



# 15th Williston Basin Petroleum Conference

## **Manitoba 2006 Oil Activity Review**

Regina, Saskatchewan

April 29 – May 1, 2007



# Manitoba Petroleum Activity 2006

- Crown Land
- Seismic
- Drilling
- Production
- Recent Developments
- Petroleum Branch Initiatives



## Manitoba Records in 2006

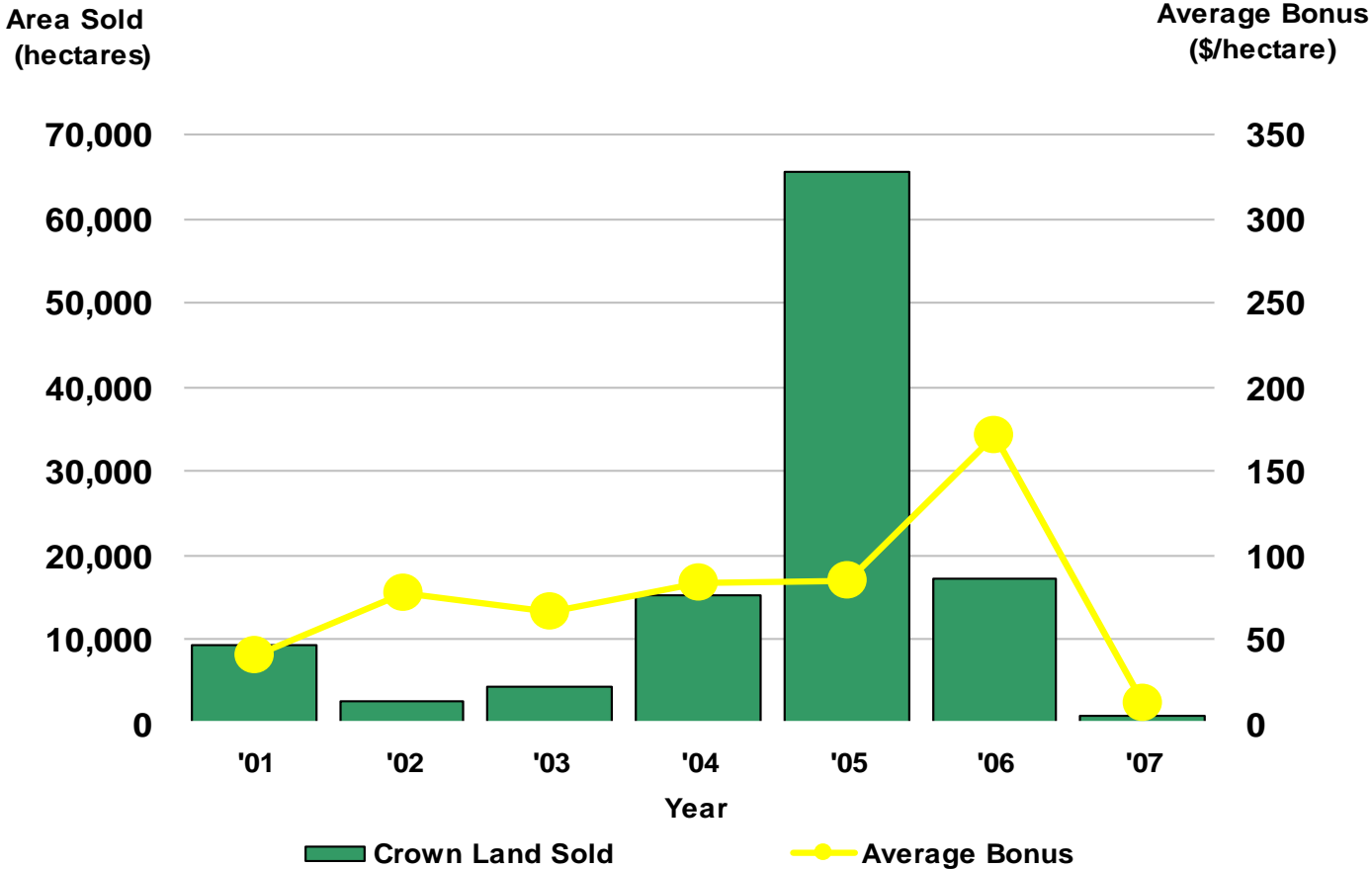
- 478 wells drilled
- 444 licences issued
- \$21 million in revenue collected
- Average daily production over 21,000
- Production valued at just under \$500 million

