

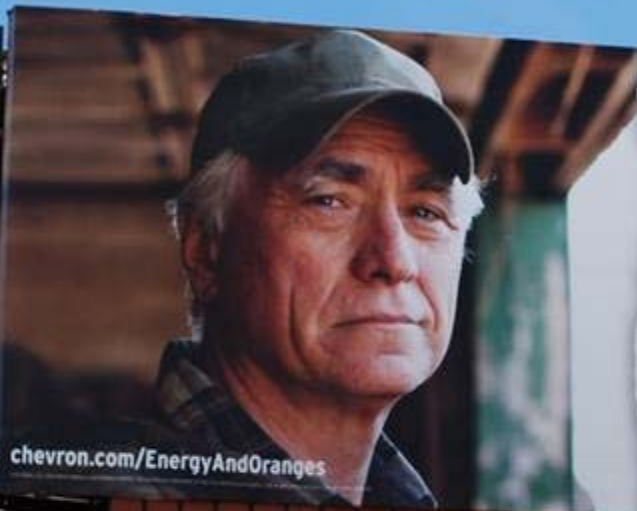
**NO
FRACKING
WAY!**



"SOMEBODY'S
GOING TO BE
VERY ANNOYED
THAT YOU OPENED
THIS PLACE TO
FRACKING!"

"BUT THEY SAID IT
COULD BE DONE IN AN
ENVIRONMENTALLY
FRIENDLY WAY!"

OIL
LEASE



chevron.com/EnergyAndOranges

OIL AND AGRICULTURE
**CAN GROW
TOGETHER.**
WE AGREE.



LAMAR

Talisman Terry's Energy Adventure

