ACES

Alaska's Clear and Equitable Share

New Field Tax Analysis - NPV Impact

NET PROFIT TAX SCENARIOS	Tax Rate		Progressivity		Capital Investment
Case	[illegible] Fields	Other Fields	Threshold	Rate	Credit
ACES - 10% Floor	25%	25%	$30	0%	20%
ACES - NO Floor	25%	25%	$30	0%	20%
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	20%
[illegible] Net Tax	25%	[illegible]	$30	0%	20%

[illegible]							
Field A	Field B	Field C	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1,000	$30	610	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

"Cradle to Grave" Government Share of Pre-Tax Income Discounted at 10% @ $60 (Applicable to New Fields)

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Median Government Take By Tax Structures	
	Median (Mid-Point)
All Governments	48%
Profit Sharing Governments	76%
Tax Royalty Governments	50%
Norway	81%
Alaska - ACES Six Potential New Fields	**68% to 74% (Median 70%)**
Alaska - PPT Six Potential New Fields	65% to 72% (Median 68%)
UK	51%
Gulf of Mexico	48%

Source: PFC Study September 2007, Alaska data by DOR

ACES

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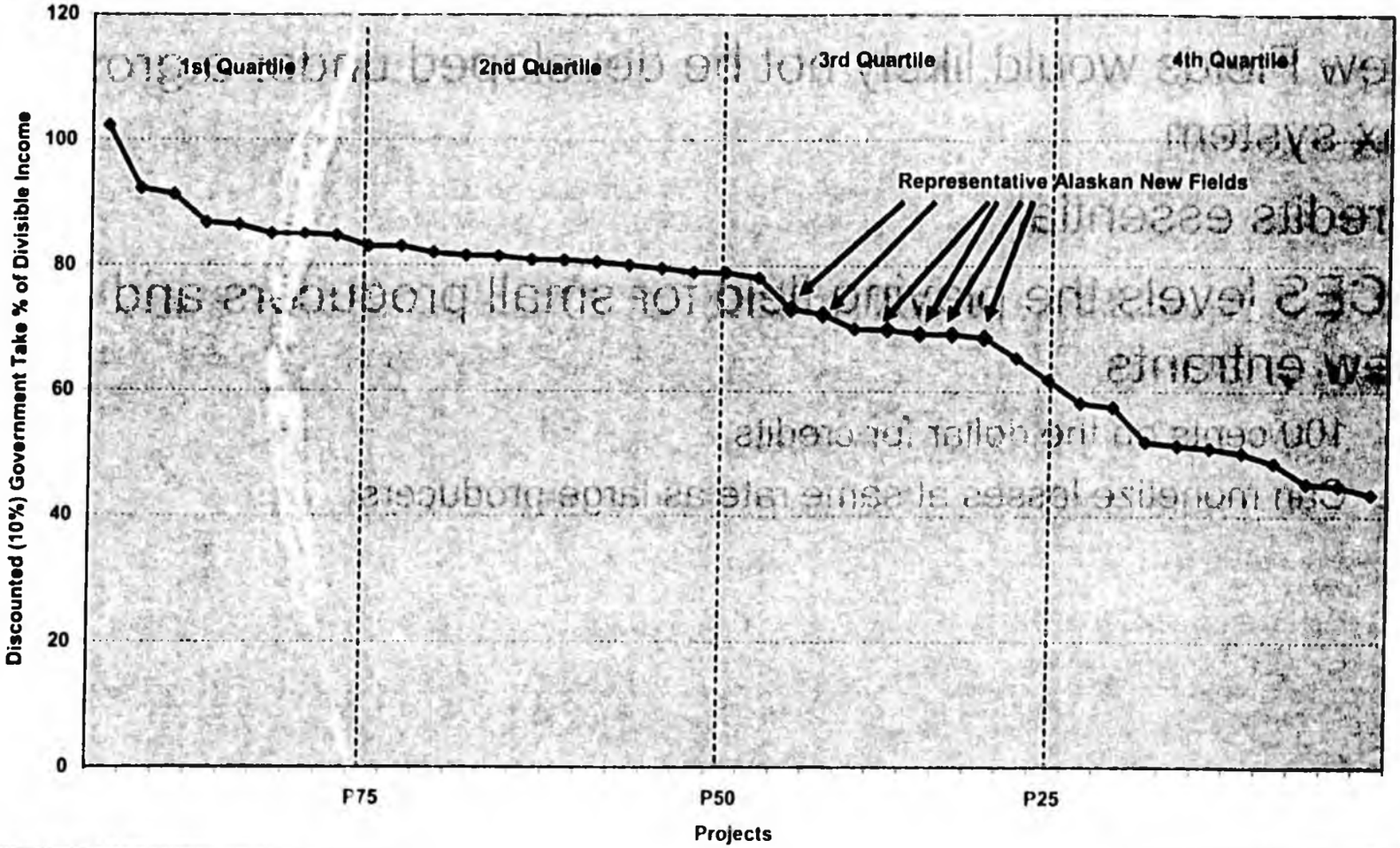
Discounted Government Take @ $60
Tax & Royalty Fiscal Regimes (excluding GOM)



Conclusions

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- New Fields would likely not be developed under a gross tax system
- Credits essential
- ACES levels the playing field for small producers and new entrants
  - 100 cents on the dollar for credits
  - Can monetize losses at same rate as large producers

