

# Canada's North - Management Regime for Petroleum Exploration and Development

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Indian and Northern Affairs Canada

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Website: [www.ainc-inac.gc.ca/oil](http://www.ainc-inac.gc.ca/oil)

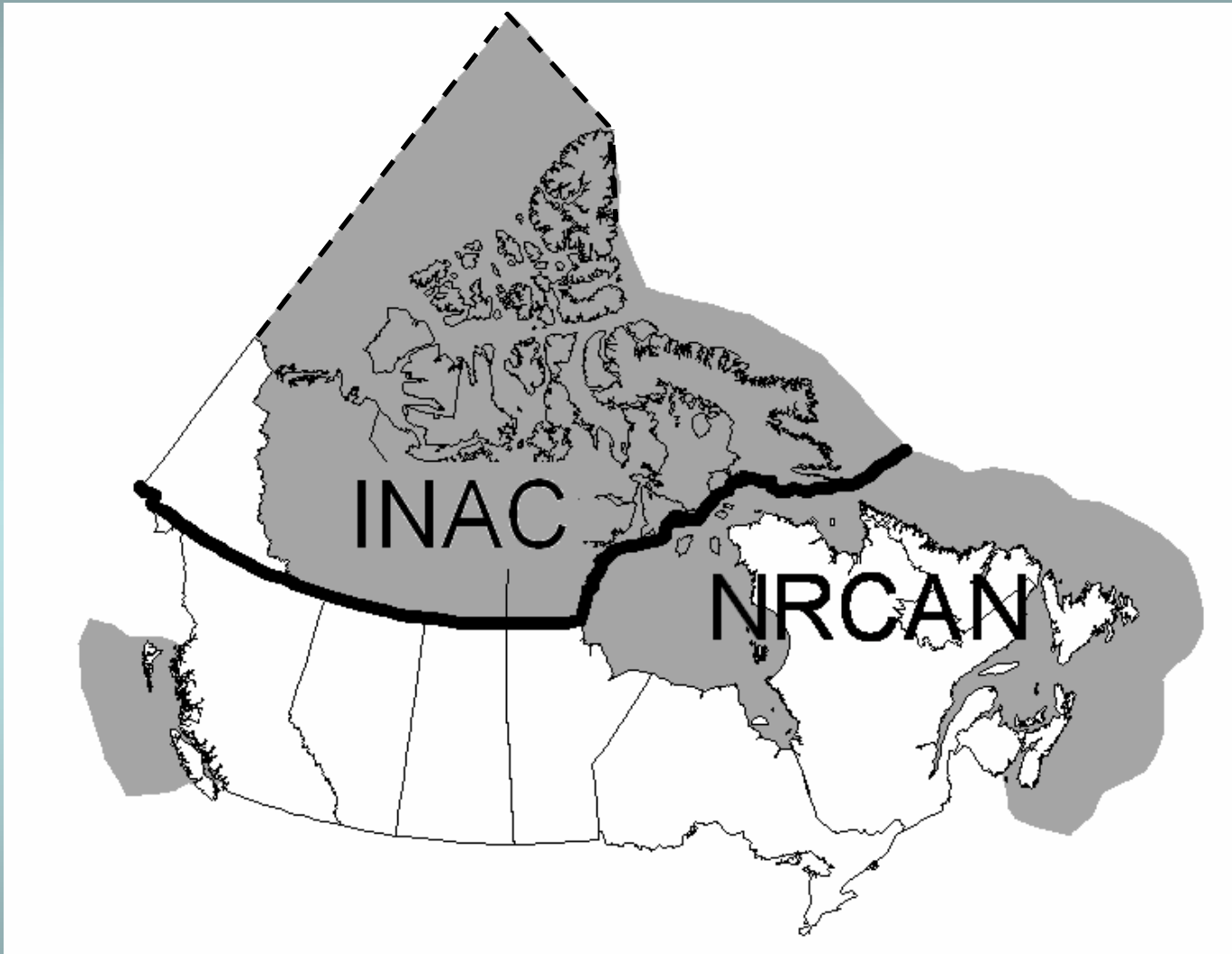
# I will speak to...

- Federal Jurisdiction
- Geological Potential
- The Oil and Gas Management Regime
  - specifically Leasing and Fiscal
- Challenges and Opportunities
  
- SOURCES OF INFORMATION:  
Northern Oil and Gas Annual Report (2007) at  
[http://www.ainc-inac.gc.ca/oil/ann/ann2007\\_e.html](http://www.ainc-inac.gc.ca/oil/ann/ann2007_e.html)

# Federal Jurisdiction for Petroleum Resources

- ‘Frontier Lands’ – lands belonging to Her Majesty in Right of Canada
- Not within a province or areas under joint federal/provincial management (East Coast Accord areas)
- Onshore lands within the Northwest Territories and Nunavut plus...
- Submarine areas within the territorial sea, exclusive economic zone, continental shelf etc.