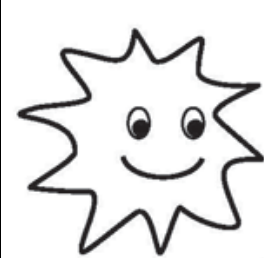


TALISMAN

E N E R G Y

Good Neighbor Program

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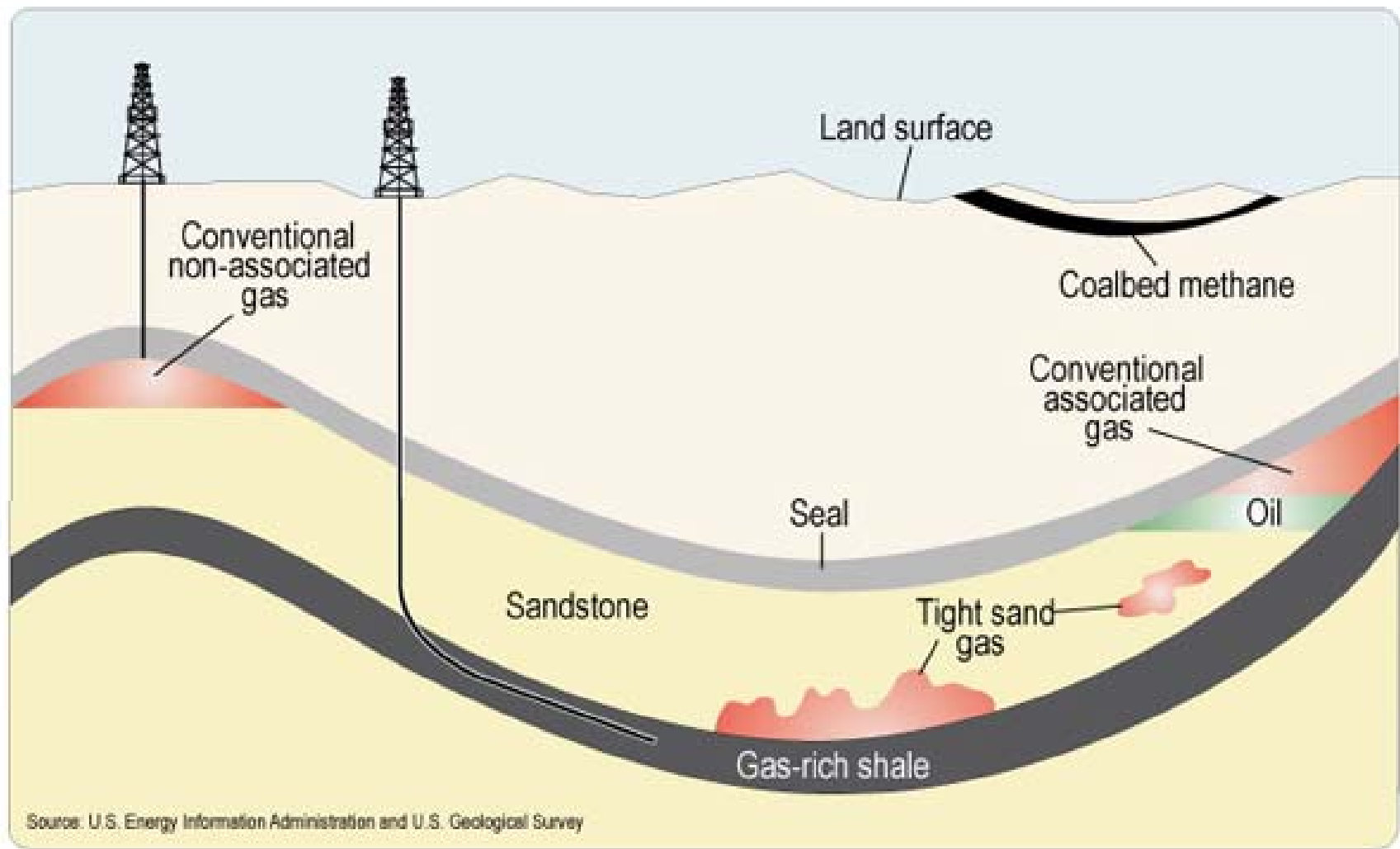
Hello, my name is
Talisman Terry, your
friendly Fracosaurus.
I am here to teach you
about a clean energy source
called Natural Gas, found
right here in the Twin Tiers!



