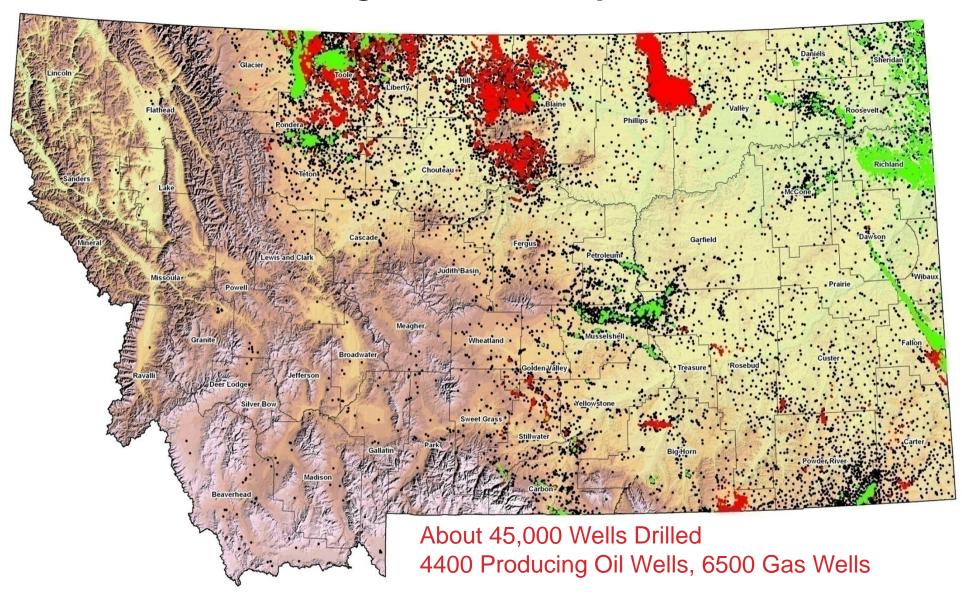
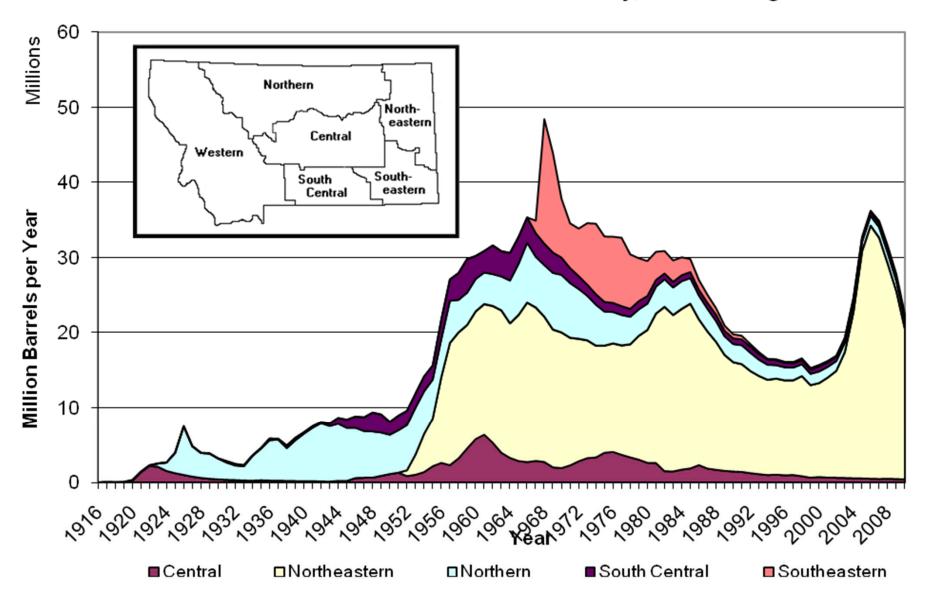