Analysis of Mature Fields

Economic Evaluation of Mature Fields

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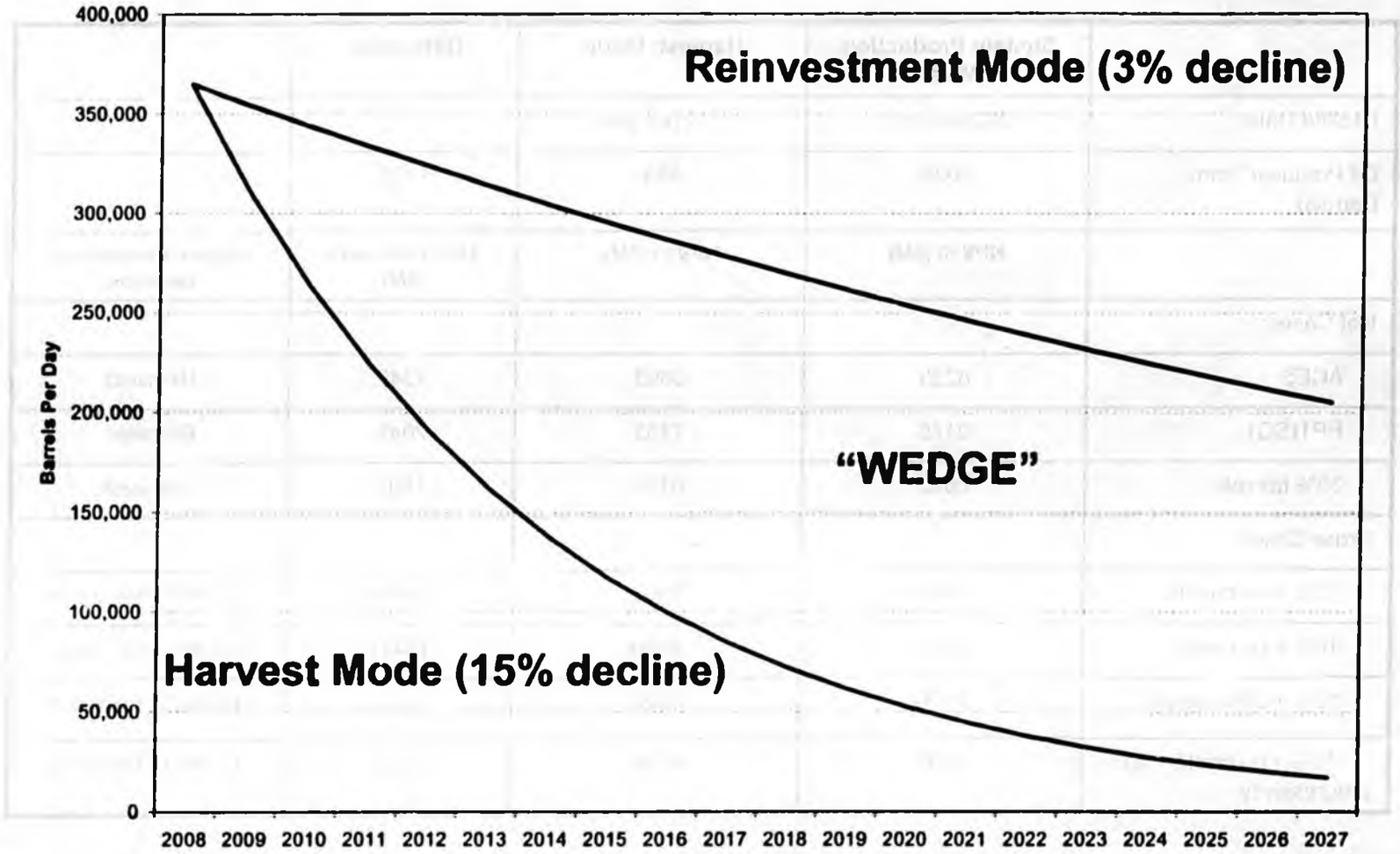
- Hampered by lack of specific knowledge
- Recognize that reinvestment requires substantial capital
- Consider two modes:
  - Harvest: allow field to decline naturally (15% decline)
  - Reinvestment: invest to stem decline (3% decline)
- Treat each mode as a separate (mutually exclusive) project
- Compare the NPV of Reinvestment with the NPV of Harvest

Legacy Field Scenarios

ACES
Alaska's Clear and Equitable Share



Legacy Field Reinvestment Comparison @ $40

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	Sustain Production Mode	Harvest Mode	Difference	
Decline Rate	3% per year	15% per year		
Oil Produced (mm Barrels)	2026	854	1172	
	NPV10 ($M)	NPV10 ($M)	NPV Difference ($M)	Implied Investment Decision
Net Cases:				
ACES	8235	6893	1342	Reinvest
PPT(SQ)	9176	7133	2042	Reinvest
35% tax rate	8022	6130	1892	Reinvest
Gross Cases:				
13% + no credits	6860	7207	(348)	DO NOT Reinvest
16% + no credit	6248	6889	(641)	DO NOT Reinvest
16% + 20% credit	7180	7027	152	DO NOT Reinvest
19% + no credit + no progressivity	6246	6706	(460)	DO NOT Reinvest

Assumes: 20 year horizon, OPEX+CAPEX=$5/BOE for Harvest, $15/BOE for Reinvestment. All cases assume progressivity unless noted.

