quantity.

# The Educated Observer (cont.)

4. Do not drive around trying to find something. You will know when something “isn’t right,” such as a water truck driving around in the middle of a hayfield at 3am.
5. Don’t cry wolf. DEC will have to address each and every complaint filed. If false alarms are reported, DEC staff could be removed from addressing real problems. Get evidence, get corroboration, then report.

# The Educated Observer (cont.)

6. Be a resource for others. Encourage others to get involved. The more eyes and ears involved, the more we will see and hear.
7. Expect the unexpected. Report emergencies immediately.
8. Have fun!

# What You Will Be Looking For:

1. Company name  
(this may be a subcontractor for the company)
2. License plate #,  
placards, or other  
ID #s on truck



# What You Will Be Looking For:

3. Location – as detailed as possible (crossroads, mile markers, lat/long coordinates)



# What You Will Be Looking For:

4. What you saw...  
Write it down!



# What You Will Be Looking For:

5. Photographs,  
preferably  
with time and  
date stamp.



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# What You Will Be Looking For:

## 6. Water or soil samples (if available or accessible)

### Dunkard Creek

*The Pennsylvania Department of Environmental Protection on Friday said more than 30 miles of the stream have been damaged by the discharge. It has killed 18 species of fish and at least 16 species of freshwater mussels, including the salamander mussel and the snuffbox mussel -- both candidates for federal listings as endangered species.*



## 7. How and who to contact.

# Reporting Flow Chart

Is there eminent threat to human life or property?

**CALL 911**

Is there a discharge to a stream or land surface or a chemical spill?

**Call the DEC 24-hour Spill Hotline 1-800 457-7362**

Is there concern that conservation practices are not being implemented or maintained properly?

**Call Otsego Soil & Water Conservation District 547-8337**

After you have called all the proper authorities make sure you contact the **Otsego County Conservation Association** to let them know you have observed an incident for follow up! **547-4488**

Remember all these agencies and organizations are already working to their maximum and resources are stretched, so **BE SURE YOU HAVE A VALID COMPLAINT OR VIOLATION**

**DO NOT CRY WOLF!**

**IF IN DOUBT, GET CORROBORATION FIRST!**

# Credits

## *Special Thanks to:*

### *Pine Creek Headwaters Protection Group*

[www.catskillmountainkeeper.org](http://www.catskillmountainkeeper.org)

[www.propublica.org](http://www.propublica.org)

[www.shaleshock.org](http://www.shaleshock.org)

[www.powernaturally.org](http://www.powernaturally.org)

[www.marcellus-shale.org](http://www.marcellus-shale.org)

[www.un-naturalgas.org](http://www.un-naturalgas.org)

[www.northcountrytrail.org](http://www.northcountrytrail.org)

Bob Donaldson/Post-Gazette

[splashdownpa.blogspot.com](http://splashdownpa.blogspot.com)

[www.dec.ny.us](http://www.dec.ny.us)

[www.occainfo.org](http://www.occainfo.org)

\* COMPLETE LIST ON FILE IN OCCA OFFICES

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