### **Montana Producing Areas and Exploration Activities**

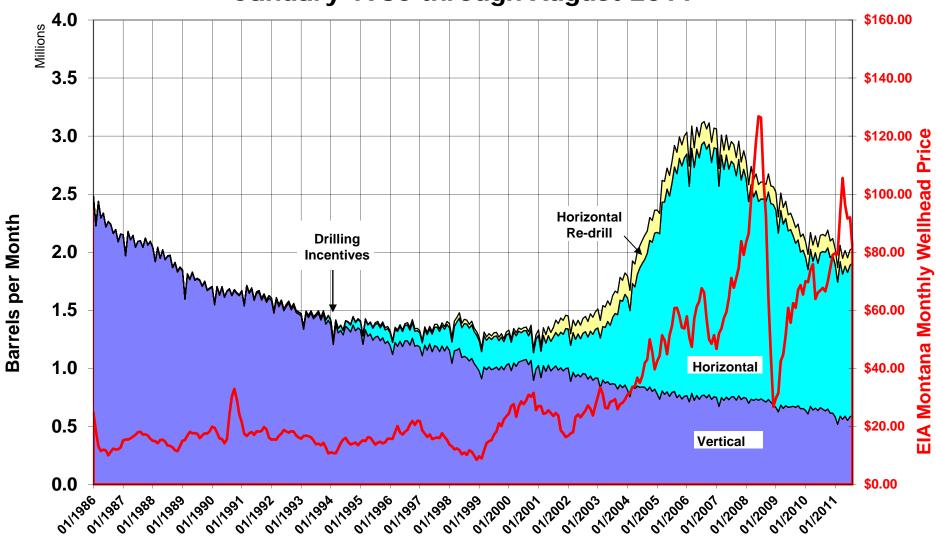


#### **HISTORICAL PRODUCTION**

Statewide Oil Production History, 1916 through 2010



# Monthly Oil Production, Vertical vs. Horizontal Wells January 1986 through August 2011

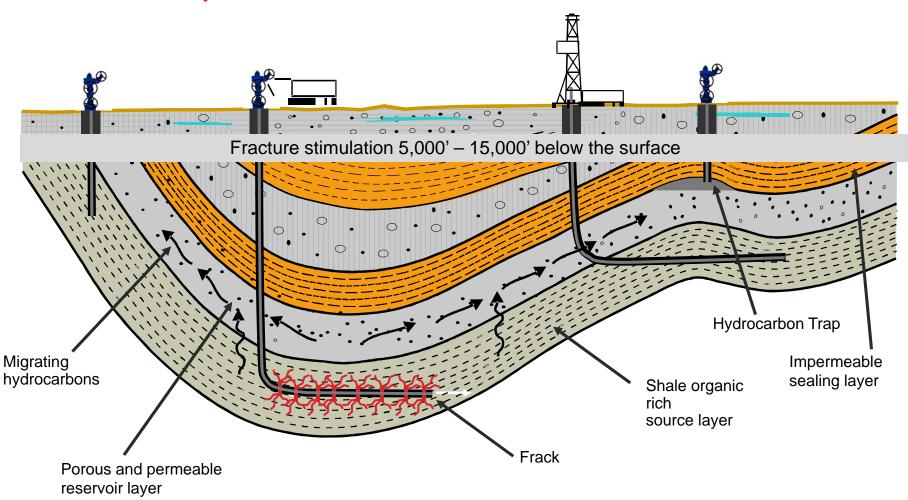




