

## Hydraulic Fracturing

- Started in 1940's – 1 million wells nationwide
- Bakken wells – 2 miles deep
- Industry is regulated by state's top elected officials
- Most anti-frac efforts are anti-drilling or fossil fuel
- [FracFocus.com](http://FracFocus.com)

## Continental's ECO-Pad Technology

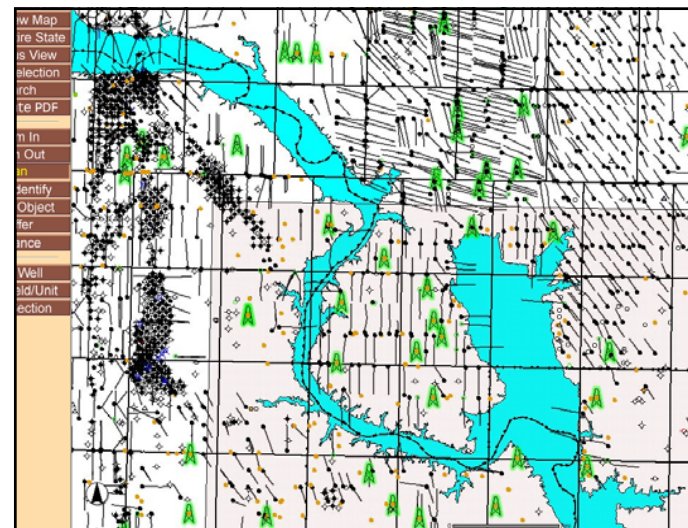
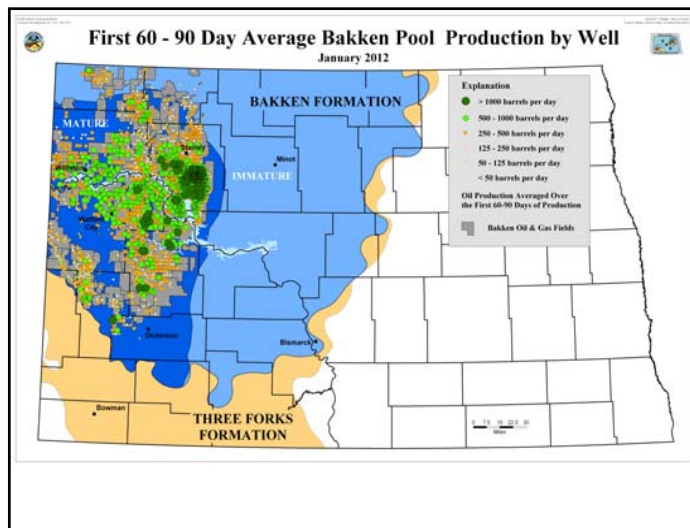


## Completed Eco-Pad





Where is the Bakken?



What does the Bakken have to do with the North Dakota?

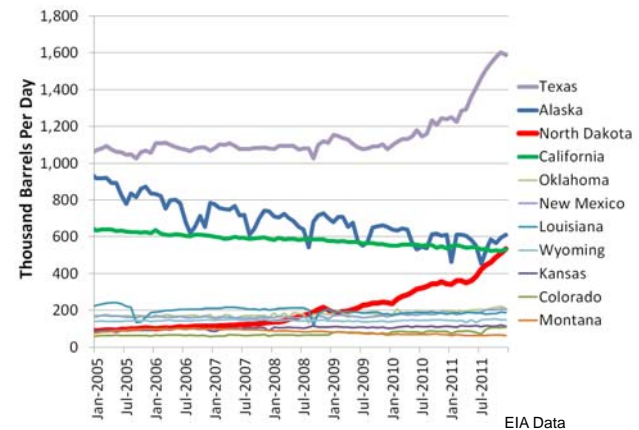
### What does Each Bakken Well Mean to North Dakota

- Well will produce for 29 years (current tech)
- Produce 580,000 BBLs oil
- Generate \$22 million net profit
- Pay \$4.6 mil in taxes
  - \$2.2 mil production taxes
  - \$2.0 mil extraction taxes
  - \$410,000 in sales taxes
- Pay royalties of \$7.9 mil to mineral owners
- Pay salaries and wages of \$1.5 mil
- Pay operating expenses of \$2.3 mil
- Cost is \$8.5 mil to drill and complete