# Impact for Manitoba

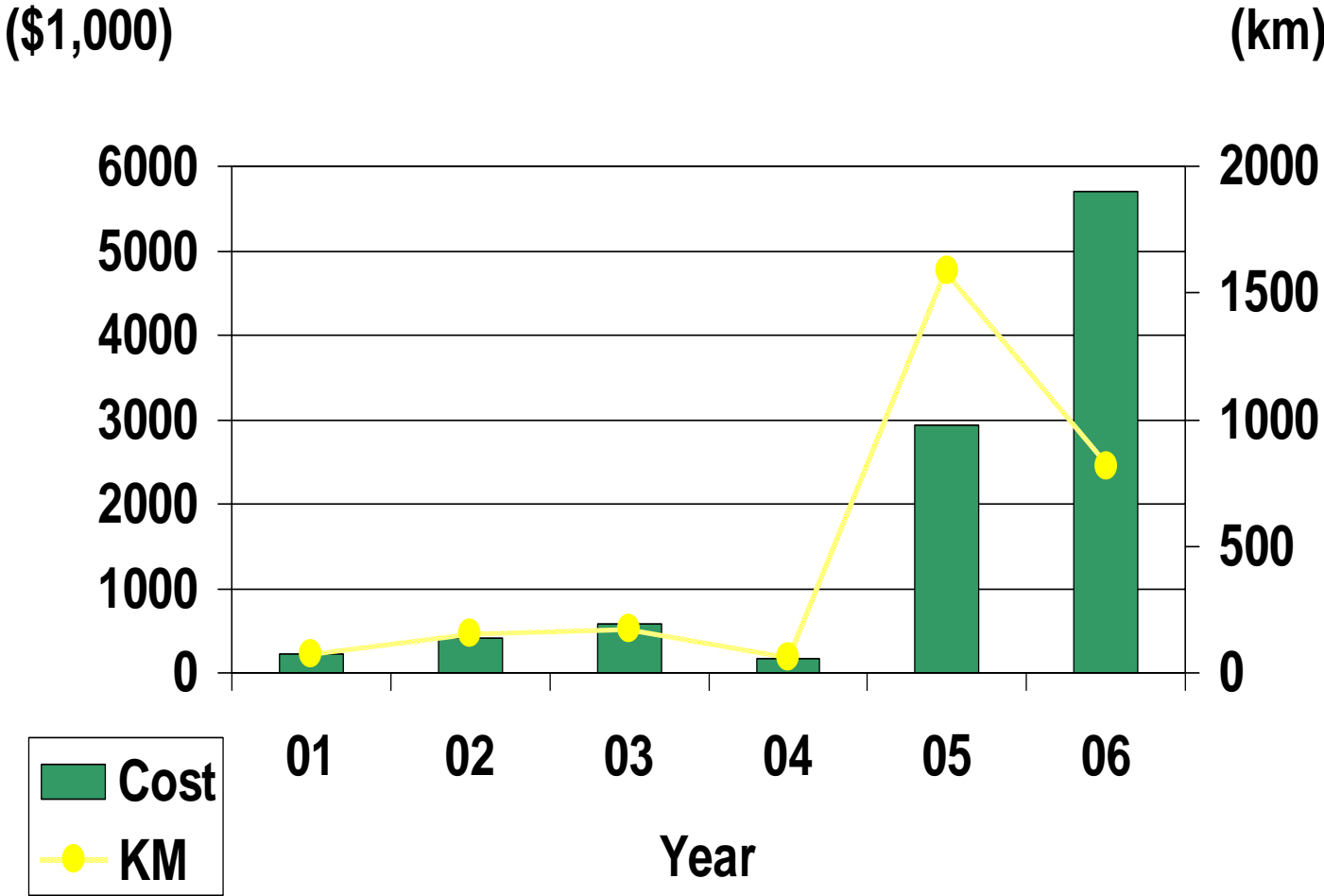
- 2006
  - \$21 million – provincial revenues
  - \$400 million – industry expenditures
  - 14 oil fields & 193 active pools
  - 2343 wells produced during 2006
  - 1.1m<sup>3</sup> (reaching 7 million bbls) produced during 2006
  - Average daily production exceeding 21,000 bpd
- Since 1951
  - 5800+ wells drilled
  - 38.8 M3 (244.5 million bbls) produced



