



**STRONG**ROOTS.  
**STRONG**FUTURE.

NGFA – Rail Forum  
Charleston, SC  
March 18, 2012

# Wild West



# Typical Car-to-Truck Transload Operation





# Headlines

# WALL STREET JOURNAL

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WSJ.com

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1.2% NIKKEI 9889.86 ▼ 0.4% STOXX 600 264.87 ▼ 0.2% 10-YR. TREAS. ▲ 2/32, yield 2.030% OIL \$106.34 ▼ \$1.06 GOLD \$1,699.20 ▼ \$11.70 EURO \$1.3

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## Faulty Wells, Not Fracking, Blamed for Water Pollution

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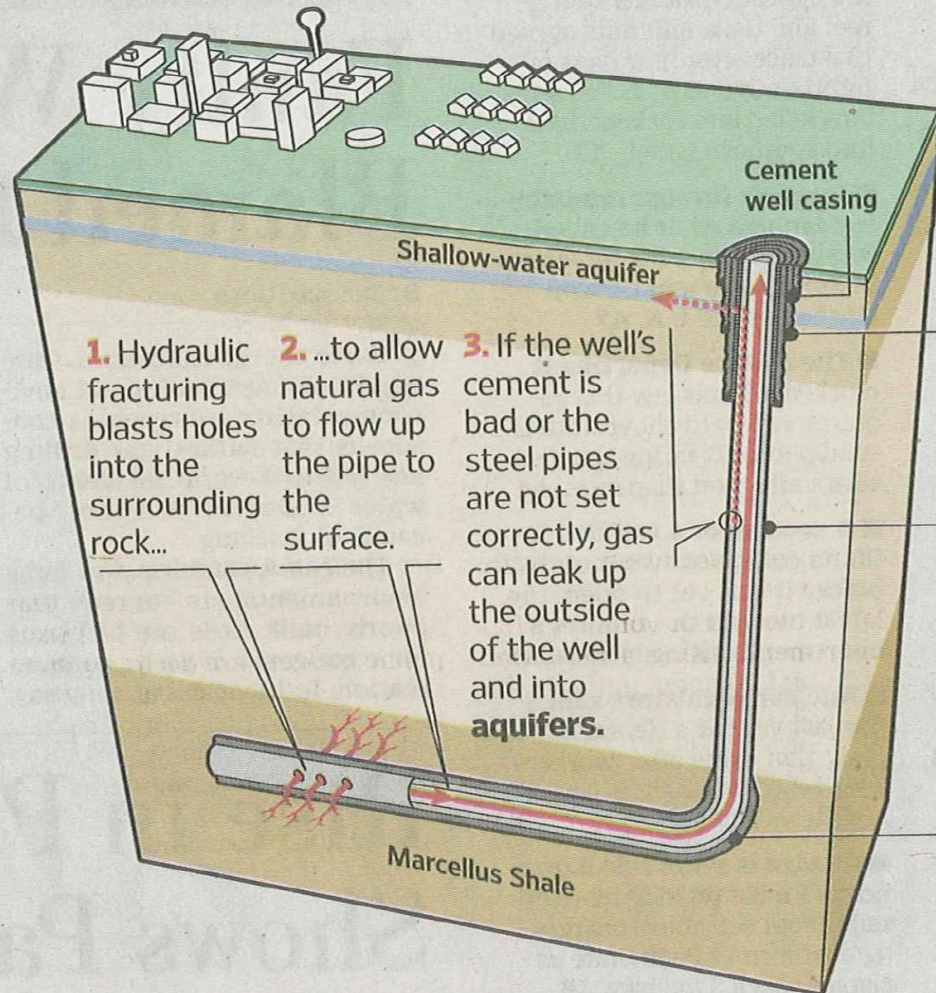
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# A Better Well

## A Better Well

After a deal between Chesapeake Energy and Pennsylvania, the company is spending more to make sure its natural gas wells are more secure by adding more pipes and cement.



1. Hydraulic fracturing blasts holes into the surrounding rock...
2. ...to allow natural gas to flow up the pipe to the surface.
3. If the well's cement is bad or the steel pipes are not set correctly, gas can leak up the outside of the well and into aquifers.

### Some features of the new wells:

- 13 <sup>3</sup>/<sub>8</sub>-inch casing to 50 feet below fresh groundwater
- 9 <sup>5</sup>/<sub>8</sub>-inch casing to 2,500 feet
- 5 <sup>1</sup>/<sub>2</sub>-inch casing down to Marcellus Shale

- Cement all the way above the curve where the vertical well turns and runs horizontally

### Other key requirements:

Allow all cements to set for at least eight hours, then test to see if cement has created an effective barrier.

# Frac Market Update by Producing Region

- Increasing relevance of coarse proppant
  - Continued shift to oil
    - Oil rig count surging: +53 % y/y (total rigs up 17%)
    - Oil versus natural gas: 6.8 to 1 ratio on \$/btu
    - Activity eroding in dry gas regions (-154 rigs in 3 months)
- Producing region / shale play notes
  - Bakken : Active, big expectations for 2012
  - Eagle Ford: Heavy shift away from Haynesville
  - Permian Basin: continued strength; infrastructure concerns
  - Tuscaloosa Marine Shale: new, deep, and oily
  - Granite Wash, Cana/Woodford: should be busy in 2012, gas prices notwithstanding



# Frac Market Size 2012

- Tudor Pickering Holt places total frac market size at 35 million tons.
- Global Hunter Securities more aggressively puts the market size at 42 million tons.
- Resin-coated sand and ceramics fall between 6 and 7 million tons of these estimates with the difference being API or non-API frac sand.