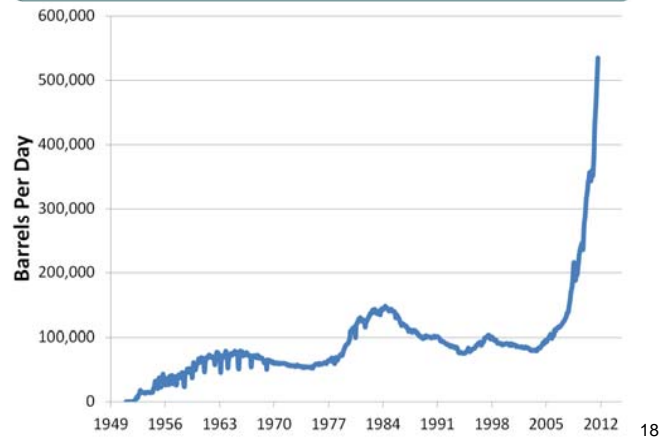
### Industry Facts and Figures

- North Dakota ranks 3rd among the nation's oil producing states.
- ND produces 540,000 barrels per day
  - 100,000 barrels per day in 2007
- 153 million barrels of oil produced last year. 113 in 2010 – 46 in 2007
- 6,500 producing oil wells – might take 20- 40 thousand to develop Bakken.

### North Dakota #3



## North Dakota Crude Oil



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## North Dakota Employment

- <3.2% unemployment
- 17,000 job openings
- 1/3 openings in Bakken area
- Average Wage \$93,000
- [JobsND.com](http://JobsND.com)
- [Bakkenstaffing.com](http://Bakkenstaffing.com)



## Workforce Study 2010

- 7,000 to 10,000 workers per year for five years

88% Need Basic Skills – Two year degree or less

Drug Test – Hard Work

It all looks pretty rosy, what could be a negative to all this good stuff?





**Many Challenges with Bakken Growth at Fast Pace**

- Workforce
- Housing
  - Man Camps
  - Apartments
  - RV Parks
  - Wal Mart parking lot
- Restaurants





## More Challenges

- Roads
  - Impacts & Safety
  - Dust, speed, etc...
  - Safety
- Equipment Logistics
  - Oilfield equipment
  - Transportation to area, then to well
  - Lifting (cranes from little to huge)

## More Challenges POWER!

- Wellsite power
- Substation to Well
- High Voltage powerlines
- Generation

*God Bless the Rural Electric  
Cooperatives*



## More Challenges WATER!

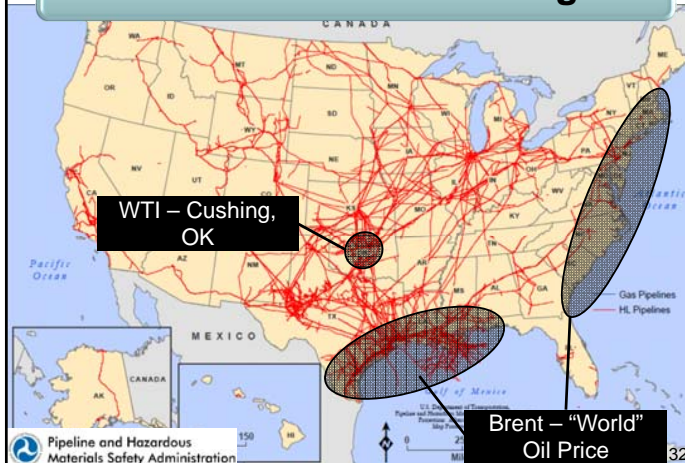
- FRACs
- Drilling
- Man Camps
- City expansions

*God Bless the cities and Rural  
water Cooperatives*

## More Challenges

- What do you do with all that oil?
  - Local pipeline construction
  - Intra State pipeline construction
  - Interstate pipeline construction
    - Can you say XL Pipeline? Or similar
    - Local pipeline construction
  - Welcome to the new oilfield – Choo choo trains!

## Brent-WTI Crude Pricing



## Oil Cars and Loading Sites









## Pipelines to Tanks for Trains

### H.O. Bakken No.1

*(Photos from the William E. "Bill" Shemorry Photograph Collection, property of the Williston State College Foundation; Photo 1, Harry Bakken, mother Mary Bakken, and (standing) Henry Bakken were photographed by the late Bill Shemorry for a story appearing in the Williams County Farmers Press on July 12, 1951, the day before drilling commenced on the H.O. Bakken No. 1; Photo 2, the H.O. Bakken No. 1 as photographed by Bill Shemorry in 1951. )*

Questions

## **Key Workers Needed**

- **Drilling Rig Hands**
- **Welders**
- **Truck Drivers**
- **Work-over Rig Crews**
- **Production Hands**
- **Directional Driller**
- **Stimulation/Cementing Supervisors**
- **Roustabouts**
- **Diesel Mechanics – Gas Plant Operators**
- **Safety Coordinators – HR Experts**