2008/03/19





# Geological Potential



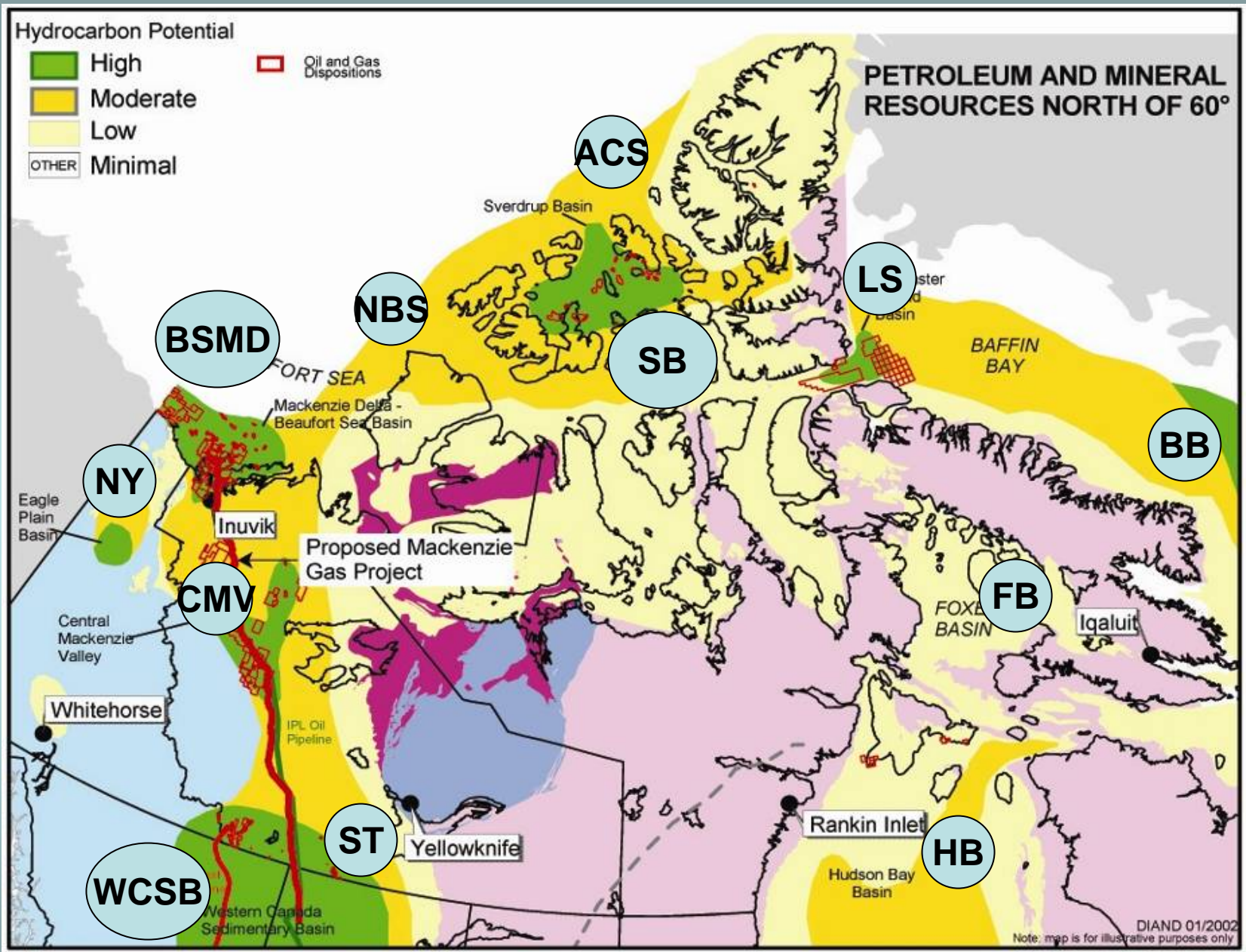
2008/03/19

Northern Oil and Gas Branch, INAC:  
May 2008

# Canada's North - context

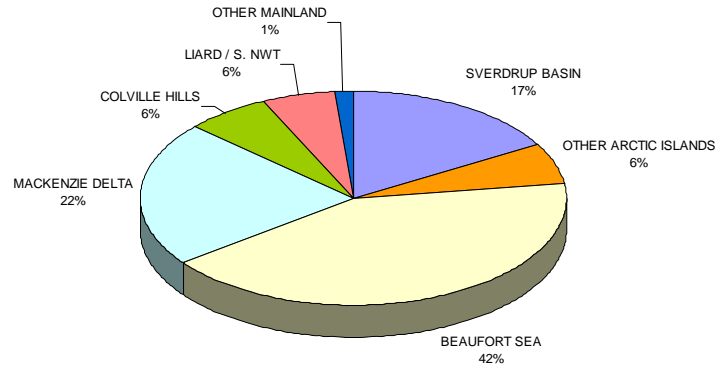
- North is vast\* and varied hosting carbon from peat to coal, oil and gas to diamonds
- From “sub-frontier” onshore, to onshore/offshore basins, to remote arctic offshore – all present operational and economic challenges
- But also a spectrum of opportunity from single well gas pools to development of multiple major fields, and still the promise of giants...

*\*total land area approx. 3.8 million km<sup>2</sup> plus intra-continental seas, continental shelf and slope within exclusive economic zone*



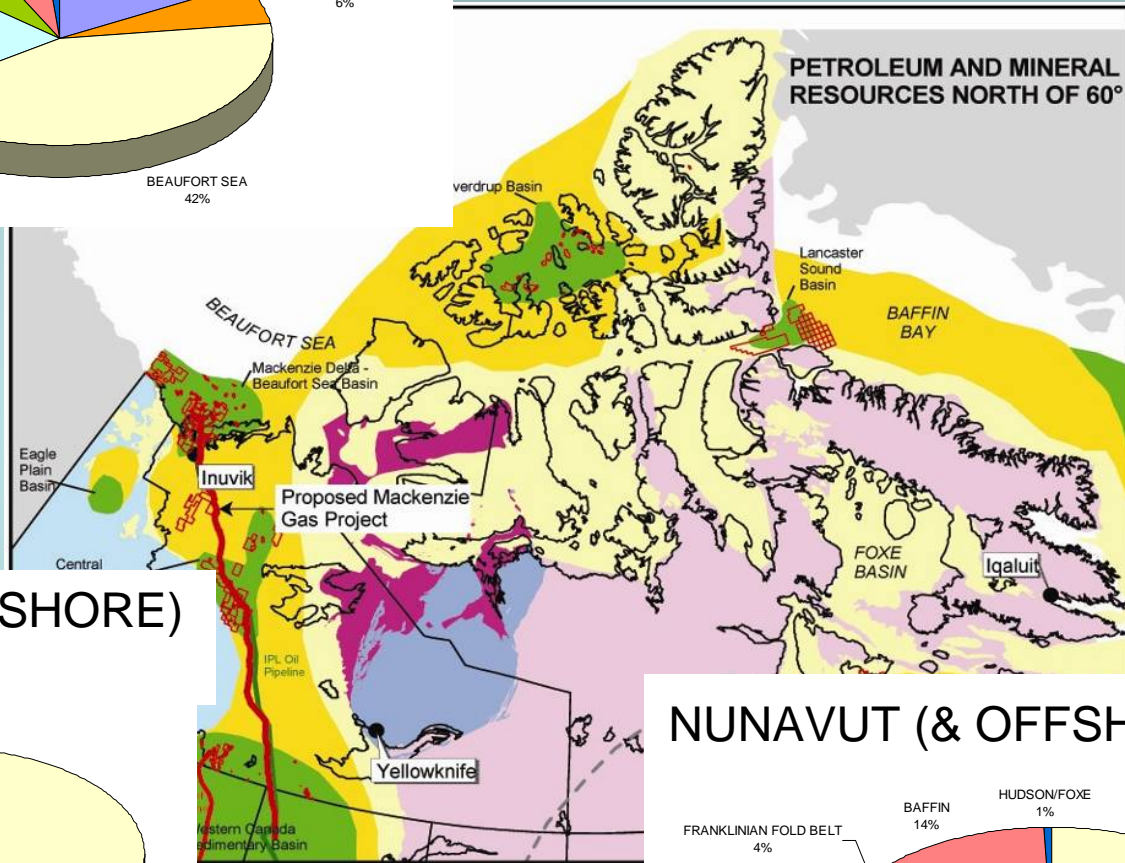


# NWT (& OFFSHORE) – 82 TCF

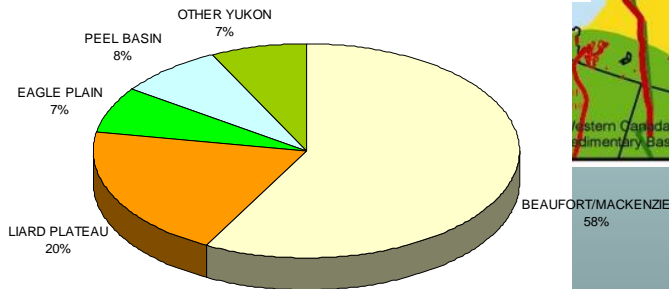


# Northern Natural Gas – ultimate potential (TCF)

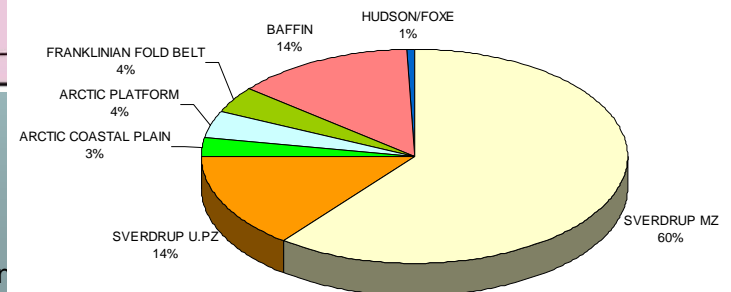
OGMD July 06/from Drummond compilation 2002