How Much of a $1.00 Oil Price Increase is Captured by Producer

(Mature fields - In production > 10 years)

ACES
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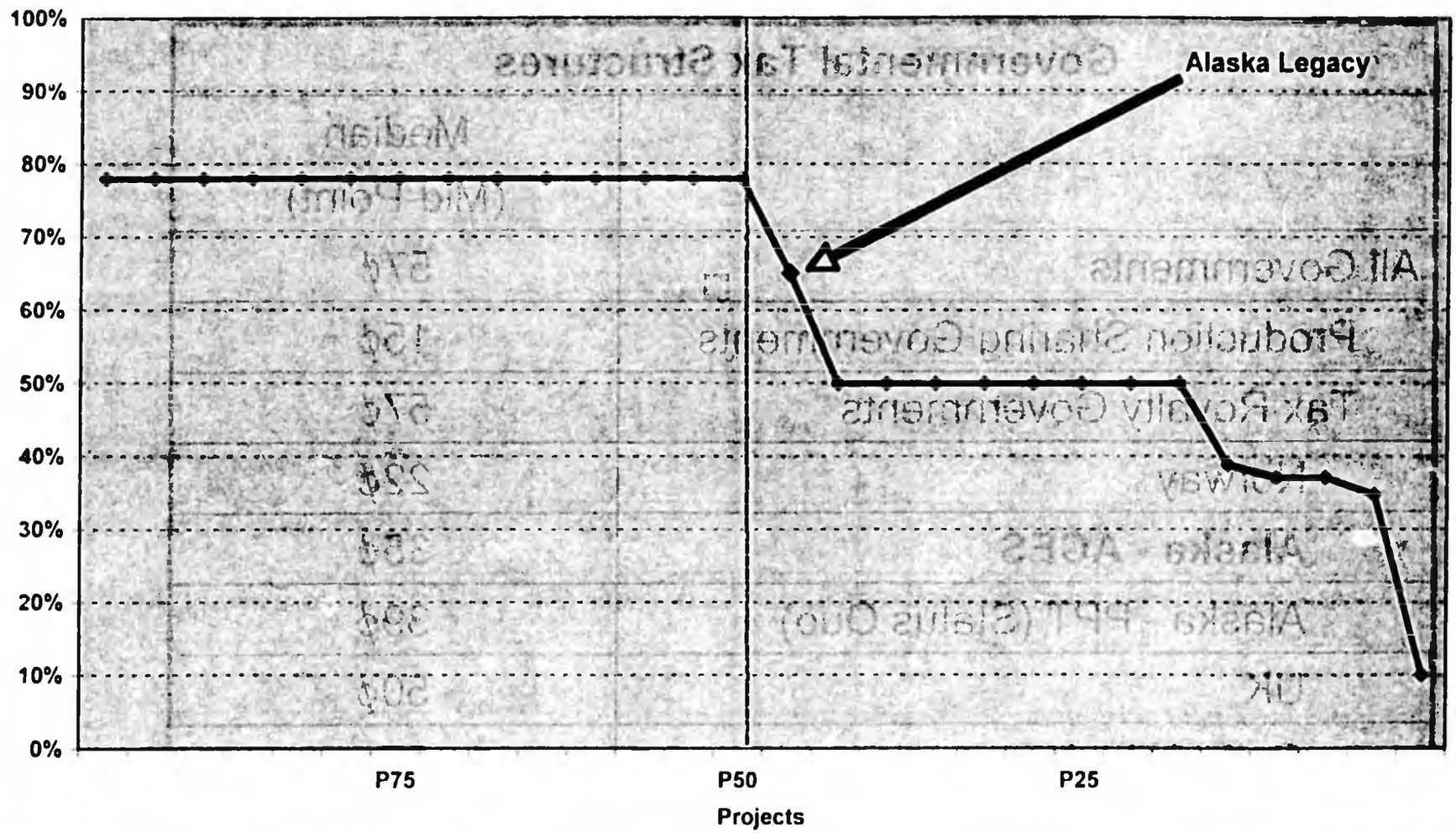
Governmental Tax Structures	
	Median (Mid-Point)
All Governments	57¢
Production Sharing Governments	15¢
Tax Royalty Governments	57¢
Norway	22¢
Alaska - ACES	**35¢**
Alaska - PPT (Status Quo)	39¢
UK	50¢
Gulf of Mexico	57¢

Source: PFC Study, September 2007. Alaska data by DOR using FY 2008 estimates

Marginal Government Take @ $60
Tax & Royalty Tax Regimes (excluding GOM)
Mature Fields

ACES



Sensitivities

Sensitivity to Alternative Assumptions

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ACES at $60

North Slope Production Tax Revenues in Millions of Dollars

					Relative to ACES		
	FY 2008	FY 2009	FY 2010		FY 2008	FY 2009	FY 2010
ACES	1421	1977	2170		-	-	-
ACES w/ 22.5% rate	1320	1748	1928		-102	-229	-242
ACES w/ PPT Progressivity	1356	1826	2011		-65	-151	-159
ACES w/ TIE Credits in	1315	1789	1972		-107	-188	-198
ACES w/ credits all in first year	1324	2003	2160		-97	26	-9
ACES w/ 27% rate	1503	2160	2363		81	183	194
ACES w/ 30% rate	1625	2435	2653		203	458	484

[illegible]
[illegible] Gas Exploration
[illegible] Amendments to AS [illegible]

