

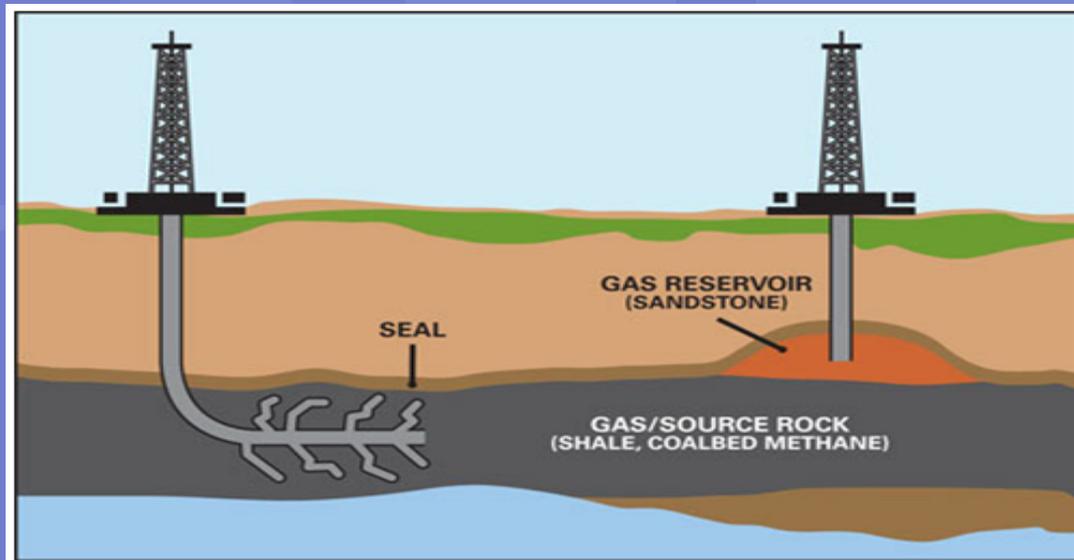
Why Georgians Should Care About Hydraulic Fracturing

8th Annual Georgia Environmental Conference
August 21-23, 2013

Josh Becker
Alston & Bird LLP

What are we going to cover?

- What is hydraulic fracturing?
- Who does what about it?
- Why is it controversial?



What exactly is hydraulic fracturing?

- The process of creating fissures, or fractures, in underground formations to allow natural gas and oil to flow.
 - Easy as:
 1. Drilling a well into the shale.
 2. Pumping a mixture of water, proppant (natural or manufactured), and chemical additives under high pressure into the well to create fractures in the shale.

What does it look like?