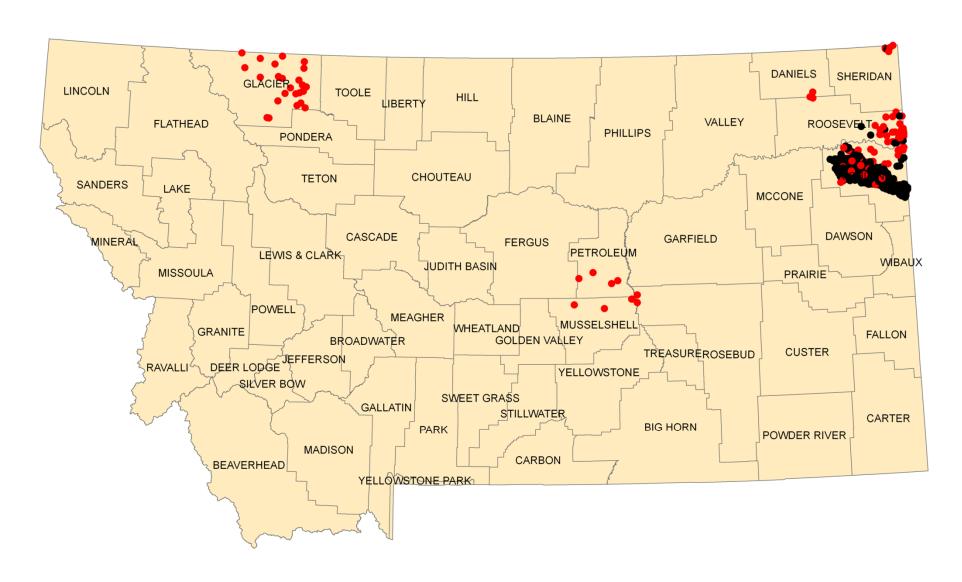
Source: U.S. Energy Information Administration based on data from various published studies. Canada and Mexico plays from ARI. Updated: May 9, 2011

# Technology's Role

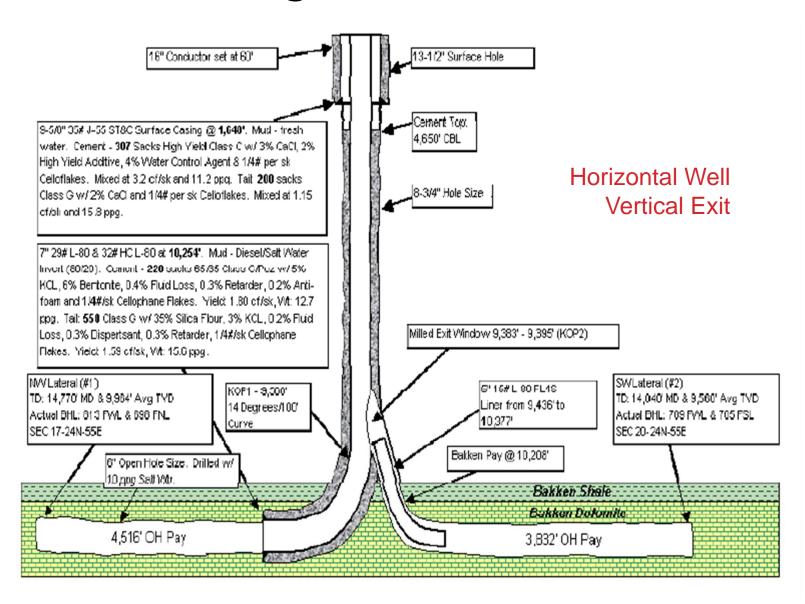
Why the revolution?