# YUKON (& OFFSHORE) 11 TCF

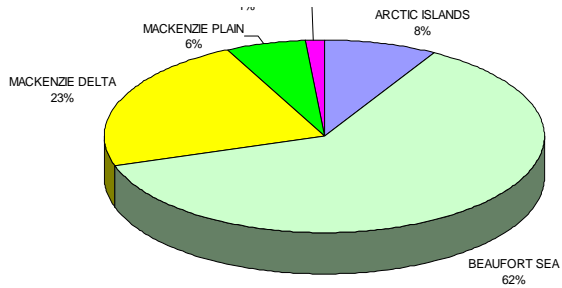


# NUNAVUT (& OFFSHORE) - 71 TCF



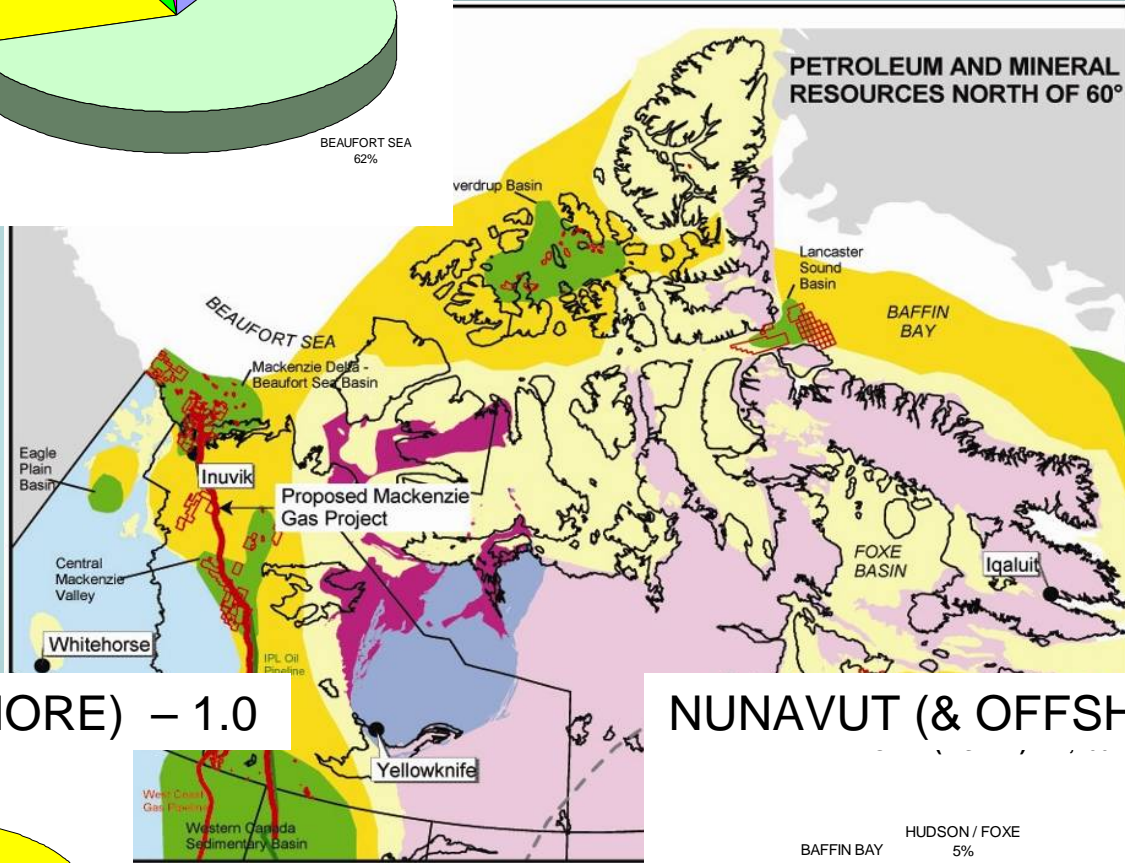


# NWT (& OFFSHORE) - 5.7

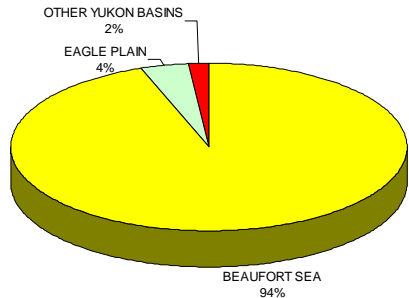


# Northern Conventional Oil – ultimate potential (BILLION BBLs)

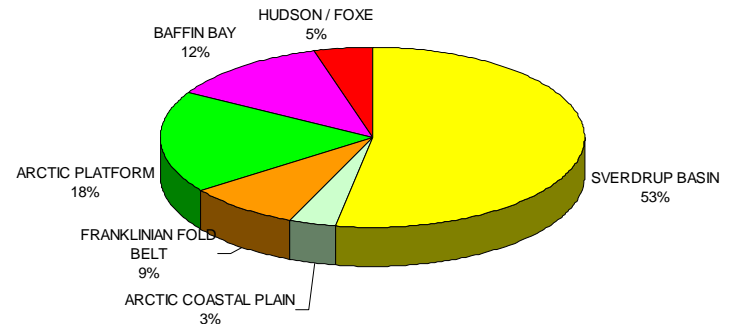
OGMD July 06/from Drummond compilation 2002



# YUKON (& OFFSHORE) – 1.0



# NUNAVUT (& OFFSHORE) – 2.2



Northern Oil and Gas Bar  
May 2008

## Discovered Resources

Region	Crude Oil 10 <sup>6</sup> m <sup>3</sup>	Million Barrels	Natural Gas 10 <sup>9</sup> m <sup>3</sup>	Trillion Cubic Feet
Northwest Territories (and offshore Beaufort Sea)	253.5	(1,597.0)	345.6	(12.2)
Nunavut (and offshore)	51.4	(324.0)	543.9	(19.2)
Totals	304.9	(1,929.0)	889.5	(31.4)

From: Drummond, K.J. 2005, updated to December 31, 2007:  
 Canada's Discovered Oil and Gas Resources North of 60,  
[www.drummondconsulting.com/Canada60North07.pdf](http://www.drummondconsulting.com/Canada60North07.pdf)

# What is the “Oil and Gas Regime”?

Based in specific oil and gas legislation...

- The *Canada Petroleum Resources Act* (CPRA)
  - Land issuance and tenure (exploration licences which confer rights to exploration companies)
  - Royalties - a **generic** Royalty regime
  - Benefits
  - Some science research; funds levied from licence holders (ESRF)
- The *Canada Oil and Gas Operations Act* (COGOA) regulates operations on federal Crown onshore and offshore *and* private lands onshore)/suite of technical regulations
- *National Energy Board Act* (transmission pipelines – engineering and economic regulation)

# Statutory Responsibilities split

- Northern Oil and Gas Branch of INAC (Ottawa) – CPRA matters (land issuance, registry, administration, benefits, royalty and overall management/policy)
- National Energy Board (Calgary) – COGOA matters (regulation of operations)