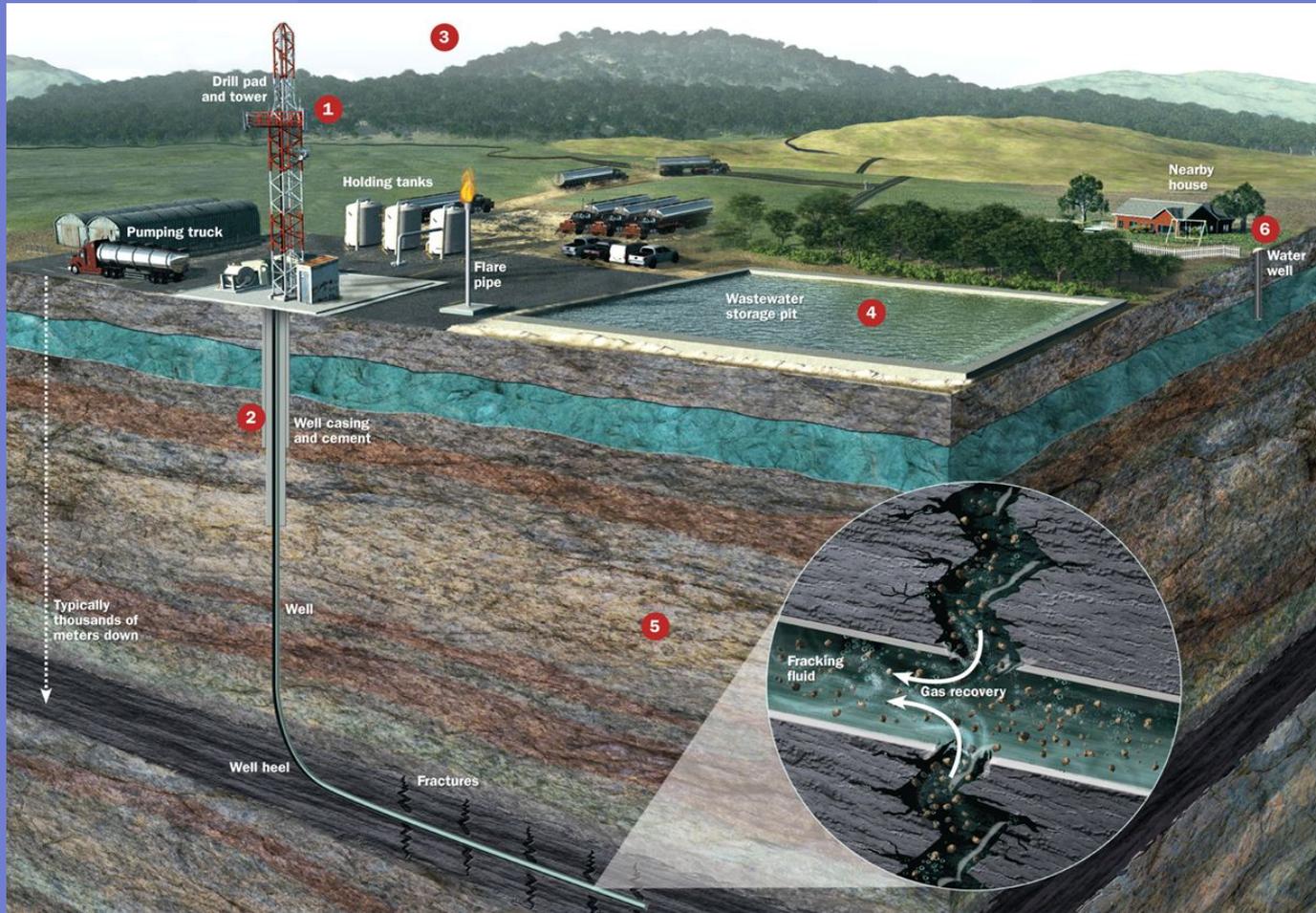
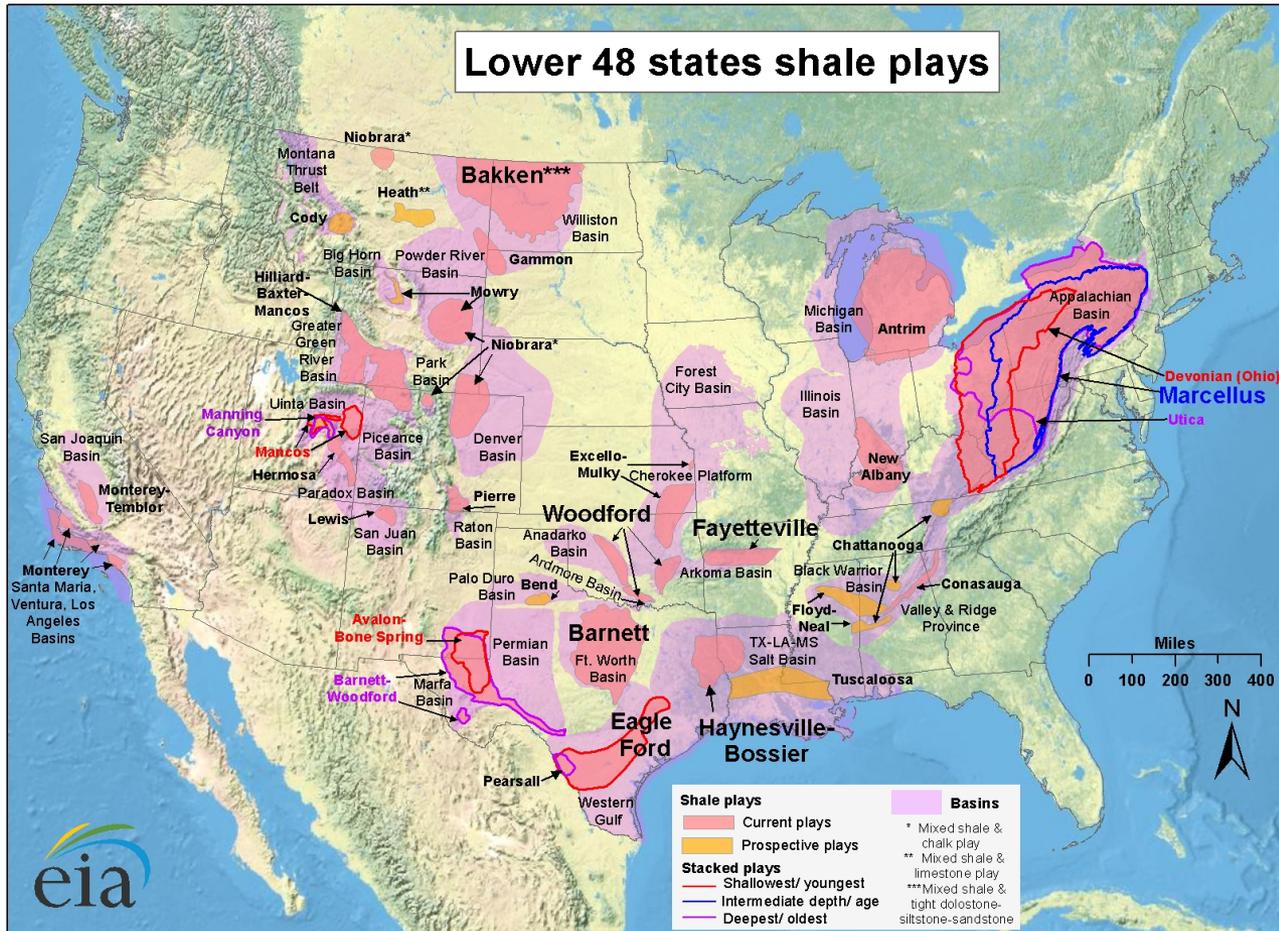