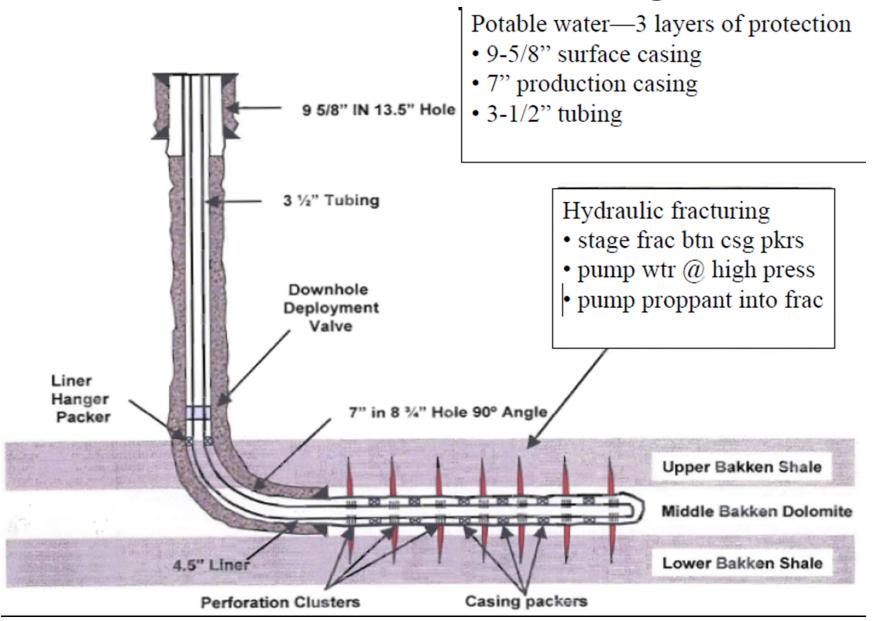
# **Horizontal Oil Shale Activity**

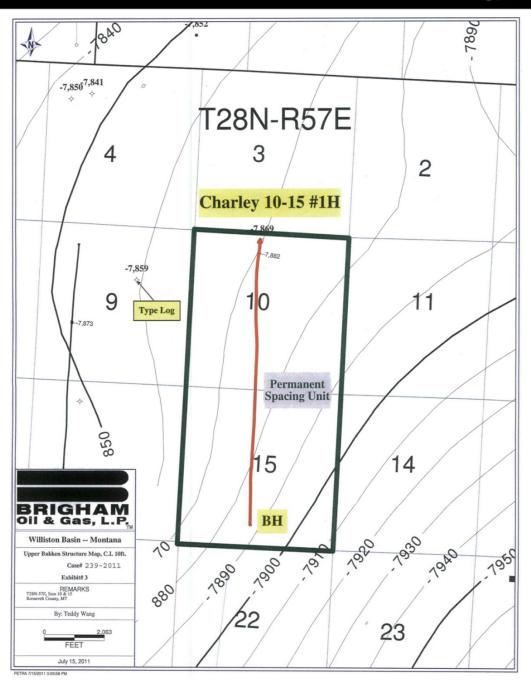


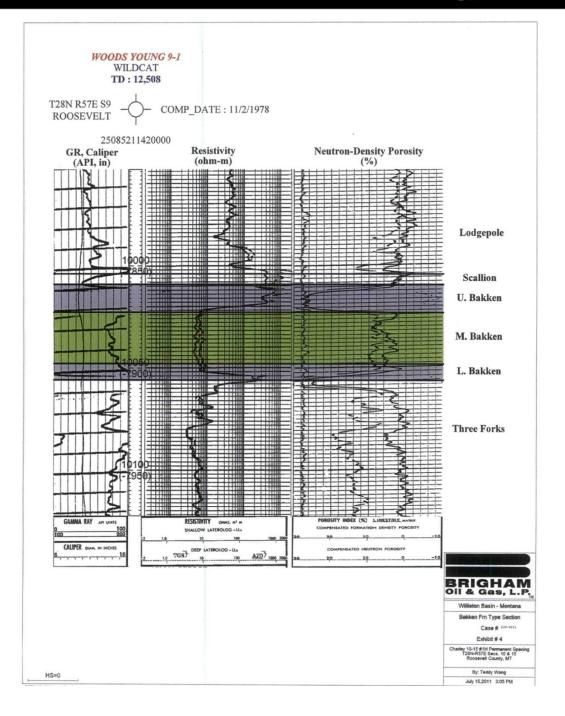
# **Vertical Casing Exit**



# Typical Bakken Wellbore Diagram

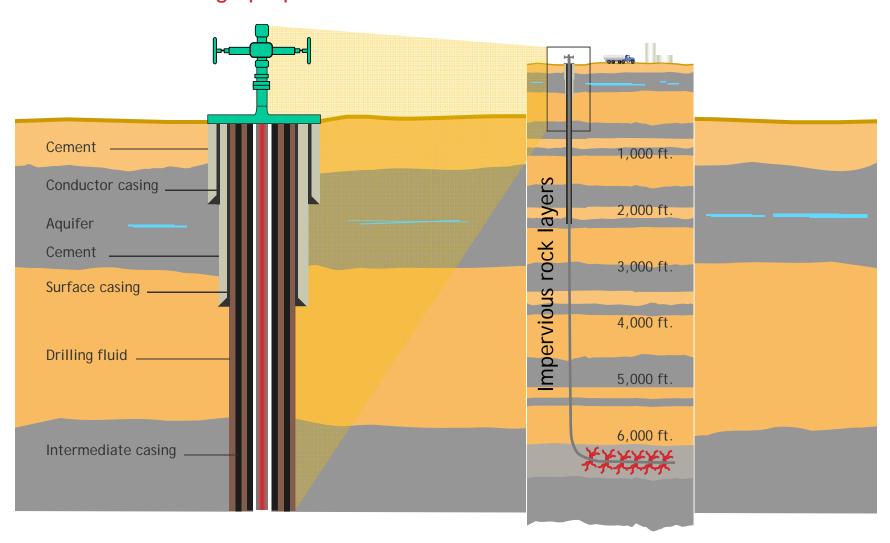