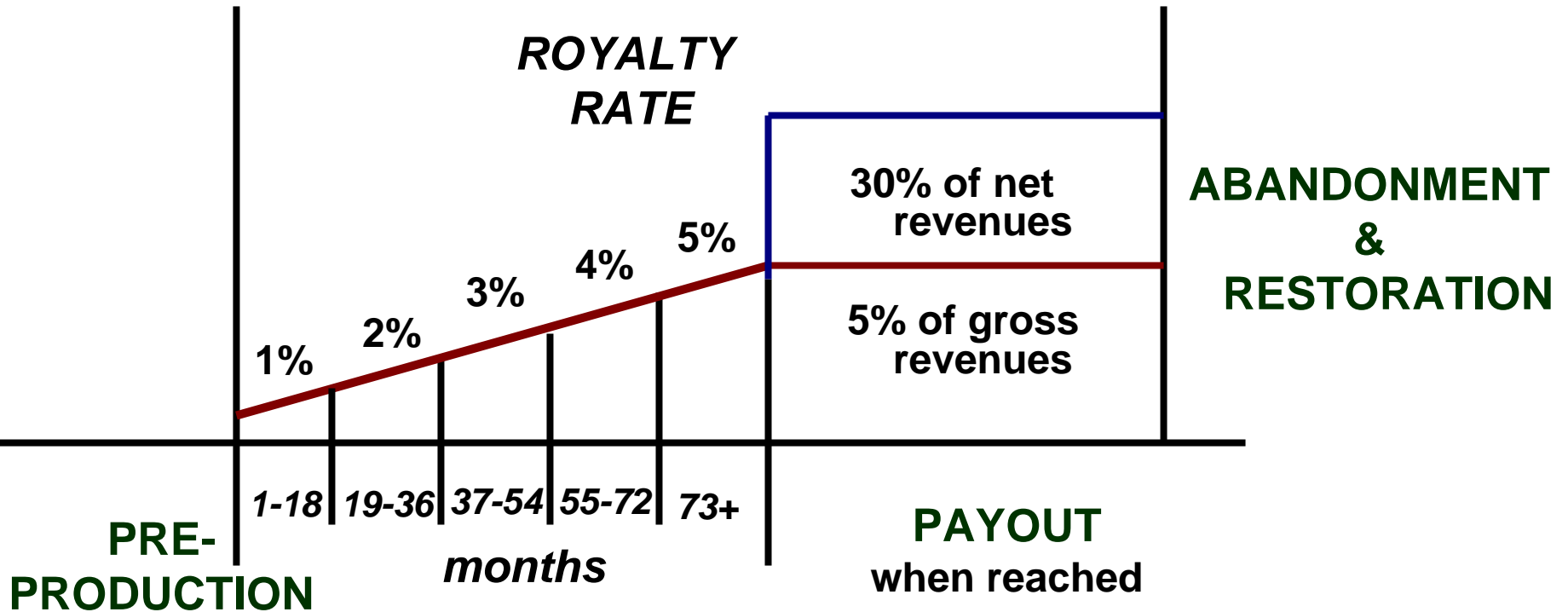
# Fiscal Regime

- Currently no front end cash bonus, refundable rentals
- Royalty on production profit sensitive and project based
- Federal corporate taxes (19% dropping to 15% in 2012) and Territorial corporate tax (11.5%\*)
- % of economic rent taken – 60%

\* Northwest Territories

**COMMENCEMENT OF  
COMMERCIAL PRODUCTION**

**TERMINATION OF  
PRODUCTION**



# Generic Royalty Structure

# Leasing

2008/03/18

Northern Oil and Gas Branch, INAC:  
May 2008

# Oil and gas interests issued under *CPRA*

- Exploration Licence (term up to 9 years, split into two periods with drilling requirement in first period)
- Significant Discovery Licence (indefinite tenure over lands declared a discovery by the National Energy Board)
- Production Licence (25 years) over lands declared commercial by the National Energy Board

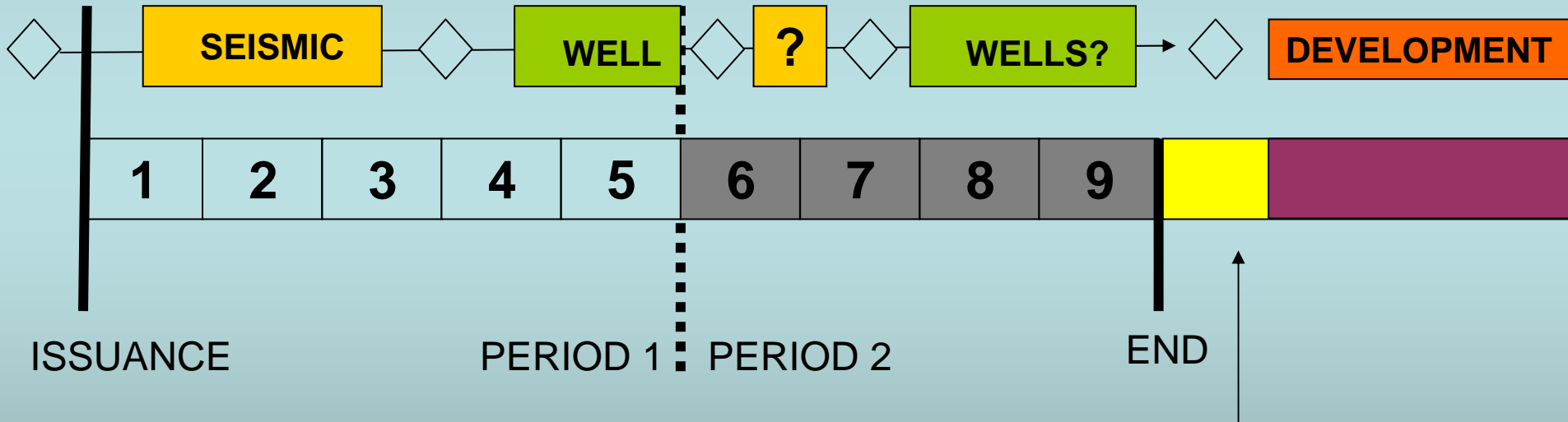


# The exploration licence confers...

- (a) the right to explore for, and the exclusive right to drill and test for, petroleum;
- (b) the exclusive right to develop those frontier lands in order to produce petroleum, and
- (c) the exclusive right, subject to compliance with other provisions of (the CPRA), to obtain a production licence