Illustration: Nicolle Rager Fuller, Science News

100 years of supply



Georgia is on the map...

3/3/13 Atlanta J. - Const. A1
2013 WLNR 5233076

Atlanta Journal and Constitution (GA)
Copyright © 2013 The Atlanta Journal-Constitution

March 3, 2013

Section: News

Gas drillers turn to Georgia

Dan Chapman

Staff

DALTON -- Trillions of cubic feet of natural gas believed to lie below the hills of northwest Georgia have remained virtually untouched and unwanted -- until now.

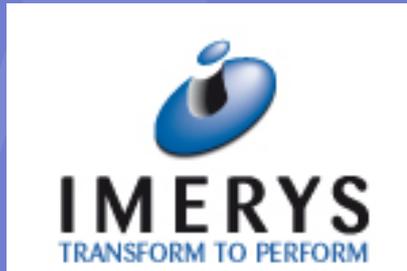
Shale gas drilling is slowing across the country, but a handful of companies are poking around this corner of the state looking for the next natural gas "play." If they succeed, Georgia could join the ranks of states reaping jobs, revenue and fears of environmental damage from energy production, The Atlanta Journal-Constitution has learned.

It has been at least 30 years since Georgia -- which has never produced a drop of oil or natural gas -- has seen as much exploratory activity.

An Oklahoma-based company that leased 7,500 acres of land outside Dalton has two test wells in place and plans another nearby. Seventy miles away, near Cave Spring, a Texas oil, gas and development conglomerate plans a deeper well.

At least three other companies have recently researched the so-called Conasauga shale field, a 20-by-100 mile swath of farm and forest that runs from Alabama across Georgia and into Tennessee.

In more ways than one...



Is this a whole new technology?

- Not even close:
 - Sometime before 1903 – Used at Mt. Airy Quarry, North Carolina to separate granite blocks from bedrock.
 - 1947 – Stanolind Oil conducted the first experimental fracturing in the Hugoton field located in southwestern Kansas. The treatment utilized napalm (gelled gasoline) and sand from the Arkansas River.
 - 1949 – First proven commercial use by Halliburton.



How is hydraulic fracturing regulated?

Water

- Water withdrawals: State water law
- Contamination: Clean Water Act (CWA) and state law