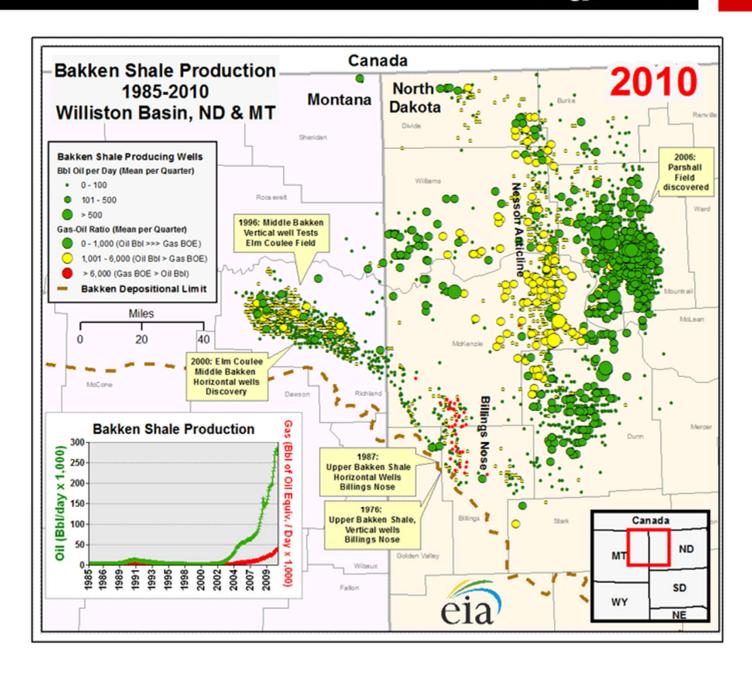


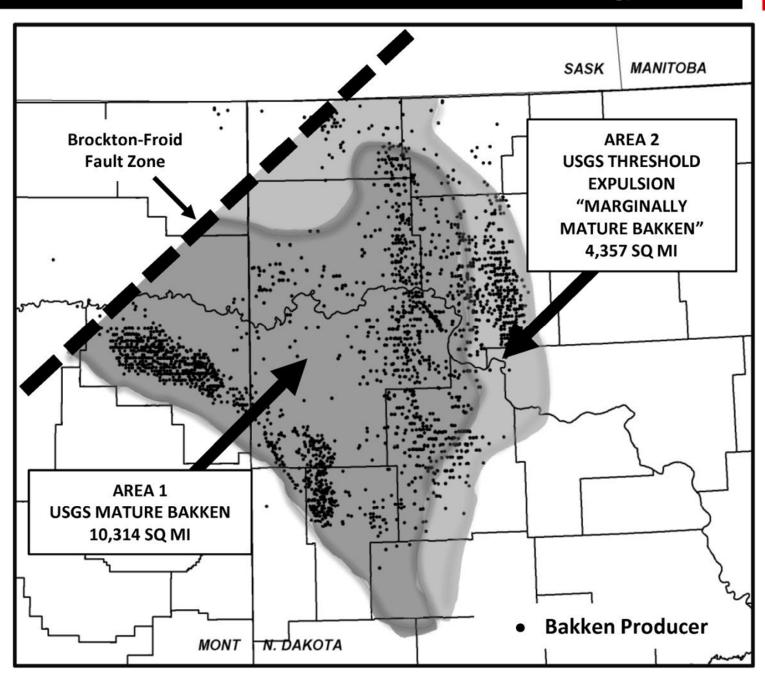


### **Groundwater Protection**

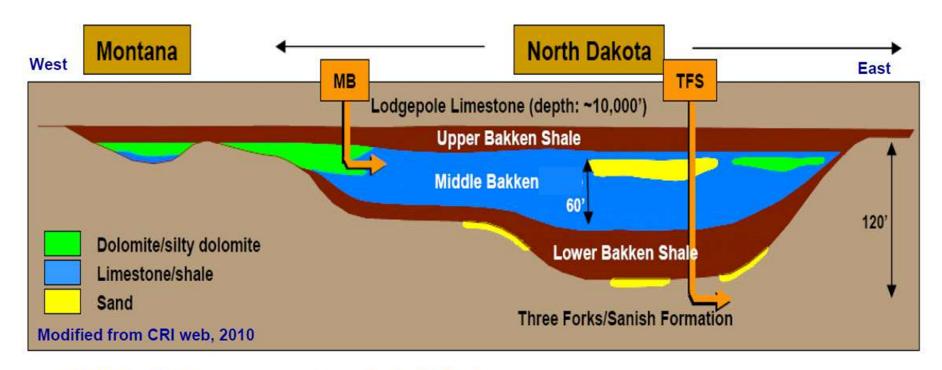
through proper well construction





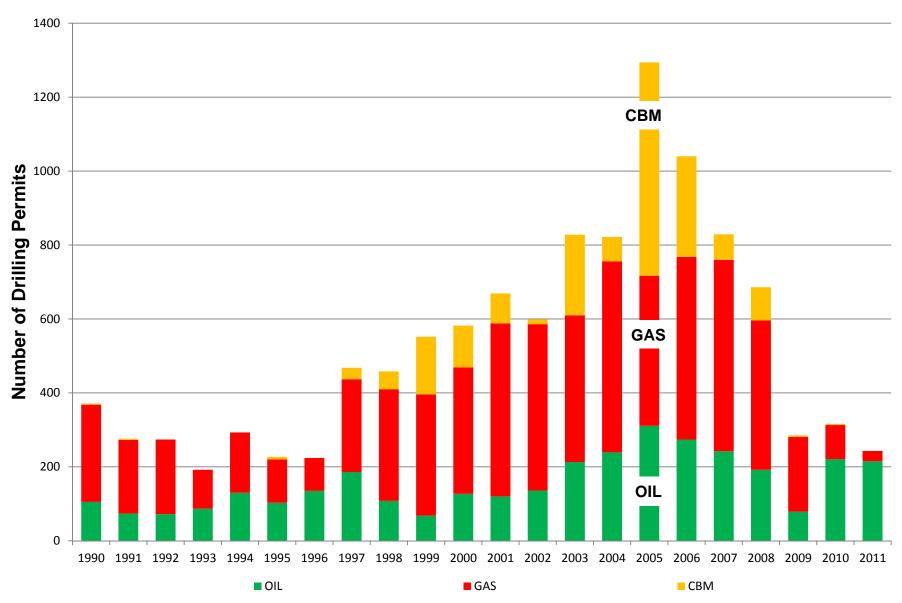