# NINE YEAR CYCLE – EXPLORATION LICENCE

◇ = DECISION REQUIRED

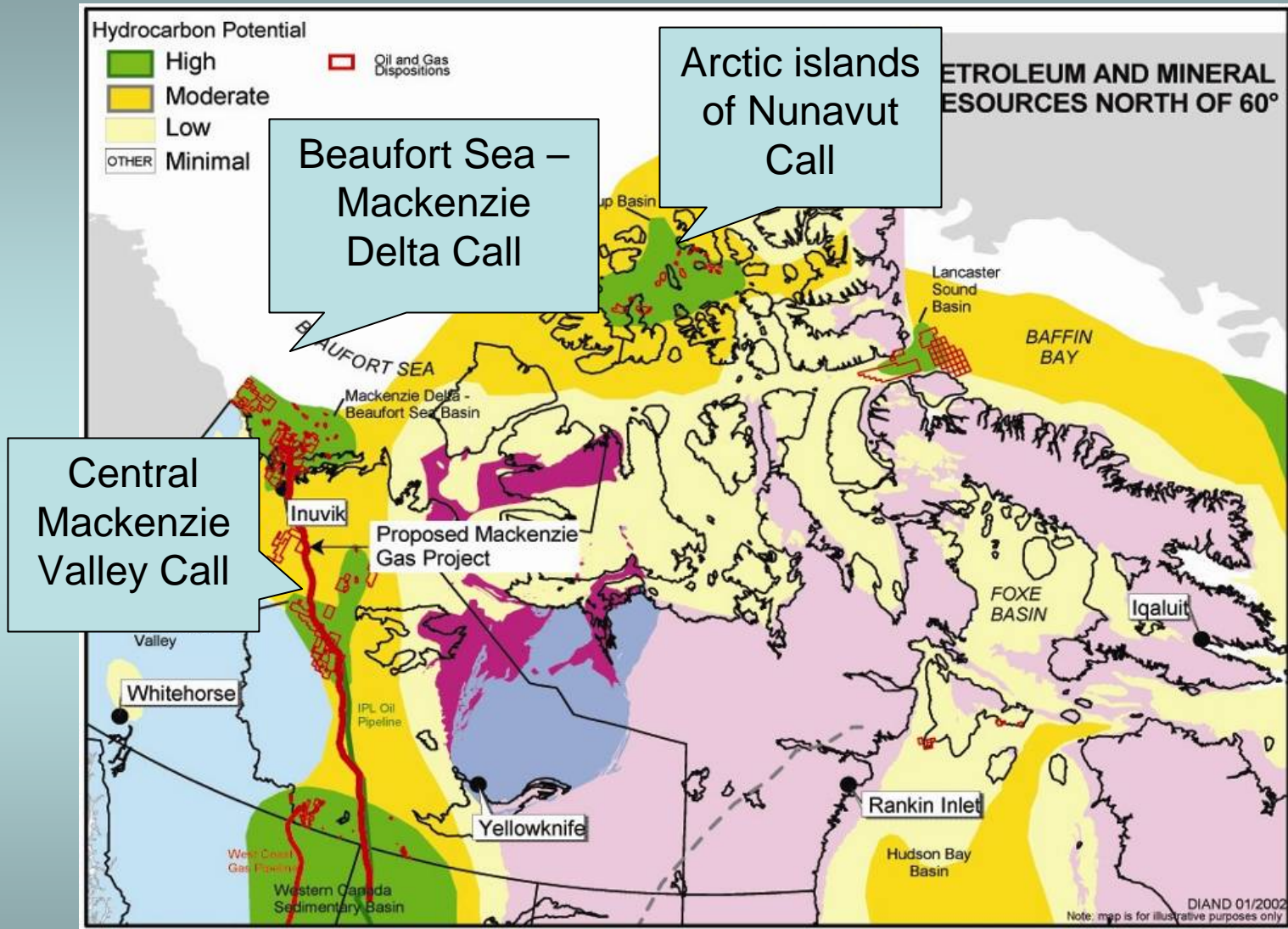


# Leasing Cycles under *CPRA*

- Annual cycles of rights issuance, currently in three regions (Central Mackenzie Valley, Beaufort Sea-Mackenzie Delta, Arctic islands).
- Cycles of issuance include preliminary consultations and identification of areas of environmental and socio-cultural concern; call for nominations of lands of exploration interest, followed by call for bids.
- Auction system based on work expenditure bid – market-driven with no state subsidy or participation. \$1 million minimum bid with 25% deposit, worked off through allowable expenditures based on actual cost.
- Large exploration blocks offered for terms up to nine years. Rents taken through royalty and tax regimes, not through cash bonus

For details see web site at [www.inac-ainc.gc.ca/oil](http://www.inac-ainc.gc.ca/oil)