# Manitoba Crown Land Sales



# Seismic



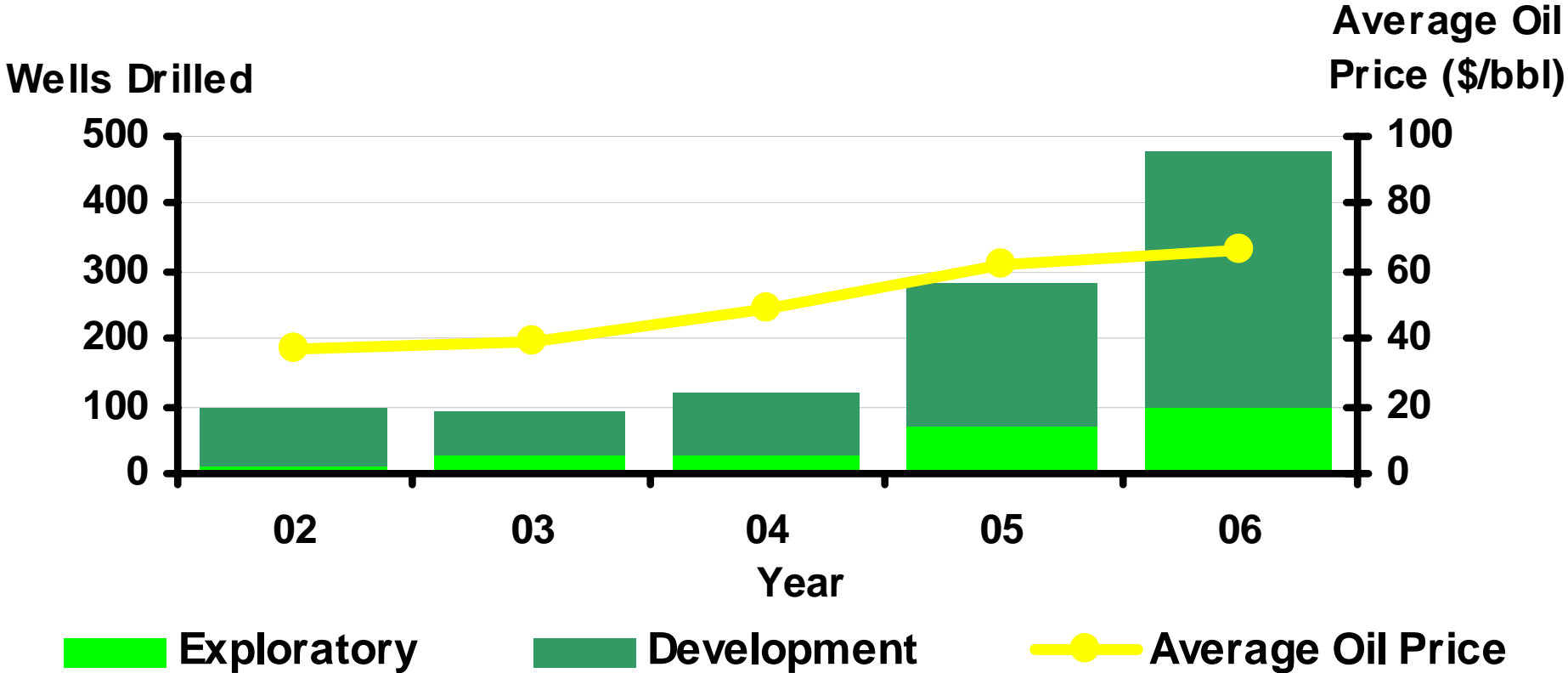




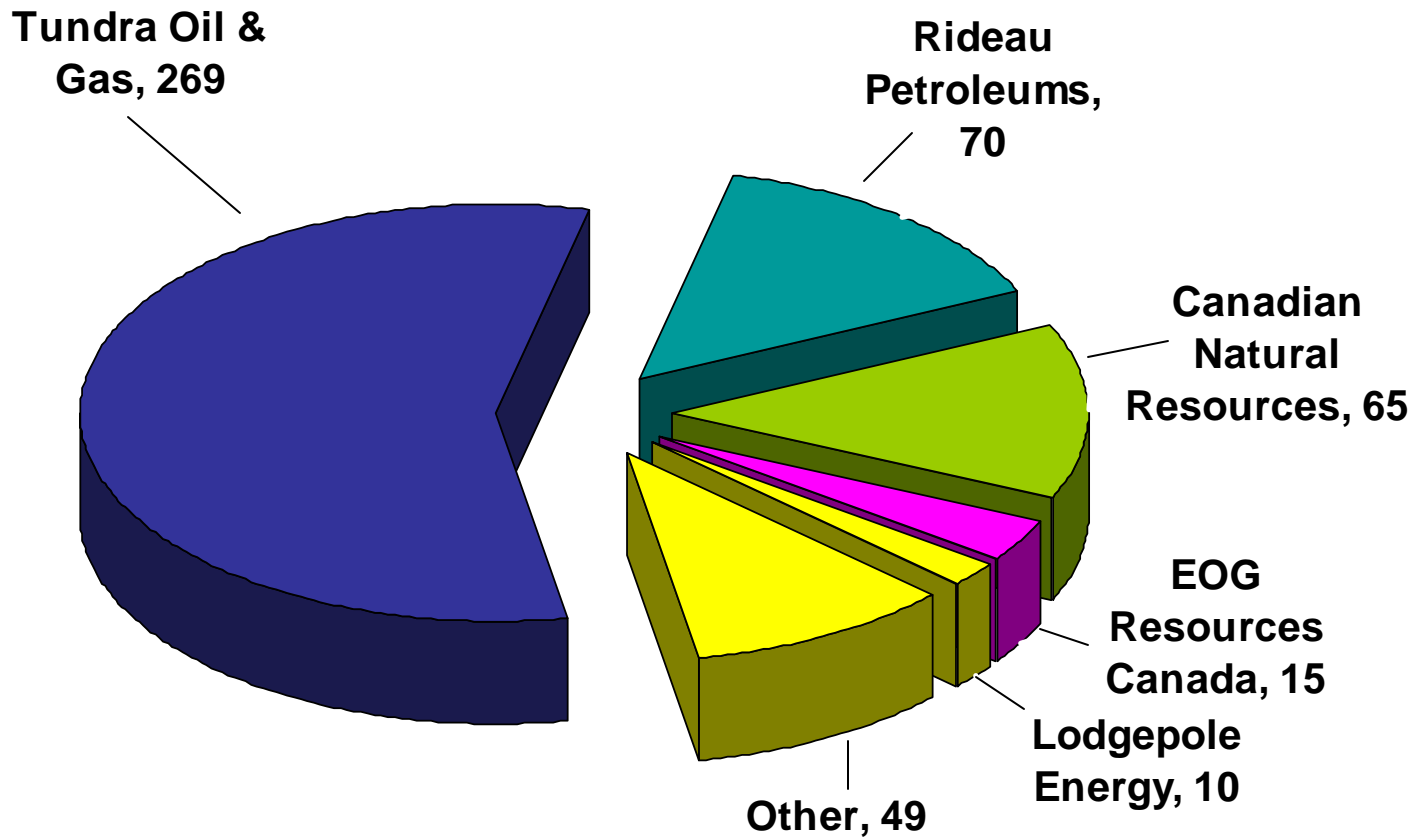




# Manitoba Drilling Activity