Air Emissions

- Clean Air Act (CAA) and state law

Fracking Fluid

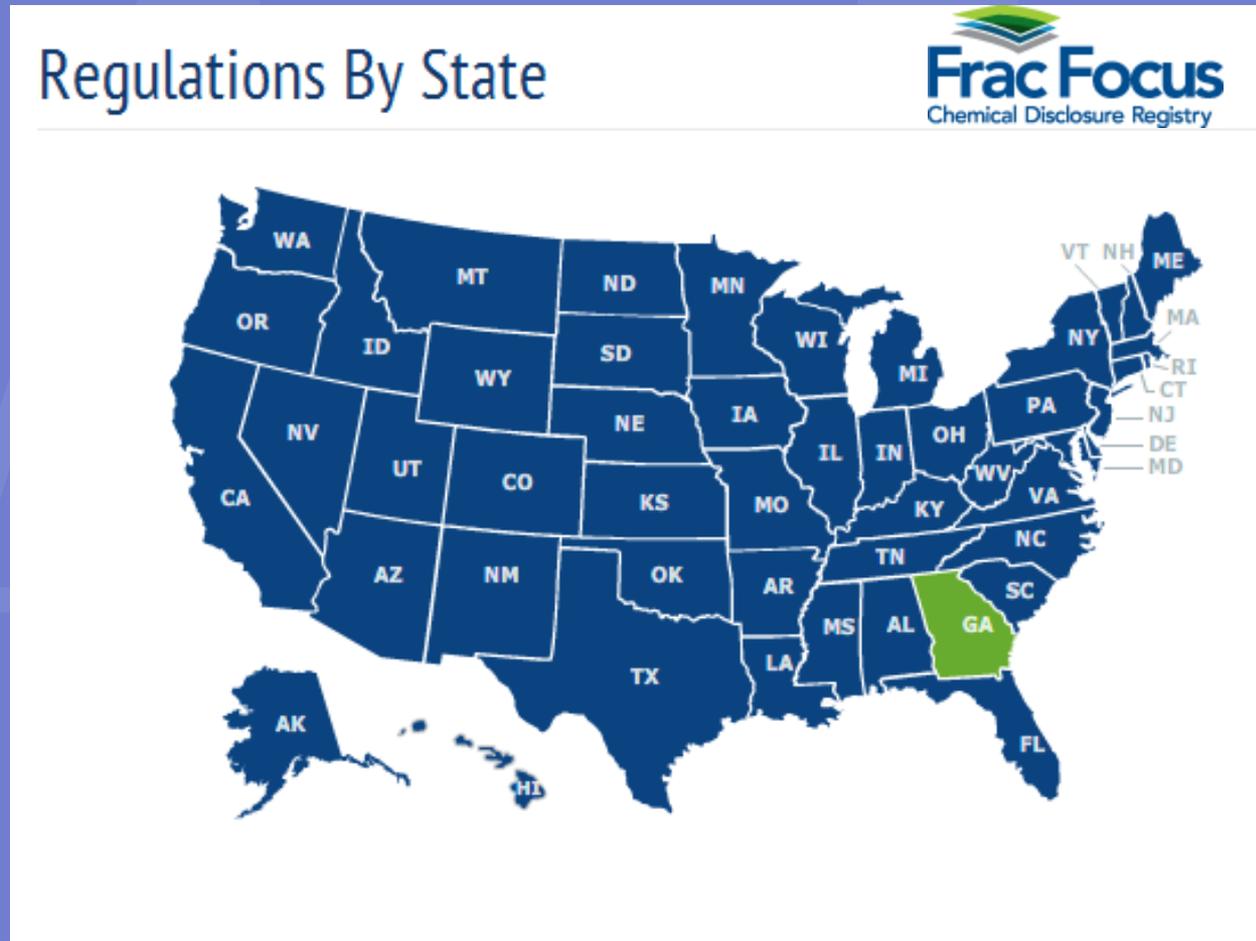
- Fluid injection: Safe Drinking Water Act (SDWA) exempt from the Underground Injection Control (UIC) Program
- Chemical disclosure: Emergency Planning and Community Right-to-Know Act (EPCRA), Toxic Substances Control Act (TSCA), and state law
- Flowback handling and storage: Resource Conservation and Recovery Act (RCRA) and state law
- Flowback disposal: SDWA, Clean Water Act (CWA), and state law

Well Integrity

- State oil and gas regulations

Response to contamination of any type caused by gas extraction activities is regulated under federal laws (RCRA, CERCLA, CWA) and state laws

Heavy emphasis on state regulation



What's in the fracking fluid?

- No federal requirements for companies to disclose the chemical contents of its fracking fluids.
- Exempt from Emergency Planning and Community Right to Know Act (“EPCRA”).
- States have the authority to require disclosure of contents.
- Water makes up 98.5% of most fracking fluid.
- About 1% consists of one of many different types of proppant.
- The type of proppant chosen for each job depends on the geology.
- The rest of the fluid, the remaining fraction of a percent, differs from site-to-site and from company-to-company.

Fracfocus.com



HYDRAULIC FRACTURING
HOW IT WORKS

GROUNDWATER
PROTECTION

CHEMICAL
USE

REGULATIONS
BY STATE

FIND A WELL
BY STATE

FREQUENT
QUESTIONS



Find a Well

Map Search **Standard Search**

SEARCH OPTIONS



STATE:

Georgia

COUNTY:

Choose a County

WELLS IN COUNTY:

Choose a County First

OPERATOR:

Choose One

API WELL NUMBER:

____-____-____

WELL NAME:

FIND CAS NUMBER

____-____-____

[clear](#)

BUILD DATE FILTER

[clear](#)