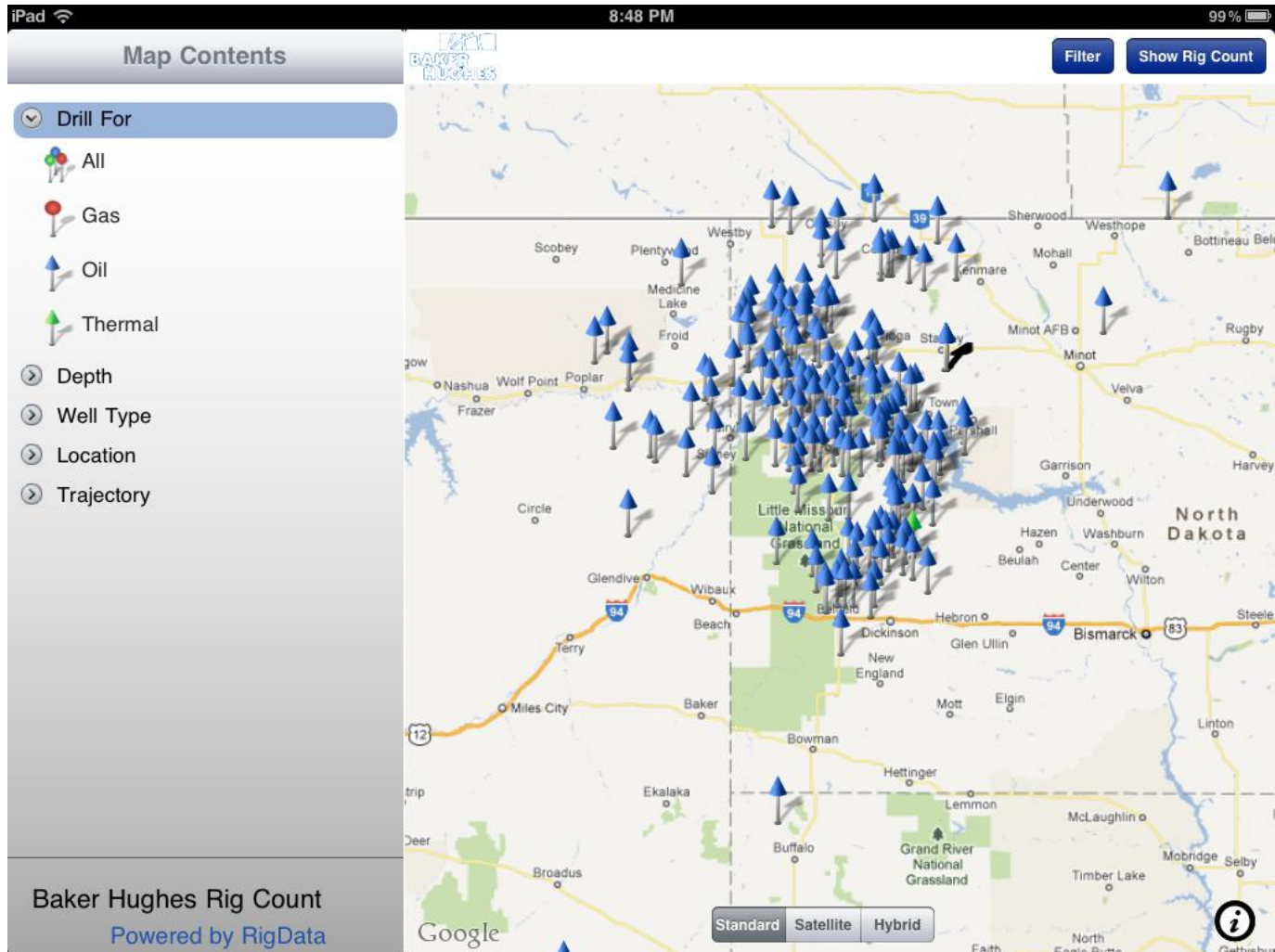


# Frac Market Size 2012 by Producing Region

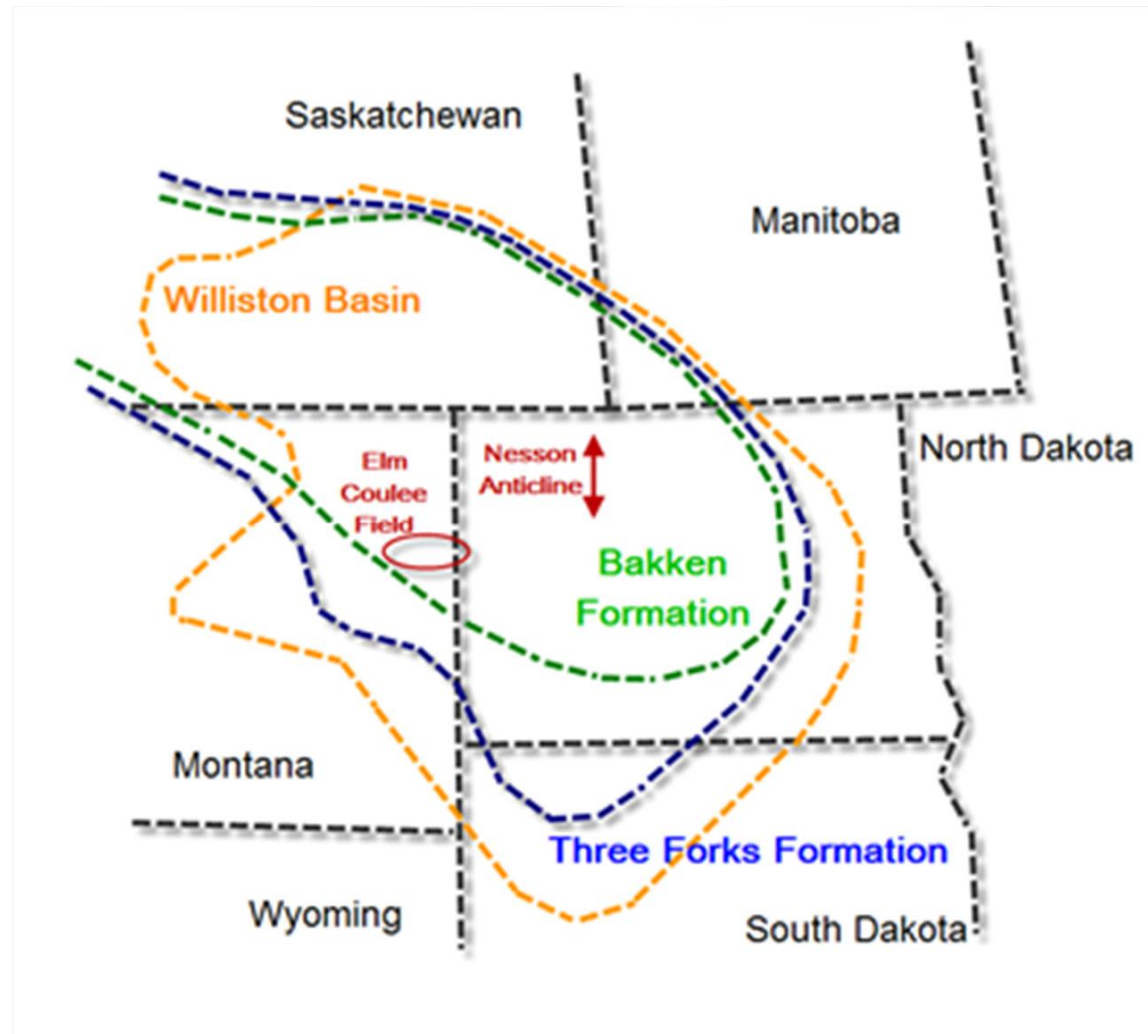
Region	2011 Market (tons)	2012 Market (tons)
Eagle Ford	6,300,000	8,400,000
DJ Basin/Niobrara	1,270,000	1,400,000
Haynesville	3,600,000	2,900,000
Bakken	3,000,000	4,100,000
Permian Basin	5,000,000	6,600,000
Marcellus	5,500,000	6,500,000
Barnett	3,300,000	3,100,000
Piceance	550,000	600,000
Utica		50,000
Cana/Woodford/Granit Wash	1,700,000	2,000,000
Other (Pinedale Anticline; Utica)	5,500,000	5,300,000
Fayetteville, Monterey, San Juan	1,300,000	1,400,000
<b>Total Market</b>	<b>37,300,000</b>	<b>42,350,000</b>



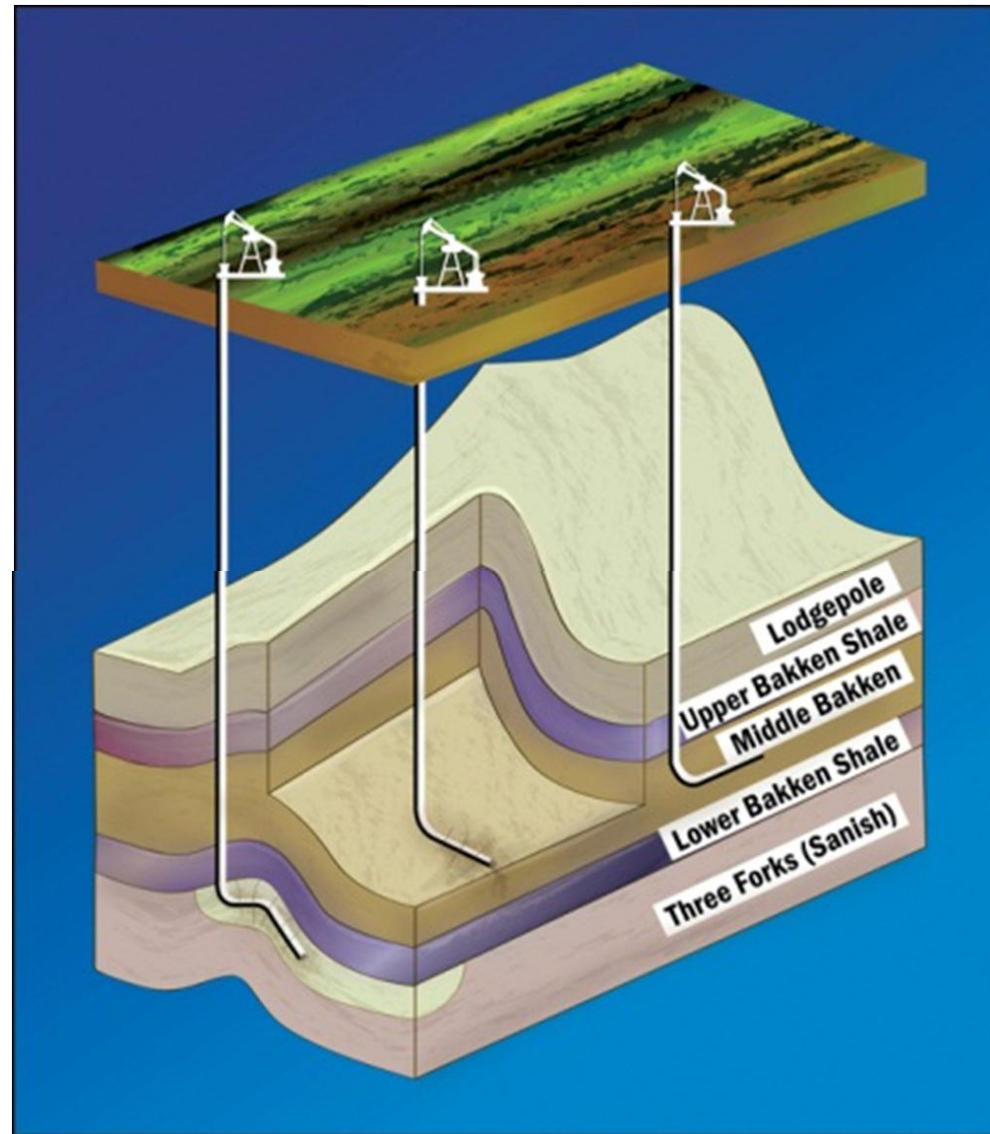
# Bakken (Williston Basin)