# Approximate Call for Nomination Areas

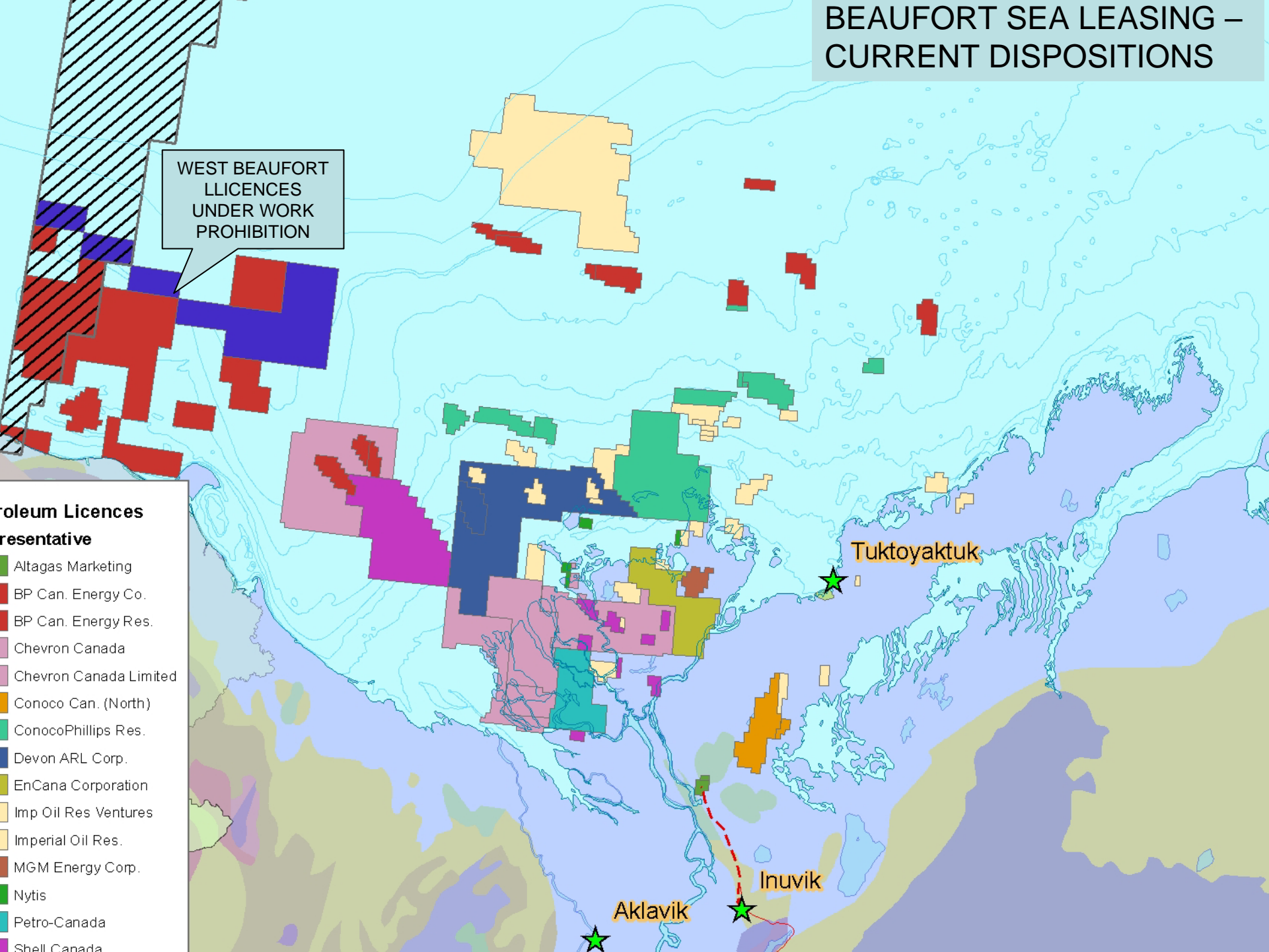




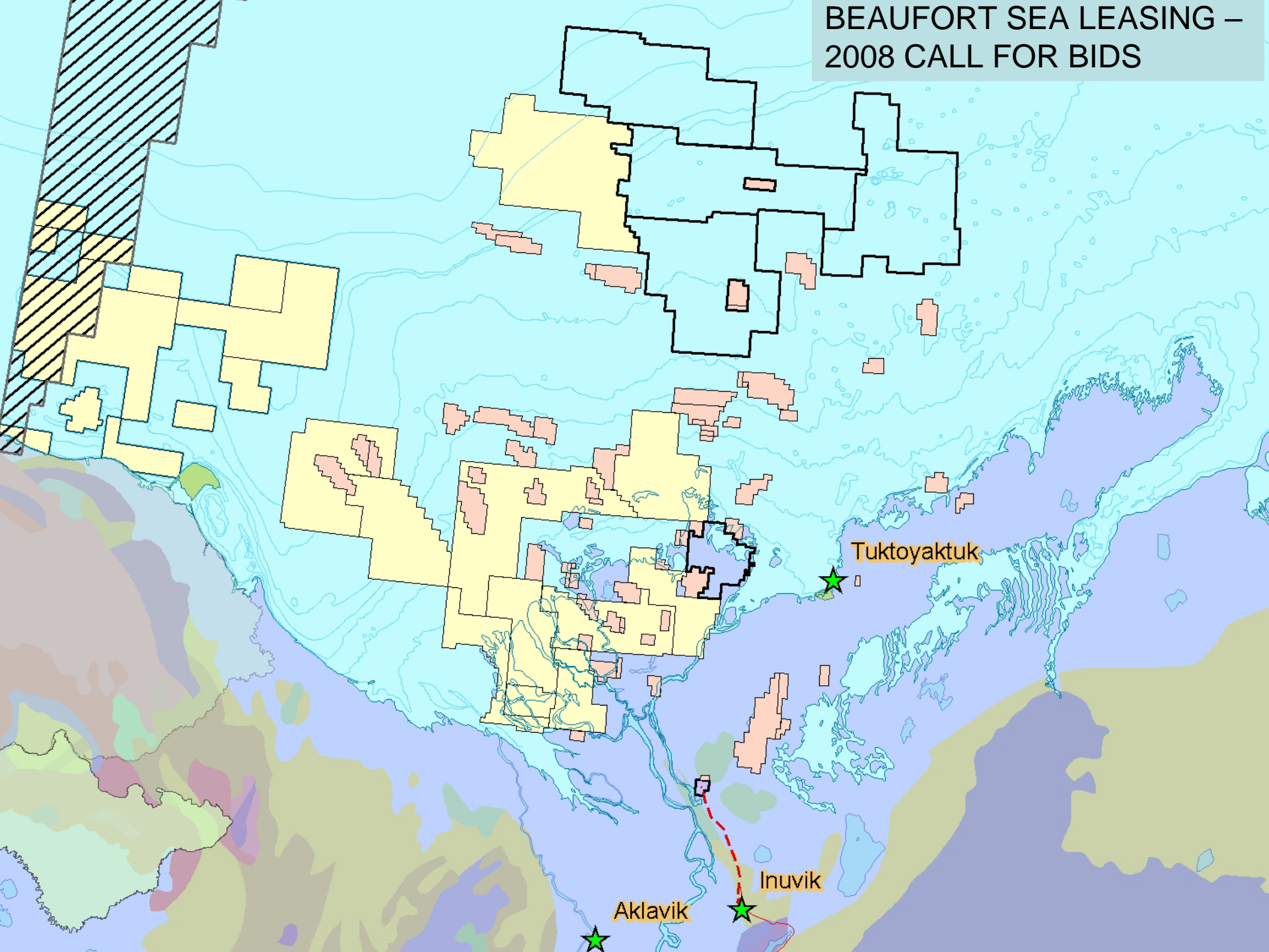
# BEAUFORT SEA LEASING – CURRENT DISPOSITIONS

WEST BEAUFORT LICENCES UNDER WORK PROHIBITION

- Petroleum Licences representative**
- Altgas Marketing
  - BP Can. Energy Co.
  - BP Can. Energy Res.
  - Chevron Canada
  - Chevron Canada Limited
  - Conoco Can. (North)
  - ConocoPhillips Res.
  - Devon ARL Corp.
  - EnCana Corporation
  - Imp Oil Res Ventures
  - Imperial Oil Res.
  - MGM Energy Corp.
  - Nytis
  - Petro-Canada
  - Shell Canada



# BEAUFORT SEA LEASING – 2008 CALL FOR BIDS



Basin resources (nat. gas - trillion cubic feet)	
3 lead fields <sup>1</sup>	6 tcf
discovered gas within 50 km <sup>2</sup>	2 tcf
other discovered gas in basin <sup>2</sup>	6 tcf
(economic portion of undiscovered gas potential) <sup>3</sup>	10 tcf
	<hr/>
	24 tcf
Ultimate recoverable gas for the basin <sup>4</sup>	65 tcf

<sup>1</sup> - industry estimates  
<sup>2</sup> - National Energy Board  
<sup>3</sup> - Geological Survey of Canada, 1994

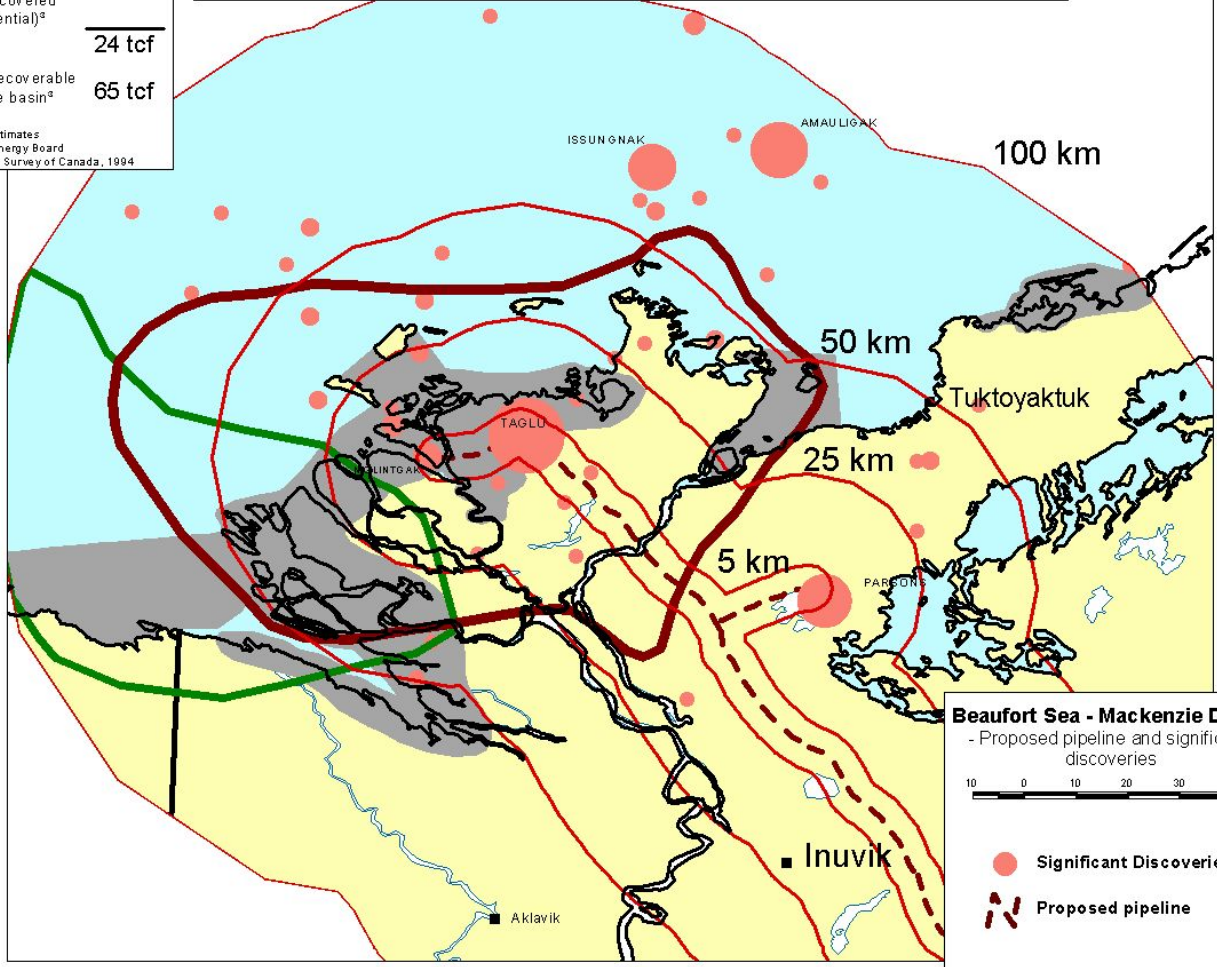
**Play Groups**

- █ West Beaufort
- █ Taglu

**Environmental Areas**

- Areas of recognized sensitivity (aggregate)