Kevin Banks
Acting Director
Division of Oil and Gas

October 21, 2007

Alaska Department of Natural Resources

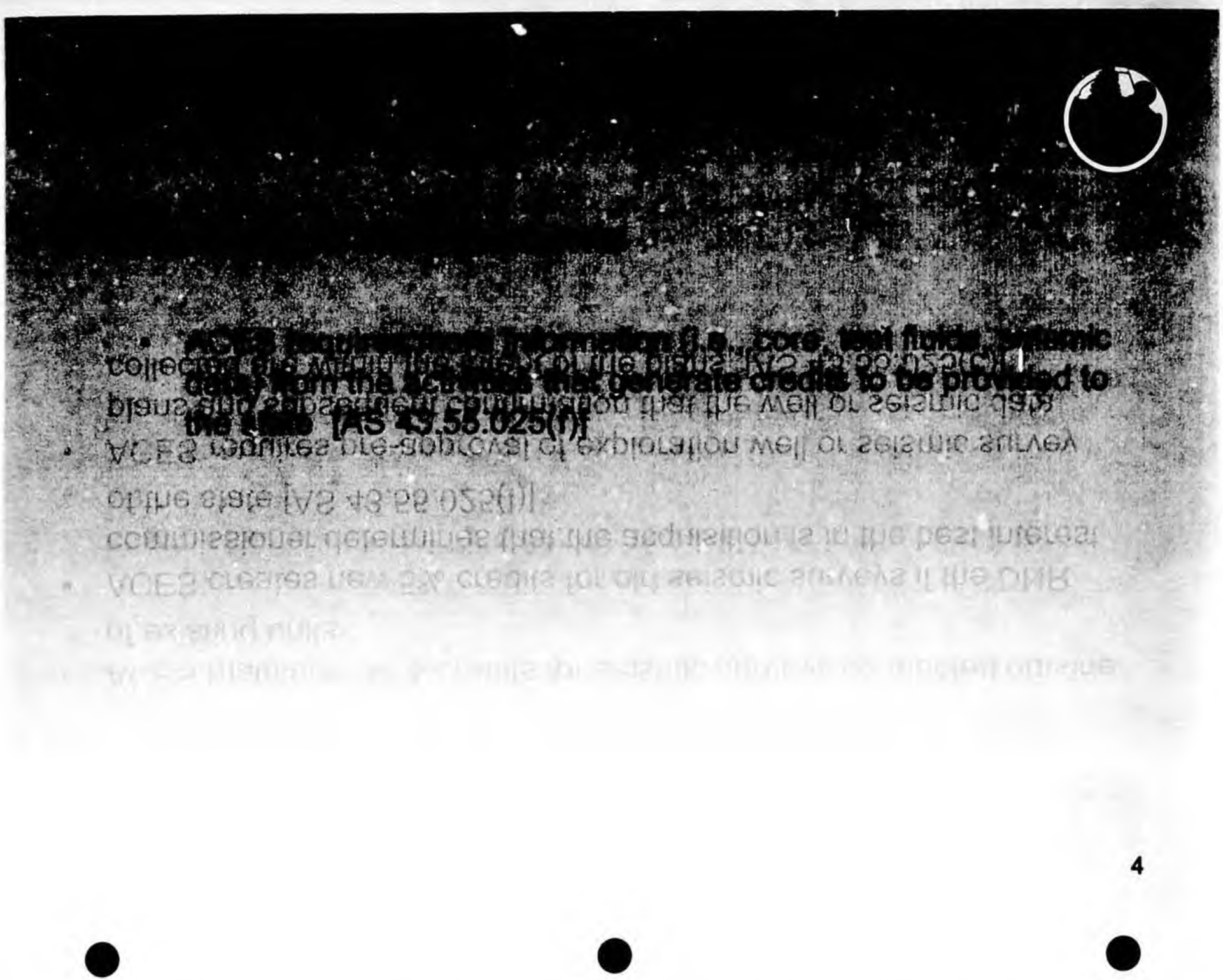
www.dog.dnr.state.ak.us/oil/

Sunday
10-21-2007
8:15 PM

presented to Jt SRES & HO&G
SB 2001

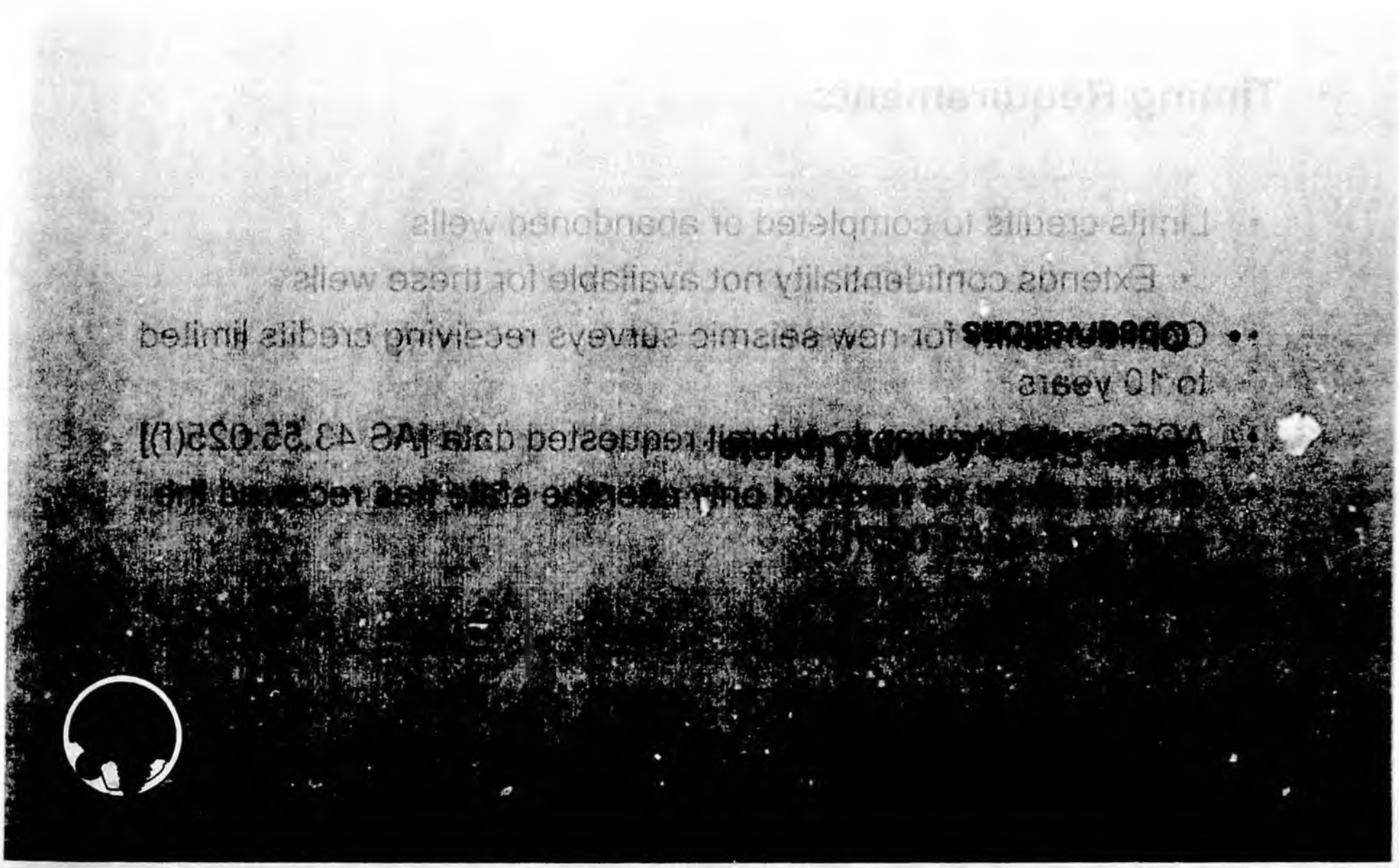
- ACES broadened this program to grant 20% credits for more exploration wells by defining "distinctly separate" targets and extending the time allowed to drill wells from 50 days to 540 days. [AS 43.55.025(k)]
- ACES maintains 40% credits for wells
  - North Slope: drilled more than 25 miles from an existing unit