# Bakken (Williston Basin) Immediate and Long Term

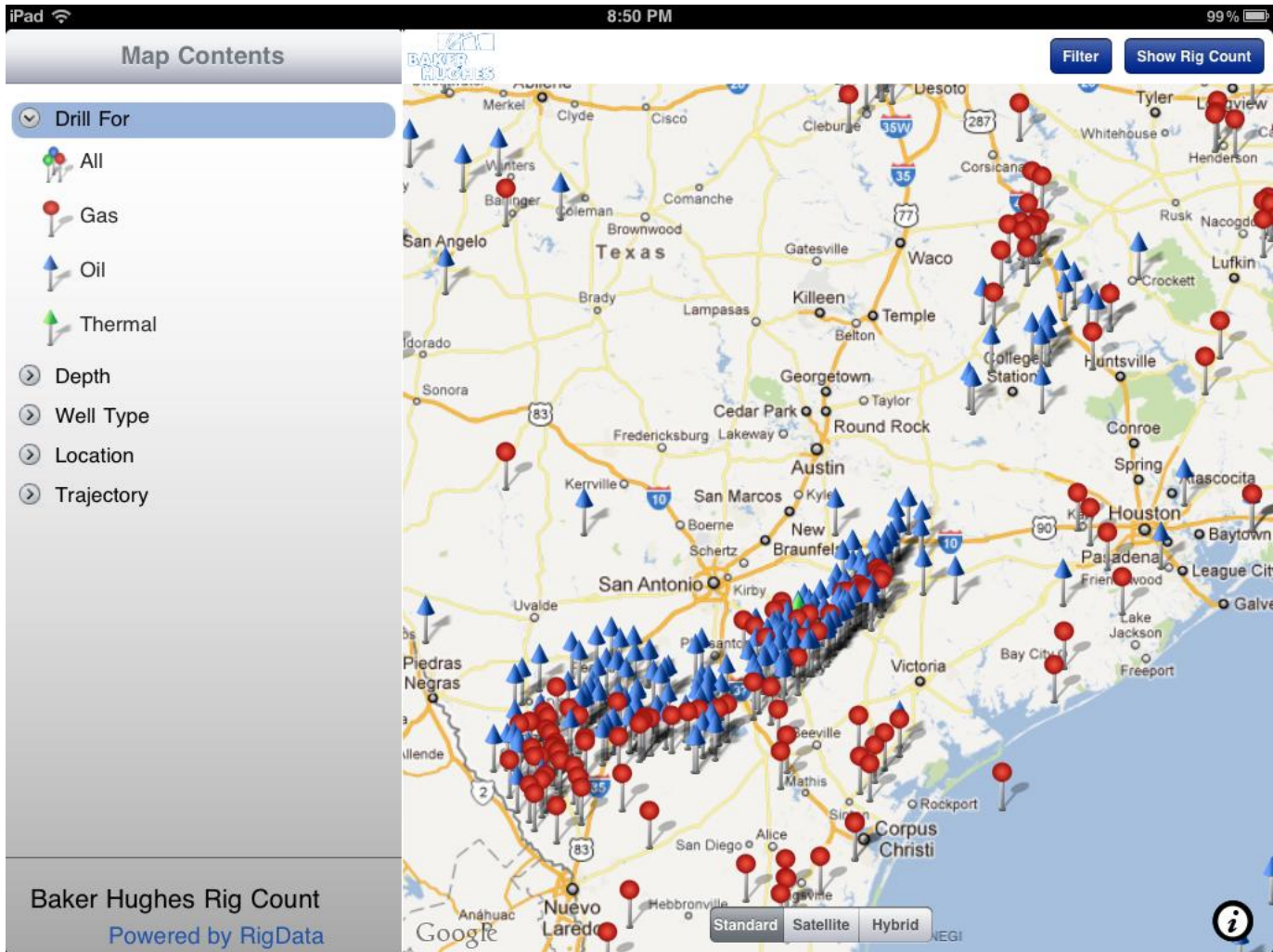


# Bakken (Williston Basin) Immediate and Long Term

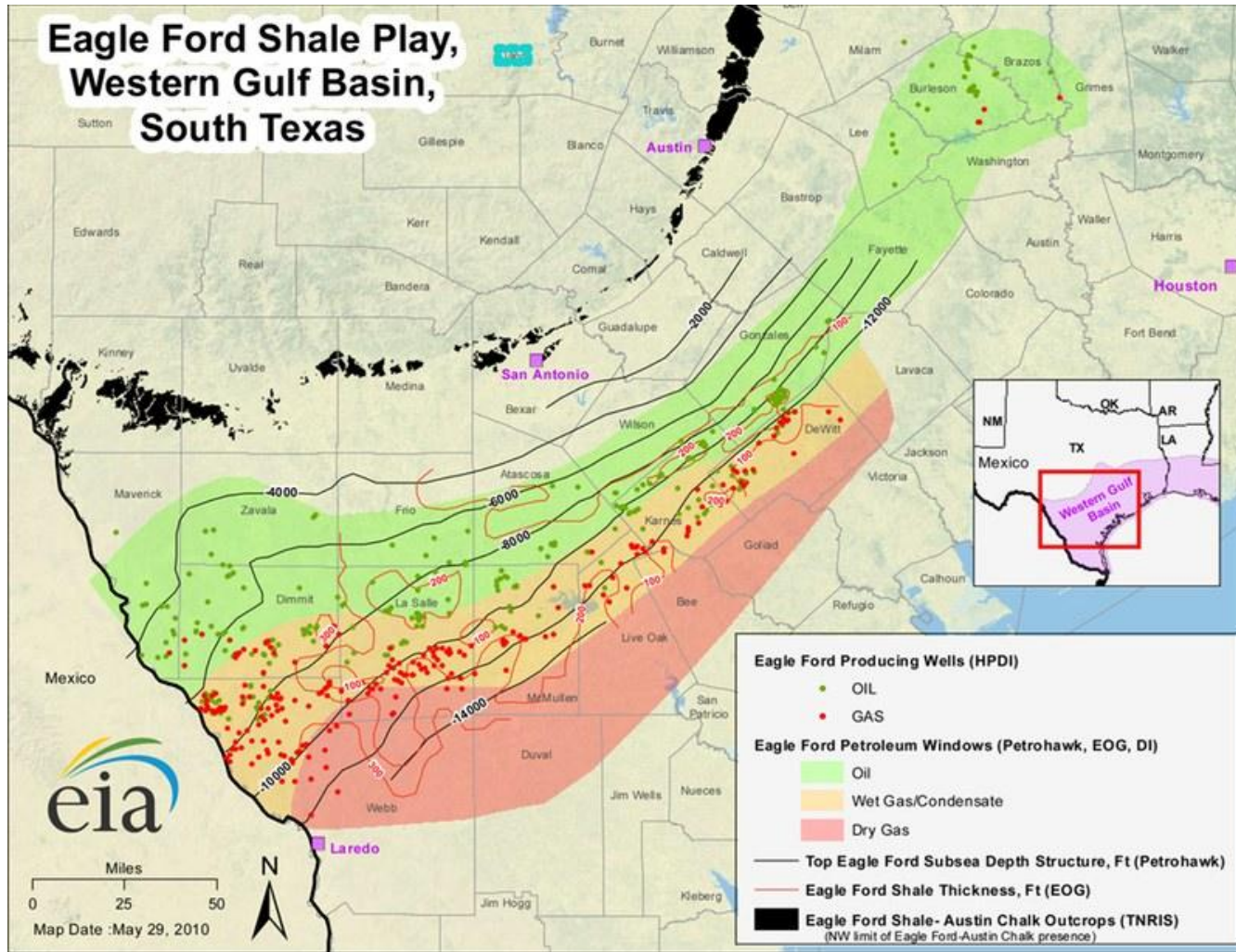




# South Texas (Eagle Ford, EagleBine and Pearsall)

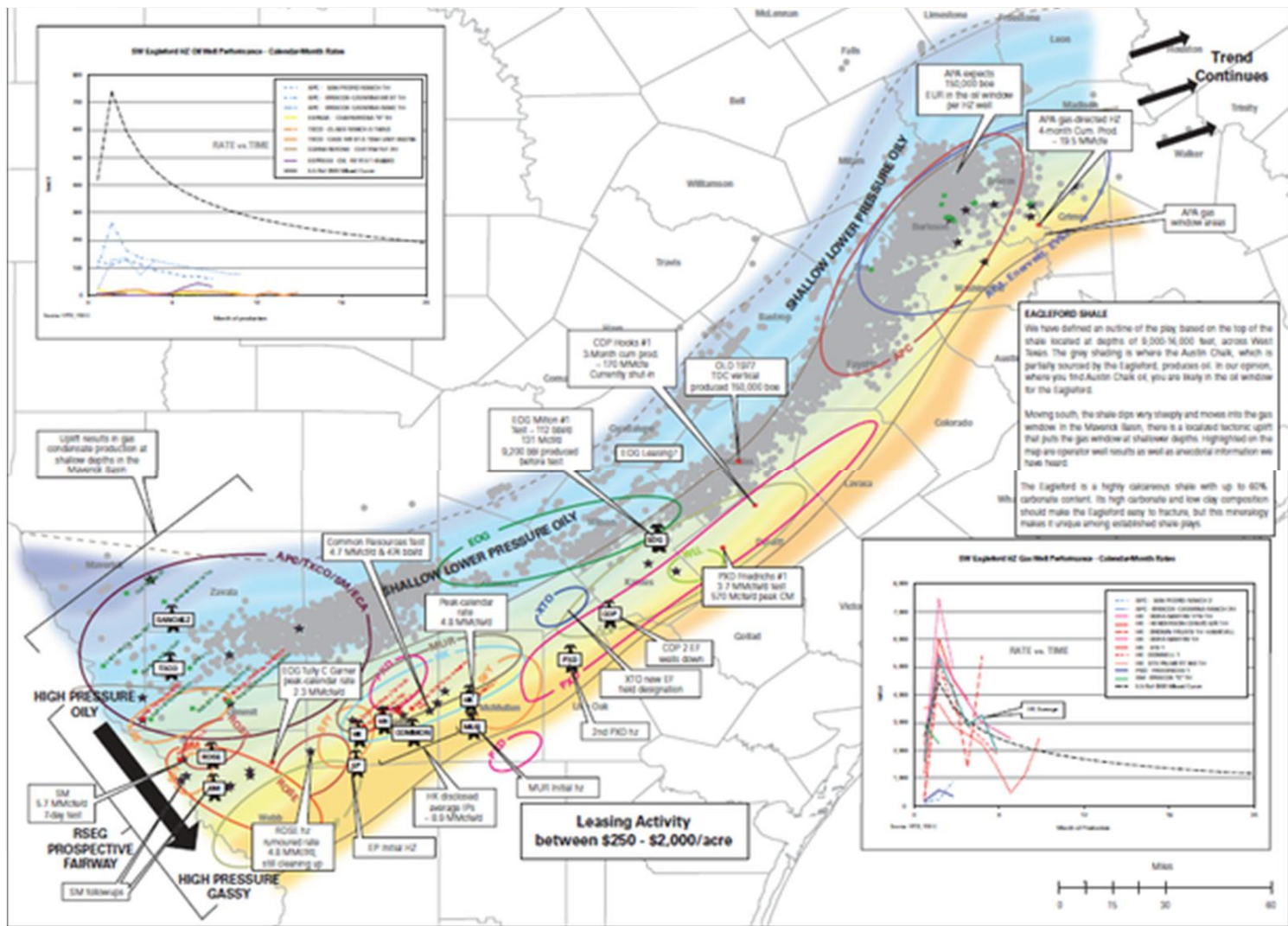