TALISMAN
ENERGY

Good Neighbor Program

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Roughly 200 tanker trucks deliver water for the fracturing process.

A pumper truck injects a mix of sand, water and chemicals into the well.

Natural gas flows out of well.

Recovered water is stored in open pits, then taken to a treatment plant.



Natural gas is piped to market.

0 Feet

Water table

Well

1,000

Hydraulic Fracturing

Hydraulic fracturing, or "fracking," involves the injection of more than a million gallons of water, sand and chemicals at high pressure down and across into horizontally drilled wells as far as 10,000 feet below the surface. The pressurized mixture causes the rock layer, in this case the Marcellus Shale, to crack. These fissures are held open by the sand particles so that natural gas from the shale can flow up the well.

2,000

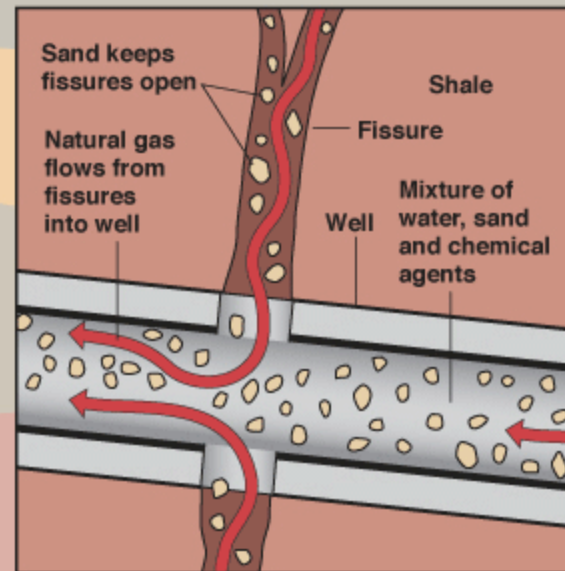
3,000

4,000

5,000

6,000

7,000



Well turns horizontal

Marcellus Shale

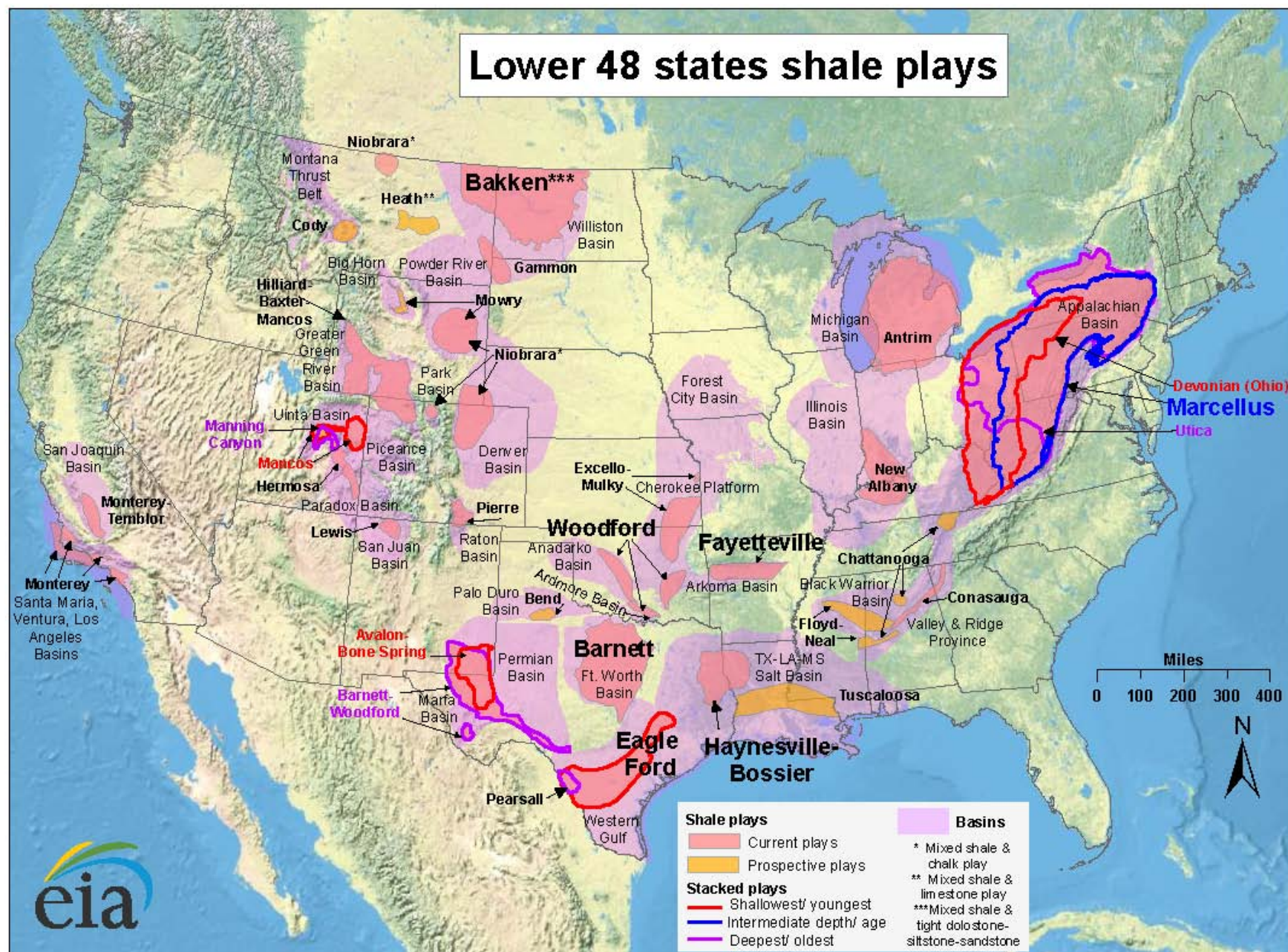
Fissures

The shale is fractured by the pressure inside the well.