**= approx. 28% of Taglu play and 41% of West Beaufort play**



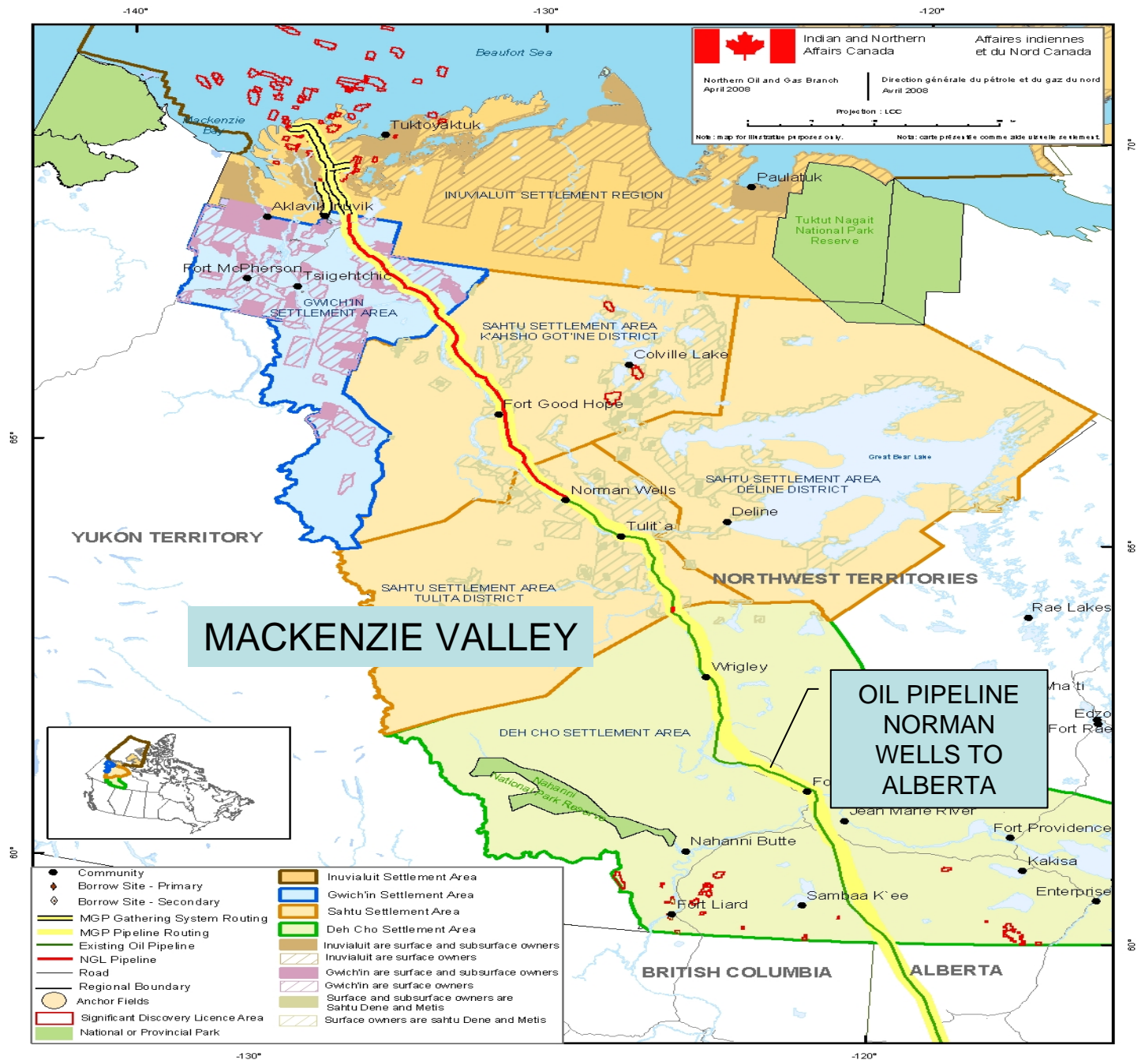
**Beaufort Sea - Mackenzie Delta**  
 - Proposed pipeline and significant discoveries

10 0 10 20 30 40 km

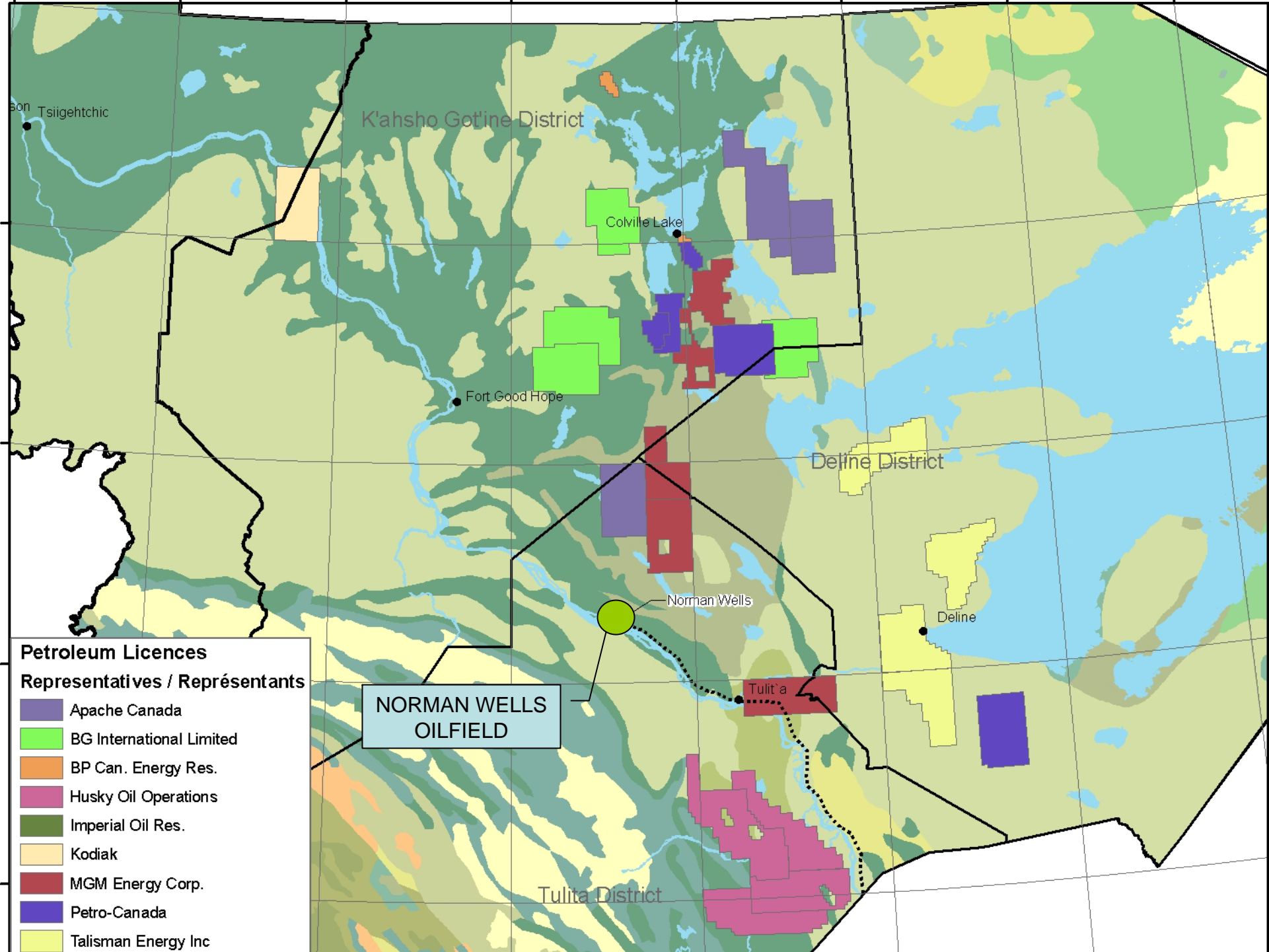
- Significant Discoveries
- - - Proposed pipeline