### Middle Bakken / Three Forks Pay Variation

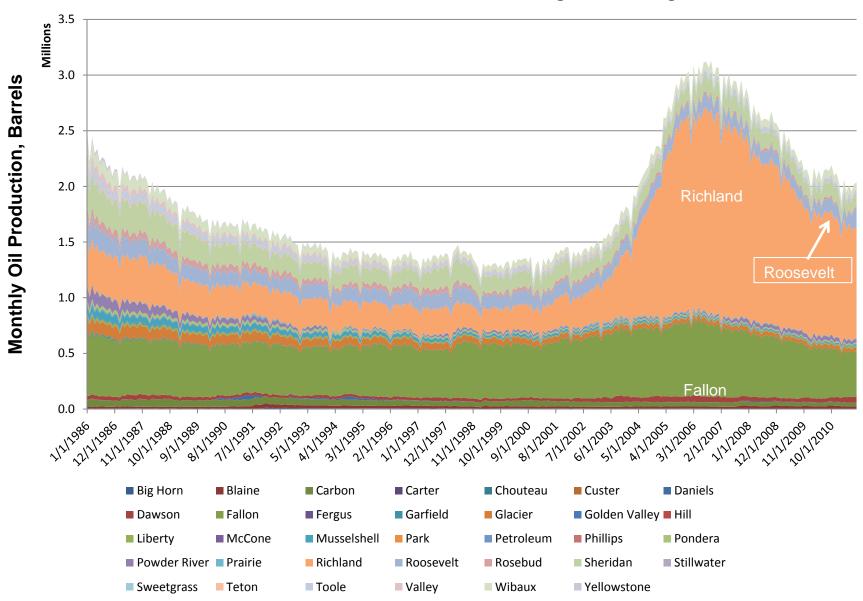


- Middle Bakken pay not a shale lithology Complex, laterally varying lithology & play types Stratigraphic / diagenetic trap drivers
- Underlying Three Forks 'non-shale' play potential