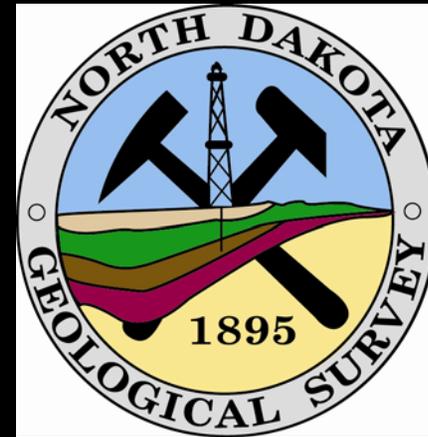


**North Dakota Petroleum Council**  
We Keep North Dakota Going Strong

- News
- Links
- Calendar
- Education
- Legislation
- The Association
- Reclamation Works!

American Petroleum Institute

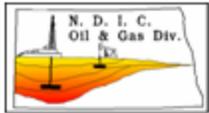


is now three-fold: to investigate

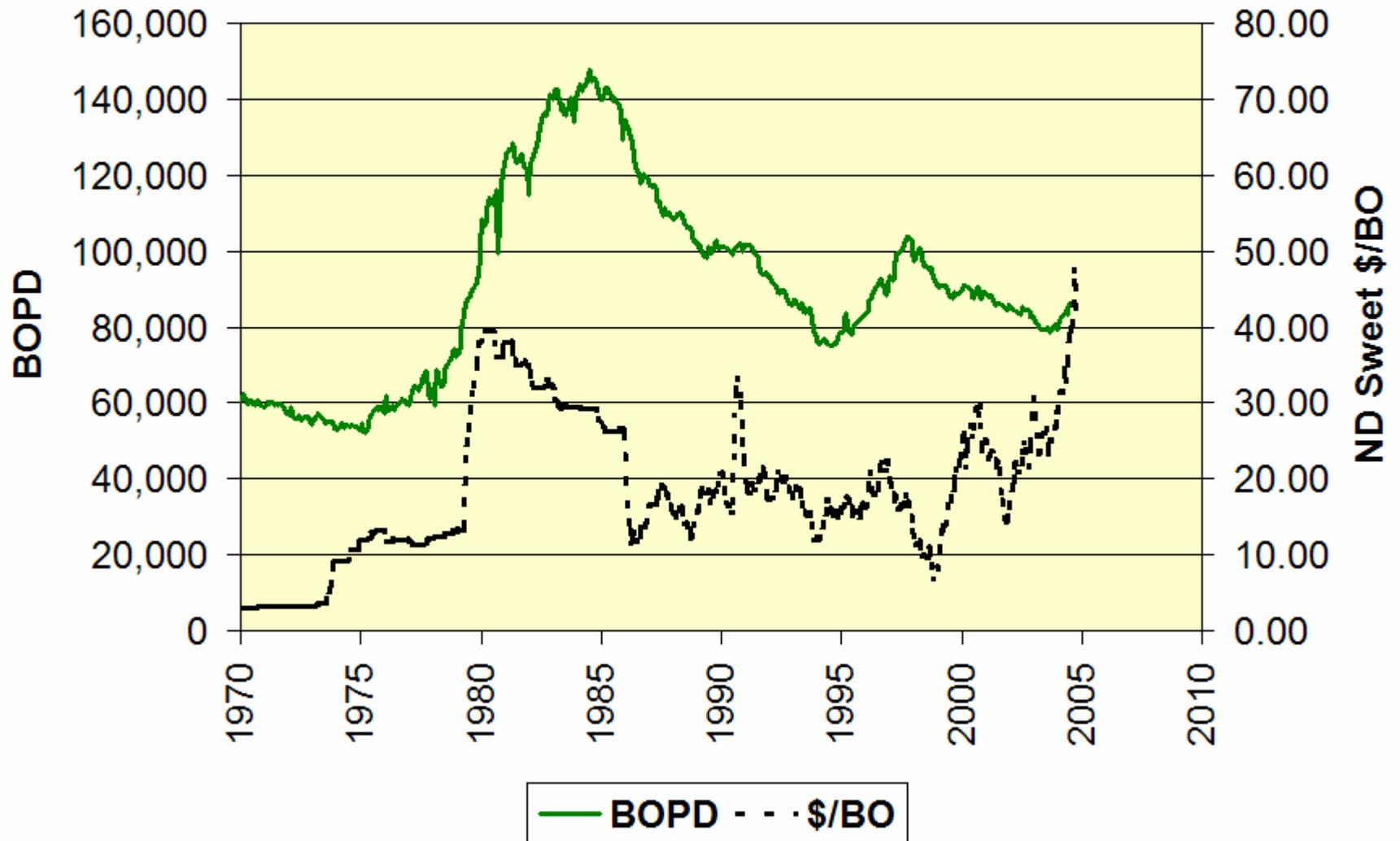
# Jeff Foxworthy's cousin Ole Foxworthy

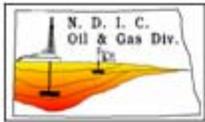
## You may be from North Dakota

- If you consider it a sport to gather your food by drilling through 2 feet of ice and sitting there all day hoping some food will swim by >
- If you design your kids Halloween costume to fit over a snowsuit >
- If you have ever had a long phone conversation with somebody who dialed a wrong number >
- If your whole family wears Vikings purple to church on Sunday >
- If you carry jumper cables in every vehicle and your girlfriend knows how to use them >
- If your idea of a traffic jam is 10 cars waiting to pass a tractor on the highway >
- If you have ever worn shorts and a parka at the same time >