## Manitoba's Top Drillers - 2006



478 wells drilled



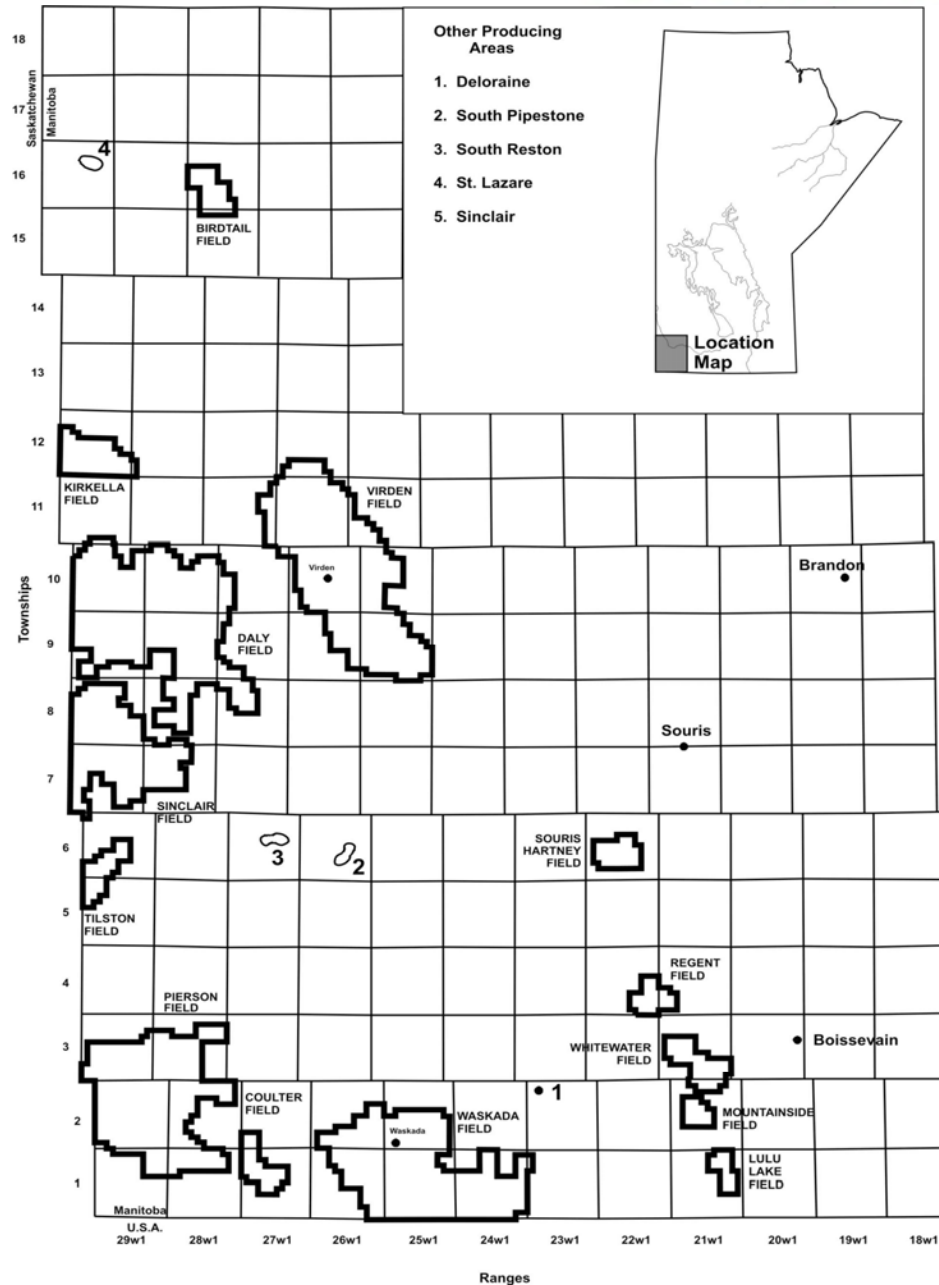
## Manitoba's Oil Fields

Producing wells  
2200+

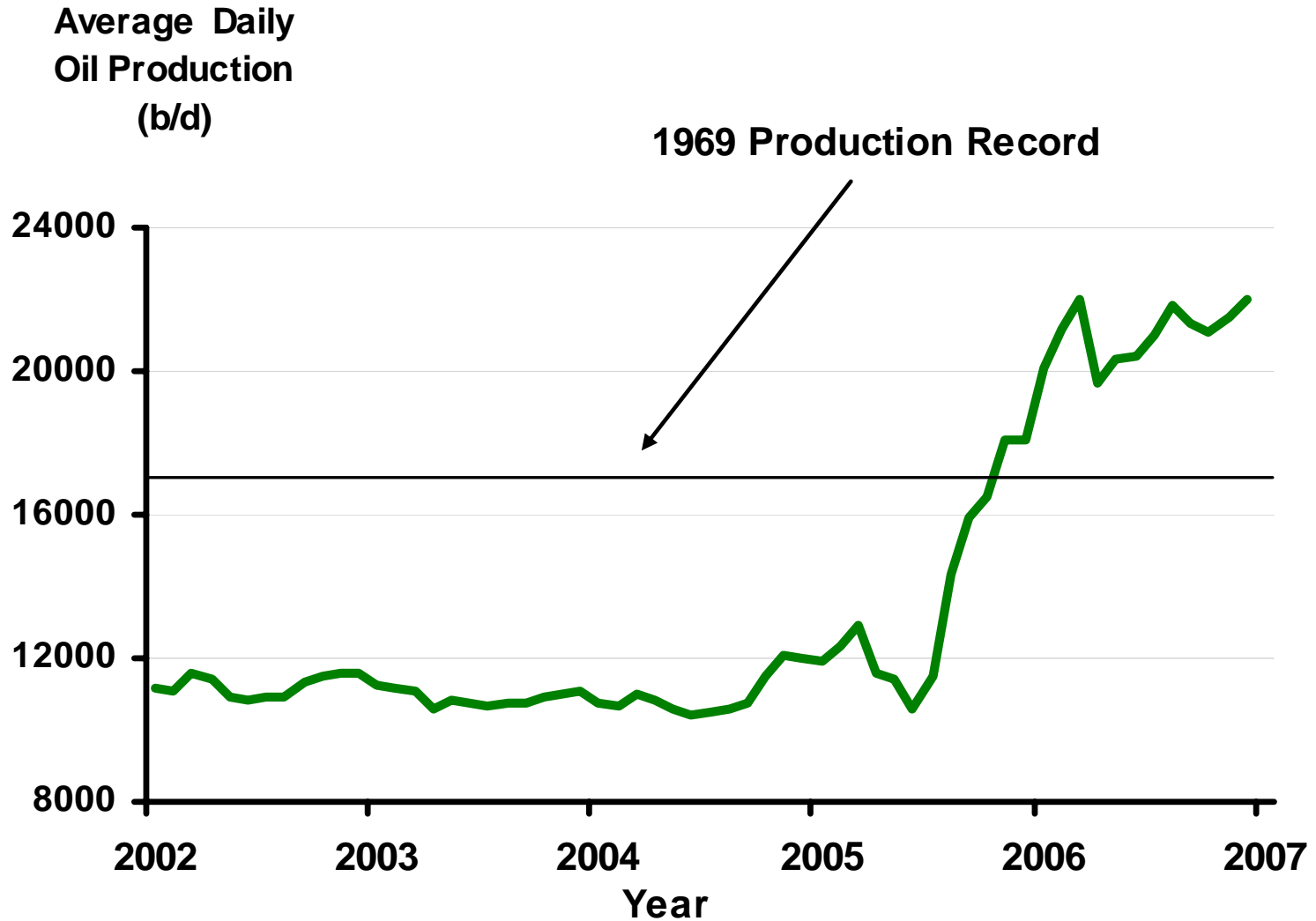