# Eagle Ford Shale Play, Western Gulf Basin, South Texas



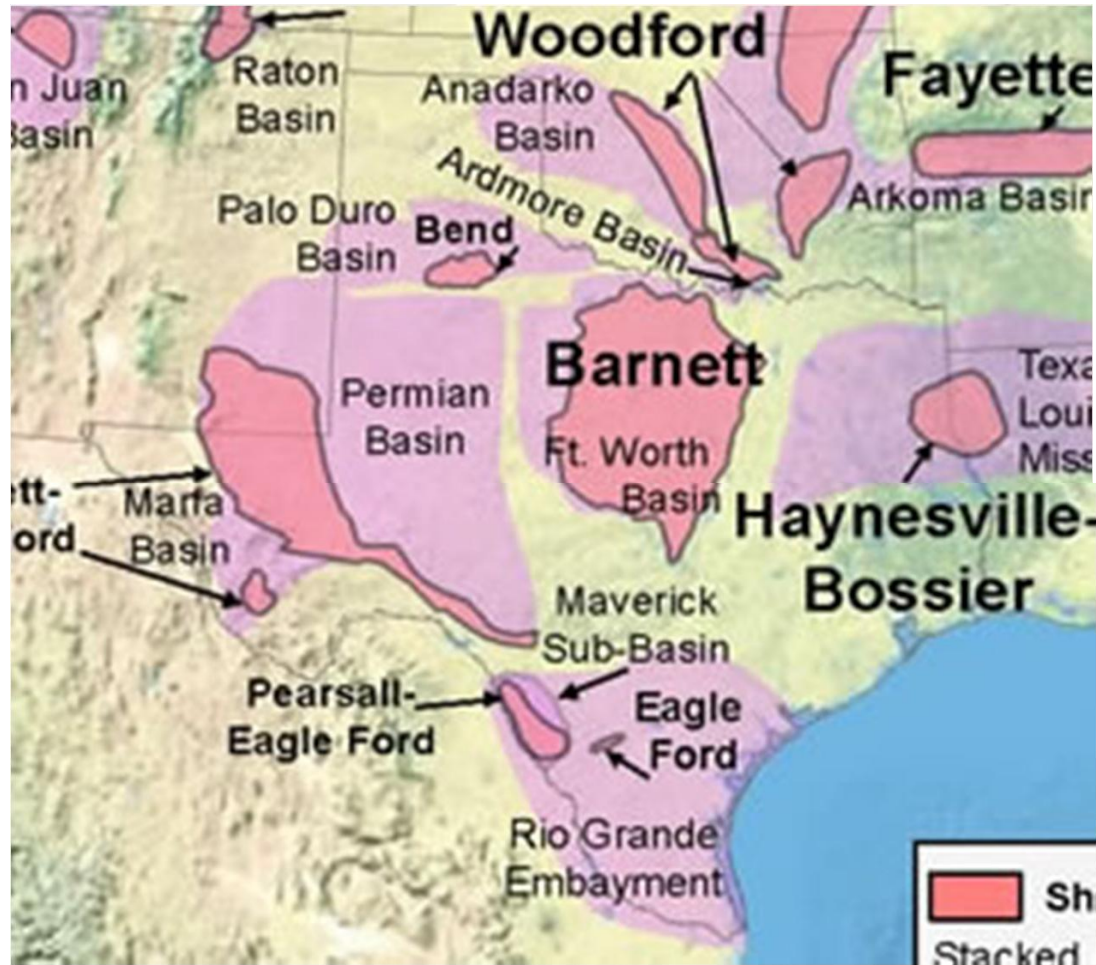


# South Texas - What people thought was the Eagle Ford

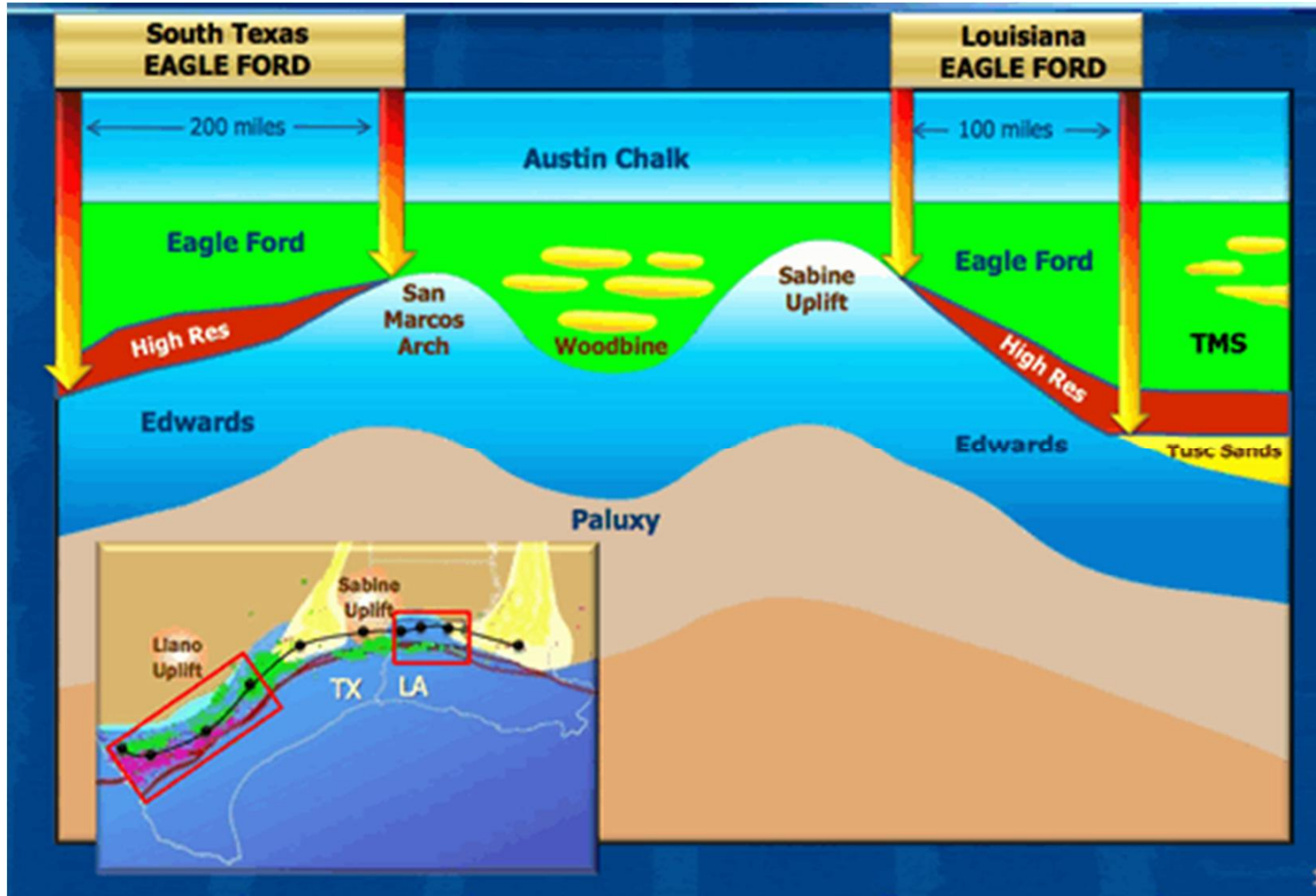




# South Texas - What people thought was the Eagle Ford



# South Texas – The Eagle Ford now...All the way to Louisiana.





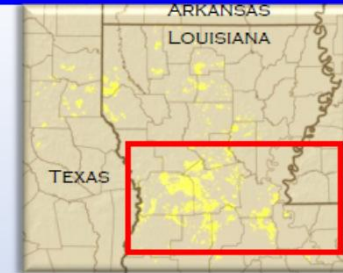