  - Cook Inlet: drilled more than 10 miles from an existing unit

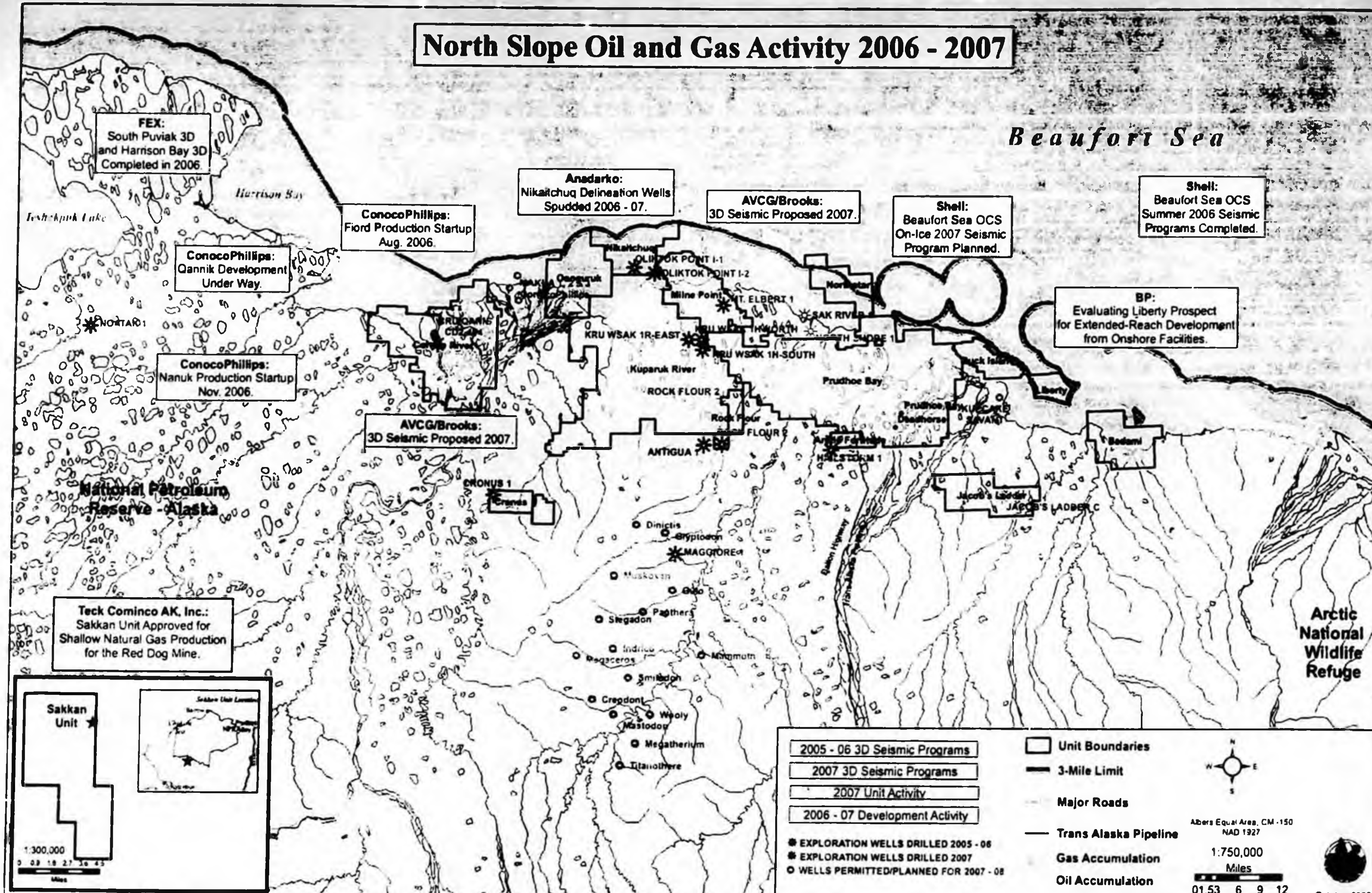
- ACES maintains 40% credits for seismic surveys conducted outside of existing units
- ACES creates new 5% credits for old seismic surveys if the DNR commissioner determines that the acquisition is in the best interest of the state [AS 43.55.025(l)]
- ACES requires pre-approval of exploration well or seismic survey plans and subsequent confirmation that the well or seismic data collected are within the intent of the plans [AS 43.55.025(c)]