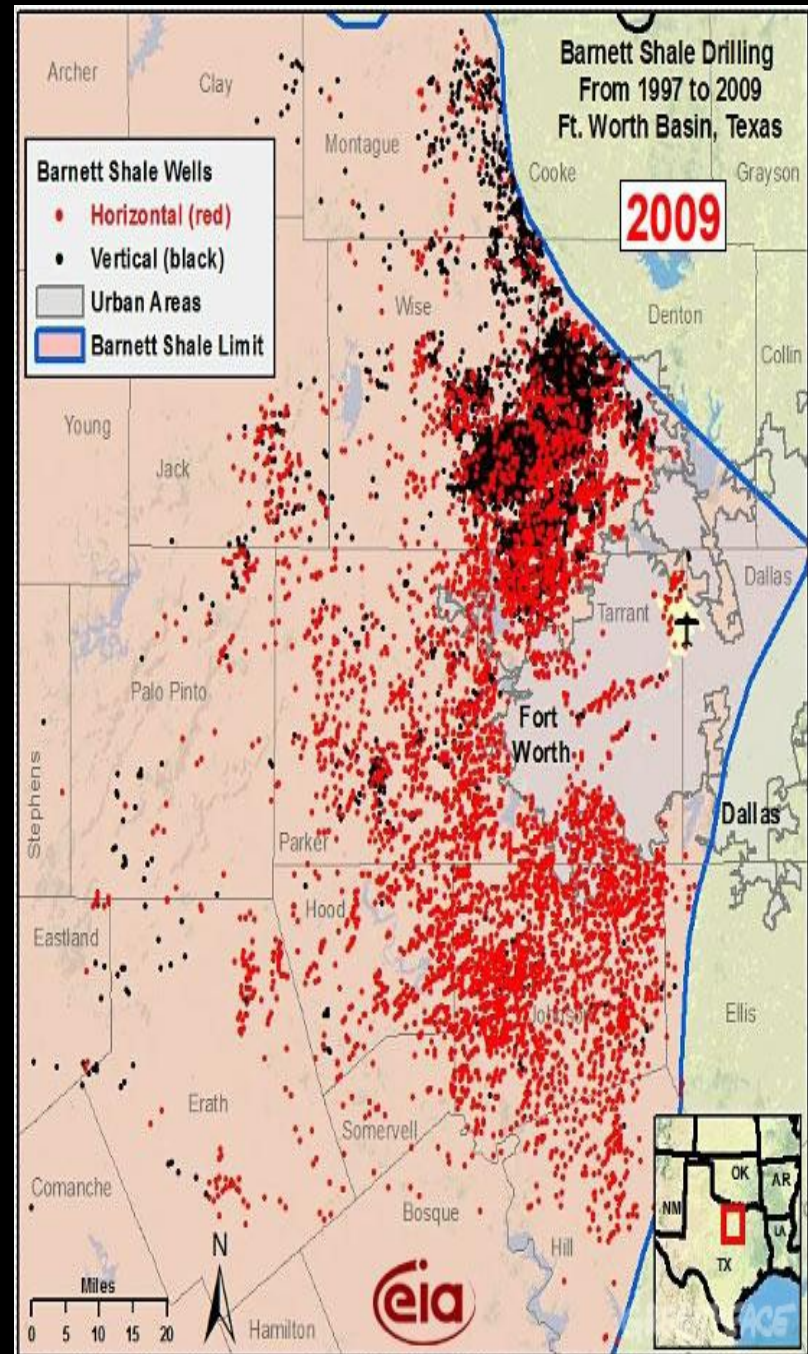
