

# Hydraulic Fracturing for Gas and Oil in Virginia

David B. Spears  
State Geologist

Virginia Department of Mines, Minerals and Energy





# Code of Virginia §62.1 – 195.1

- “...a person shall not drill for oil or gas in Chesapeake Bay or any of its tributaries.”
- No drilling in Chesapeake Bay Preservation Areas designated by local government
- No drilling within 500 feet of the bay or any of its tributaries

# Natural Gas in Virginia – Quick Facts

- 7900 producing wells
- Annual production 150 Bcf
- Ranked #16

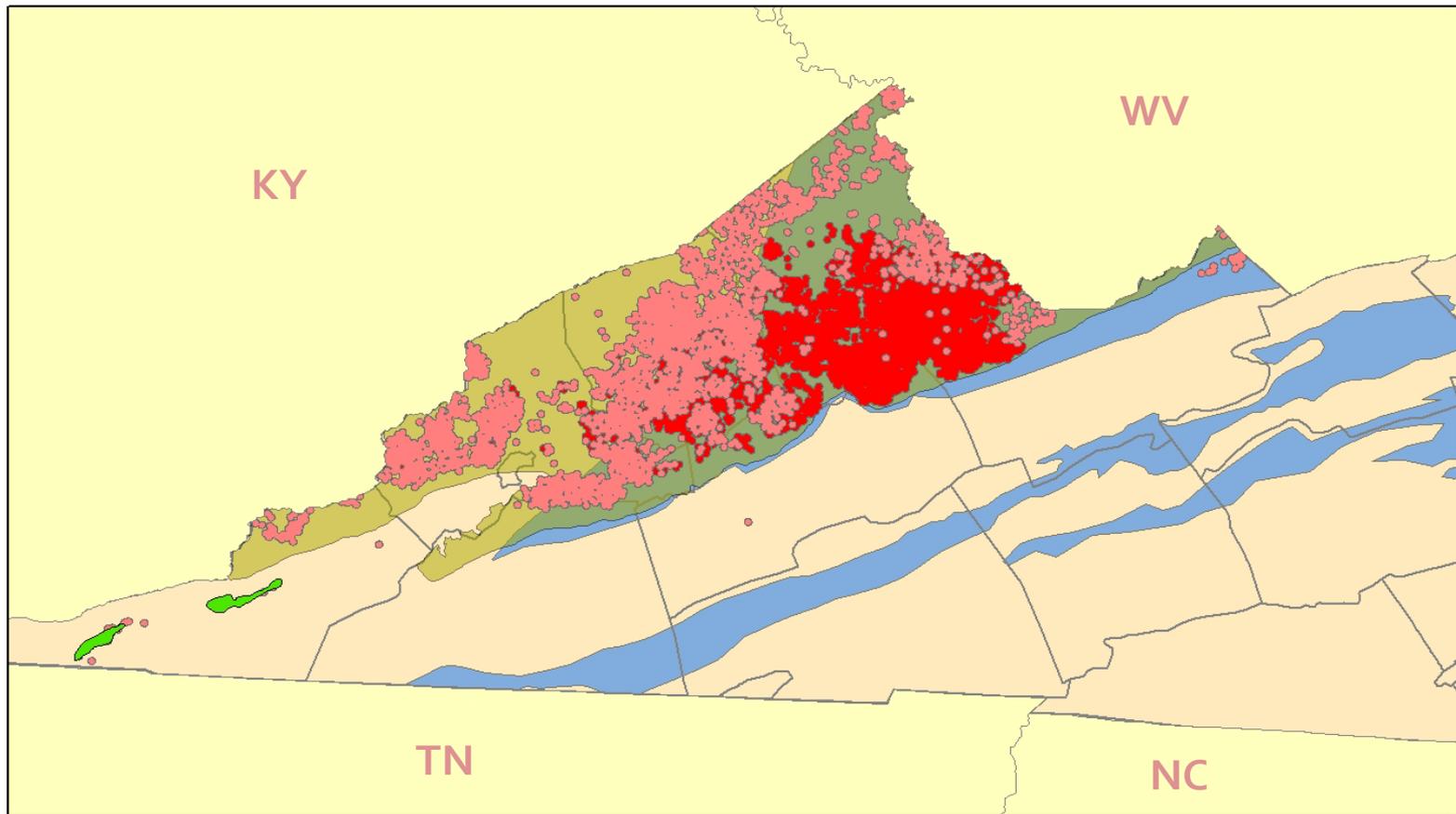


# Crude Oil in Virginia – Quick Facts

- 60 producing wells
- Annual production < 20,000 barrels
- Ranked #31 (last!)