Timing Requirements

- Limits credits to completed or abandoned wells
  - Extends confidentiality not available for these wells
- Confidentiality for new seismic surveys receiving credits limited to 10 years
- ACES extends time to submit requested data [AS 43.55.025(f)]
- Credits are to be remitted only after the state has received the data [AS 43.55.025(f)]




North Slope Oil and Gas Activity 2006 - 2007
Beaufort Sea
FEX: South Puviak 3D and Harrison Bay 3D Completed in 2006.
Harrison Bay
Anadarko: Nikaitchuq Delineation Wells Spudded 2006 - 07.
AVCG/Brooks: 3D Seismic Proposed 2007.
Shell: Beaufort Sea OCS On-Ice 2007 Seismic Program Planned.
Shell: Beaufort Sea OCS Summer 2006 Seismic Programs Completed.
ConocoPhillips: Fiord Production Startup Aug. 2006.
ConocoPhillips: Qannik Development Under Way.
BP: Evaluating Liberty Prospect for Extended-Reach Development from Onshore Facilities.
ConocoPhillips: Nanuk Production Startup Nov. 2006.
AVCG/Brooks: 3D Seismic Proposed 2007.
NORTAK 1
KRU WSAK 1R-EAST
KRU WSAK 1H-SOUTH
Kuparuk River
ROCK FLOUR 2
ANTIGUA 1
Milne Point
Prudhoe Bay
Liberty
Badami
Jacob's Ladder
JACOB'S LADDER C
CRONUS 1
National Petroleum Reserve - Alaska
Dinictis
MAGGIORE 1
Panthers
Megatherium
Arctic National Wildlife Refuge
Teck Cominco AK, Inc.: Sakkan Unit Approved for Shallow Natural Gas Production for the Red Dog Mine.
Sakkan Unit
1:300,000
2005 - 06 3D Seismic Programs
2007 3D Seismic Programs
2007 Unit Activity
2006 - 07 Development Activity
EXPLORATION WELLS DRILLED 2005 - 06
EXPLORATION WELLS DRILLED 2007
WELLS PERMITTED/PLANNED FOR 2007 - 08
Unit Boundaries
3-Mile Limit
Major Roads
Trans Alaska Pipeline
Gas Accumulation
Oil Accumulation
Albers Equal Area, CM -150
NAD 1927
1:750,000
Miles
0 1.5 3 6 9 12
October 2007

10-21-07

From: Sen. Bill Wielechowski
10/21/07

Effective Average Tax Rates at Various Price Levels

FY 2008-2018

Average ANS West Coast Price in Real 2006 Dollars:	$20.00	$30.00	$40.00	$50.00	$60.00	$70.00	$80.00
Total Government Take (Percent)							
22.5/20, 0.25% at $35 Net Trigger*	62.8%	58.3%	58.5%	59.4%	60.8%	62.2%	63.7%
23.0/20, 0.25% at $35 Net Trigger*	62.8%	58.6%	59.1%	59.7%	61.1%	62.5%	63.9%
23.5/20, 0.25% at $35 Net Trigger*	62.8%	58.8%	59.4%	59.9%	61.3%	62.7%	64.2%
Annual Average Tax Difference Above/(Below) Status Quo ($2006 M)							
22.5/20, 0.25% at $35 Net Trigger*	($248)	$111	$525	$1,068	$1,843	$2,760	$3,818
23.0/20, 0.25% at $35 Net Trigger*	($248)	$130	$668	$1,112	$1,998	$2,829	$3,888
23.5/20, 0.25% at $35 Net Trigger*	($248)	$148	$668	$1,156	$1,966	$2,888	$3,961

ANE

Sen Wielechowski asked why the difference from this illustration (last year) & now.