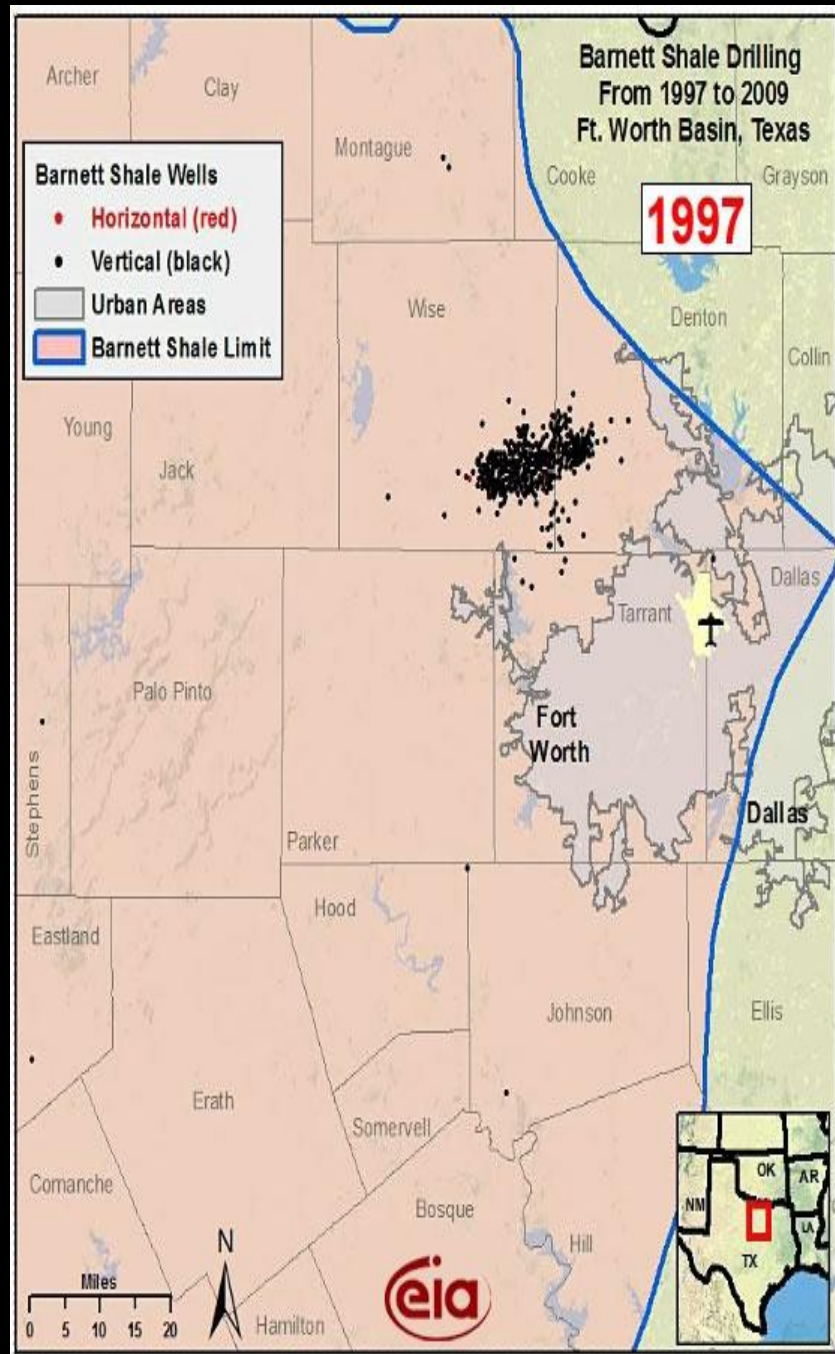
Fracking Technology Milestones