# Fossil Fuel Resources in Southwest Virginia



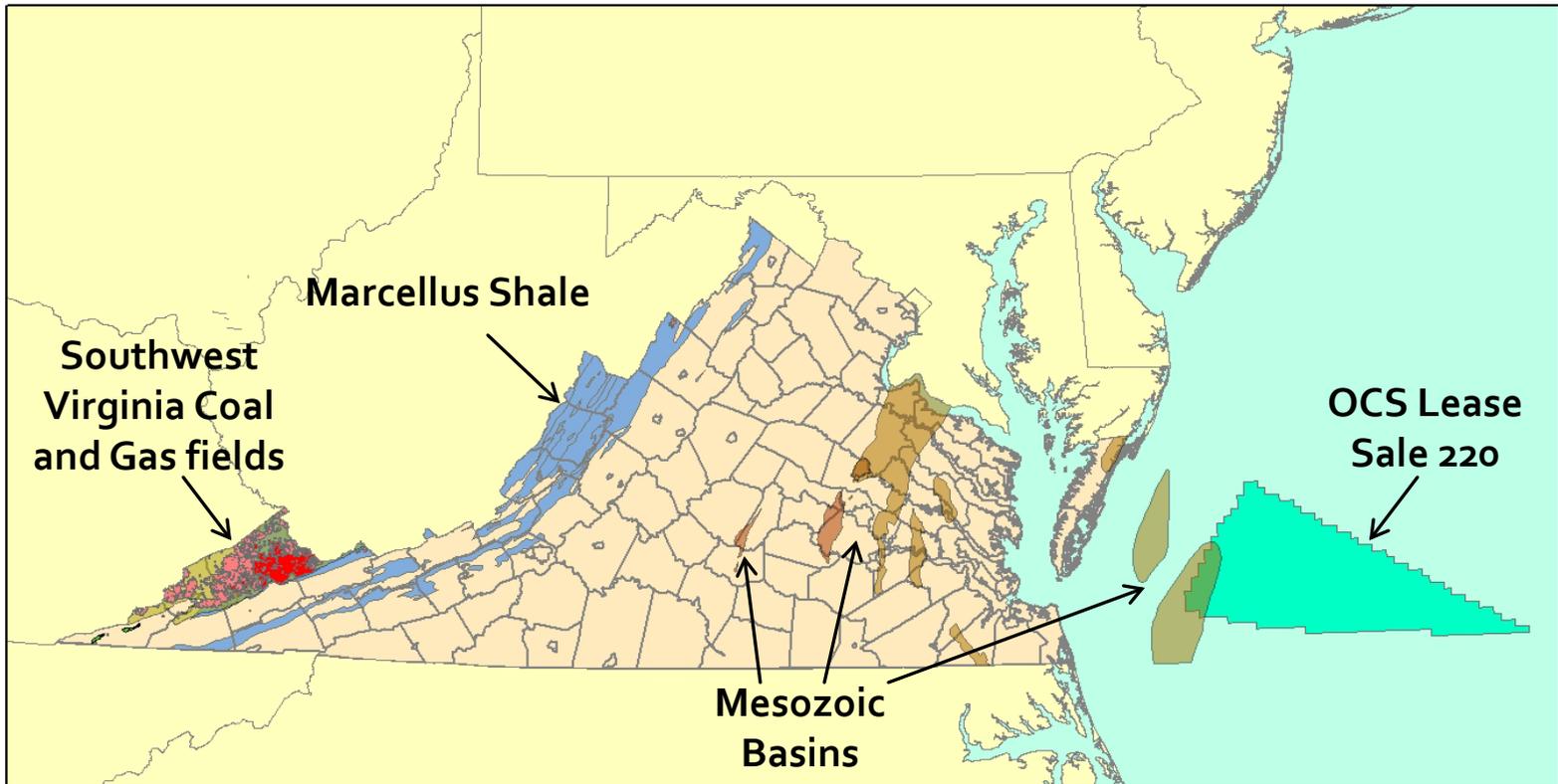
## Map Explanation

-  Oil Fields
-  Conventional Gas Fields
-  Coalbed Methane Fields
-  SW VA Coalfield
-  Marcellus Assessment Unit