# South Texas – The Eagle Ford now...All the way to Louisiana.

## Indigo II Louisiana Operating LLC: Land Position

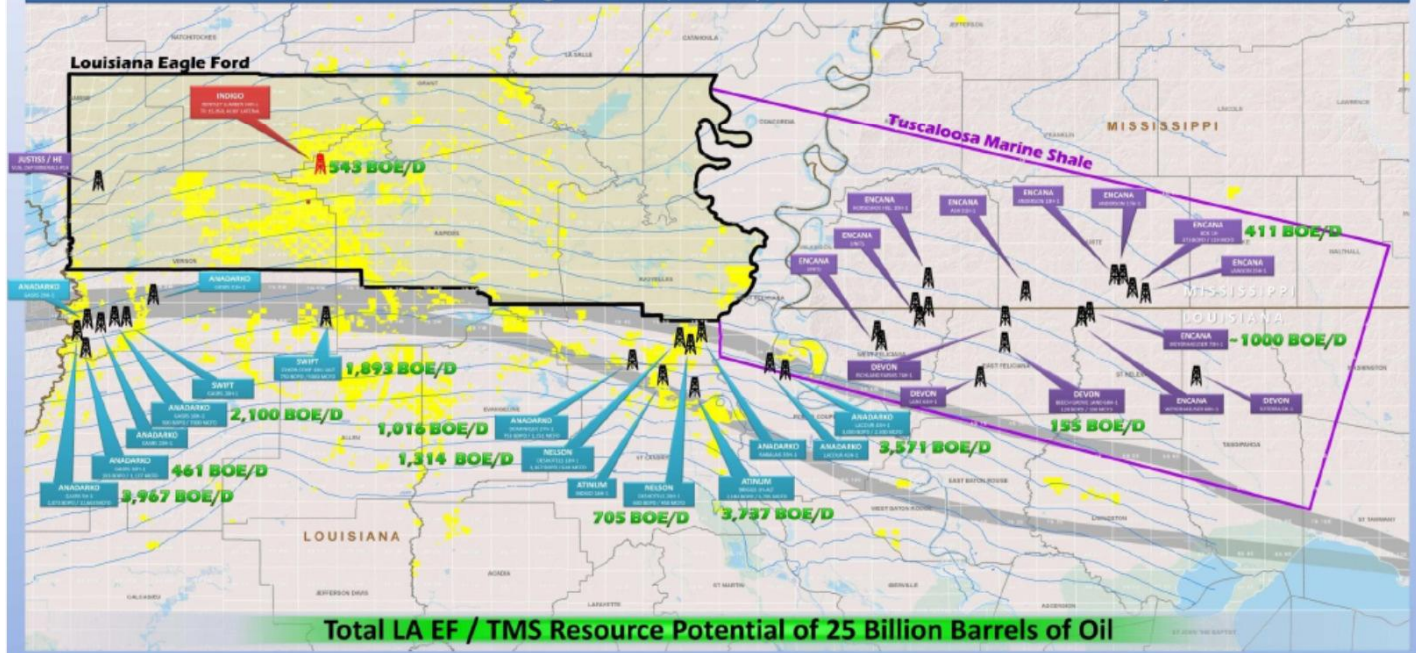


### Indigo II LA Eagle Ford shale proposed AMI Acreage

- LA EFS WI > 250,000
- Austin Chalk WI 40,000
- Greater Central LA Minerals 300,000