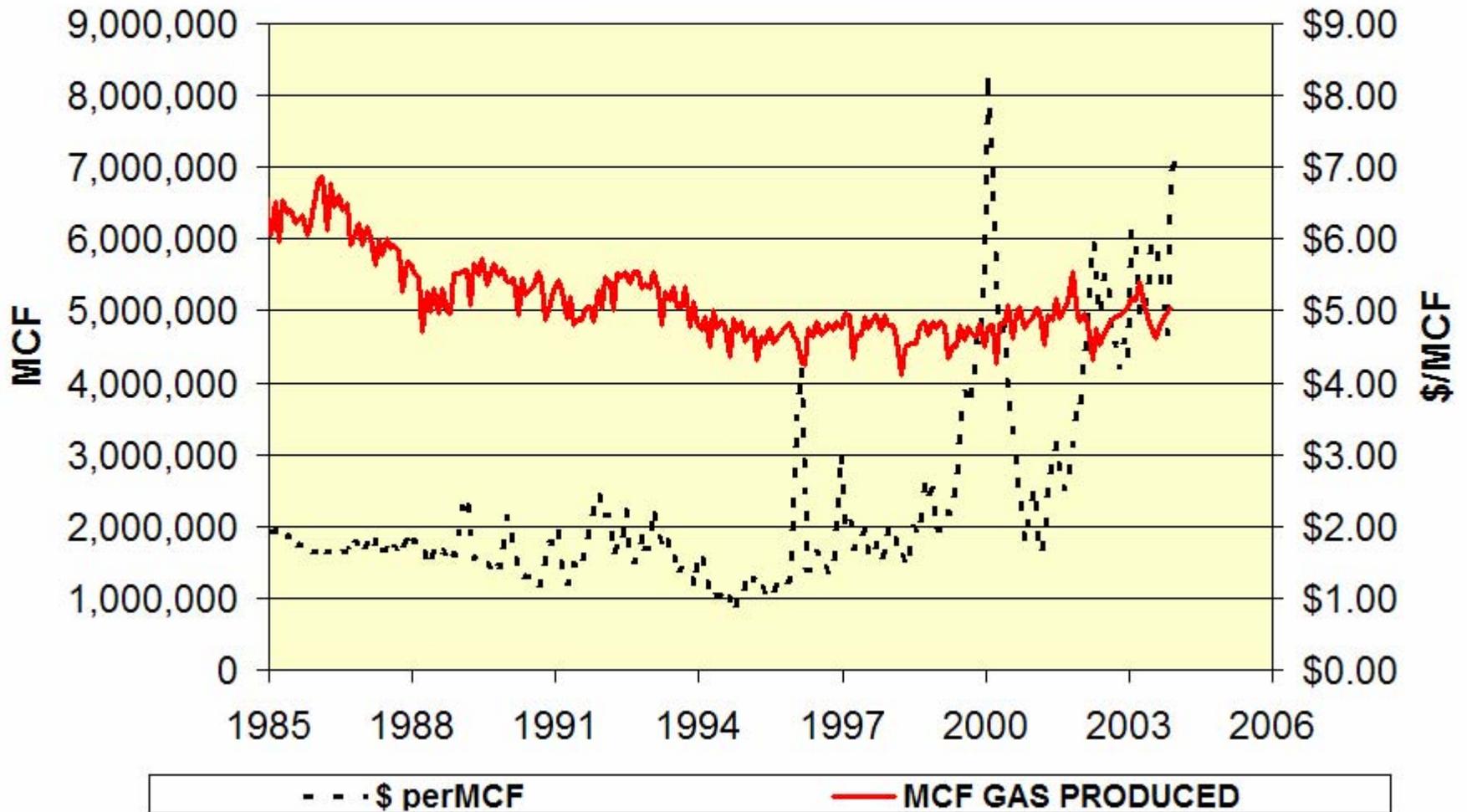


## North Dakota Daily Oil Produced and Price

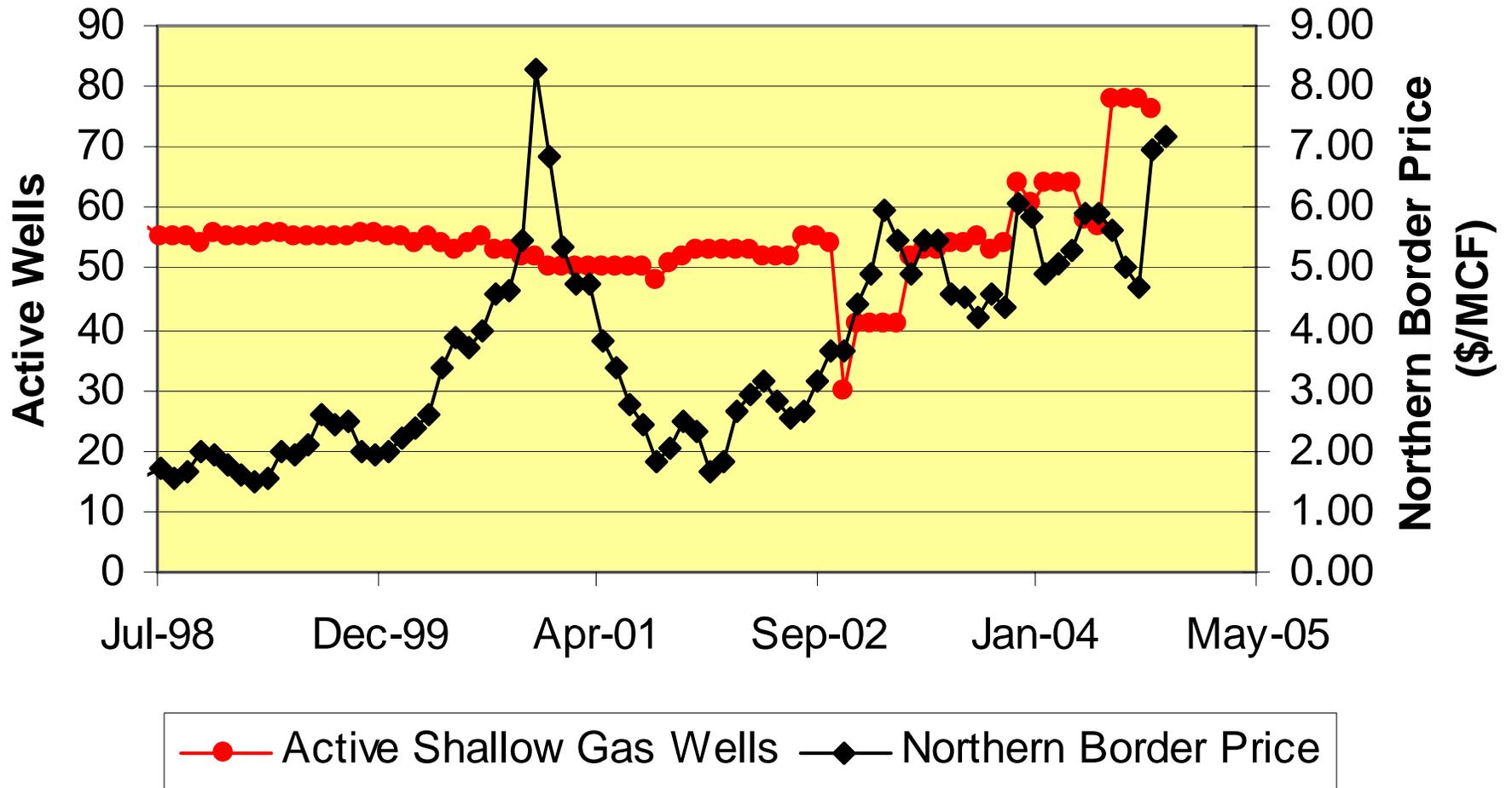




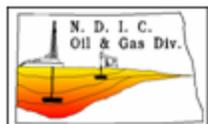
## North Dakota Monthly Gas Produced and Price



# ND Shallow Gas Activity



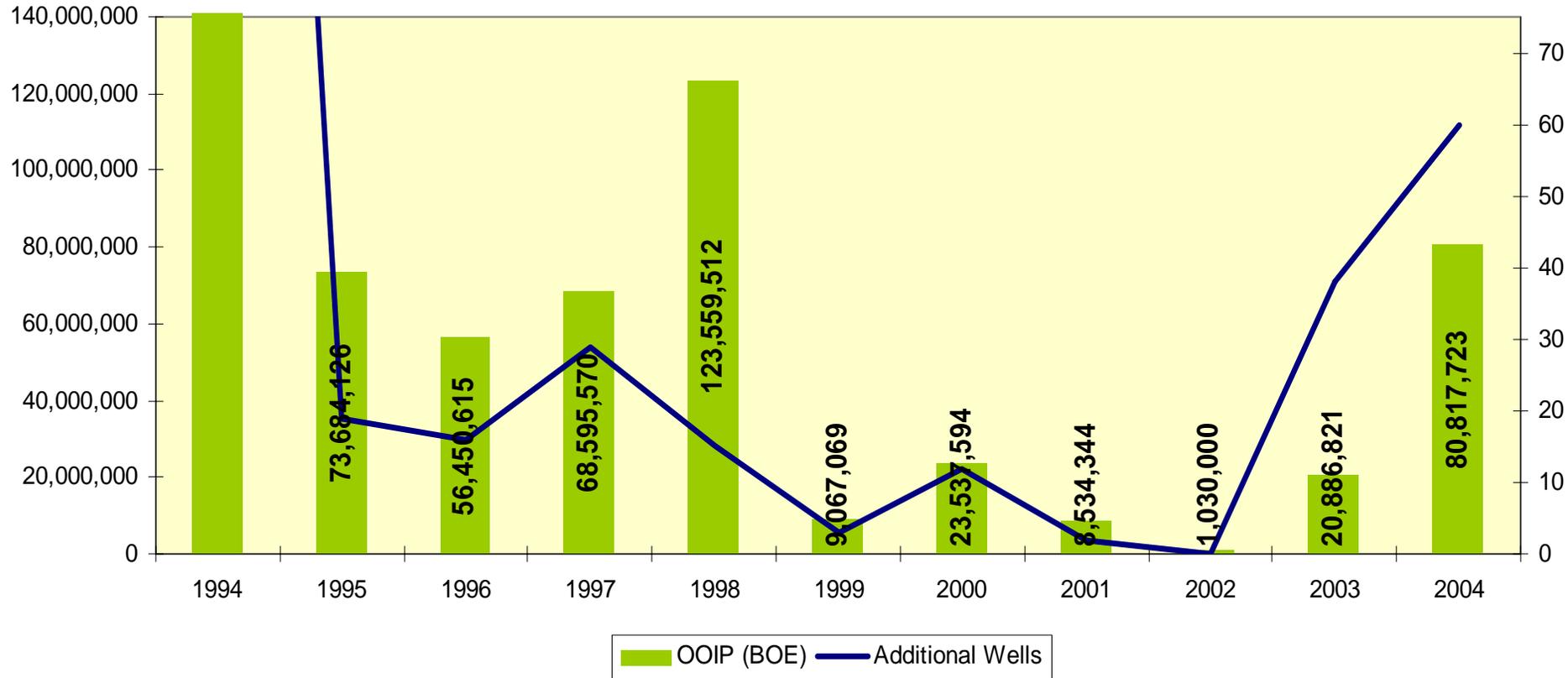
The tax incentive has been effective. 50% increase in shallow gas wells producing