Galvin – now we more tools to measure/model with

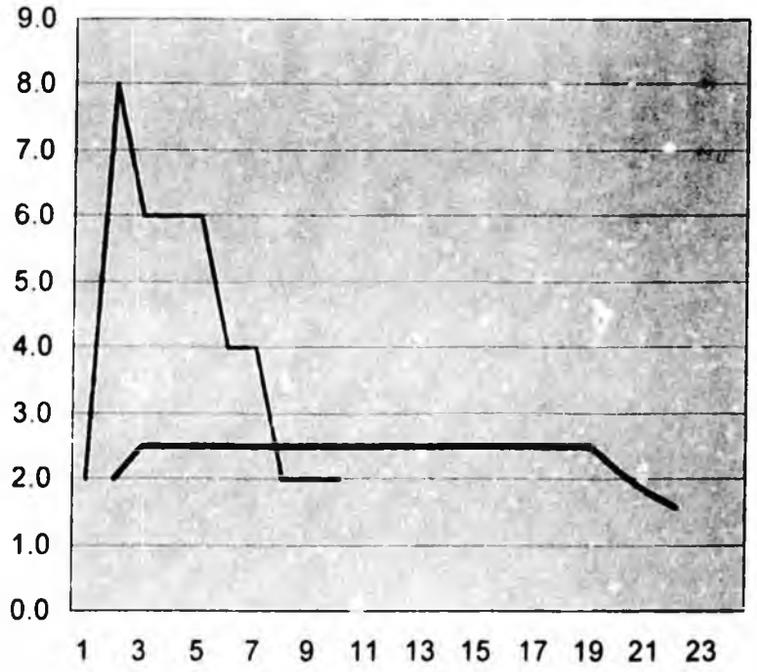
Payout

presented (adhoc) to
JT SRES + HO&G 10-21-2007
Sunday

What is expectation as to the time to recover initial investment?

- **Simple answer – As soon as possible!**

- **Rule of thumb – from date of first production plus:**
  - Oil – 3 to 6 years
  - Gas – 5 to 9 years (combination of higher costs and lower BOE)



Other Countries - PSC

- **Production Sharing Contracts**
  - Recovery of costs is commonly known as "Cost Oil"
  - Range of annual cost recovery varies
    - Some put no cap on cost recovery
    - Others may cap cost recovery at say, 40% of revenue
  - To compensate for particular situations the recovery may be 'tweaked'
    - Uplift
    - Share of First Tranche Petroleum (aka Royalty)
    - The "tweaks" are to provide some compensation for the time value 'loss' of longer recovery times

Other Countries – Tax & Royalty

- **Basically speed of deduction and credits**
  - Depreciation period
    - 1,3,10 years
  - Depreciation method
    - Straight line
    - Declining balance
    - Depletion (based on production to remaining reserves)
  - Credits
    - An additional deductions equal to a percentage of qualifying investment

Another key impact

- **The "Ring Fence" can provide very different value to the oil company**
  - Consolidated by taxing district (e.g. the entire State of Alaska)
    - Immediately write off aqainst other income streams
    - Progressive systems provide possible increased benefit
  - Ring Fenced say by individual field or reservoir
    - Usually have to wait until a discovery is turned into a development and revenue starts before the oil company can begin to recover their costs

Attractiveness of Exploration Credits

Alaska Exploration Investment Credits

- **One of the stated goals is to attract new exploration, new investment**

- **How does Alaska compare to other regimes?**
  - Compares very favorably on a global basis
  - State / Feds effectively becomes a major 'investor'

- **Comes close to leveling the playing field between incumbents and new entrants**
  - A feature that is not available in most countries
  - Usually there is a high barrier to entry

Alaska is offering…

- **Depending on parameters such as start date and distance from other existing oil and gas units and wells, investors can:**
  - Earn credits of 20% up to 40% of qualifying expenditures
  - Deduct money spent against current state and/or federal income tax liability
    - If no current PPT/ACES income can request and receive loss carry forward credits
  - Achieve favorable potential outcome after State/Federal Income Tax impact is considered
    - Contractor share – 21 to 36%
    - State/Federal share – 64 to 79%