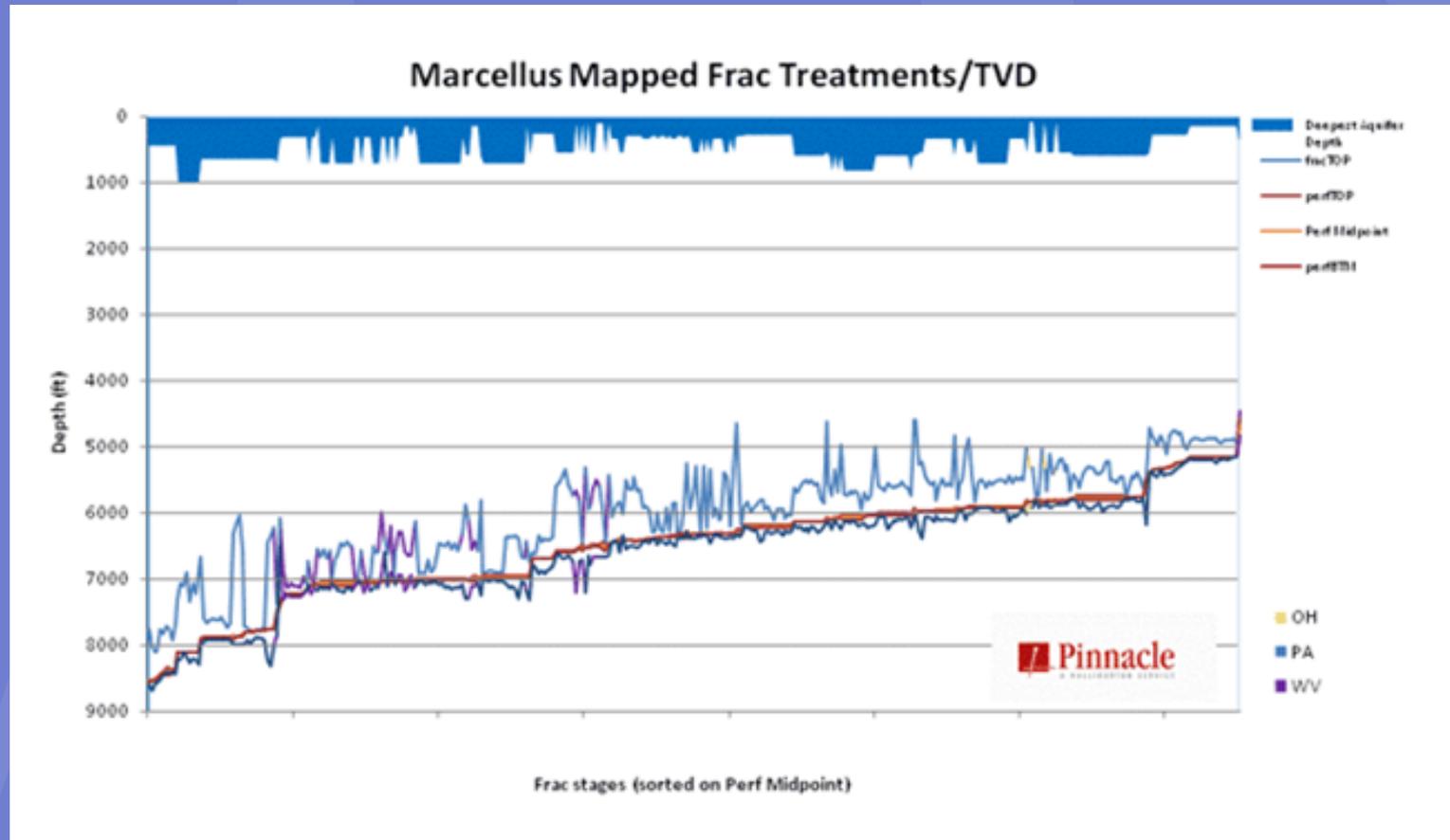
INGREDIENT LIST

[clear](#)

Why is hydraulic fracturing controversial?

- Hydraulic fracturing is targeted from several directions.
- What are the primary concerns?
 - Surface water contamination
 - Ground water contamination (drinking water aquifers)
 - Depletion of water supply
 - Earthquakes
 - Land impacts
 - Adverse health effects in humans and farm animals

Distance between aquifer and fractures



Typical theories for hydraulic fracturing cases

- Methane migration
- Groundwater contamination
- Air emissions
- Earthquakes
- Explosions
- Attempts to invalidate oil and gas leases
- Challenges to EPA



Conduct challenged

- Well construction
 - Improper design
 - Negligent execution (particularly re: well casing)
- Spills
- Containment (e.g., holding ponds)
- Disposal (e.g., injection wells)
- Explosions
- Earthquake inducement
- Ordinary operations