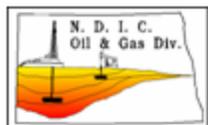
## North Dakota Average Monthly Rig Count



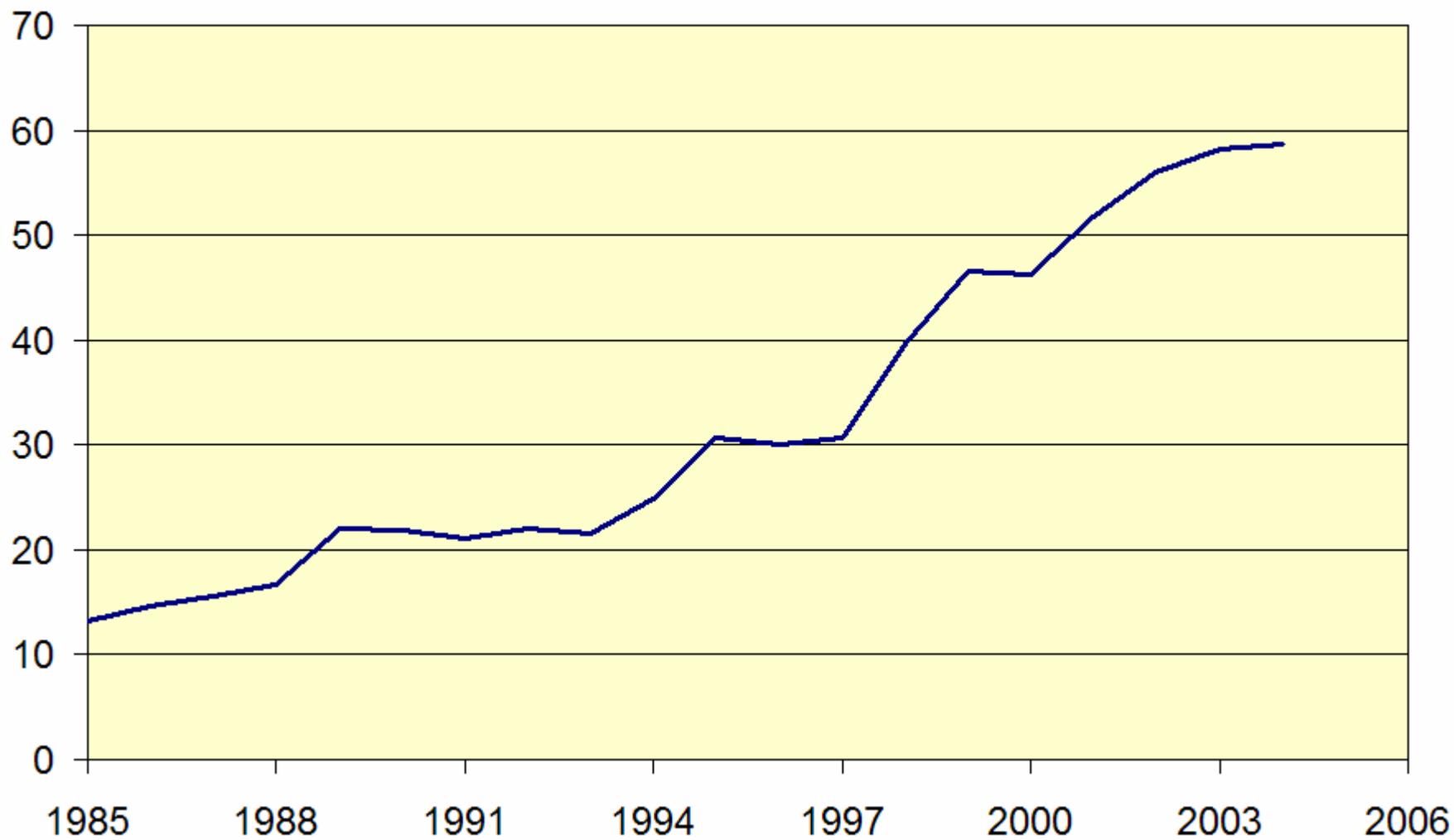
# North Dakota Discoveries

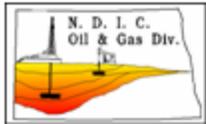


1.9 billion barrels = 285-380 million recoverable = 90-95% of production replaced

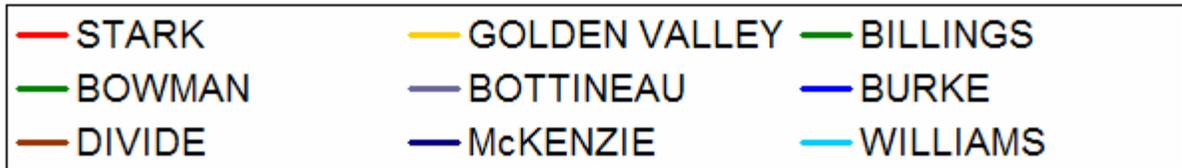
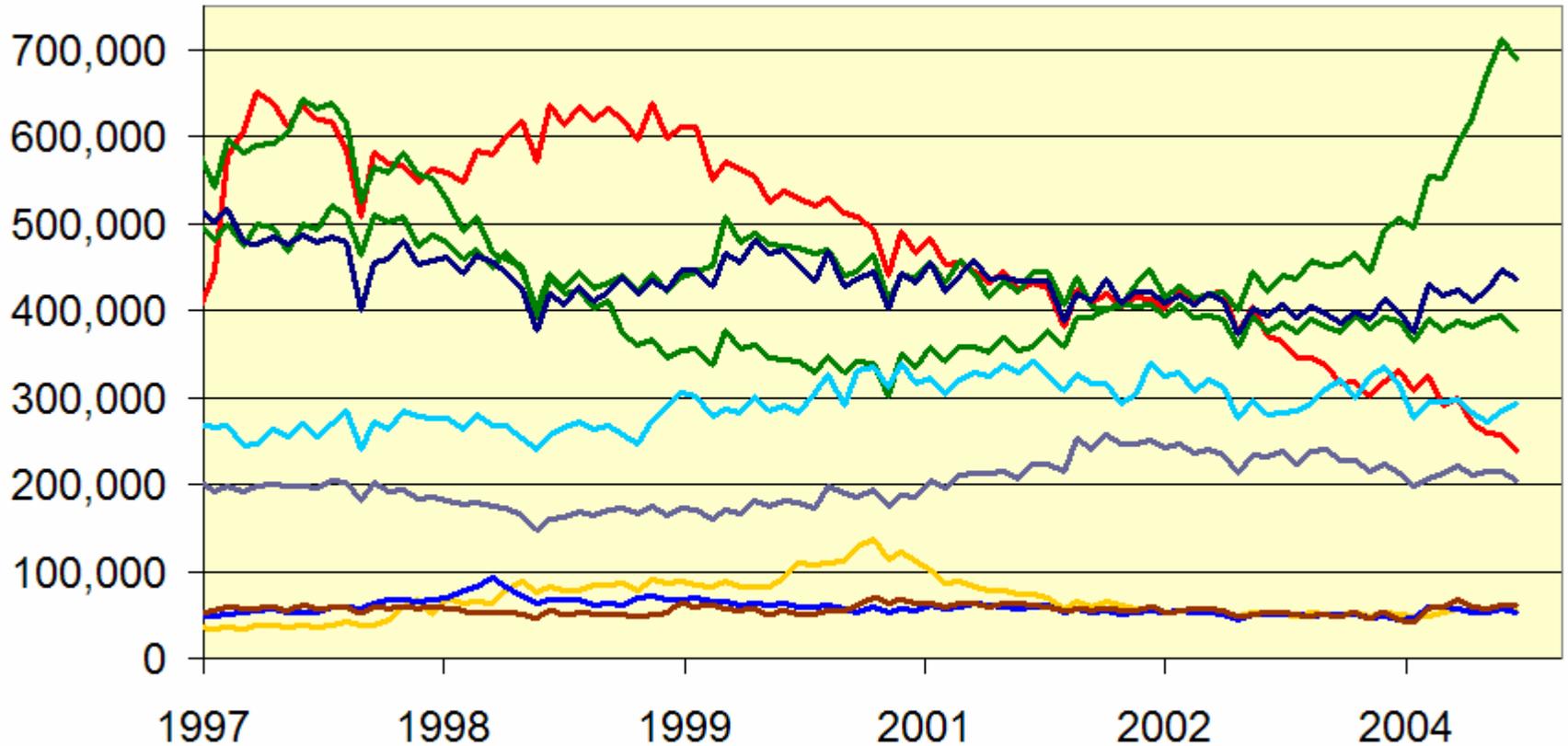