established 2008 Also sourced by Bakken shale Dual zone development underway

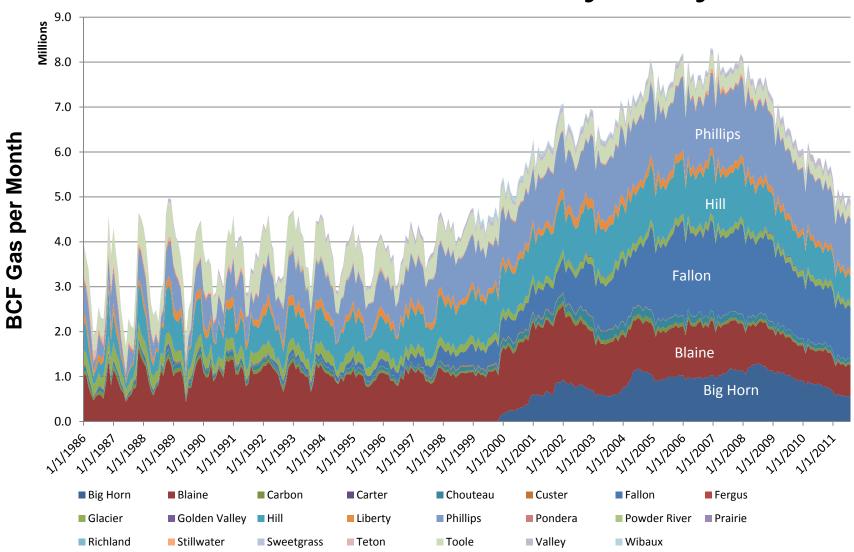
#### Montana Drilling Permits Issued, 1990 through 2011



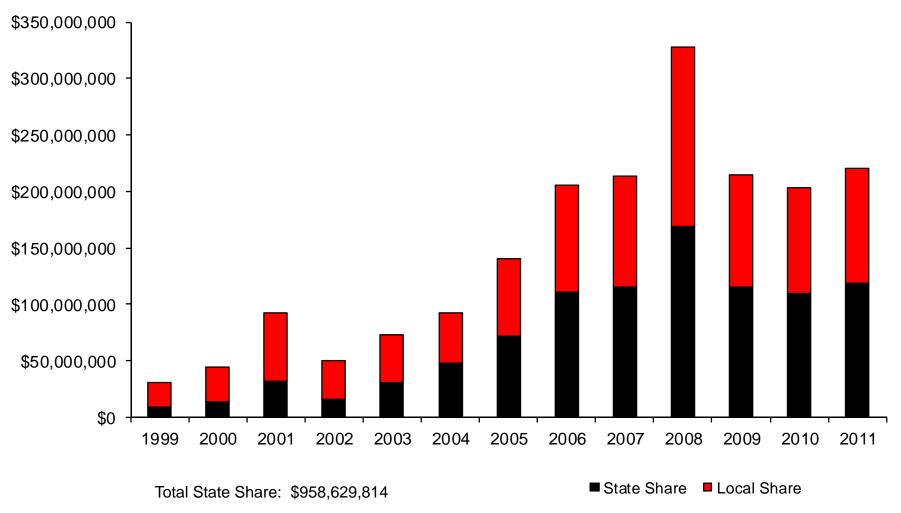
#### **Montana Oil Production by County**



