

# **Another View of Marcellus Development**

Gregory H. Sovas - XRM, LLC  
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# Three Topics

- Hydrofracture debate – what is new?
- Economic development impacts in NY and Pennsylvania
- Division of Mineral Resources – a potential bottleneck

# NY's Oil and Gas Regulatory Program

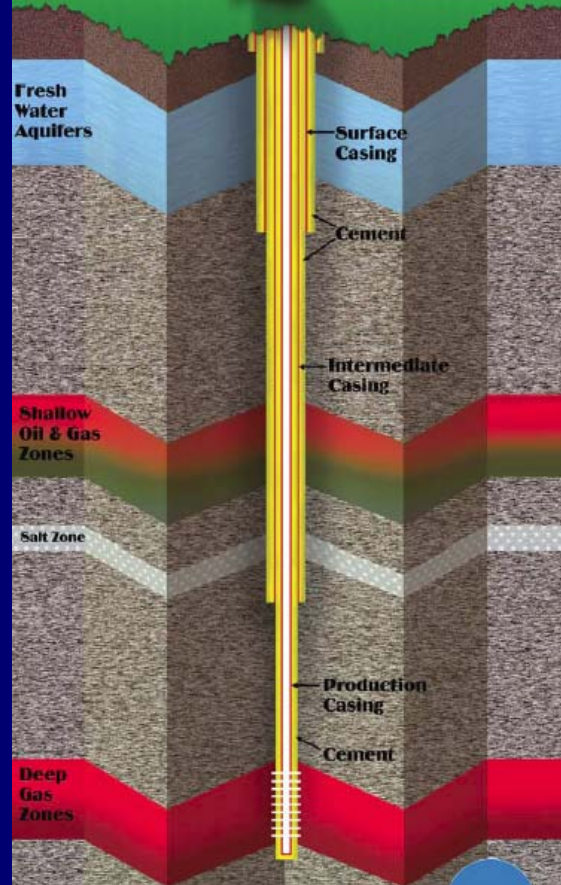
- Developed as a groundwater protection program
- All wells are cased and cemented through freshwater zones since early 80's
- Cementing of any well drilled in primary aquifer is witnessed by DEC

# Groundwater Protection

## Well Casing and Cementing Program

The Division of Mineral Resources' well casing and cementing regulations provide for the protection of the State's fresh water aquifers

Regulations require that wells be constructed and operated to prevent the movement of oil, gas or water from one zone to another



New York State Department  
of Environmental Conservation

XRM, LLC



Therefore, the injected fluid does not come into contact with groundwater; it is, in fact, injected into and recovered through a wellbore that has been specifically constructed to safely convey hydrocarbons under pressure to the surface without negatively impacting fresh water aquifers. The Department has ***no record of any documented instance of groundwater contamination caused by hydraulic fracturing for gas well development in New York, despite the use of this technology in thousands of wells across the state during the past 50 or more years.***

New York State Department of Environmental Conservation  
Division of Mineral Resources  
Bureau of Oil and Gas Regulation

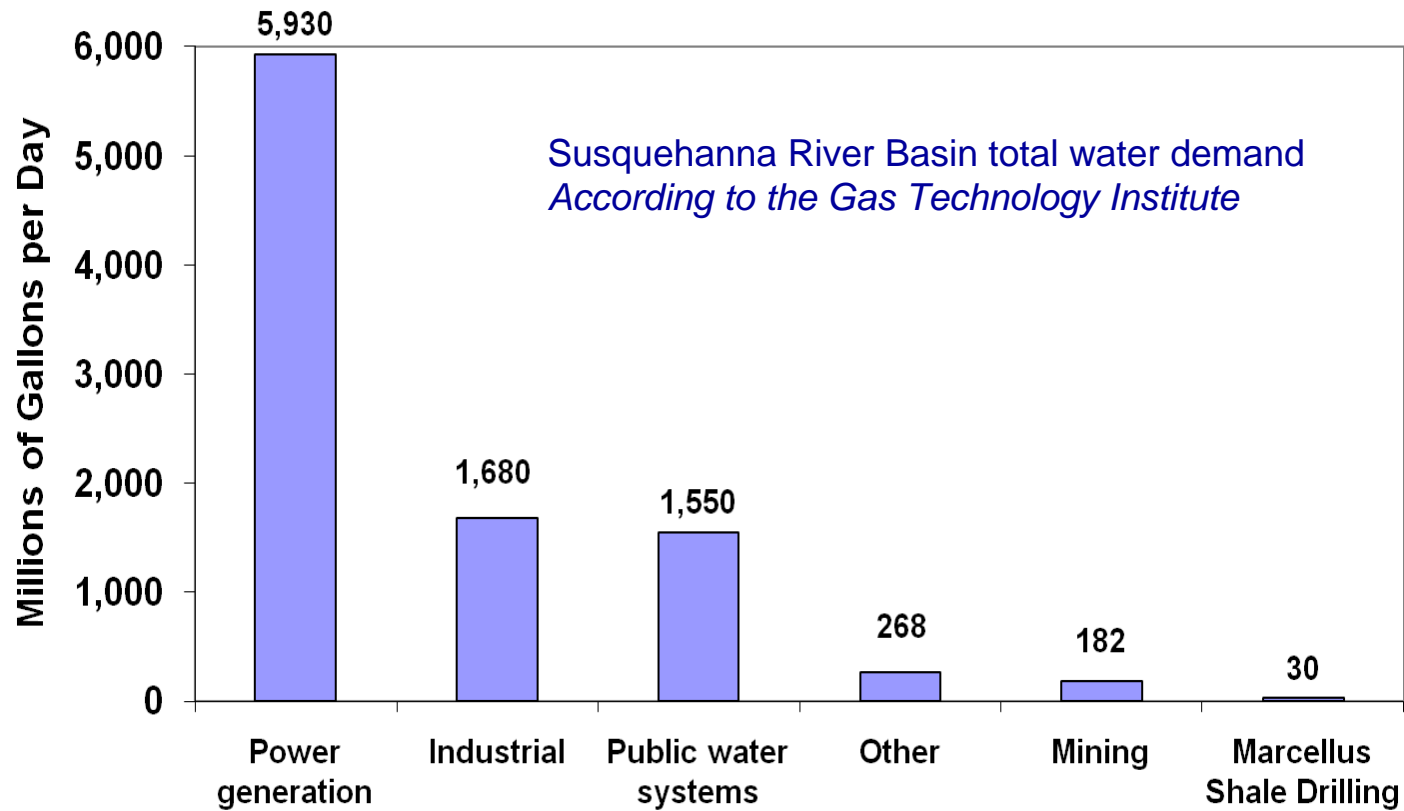
# Hydrofracture Chemicals Disclosure Issue