## North Dakota % Production From Units





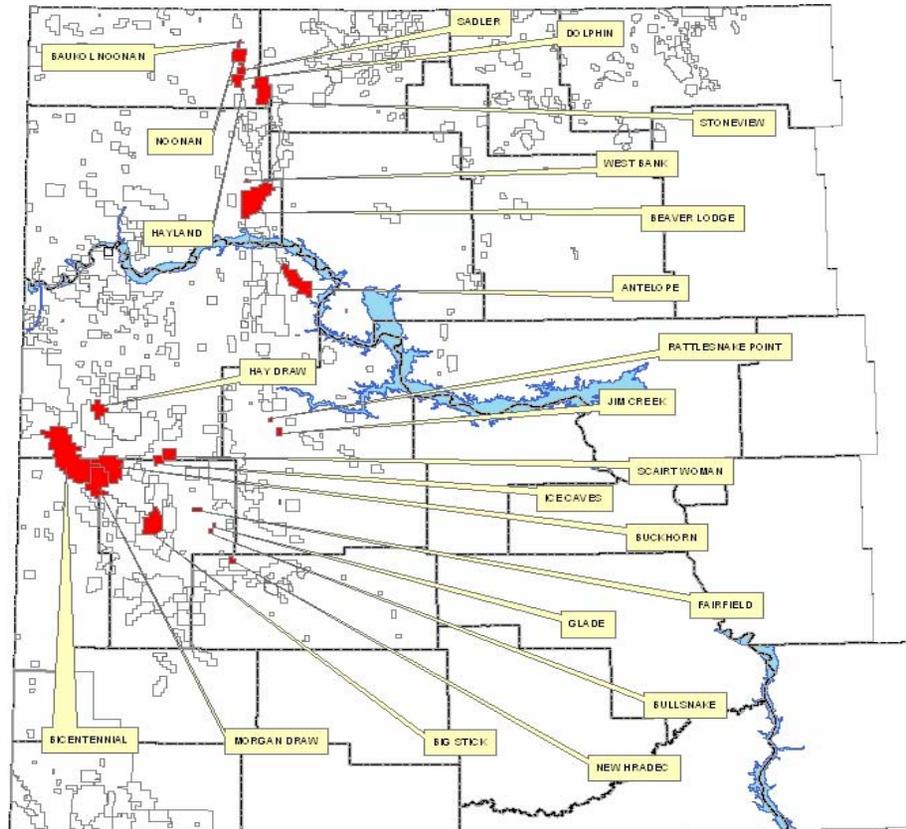
## MONTHLY PRODUCTION FOR LOCAL COUNTIES



# WHAT'S HAPPENING OUT THERE?

- Bakken
- Birdbear
- Mission Canyon / Ratcliffe
- Red River Horizontal Waterfloods
- New Units
- CO<sub>2</sub>