Early 1900s	Natural gas extracted from shale wells. Vertical wells fractured with foam
1983	First gas well drilled in Barnett Shale in Texas
1980s-1990s	Cross-linked gel fracturing fluids developed and used in vertical wells
1991	First horizontal well drilled in Barnett Shale
1991	Orientation of induced fractures identified
1996	Slickwater fracturing fluids introduced
1996	Microseismic post-fracturing mapping developed
1998	Slickwater refracturing of originally gel-fractured wells
2002	Multi-stage slickwater fracturing of horizontal wells
2003	First hydraulic fracturing of Marcellus Shale
2005	Increased emphasis on improving the recovery factor
2007	Use of multi-well pads and cluster drilling

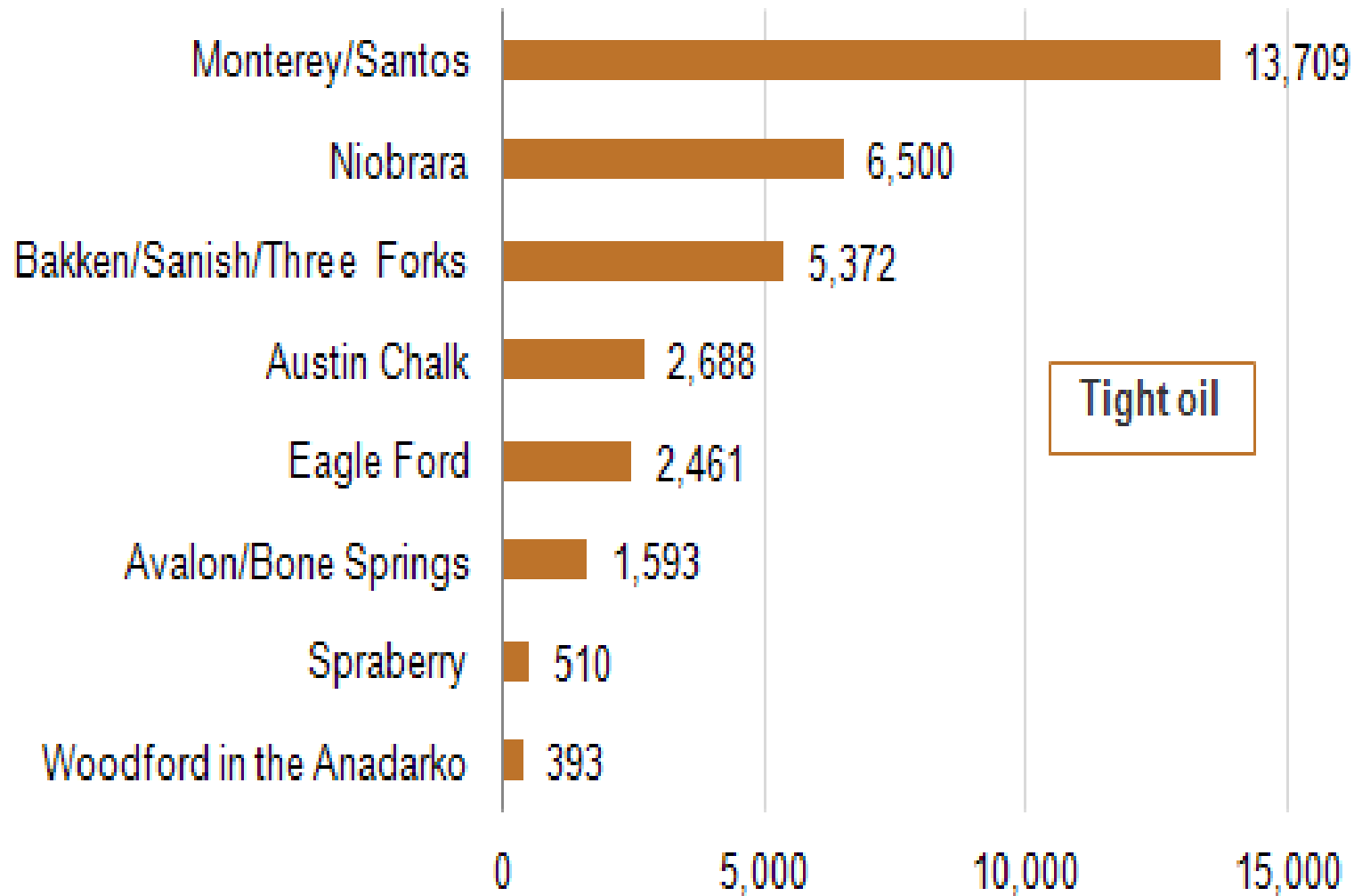
Lower 48 states shale plays



Source: Energy Information Administration based on data from various published studies.
Updated: May 9, 2011