Oil production  
3344 m<sup>3</sup>/d

Solution gas production  
22.1 10<sup>6</sup>m<sup>3</sup>

Industry expenditures  
\$ 400 million

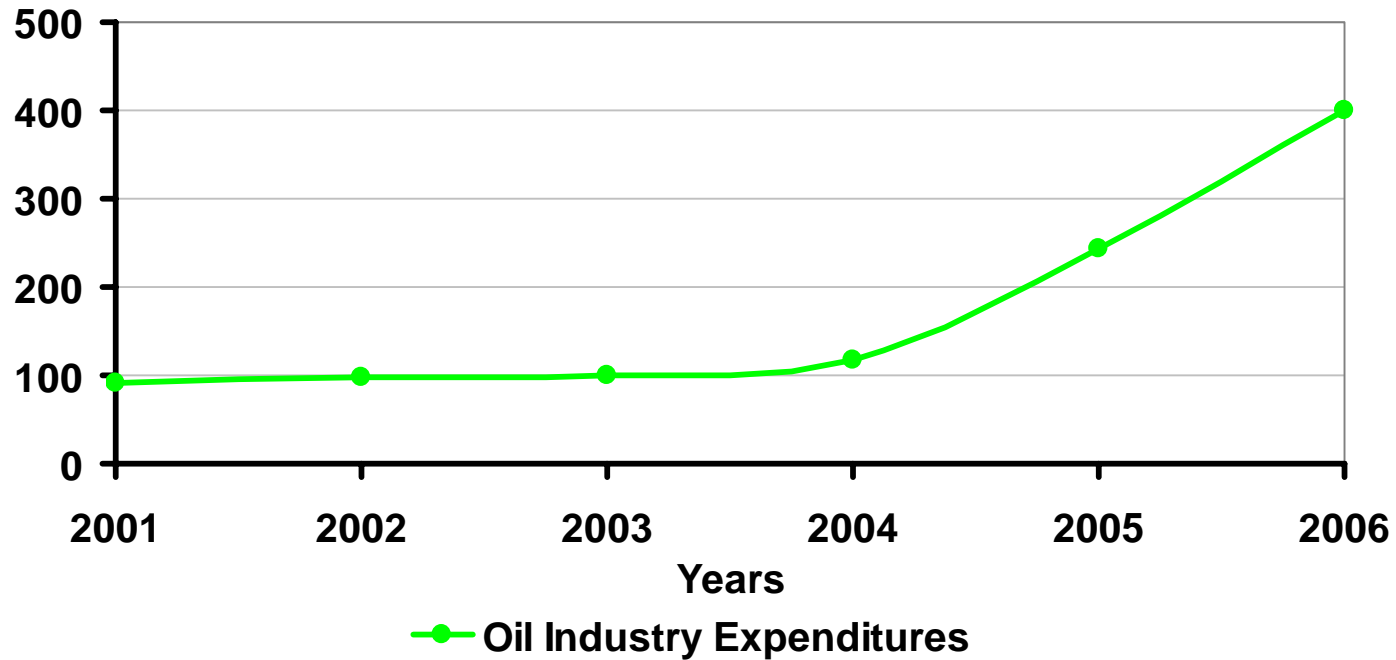


## Manitoba Daily Oil Production



## Manitoba Oil Industry Expenditures

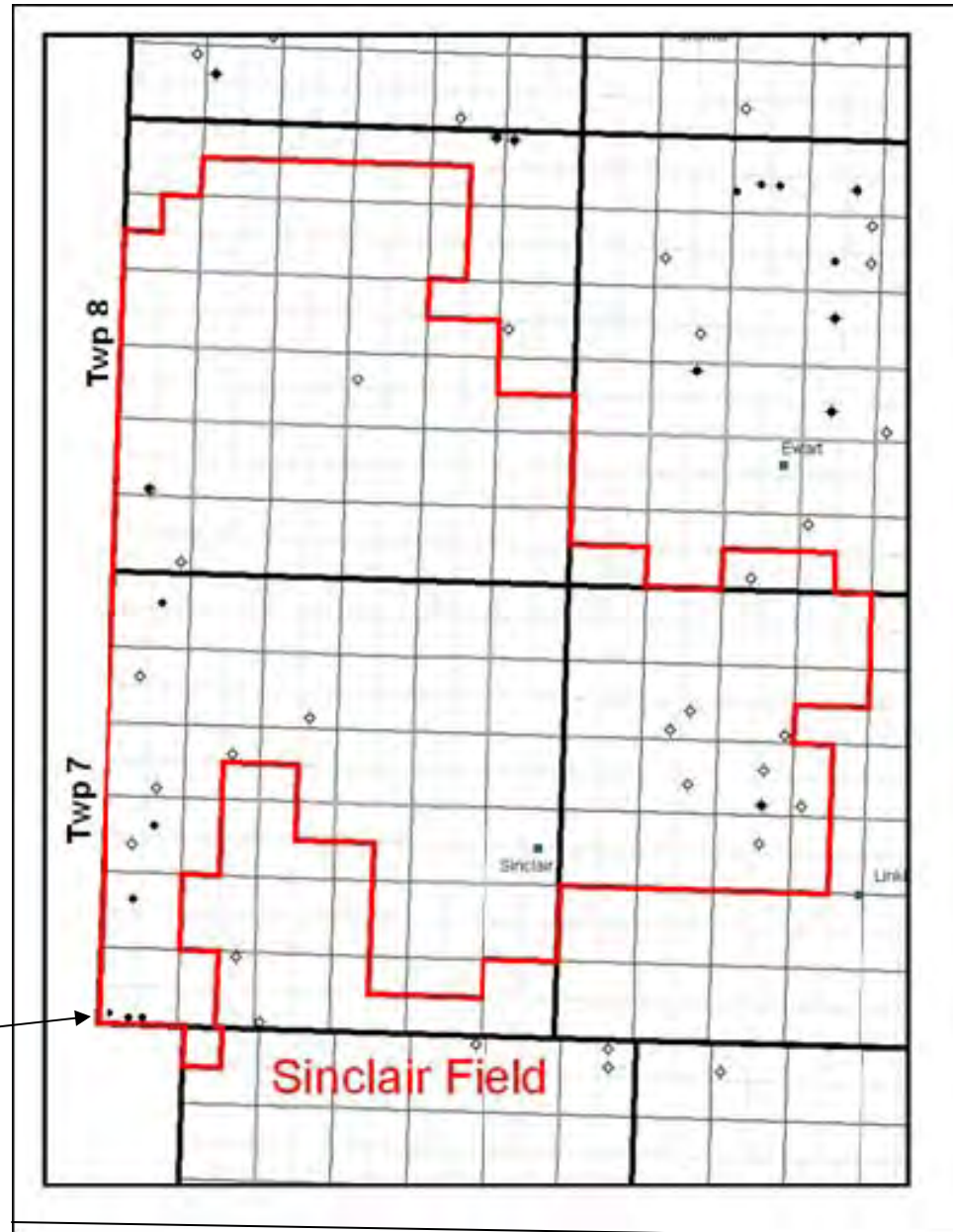
Expenditures (\$M)