## Bakken Play

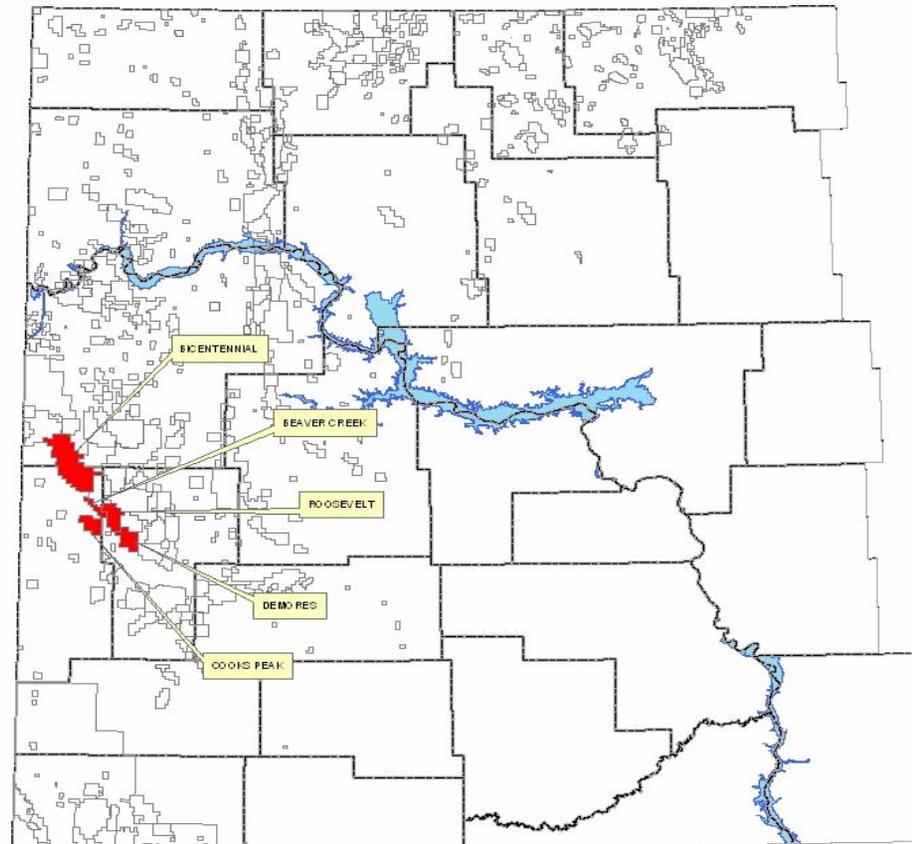


Prepared by N.D. I.C. Oil and Gas Division  
8-31-04

**20 sections of Drilling and Spacing Units approved. 3 play areas.**

**Initial rates 90-250 BOPD**

## Birdbear Play



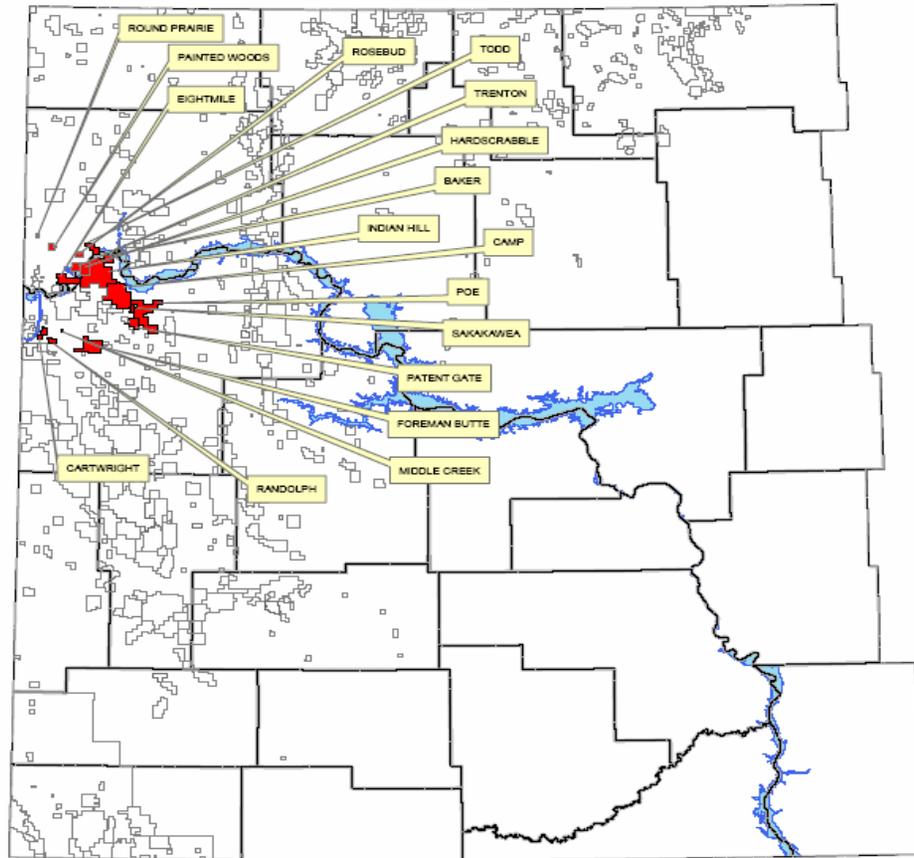
0 15 30 60 Miles



Prepared by N.D. Oil and Gas Division  
8-31-04

**46 sections of Drilling and Spacing Units approved. Initial rates 200-1000 BOPD**

## Mission Canyon/Ratcliffe Play



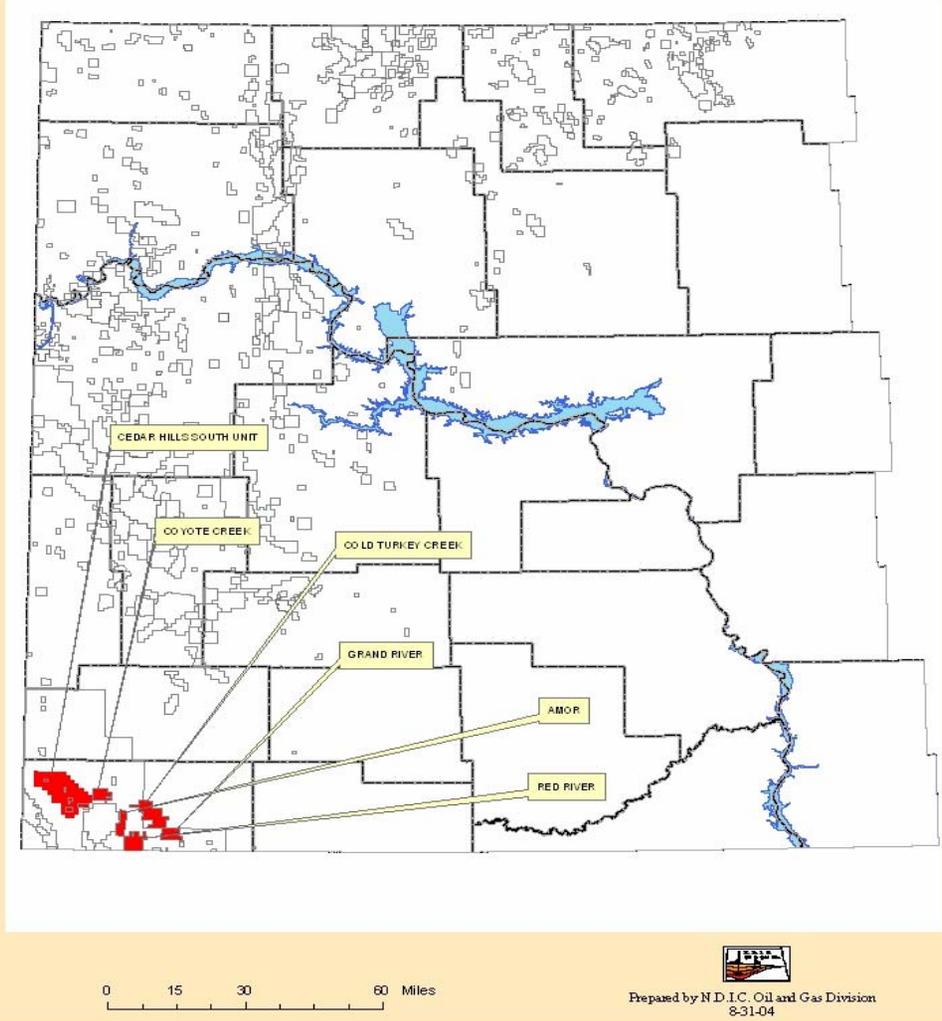
0 15 30 60 Mile



Prepared by N.D.I.C. Oil and Gas Division  
8-31-04

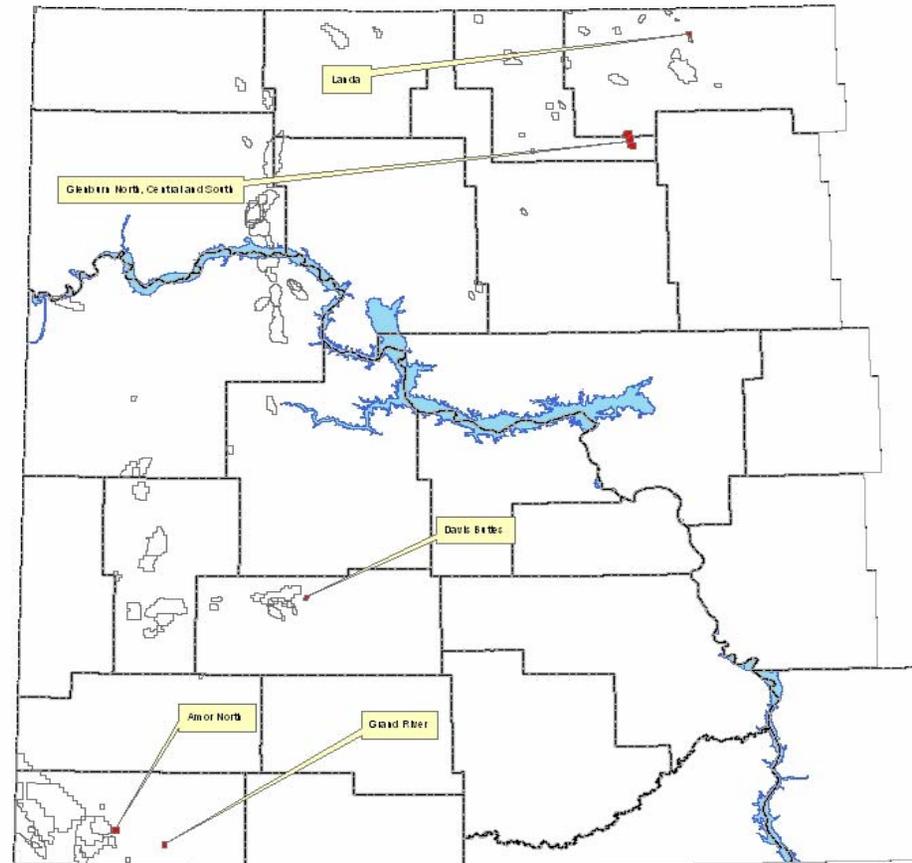
**97 sections of Drilling and Spacing Units approved. Initial rates 250-700 BOPD**

## RED RIVER HORIZONTAL/WATERFLOOD PLAY



**Now 7% above peak primary. Infill drilling 1 to 3 wells per section.  
Initial rates 250-1000 BOPD. Anticipate another 20,000 BOPD by 2007**

## New Units



0 15 30 60 Mile



Prepared by N.D.I.C. Oil and Gas Division  
8-31-04

**Critical to EOR. Extends field life 25-50 years.**

# Activity and Economics

**Direct jobs – 4,135 employees in 2004**

**Long-term employment Job Openings**

- **251 openings posted with Job Service North Dakota**
- **211 openings filled in past 3 months – all over \$50,000/year income**

## **Future needs**

- **50% to 75% of employees will retire over the next 2 to 12 years**

## **Leasing Activity is high**

- **Over \$7 million at the past two state sales**
- **Record prices at the most recent federal sale**
- **Still mostly speculative**



# 100-Plus Job Openings

North Dakota's Oil Industry

Up to \$17.25/hr  
starting wage!

**Good Jobs. Great Pay.  
Great Benefits.**

Open positions include drilling, well servicing, roustabout, mechanic, welding, trucking, shop and office positions.

Most positions require a valid drivers license with a clean driving record. Some require a CDL or the ability to acquire a CDL.

Drug testing is required in the hiring process and randomly in a work situation for most positions.

Most positions are labor intensive and involve outdoor work in all weather conditions.

Different age restrictions may apply — usually at least 18 years old or at least 21 years old.

Drilling schedules may include the option to work four days on, four days off, with significant overtime hours available. Housing and meals may also be provided.

Get position details and application instructions at [jobsnd.com](http://jobsnd.com) or call Job Service North Dakota at 701-774-7900 or 1-800-247-0989.