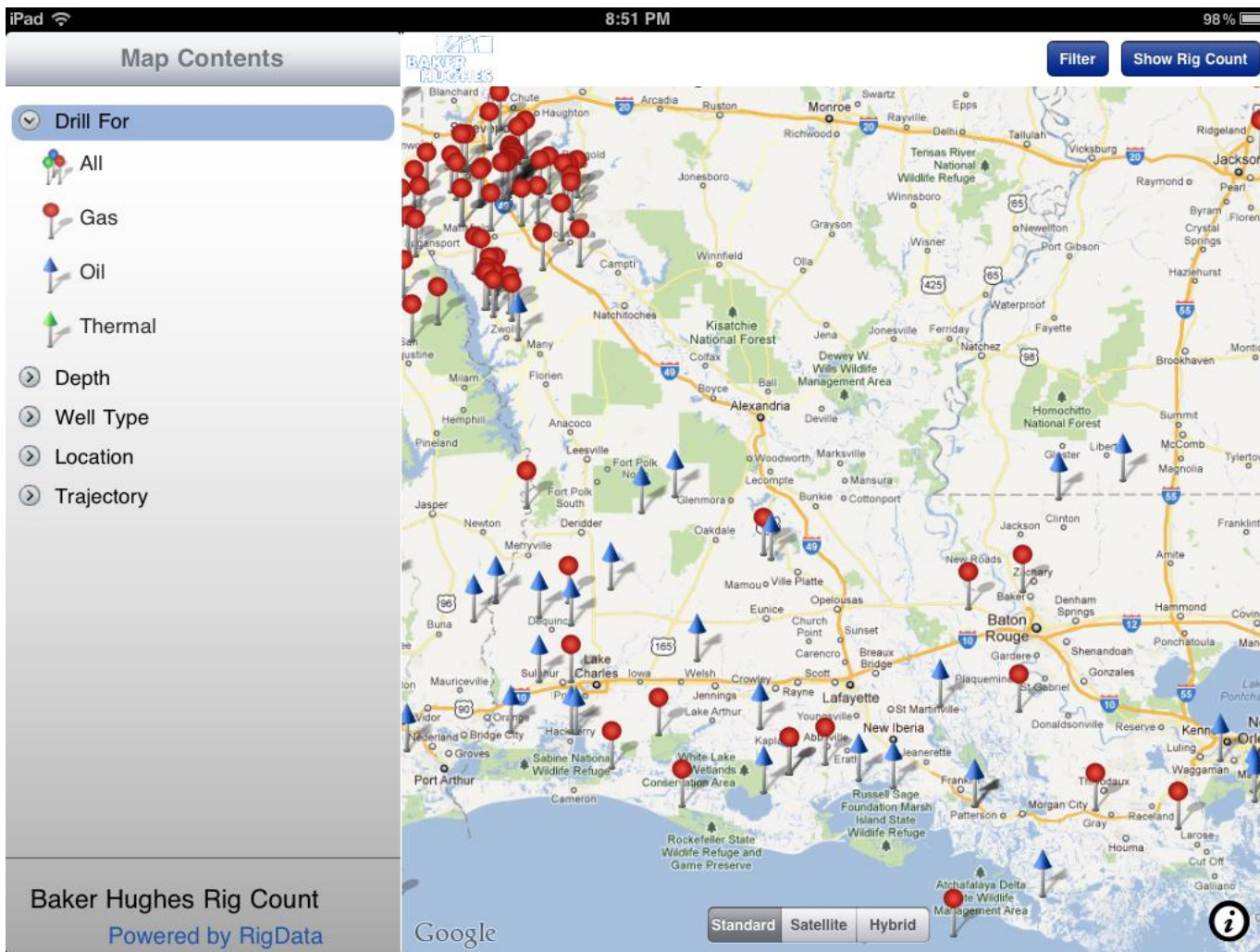


### Central Louisiana Eagle Ford (LA EF), TMS and Austin Chalk Activity





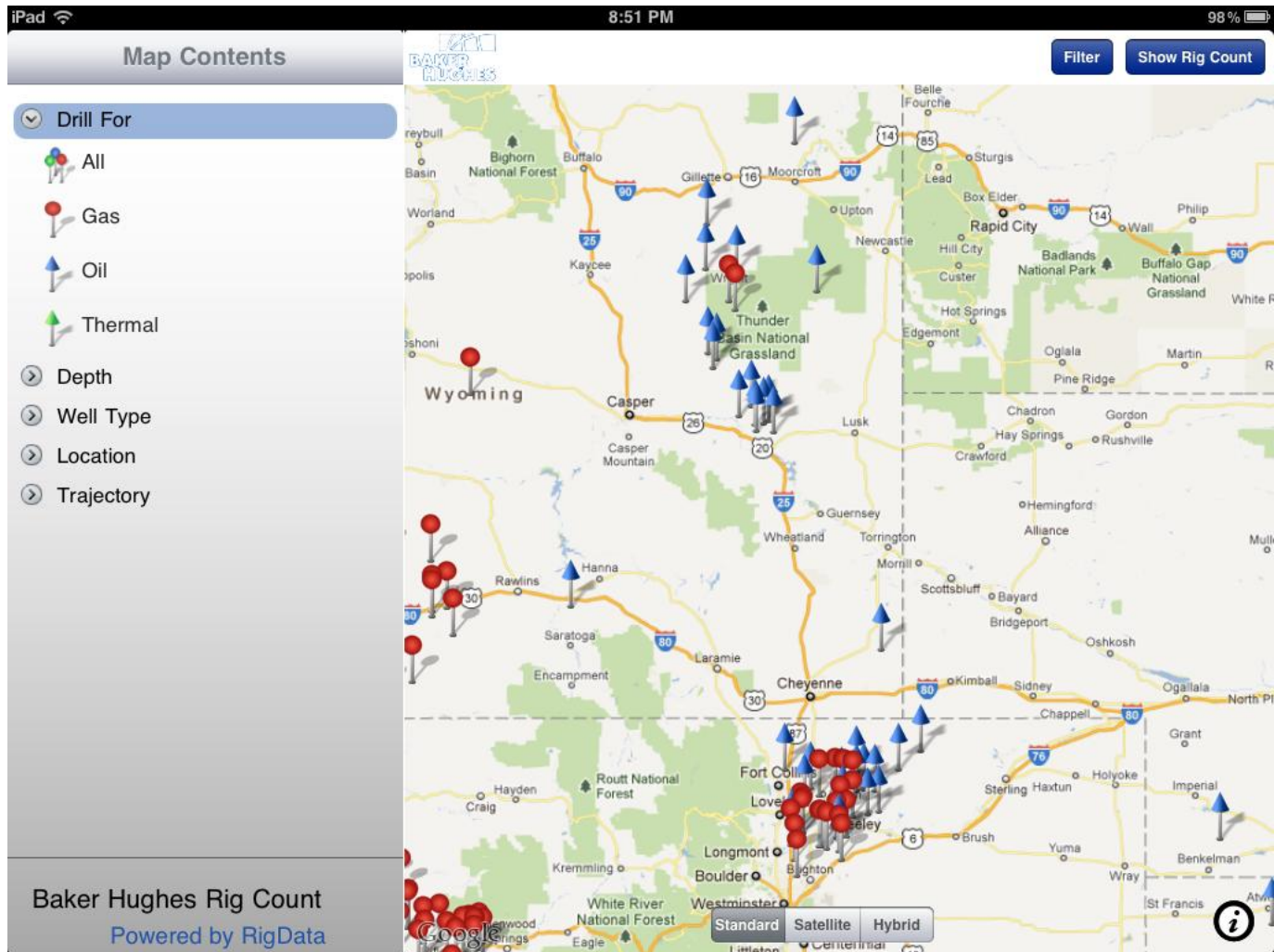
# Louisiana (Eagle Ford, Tuscaloosa Marine Shale & Brown Dense Shale)