- Now companies calling for disclosure – Chesapeake, Range
- Schlumberger calling for disclosure from their suppliers
- Environmentalists calling for disclosure
- NY mandating disclosure
- Put issue at rest

# What Has Changed?

- Scope of operations has changed:
  - Water supply for frac operations
  - Frac water recycling and disposal
  - Logistics of storing and moving water and spent fluids
  - Overall development of the resource
  - Impacts to municipalities
- Issues that are being addressed

# Water Usage in PA



# SEIS Process

- Process should not overwhelm decision-making
- Needs to progress to conclusion
- Investment in NY must be allowed to proceed
- NY needs to capture benefits immediately

# Outstanding Work and Cooperation for NY

- Division of Minerals Scope thorough and professional
- SEIS extremely comprehensive and very well done
- NYSERDA complemented efforts
- State Museum (NYGS) in providing technical papers, data

# IOGA of NY Education Efforts

- Conducted series of meetings around state to educate public, landowners
- Held Lobby Day to inform legislators
- Hired public relations firm to assist
- Created dvd's for public education effort
- [www.marcellusfacts.com](http://www.marcellusfacts.com)



# Penn State Economic Study for PA

- "An Emerging Giant: Prospects and Economic Impacts of Developing the Marcellus Shale Natural Gas Play"
- College of Earth and Mineral Sciences
- August 2009
- Prepared for Marcellus Shale Committee

# Penn State Findings

2008 and 2009

- \$2.3 - \$3.8 billion in total value added
- \$240 - \$400 million in state and local taxes
- 29,000 - 48,000 jobs

# Penn State Projections 2020

- \$13.5 billion in value added
- 175,000 jobs
- 4 billion cubic feet of production per day
- Present value of additional state and local taxes from now and 2020 is almost \$12 billion!

# Fortuna Investment

- Spent \$500 million to acquire companies, leases, lands in NY and PA
- Drilled extensively in Trenton- Black River
- Built new headquarters in Horseheads
- No one in “Albany” recognizes money being spent by oil and gas firms

# Schlumberger Investment

- Locating major facility in NY to service NY and PA
- 88 acres in industrial park, Horseheads
- \$30 million facility
- Had difficulty securing local approvals
- Investment means long term commitment for Marcellus

# Potential Economic Development in NY

- IOGA of NY annual estimates (July 2009):
  - 300 wells drilled
  - 1,500 disturbed acres
  - 1,000 MCF daily (very conservative)
  - Total well capital \$600 million (likely low)
- Only Marcellus development

# Potential Economic Development in NY (cont.)

- \$108 million annual landowner royalties at 12.5% (conservative)
- \$20 million real property taxes
- \$33 million state tax revenue (corporate & income tax on royalties)
- Community multiplier of 2

# Total Annual Economic Impact from NY Marcellus

- \$1.4 billion annually (sum of well capital and royalty times community multiplier)
- Very conservative numbers
- Does not account for ancillary new businesses created beyond multiplier
- Impact will be cumulative