Northern Oil and Gas Directorate 1/2003









son Tsiigehtchic

K'ahsho Got'ine District

Colville Lake

Fort Good Hope

Deline District

Norman Wells

Deline

Tulit'a

Tulita District

**Petroleum Licences  
Representatives / Représentants**

- Apache Canada
- BG International Limited
- BP Can. Energy Res.
- Husky Oil Operations
- Imperial Oil Res.
- Kodiak
- MGM Energy Corp.
- Petro-Canada
- Talisman Energy Inc

**NORMAN WELLS  
OILFIELD**

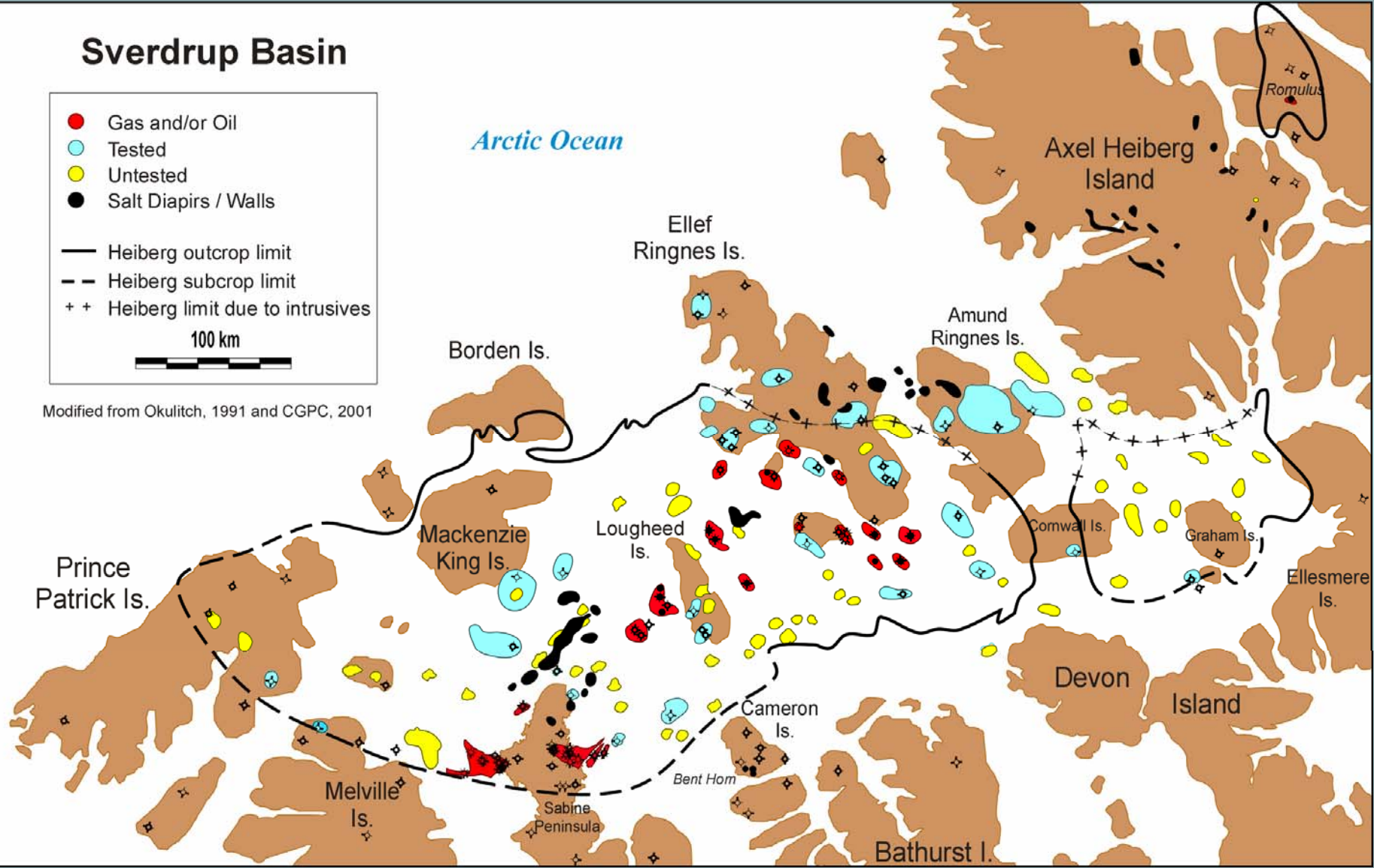
# Sverdrup Basin

- Gas and/or Oil
- Tested
- Untested
- Salt Diapirs / Walls

- Heiberg outcrop limit
- - Heiberg subcrop limit
- + + Heiberg limit due to intrusives

100 km

Modified from Okulitch, 1991 and CGPC, 2001





# Challenges and Opportunities



SDC in the Beaufort Sea

# Challenges

- High Cost, difficult physical environment with restricted operating seasons; lack of infrastructure.
- Managing development within the arctic environment, respecting the economic, environmental and socio-cultural pillars of Sustainable Development, and keeping all these balls in the air.
- Ensuring that aboriginal and northern communities are informed, their views respected, with fair access to training, employment and business opportunities.

# Conclusion

to meet these challenges, Canada's northern oil and gas regime provides for...

- Opportunity for entry under established leasing terms and conditions tailored to frontier operations
- Fair process with stringent efforts towards regulatory improvement
- Opportunity for regional scale land acquisition and exploration
- Appropriate fiscal terms for production
- Chance of first entry into unexplored basins?



# Thank you....



*Canada's North – thrills with no spills*

*.....please*

## CANADIAN ARCTIC BASINS – KEY TO SLIDE

- BB – Southern Baffin Bay, Davies Strait and northern Labrador Sea  
(sub-basins include Lady Franklin basin – one stranded gas discovery)
- LS – Lancaster Sound and Northern Baffin Bay – undrilled
- ACS – Arctic Continental Shelf and Slope (unexplored)
- SB – Sverdrup Basin of the High Arctic (20 discoveries O&G)
- ACP – Arctic Continental Platform (sparsely drilled)
- NBS – Northern Beaufort Sea (undrilled)
- BSMD – Southern Beaufort Sea and Mackenzie Delta (57 discoveries)
- NY – North Yukon interior basins (3 discoveries, renewed exploration)
- CMV – Central Mackenzie Valley (6 discoveries, renewed exploration)
- ST – Southern Territories (about 20 discoveries, producing)
- WCSB – Western Canada Sedimentary Basin