0 12.5 25 50 Miles



# Fossil Fuel Resources of Virginia



- Oil Fields
- Conventional Gas Fields
- Coalbed Methane Fields
- SW VA Coalfield
- Mesozoic Basins with Coal
- Buried\_Mesozoic\_Basins
- Marcellus Assessment Unit
- OCS Sale 220 Area

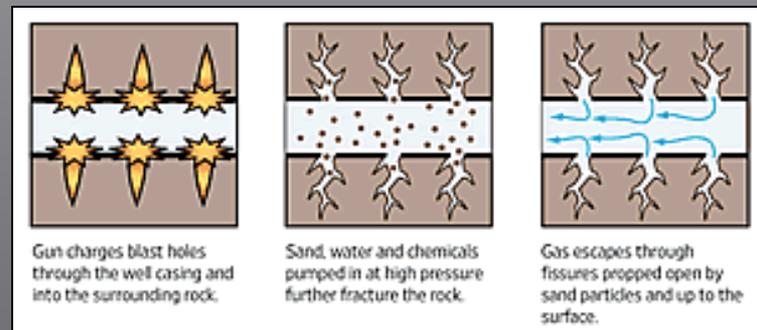
0 60 120 240 Miles



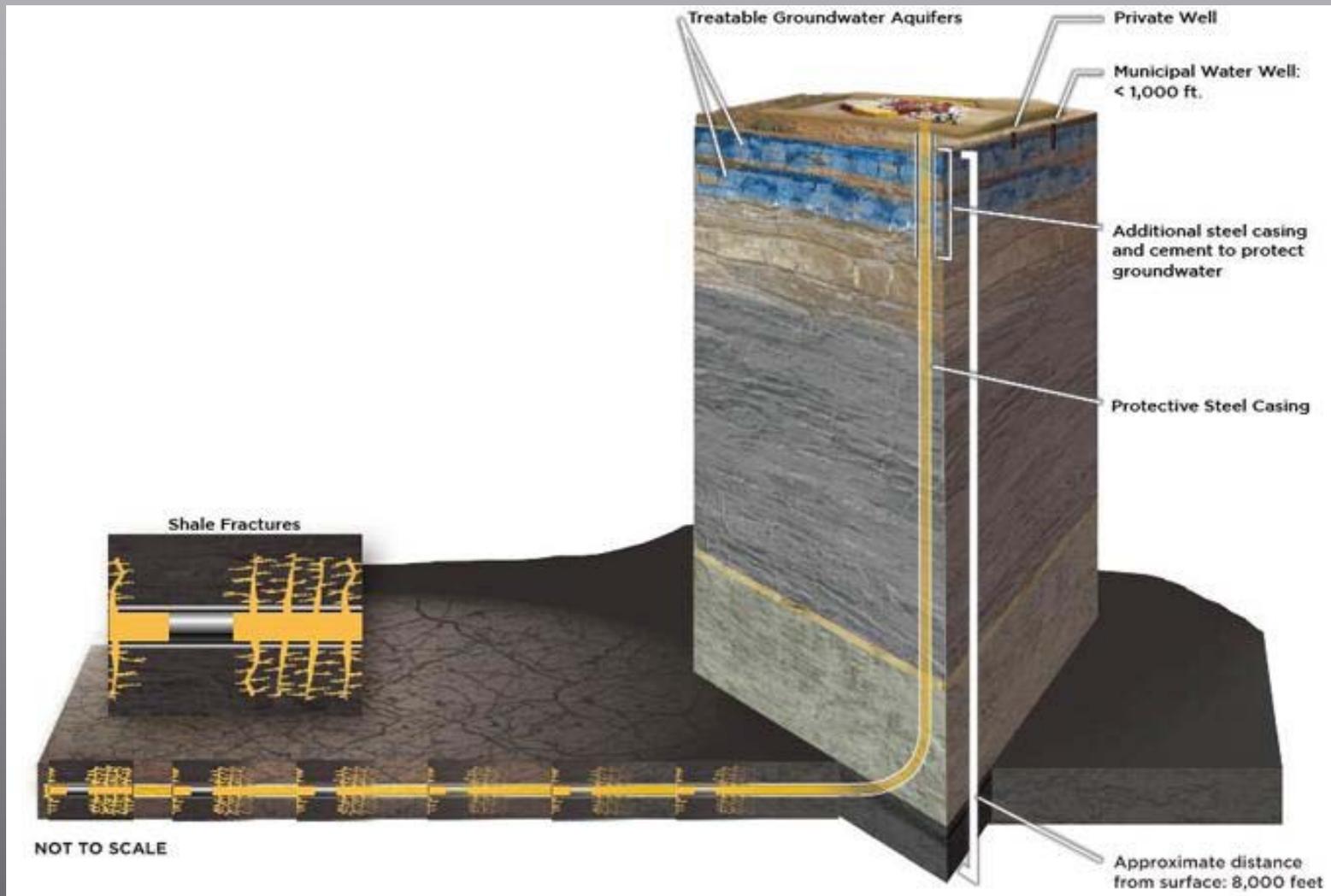


# What is “hydraulic fracturing?”

- An industrial process in which reservoir rocks are fractured using high-pressure fluid
- Used to extract gas and oil from “tight” reservoirs such as shale
- Typically associated with horizontal drilling
- Also know as:
  - “Hydrofracking”
  - “Fracking”
  - “Fracing”