## **Direct Revenues - Oil & Gas Production and Extraction Taxes**

**Revised budget forecast for 2003-2005 biennium  
\$195 million oil and gas tax revenue**

- **\$71 million to general fund**
- **\$41 million to Permanent Oil Tax Trust Fund**
- **\$42 million to counties/cities/schools**
- **\$15.4 million to Resources Trust Fund**
- **\$5 million to Oil Impact Fund**
- **\$16 million other funds**
- **\$7 million from federal leases and royalties to General Fund**

# **Direct Revenues - Oil & Gas Production and Extraction Taxes**

## **2005-2007 biennium forecast**

- **\$168 million in direct tax revenues**
- **Raising the cap on general fund to \$84 million from 2001 cap of \$62 million**

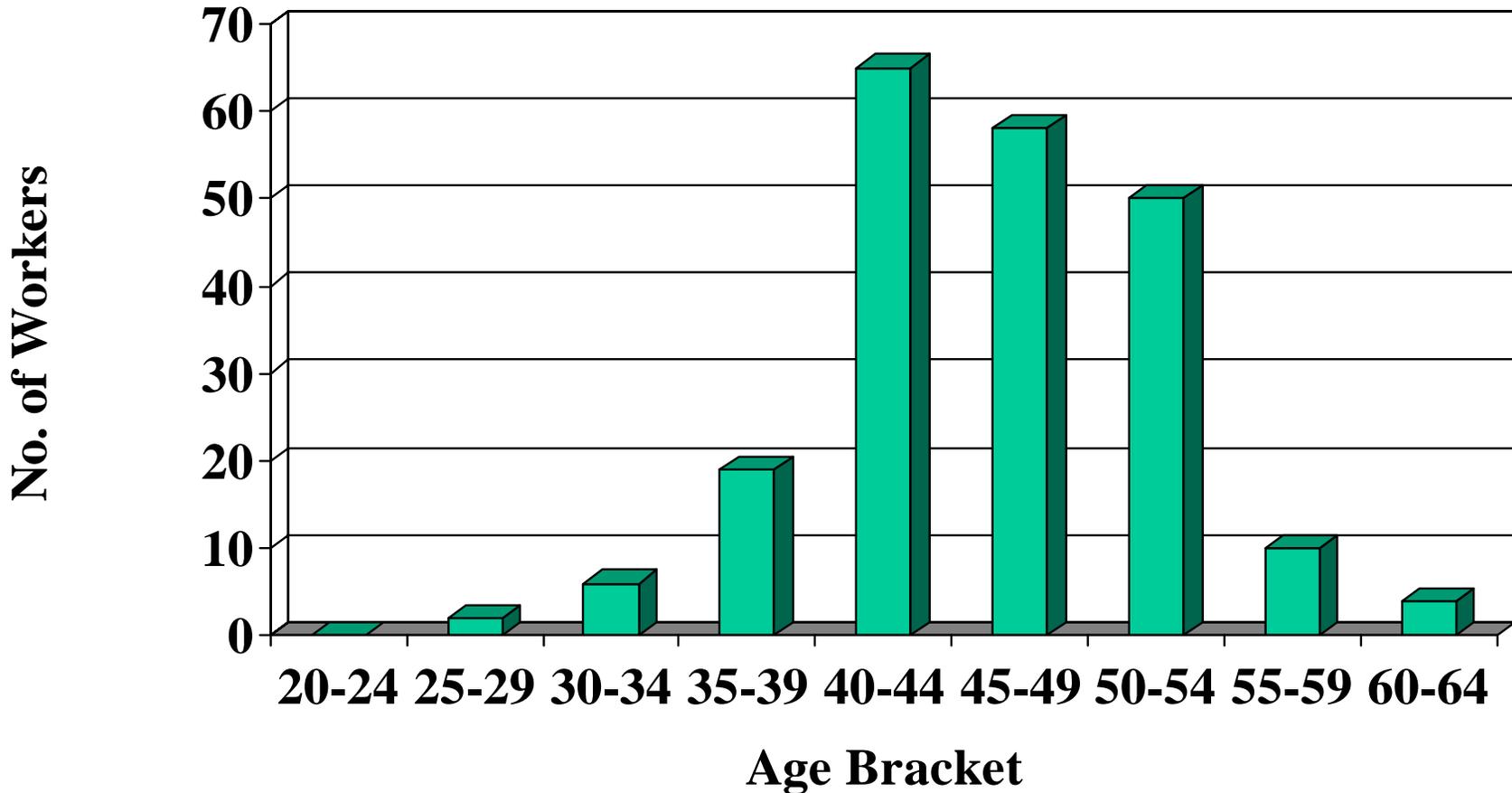
## **Tax Trigger**

- **11.5% tax effective October 1, 2004 – trigger price \$35.54--\$36.11**
- **At \$50/barrel the impact is felt less, but if the price drops and economics are not there, activity will drop**
- **More production provides more stable tax revenues and economic benefits**

# Concerns and Opportunities

- In 8 to 10 years, demand for skilled labor will exceed available supply for ND energy plants
- Retirements and new construction will drive increased demand
- Shrinking labor pool and low interest in vocational careers are affecting supply
- Problem is national in scale
- High paying career opportunities close to home will be available for ND young people

# Typical age profile of workforce (North Dakota Energy Industry)



# MANAGERIAL AND PROFESSIONAL SPECIALTY

(US Census Bureau, Statistical Abstract of the US, 2002, Table 588)

• TEACHERS	4.05%	• MEDICAL MGRS	0.58%
• ACCOUNTANT/AUDIT	3.80%	• MARKETING / ADVERT	0.57%
• HEALTH / NURSING	2.26%	• FINANCIAL MGRS	0.56%
• WRITERS / ARTISTS	1.88%	• PUBLIC ADMIN	0.54%
• ENGINEERS	1.57%	• PROPERTY MGRS	0.43%
• MATH / COMPUTERS	1.56%	• NATURAL SCIENCES	0.43%
• SOCIAL / REC WORK	1.07%	• SOCIAL SCIENCES	0.34%
• DENTISTS / PHYSICIANS	0.81%	• COUNSELORS	0.19%
• TEACHERS (college)	0.74%	• LIBRARIANS	0.17%
• LAWYERS / JUDGES	0.72%	• PERSONNEL MGRS	0.17%
• ED ADMINISTRATORS	0.62%	• ARCHITECTS	0.16%

# MANAGERIAL AND PROFESSIONAL SPECIALTY

(US Census Bureau, Statistical Abstract of the US, 2002, Table 588)

2,000 of 8,600 ND High School Seniors who graduated in 2004

• TEACHERS	348	• MEDICAL MGRS	50
• ACCOUNTANT/AUDIT	327	• MARKETING / ADVERT	49
• HEALTH / NURSING	194	• FINANCIAL MGRS	48
• WRITERS / ARTISTS	162	• PUBLIC ADMIN	46
• ENGINEERS	135	• PROPERTY MGRS	37
• MATH / COMPUTERS	134	• NATURAL SCIENCES	37
• SOCIAL / REC WORK	92	• SOCIAL SCIENCES	29
• DENTISTS / PHYSICIANS	70	• COUNSELORS	16
• TEACHERS (college)	67	• LIBRARIANS	15
• LAWYERS / JUDGES	62	• PERSONNEL MGRS	15
• ED ADMINISTRATORS	53	• ARCHITECTS	14

What are we doing to recruit and train the other 6,600?

# ACTIVITIES

- Marketplace for Kids
- Junior Achievement
- Mentorship / Job Shadows
- Student Summer Academy (Industry locations)
- Teacher In-service
- Classroom visits
- Career fairs