# Sinclair Oil Field

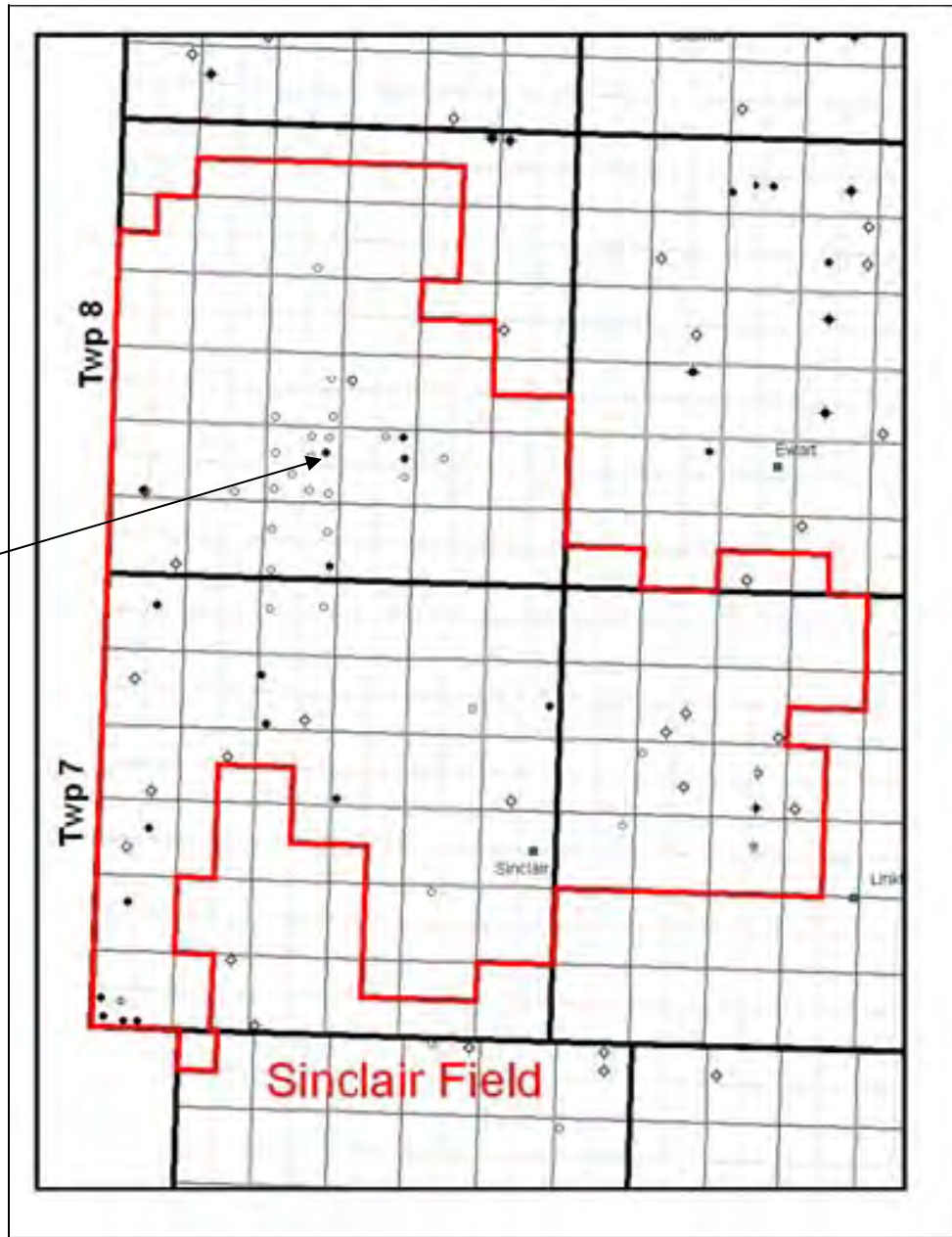
Dec 31/2003

1<sup>st</sup> producing pool



Sinclair Oil Field  
Dec 31/2004

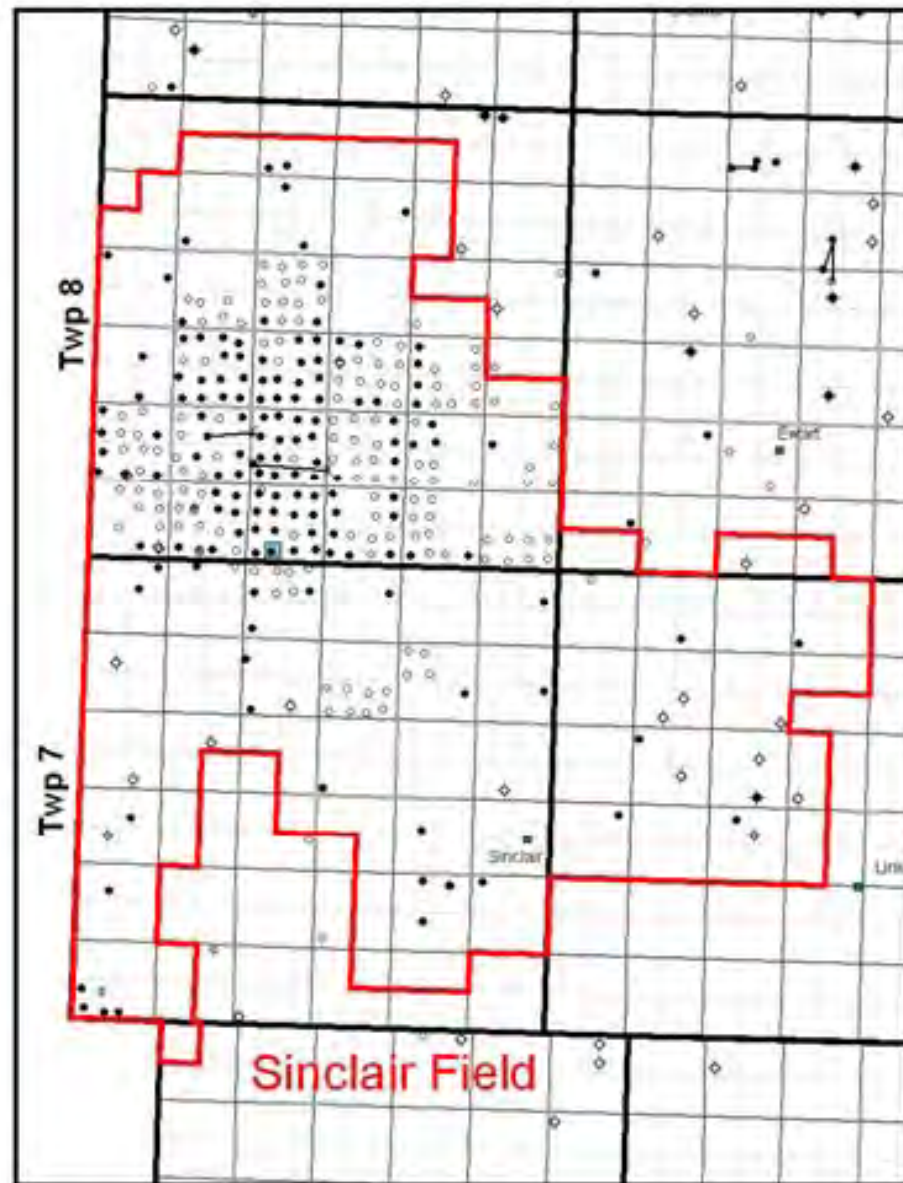
B Pool  
discovery well





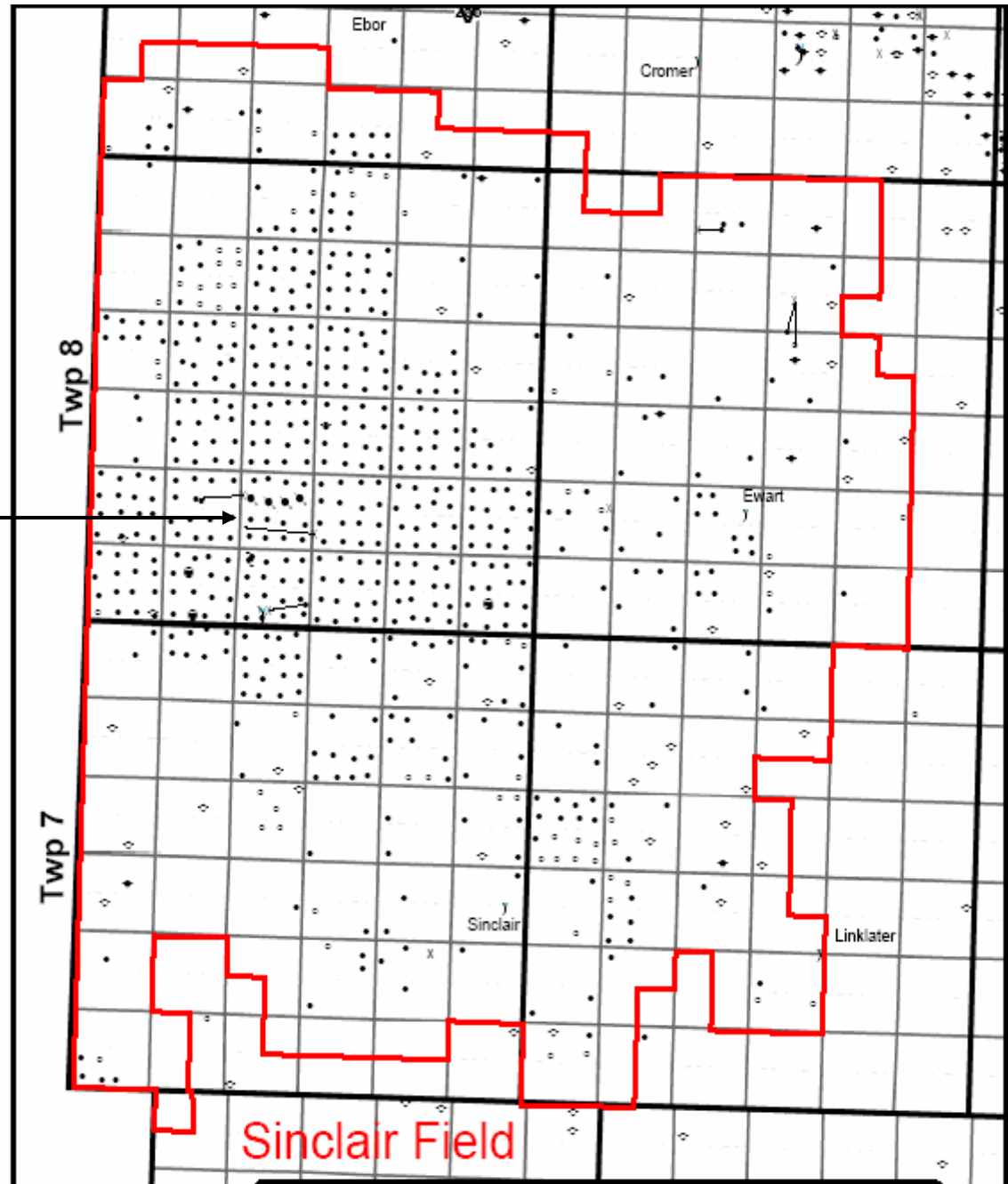
## Sinclair Oil Field Dec 31/2005

- 203 wells drilled
- 23% of provincial production
- covers 70 square miles



# Sinclair Oil Field Apr 16/2007

- 563 producing wells
- Production – 10,400 b/d
- Pilot waterflood
- OOIP 340 – 445 MMbbls
- Recovery Factor – 10%



## Petroleum Branch Initiatives

- Changes in Water Injection Incentive
- Investigating how to encourage CO<sub>2</sub> capture and use
- Changes in battery & well application and approval processes
- Submission of production information digitally
- LAS Files have been required during 2006
- Begin review process for fiscal regime early this winter

## Water Injection Well Incentive

- One year exemption from taxes and royalties
- Allow unused Holiday Oil Volume for wells converted to injection to be transferred to company account
- Unused Holiday Oil Volume may be used to top up exemption period to 19 months.

## CO<sub>2</sub> Enhanced Oil Recovery

- Potential to increase oil recovery from Manitoba oil pools
- CO<sub>2</sub> capture and storage help Manitoba reduce GHG emissions
- Technical and economic feasibility of CO<sub>2</sub> EOR
- Suitability of Manitoba oil pools
- CO<sub>2</sub> sources in Manitoba