# Horizontal Shale Gas Well

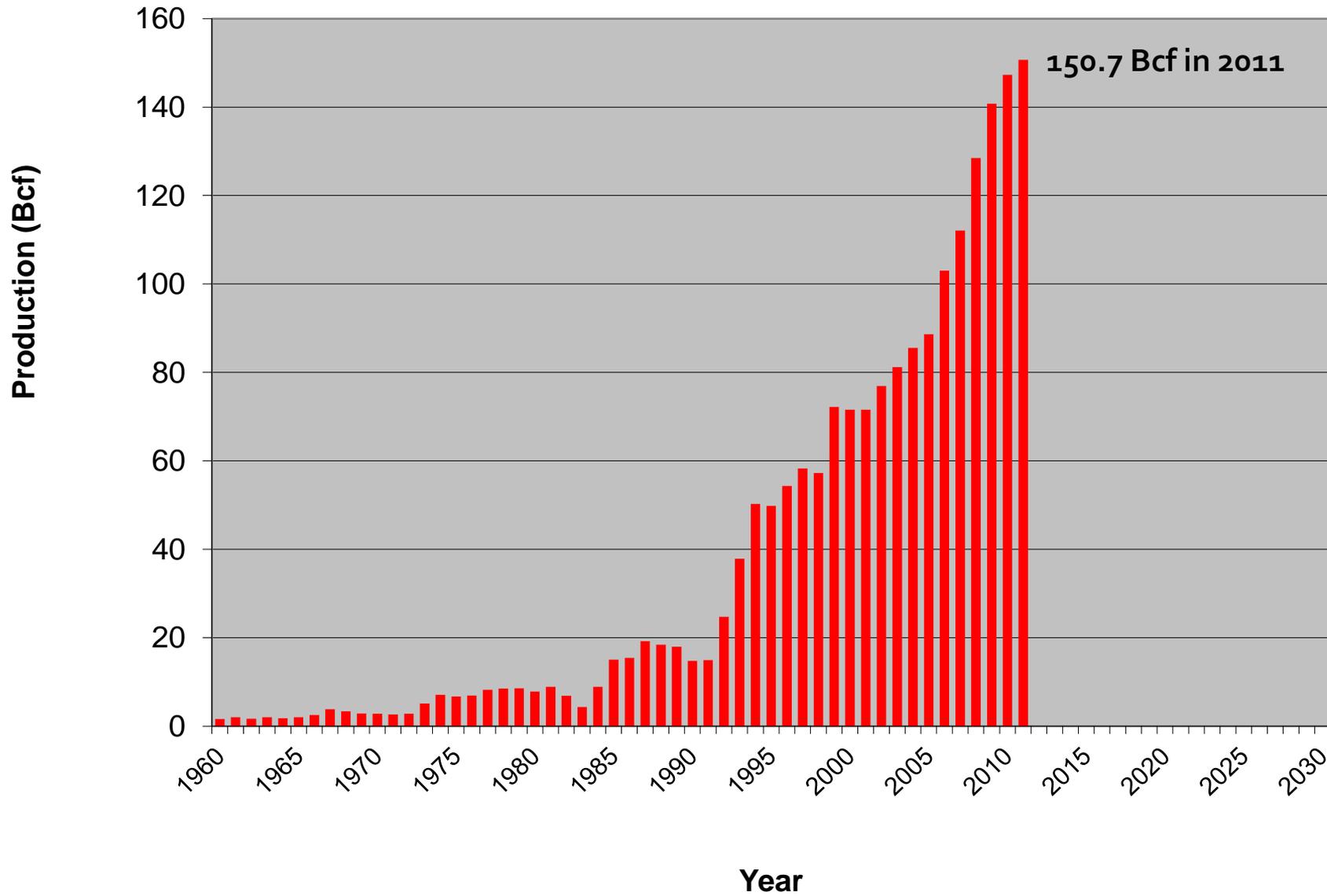


# Benefits of Hydraulic Fracturing

- Access to previously-unavailable resources
- Income to landowners
- Income to localities

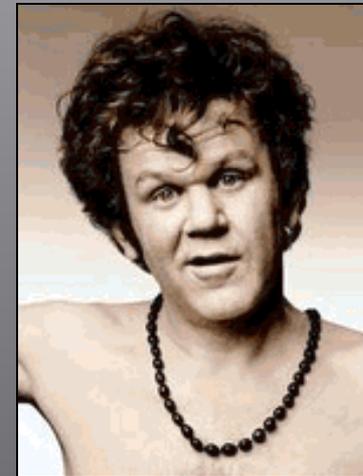
**The International Energy Agency predicts that the U.S. will become the world's largest oil producer by 2020, and energy independent by 2035 (IEA, November 2012).**

# Virginia Annual Natural Gas Production (Bcf)



# What could possibly go wrong?

- Water supply issues
- Water disposal issues
- Groundwater contamination
- Induced seismicity
- Truck traffic



# What's in "frac fluid," anyway?

- Water and/or nitrogen
- Detergent
- Antibacterial agents
- Acids
- Clay-swelling inhibitors
- Antifreeze
- Alcohols
- Sand
- Many others...



# ONE YEAR

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Looking for information about a well site near you?



Search for nearby well sites that have been hydraulically fractured to see what chemicals were used in the process.

TOTAL WELL SITES REGISTERED

3 3 2 7 7

# Association of American State Geologists – Fact sheet

“After decades of hydraulic fracturing-related activity there is little evidence if any that hydraulic fracturing itself has contaminated fresh groundwater. No occurrences are known where hydraulic fracturing fluids have moved upward from the zone of fracturing of a horizontal well into the fresh drinking water.”