#### **Montana Gas Production by County**

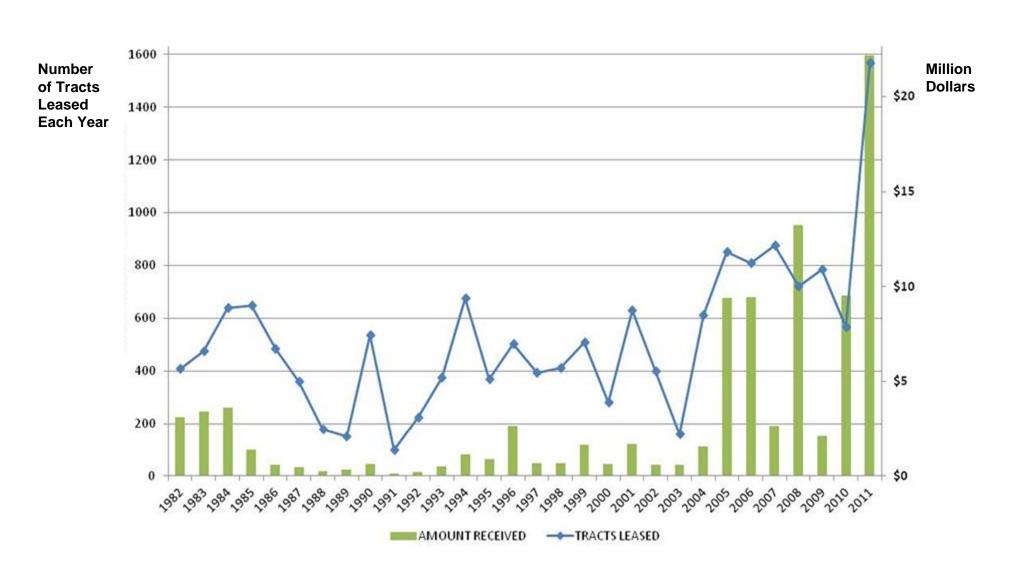


#### Oil and Natural Gas Production Tax Revenue Collections



Total Local Share: \$949,382,548 TOTAL \$1,908,012,362

#### Oil and Gas State Land Lease Sales



### **Petroleum Industry Facts**

\$9+ BILLION Total economic impact – including E&P and Refining

4,600 Employees in Exploration, Production, or Refining

Economic impact from producing an additional 1 million barrels of oil

- 86 Full time positions
- \$18.5 million in labor income

Each 10% increase in drilling activity leads to about 315 additional jobs.

**Drilling Rig Count Increased from 9 last year to 13 in January 2012** 

Industry likes MT's business climate and tax structure

 Brigham Energy: "They (Montana) have a good operating environment." (Billings Gazette, May, 2011)

### **BUSINESS TAX CLIMATE RANKINGS**

THE TAX FOUNDATION FISCAL YEAR 2011



## **Montana Oil and Gas Taxes**

#### Montana's tax rate on oil is 20% lower than North Dakota's

→ 9.25% VS. 11.5% (Former North Dakota Governor Ed Schafer, FixTheTax.com)

| Taxes                    | Montana          | North Dakota         | Advantage |
|--------------------------|------------------|----------------------|-----------|
| Tax Rate                 | 9.25%            | 11.5%                | Montana   |
| Tax Holiday              | 18 mo.<br>(0.5%) | Only if oil <\$50.07 | Montana   |
| Avg. Tax/Bbl (05-<br>08) | \$4.89           | \$5.87               | Montana   |

(Montana Department of Revenue Study)

# **O&G** Impact Funds to Counties, 2007-2001

| All O&G Producing Counties (33)  | \$555 million                           |
|--|---|
| Top 12 Counties  Big Horn, Blaine, Fallon, Glacier, Hill, Phillips, Powder River, Richland, Roosevelt, Sheridan, Toole, Wibaux | \$515 million                           |
| Richland County  | \$244 million<br>Over \$26,000/resident |