EERC Technology – Putting Research into Practice

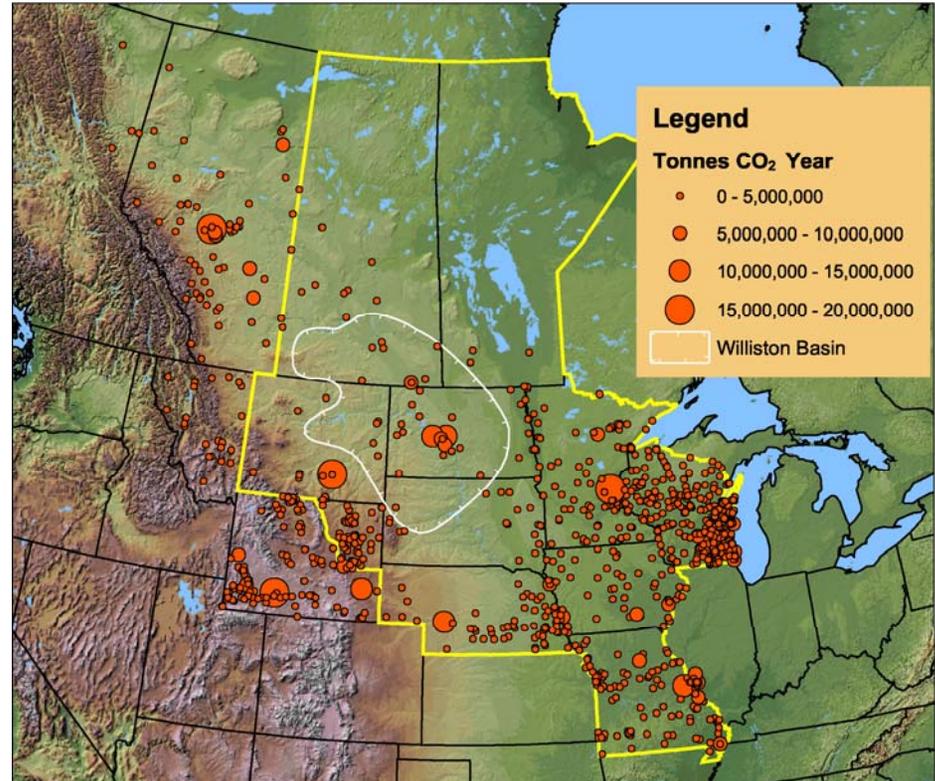
*PCORP Overview Presentation*  
*December, 2004*  
*John Harju*



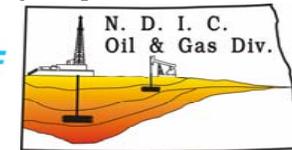
University of North Dakota

# Plains CO2 Reduction (PCOR) Partnership

- Phase I
  - Gauge public understanding
  - Develop database for:
    - Sources
    - Sinks
    - Separation and transportation options
    - Regulatory and permitting requirements
    - Environmental benefits and risks
  - Identify opportunities and conduct public outreach campaign
  - Develop action plan for Phase II (Technology Evaluations)



# Plains CO<sub>2</sub> Reduction Partnership – Partners



Fischer Oil and Gas, Inc.



Environment Canada

Great Northern Power Development



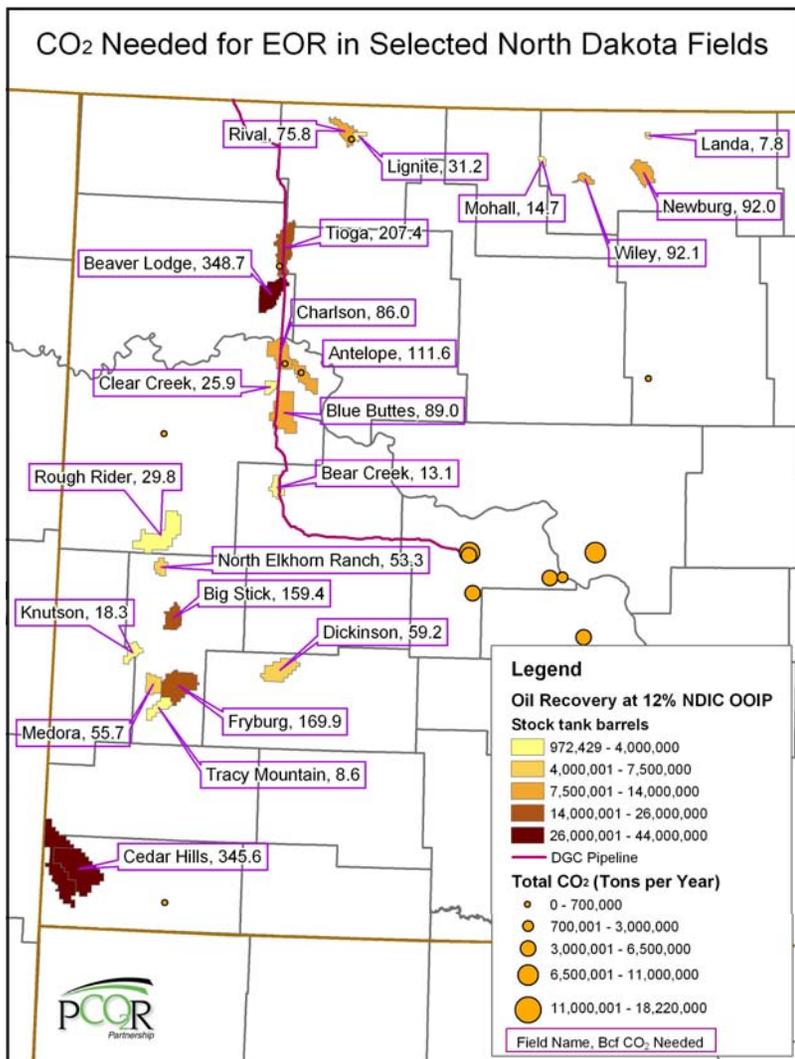
Chicago Climate Exchange



Saskatchewan Industry and Resources



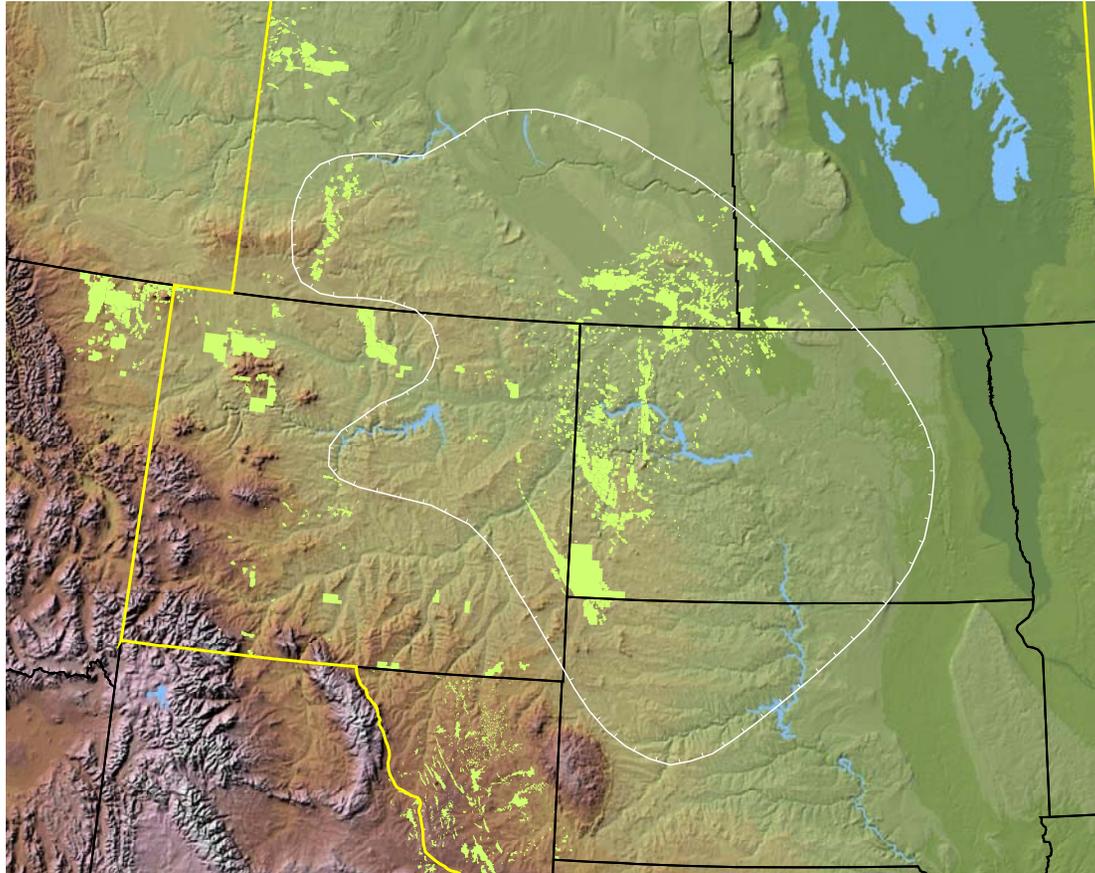
# EOR CO<sub>2</sub> Demand



- Estimated 19 MMTCE of CO<sub>2</sub> needed for maximum tertiary EOR operations in 22 selected fields in North Dakota.
- Represents approximately 262 million barrels of incremental oil.
- At \$40/bbl = \$10.48 billion.