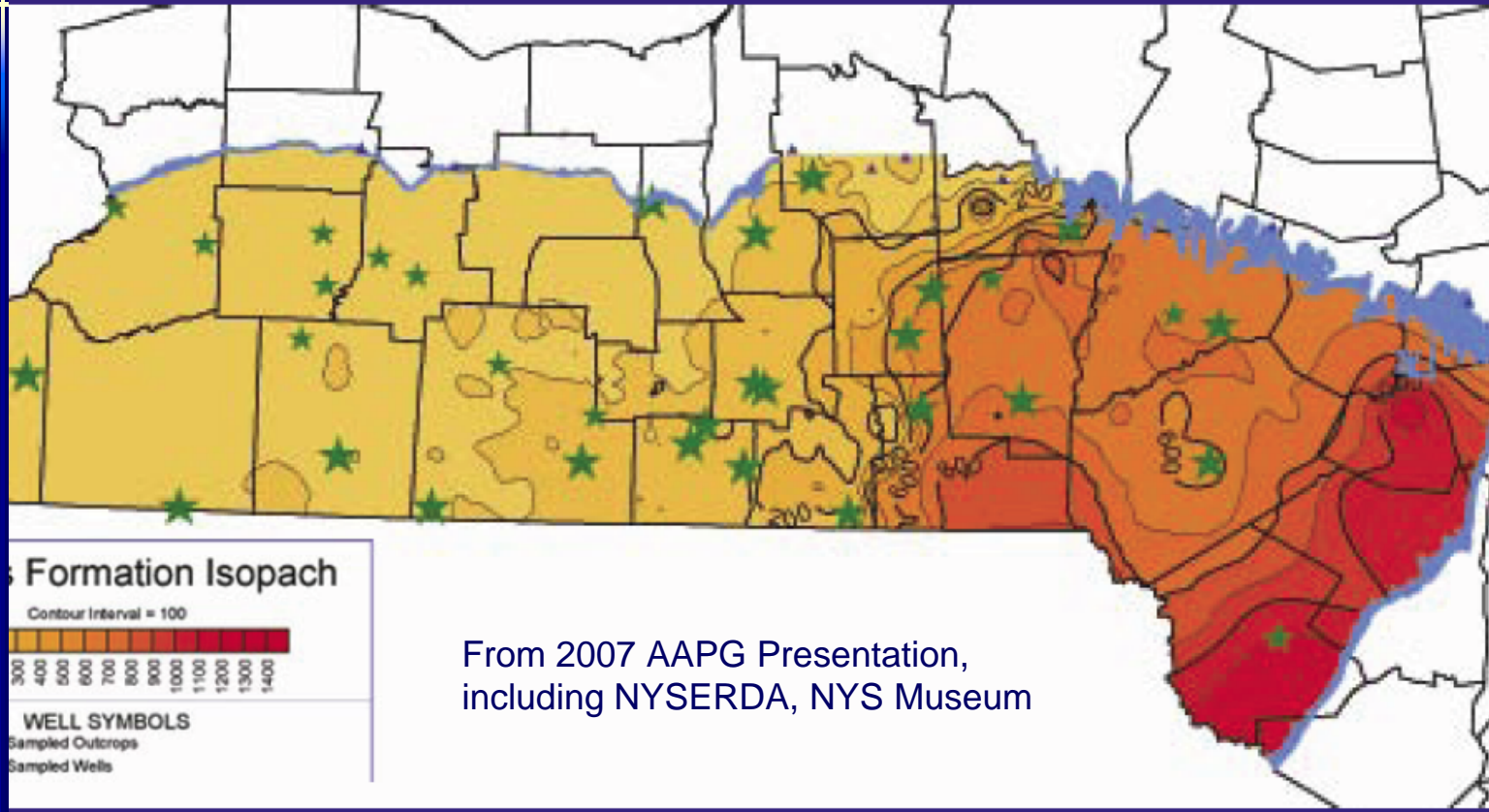
# New Employment from Marcellus Development

- Engineering, surveying, construction
- Aggregates and earthmoving
- Equipment manufacturing & service
- Environmental permitting
- Water transport/wastewater recycling
- Legal, accounting, other professional services

# Counties, Towns, Landowners need Closure

- SEIS needs to be finalized
- Gas companies want to invest in new wells here
- Development taking place in depressed areas of the state
- Landowners desperate for cash
- Keep farms as farms, open space

# Marcellus Isopach



From 2007 AAPG Presentation,  
including NYSERDA, NYS Museum

# Division of Mineral Resources

- Smallest division in the NYSDEC
- Highly professional staff
- Mandate to protect environment and correlative rights of landowners
- Two major regulatory programs – MLRL and OGSML
- Oil and gas field staff on 24 hours

# Division Needs Help

- Will become major bottleneck impeding development
- State must recognize need to staff
- Understand budget problems, but economic development too important
- Need 10-30 staff
- Without staff, subject to criticism

# Marcellus Natural Gas Development

----- May be the greatest economic development opportunity in depressed areas of the state that we will see in our generation -----

- No environmental compromises
- Produce clean-burning natural gas
- NY landowners deserve to share in the wealth, particularly in depressed areas