# Louisiana/South Arkansas – Tuscaloosa Marine Shale & Brown Dense.



# Niobrara

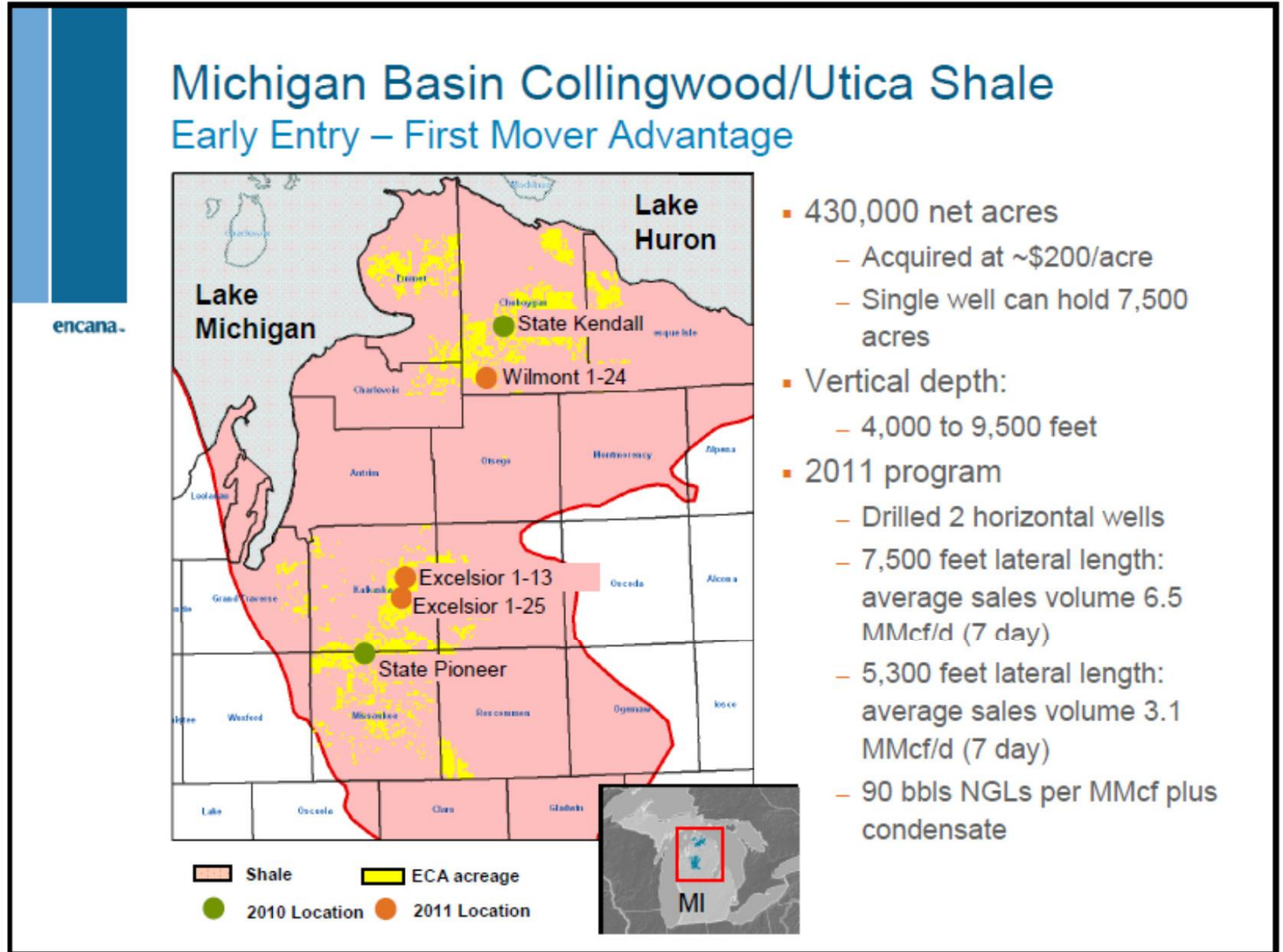




# Utica – Marcellas Immediate and Long Term

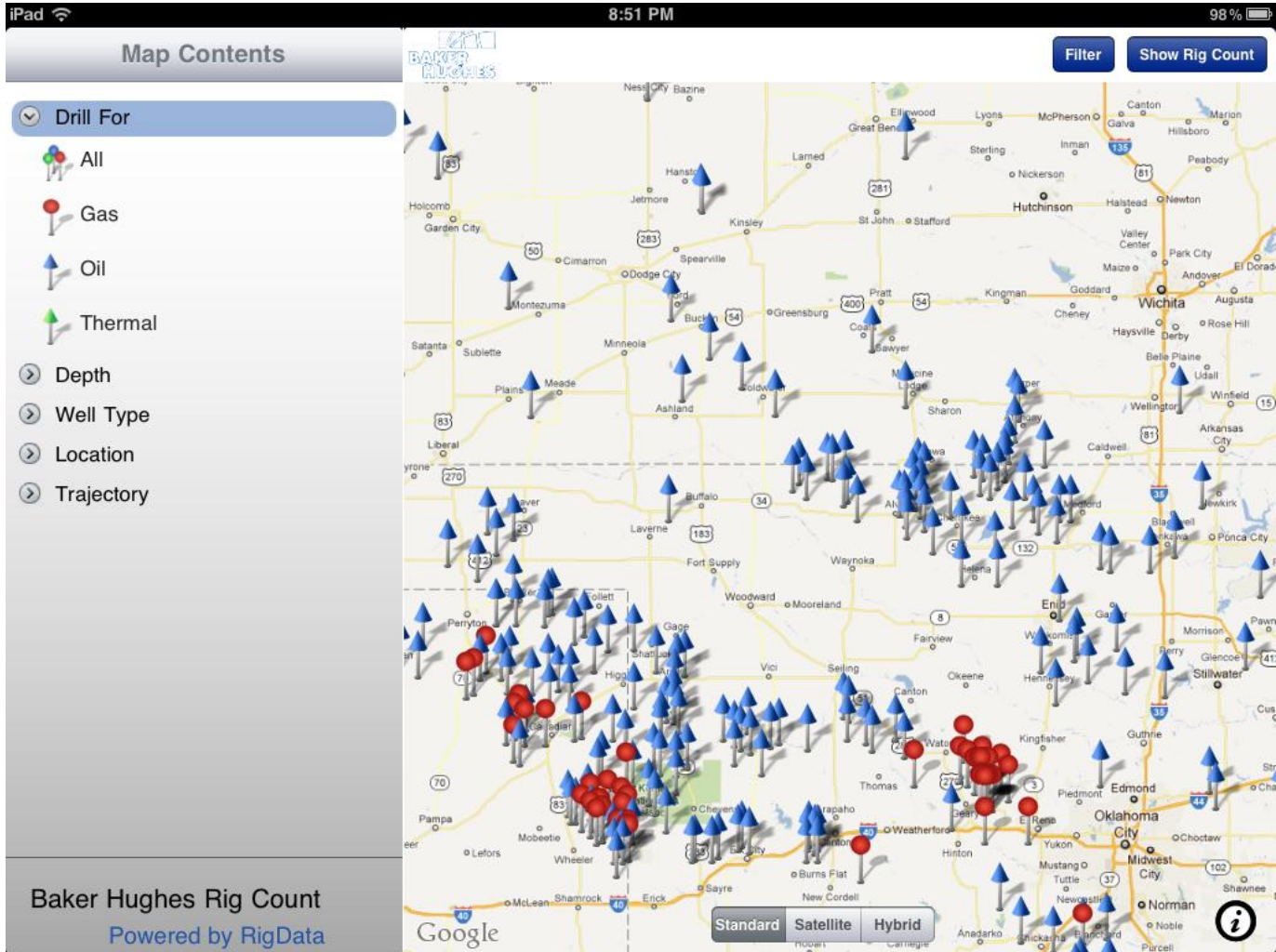


# Michigan Basin

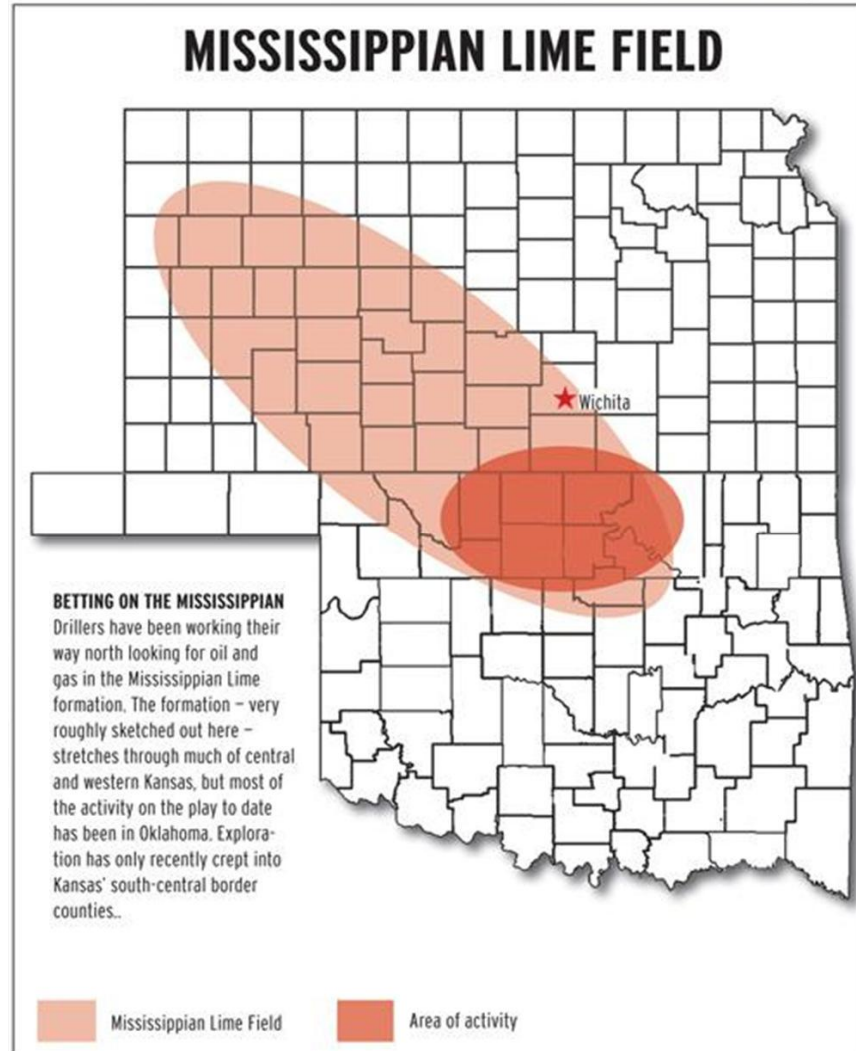




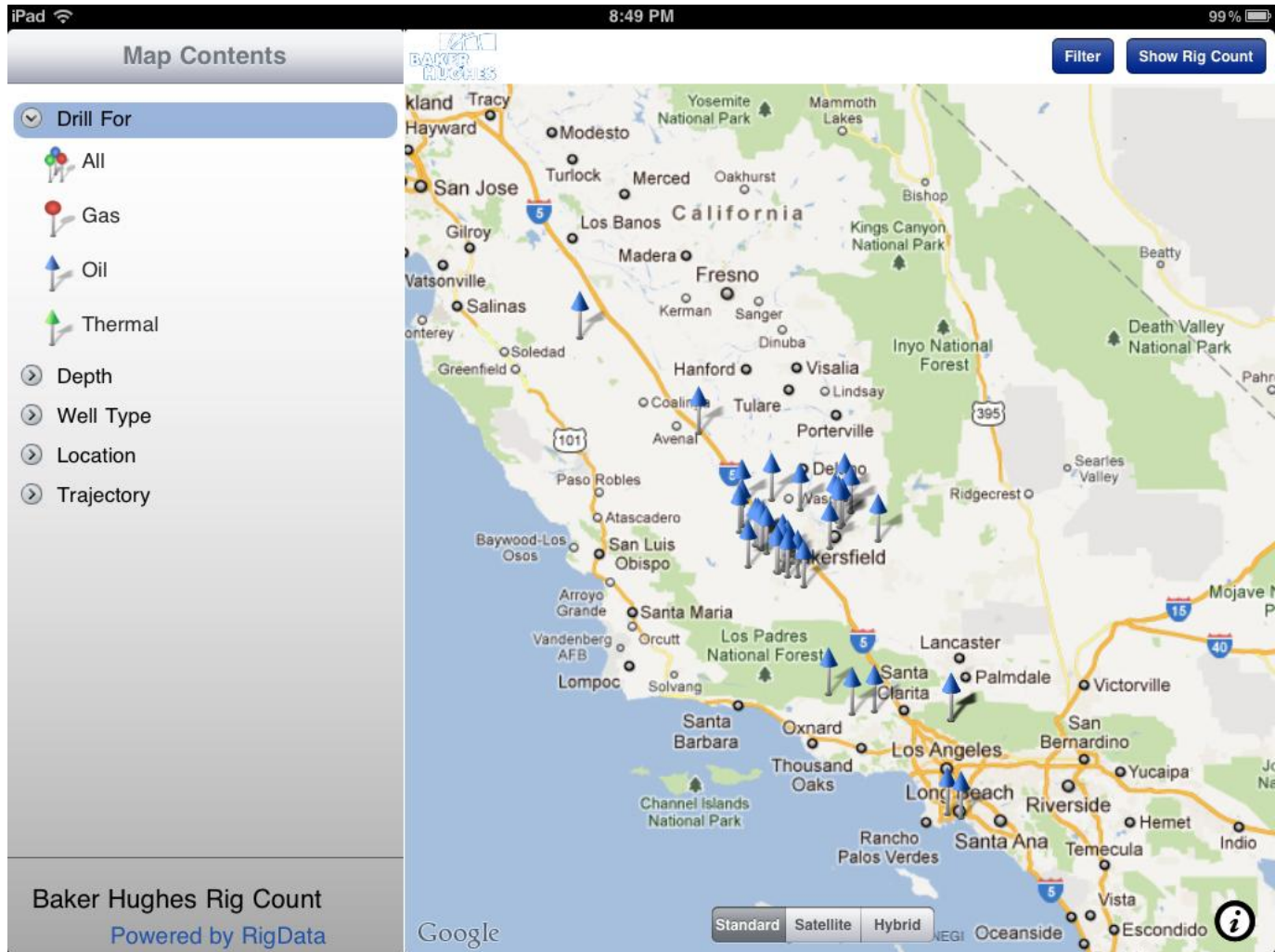
# MidCon







# California



# California





# Unit Trains Reducing Cycle Time Maximizes Fleet Efficiency

- Potential Unit Train Savings
  - Currently no unit train origins or destinations
  - \$1,000 differential to Bakken
  - \$600 differential to other BN destinations
  - 42 cycle days versus 12 cycle days
  - Demurrage Savings



# Demurrage Cost by Railroad

RR	Free Days Private	Calculations Private	Free Days System	Calculations System
BNSF	0 days	\$75 per day	2 days	3rd-5th day \$75 per day; 6+ days \$150 per day
BNSF	0 days	1-5 Cars \$75 per day; 6-10 Cars \$100 per day; 11-20 Cars \$150 per day; 21+ Cars \$250 per day	0 days	1-5 Cars \$75 per day; 6-10 Cars \$100 per day; 11-20 Cars \$150 per day; 21+ Cars \$250 per day
FDL	0 days	\$16.50 per up to 50 cars	2 days	\$31.50 per day
FDL	0 days	\$84 per day, unless in bad standing then \$210 per day, 2 credits given once placed	0 days	\$84 per day, unless in bad standing then \$210 per day, 2 credits given once placed
FWWR	2 days	\$11.20 per day	2 days	\$30 per day
GRAIN	0 days	No charges if no car hire	2 days	\$40 per day
GRD	2 days	\$50 per day days 3-7, \$100 per day days 8+	2 days	\$50 per day days 3-7, \$100 per day days 8+
GWR	0 days	do not charge, based on car fare	2 days (average)	\$14.4 per day (on average)
KCS	1 day	\$90 per day	1 day	\$90 per day
UP	0 days	\$80 per day, unless in bad standing then \$200 per day, 2 credits given once placed	0 days	\$80 per day, unless in bad standing then \$200 per day, 2 credits given once placed
WE	2 days	\$35 per day	2 days	\$60 per day
WildCat	0 days	\$22 per day	3 days	\$66 per day
Farmrail	0 days	No charges if no car hire	2 days	\$40 per day

# Barge Options