(ND sweet price = \$41.30/bbl  
on 11/9/04)

# Sequestration Potential of Williston Basin Oil Fields



Estimated CO<sub>2</sub> storage totals for 57 selected fields (of more than 1000)

- ND (33 fields) = 872 MMTCE
- MT (9 fields) = 342 MMTCE
- SD (1 field) = 37 MMTCE
- SK (8 fields) = 26 MMTCE
- MB (6 fields)= 6 MMTCE

**Williston Basin = 1283 MMTCE**

**(78 yrs of all emissions from all Williston Basin stationary sources)**

# Vision for PCOR Partnership – Phase II

---

- Enhance and refine regional assessment
- Develop one or more terrestrial demonstrations (wetlands)
- Work with partners to optimize capture technologies for new CO<sub>2</sub> sources
- Develop an enhanced recovery pilot project
- Develop one or more test wells to evaluate CO<sub>2</sub> sequestration
- Evaluate and quantify permanent CO<sub>2</sub> sequestration



# CO<sub>2</sub> Legislative Issues

- **CO2 Sales Tax Exemption for Enhanced Oil Recovery**
- **Permanent Extraction Tax Exemption for Incremental Oil from Tertiary Recovery Projects**
  - **Win-win – sequestering a greenhouse gas and recovering additional oil**
  - **Should we be taxing a greenhouse gas?**
  - **These wells will otherwise be plugged in the next ten years**
  - **Koyoto Agreement etc.. this is the perfect solution**

**SENATE BILL NO.**

Introduced by

Senator Wardner

1 A BILL for an Act to create and enact a new subsection to section 57-39.2-04 and a new  
2 subsection to section 57-40.2-04 of the North Dakota Century Code, relating to a sales and use  
3 tax exemption for carbon dioxide used for enhanced recovery of oil or natural gas; to amend  
4 and reenact subdivision b of subsection 5 of section 57-51.1-03 of the North Dakota Century  
5 Code, relating to an oil extraction tax exemption for incremental production from a tertiary  
6 recovery project; and to provide an effective date.

7 **BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:**

8 **SECTION 1.** A new subsection to section 57-39.2-04 of the North Dakota Century Code  
9 is created and enacted as follows:

10 Gross receipts from sales of carbon dioxide used for enhanced recovery of oil or  
11 natural gas.

12 **SECTION 2.** A new subsection to section 57-40.2-04 of the North Dakota Century Code  
13 is created and enacted as follows:

14 Gross receipts from sales of carbon dioxide used for enhanced recovery of oil or  
15 natural gas.

16 **SECTION 3. AMENDMENT.** Subdivision b of subsection 5 of section 57-51.1-03 of the  
17 North Dakota Century Code is amended and reenacted as follows:

18 b. The incremental production from a tertiary recovery project which has been  
19 certified as a qualified project by the industrial commission subsequent to  
20 June 30, 1991, is exempt from any taxes imposed under this chapter ~~for a~~  
21 ~~period of ten years from the date the incremental production begins.~~

22 **SECTION 4. EFFECTIVE DATE.** This Act is effective for taxable events occurring after  
23 June 30, 2005.



**TESORO**

Mandan Refinery

1954-2004

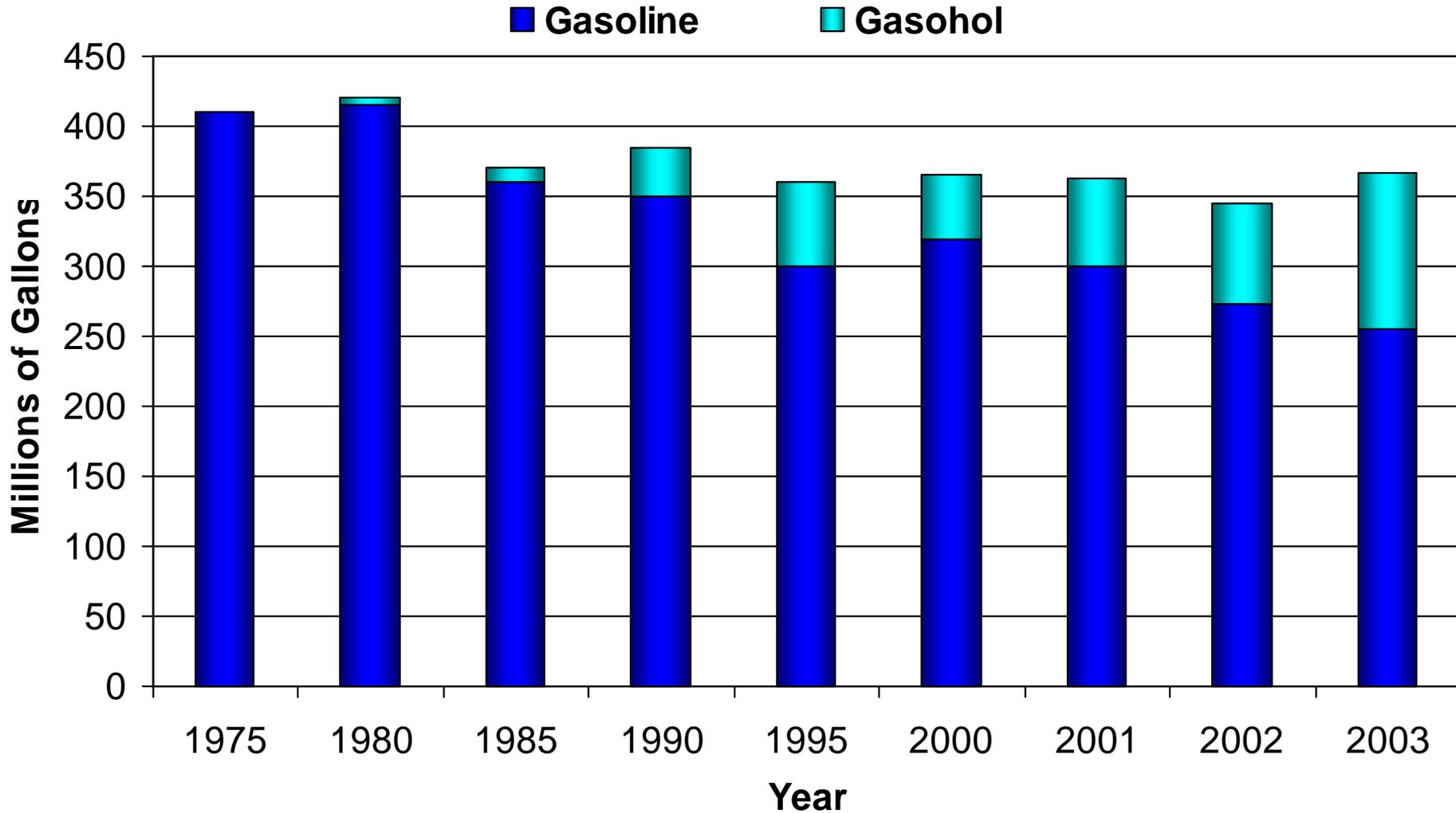
60,000 barrels per day

211 full time employees

72 branded sites in North Dakota

# Gasoline & Gasohol Consumption in North Dakota

(\*2003 Data provided by the ND Tax Commission)



# **Oil & Gas Division North Dakota Geological Survey Merger**

- Industry supports finalizing the merger this session**
- Already seeing coordination of projects and priorities between agencies and with industry**
- Already seeing efficiencies through sharing of support staff and information.**

# Oil and Gas Research Council

- **Received \$50,000 in 2003-2005 biennium**
- **RESEARCH PROJECTS**
  1. North American Prospect Expo booth
  2. Digital Core Library Photos on internet
  3. Customized internet access to oilfield maps and data
- **EDUCATION**
  1. Gateway to Science ND Studies & Energy Industry
  2. Petroleum Council Teacher Education Seminar
  3. Train the Trainer to educate local departments on Oilfield Emergencies
- **Will receive \$1.3 million next biennium = 2% of state share of extraction tax up to the cap.**

# **Workforce Development**

**Support training and education programs that are employer driven**

1. Williston State College – oilfield safety and training program
2. BSC energy program

## **Weigh Station in Williston**

**Critical 24/7 service for oversize load permits, etc.**

## **Split Estate**

**More activity there will be more issues in the field  
ND laws are effective – can't please everyone**

## **Pooling**

**2003 legislation has worked**

## **Seismic**

**Dealing with rule relating to distance from buildings and water wells**