AEO2012 unproved technically recoverable resources, tight oil
million barrels



Source: EIA 2012

500 billion
barrels of
oil in
place



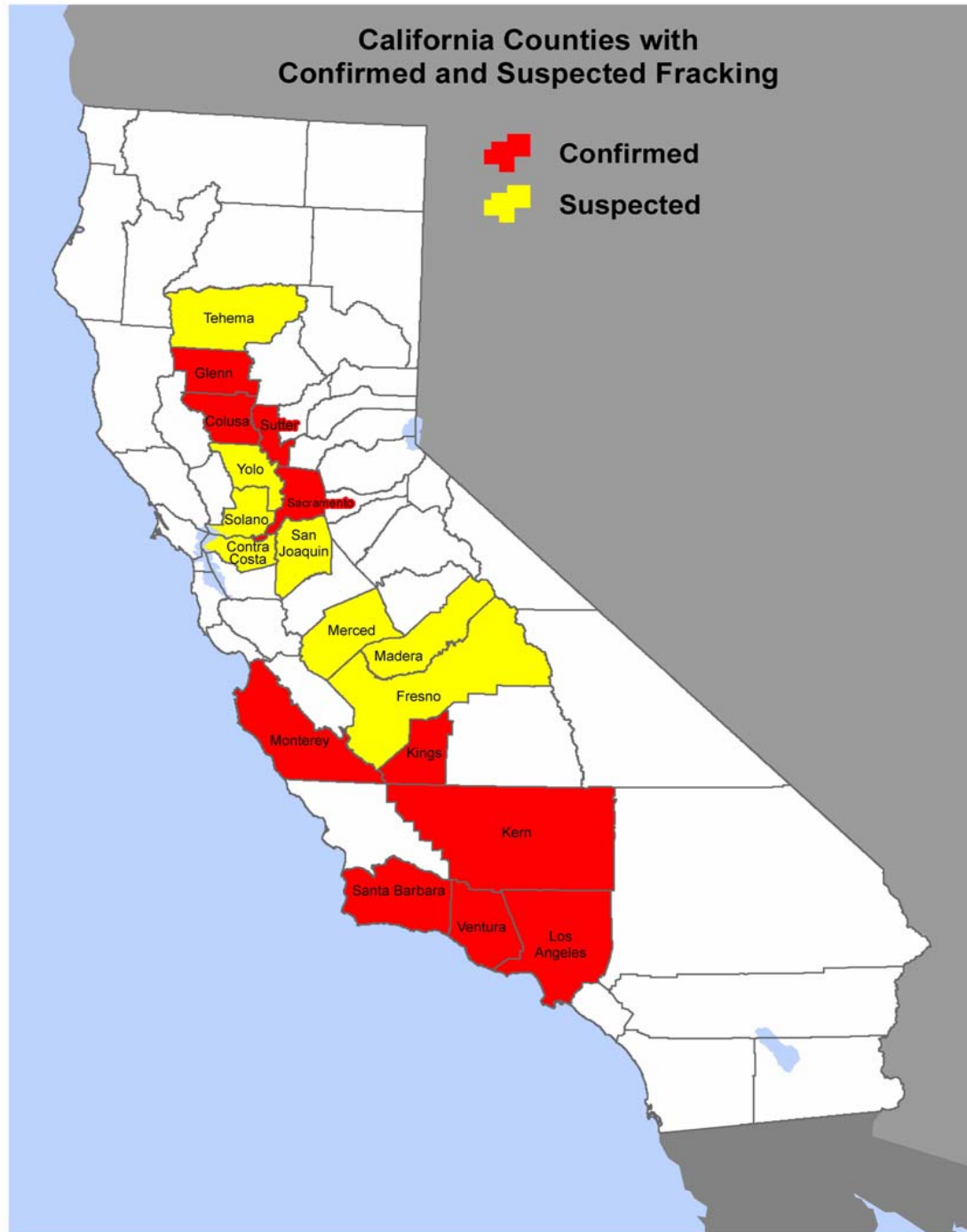




Inglewood Oil Field,
Los Angeles Times

California Counties with Confirmed and Suspected Fracking

- Confirmed
- Suspected



Fracking Threatens Our...





Illustration by NPR/NASA

















**CALIFORNIANS
AGAINST
FRACKING**

Three Tracks

- Targeting Governor Brown to put in place a strong moratorium.
- Maintaining de facto moratorium on new oil and gas leasing on CA public lands
- Local organizing, ordinances and resolutions









How do we win?



“Outright bans constitute the most significant political risks to the industry.”*



“Mobilization of grassroots opposition has been fundamental to the global-anti-fracking movement.”*

“As local groups combine to form national or international coalitions, there is likely to be more scope for top-down messaging and common advocacy platforms.”*

*"The Global Anti-Fracking Movement Research Report", Control Risks, 2013



**ONLY YOU
CAN PREVENT
FAUCET
FIRES.**



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Thank You!