- CO<sub>2</sub> capture and transportation options
- Identify regulatory and oil and gas fiscal regime changes needed to encourage investment in CO<sub>2</sub> EOR

## Licensing & Permitting

### Well Licensing

- Bill 21 - New procedures for licensing wells in environmentally sensitive areas
- Filing of environmental protection plans
- Joint plan review and approval by Petroleum & Manitoba Conservation
- Company pre-licensing wellsite assessments
- Checklist to be completed and submitted with well licence application

## Licensing & Permitting

### Battery Permitting and Operation

- Adopted Manitoba air quality guidelines
- Introduced new battery application requirements
- New flare design and performance standards
- Re-permitted all existing batteries
- H<sub>2</sub>S safety requirements for batteries
- Interdepartmental application review process

## Overview of Manitoba's Oil Patch

No. of Wells Drilled:	5800+
Well Depth:	430 – 1050 m
Producing Reservoirs:	sandstones & carbonates
Initial Production Rate:	vertical well 3 – 8 m <sup>3</sup> /d (18-50 b/d) horizontal well up to 50 m <sup>3</sup> /d (300 b/d)
Average Recovery:	5 – 15% OOIP primary 20-35% OOIP secondary
Oil Density:	25 – 40 <sup>0</sup> API
Cumulative Production:	38.8 10 <sup>6</sup> m <sup>3</sup> (244.2 MMbbls)



## Petroleum Outlook 2007

- Oil prices are expected to remain strong
- Anticipate 300- 350 wells drilled in 2007
- Production estimated at 20,000 b/d
- Shallow gas exploration