# Well Permitting - Local Control

**§ 45.1-361.5. Exclusivity of regulation and enforcement.**  
No county, city, town or other political subdivision of the Commonwealth shall impose any condition, or require any other local license, permit, fee or bond to perform any gas, oil, or geophysical operations which varies from or is in addition to the requirements of this chapter.

However, no provision of this chapter shall be construed to limit or supersede the jurisdiction and requirements of other state agencies, local land-use ordinances, regulations of general purpose, or §§ 58.1-3712, 58.1-3712.1, 58.1-3713



# Information Resources

- FracFocus
  - [www.fracfocus.org](http://www.fracfocus.org)
- Association of American State Geologists
  - [www.stategeologists.org/temp/AASG%20Hydraulic%20Fracturing%20statement.pdf](http://www.stategeologists.org/temp/AASG%20Hydraulic%20Fracturing%20statement.pdf)
- Fracking Gone Wrong
  - [http://earthjustice.org/our\\_work/campaigns/fracking-gone-wrong-finding-a-better-way](http://earthjustice.org/our_work/campaigns/fracking-gone-wrong-finding-a-better-way)
- Virginia Gas and Oil Act – Title 45.1, Ch. 22
  - <http://leg1.state.va.us/cgi-bin/legp504.exe?000+cod+TOC4501000002200001000000>
- Virginia Gas and Oil Regulation – 4VAC25-150
  - <http://leg1.state.va.us/000/reg/TOCo4025.HTM#Co150>