Example

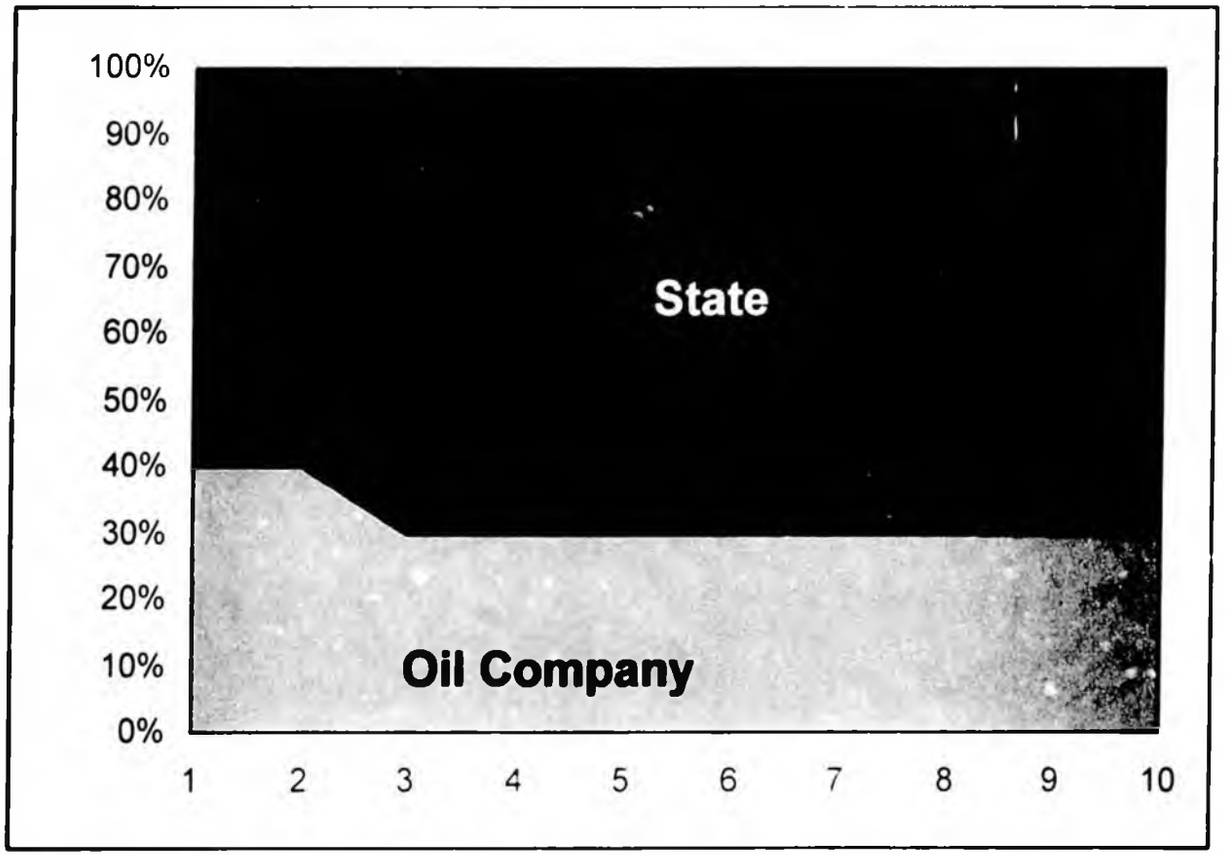
Example of timing of take

- **Assumptions**
  - Investment of 20
  - 10 years of flat cash flow = 100
    - 10 per year
    - Overall State gets 68, Oil Co gets 32

- **How does timing impact IRR (Internal rate of return), IOC NPV and State NPV?**

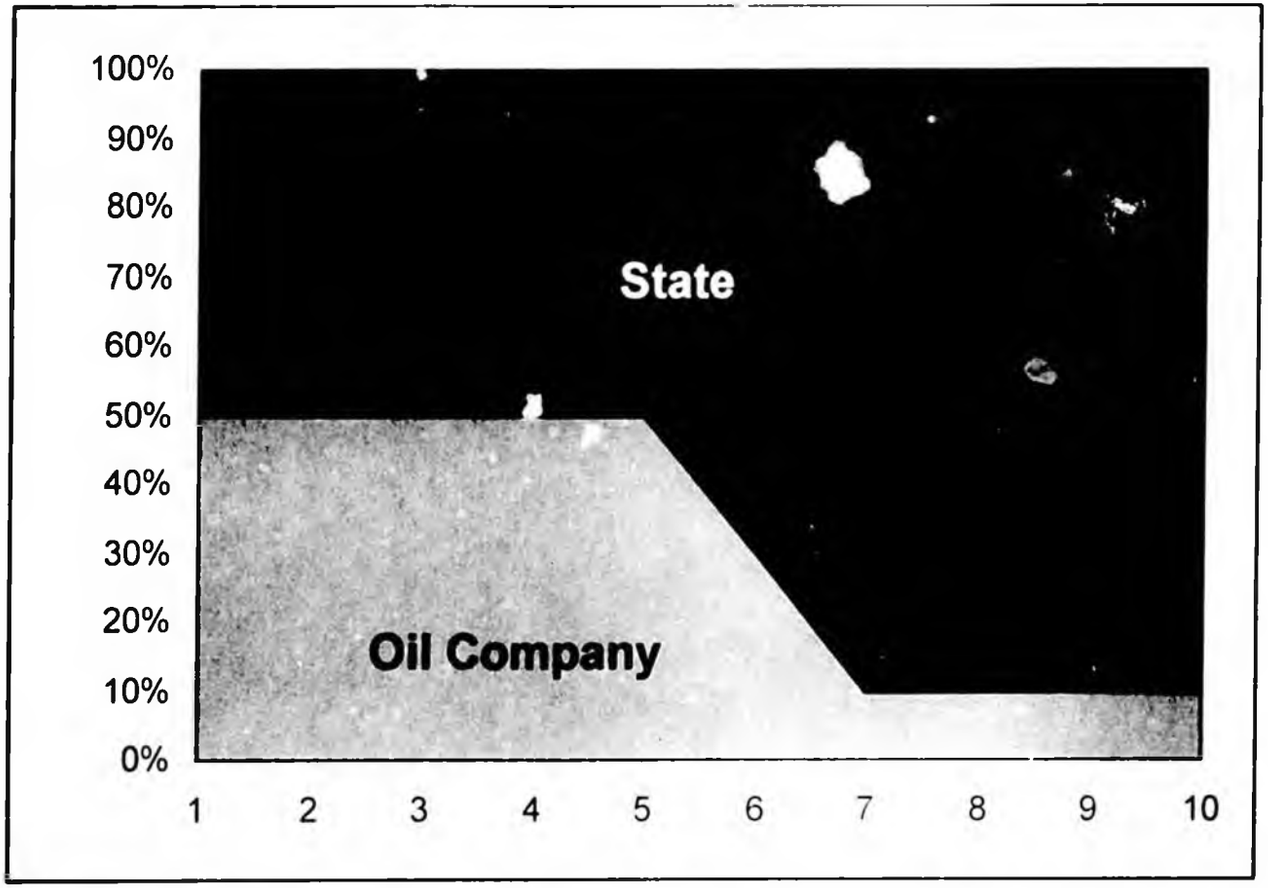
Case 1 – IRR 10%

- **IOC NPV10 = 0 State NPV5 = 52**



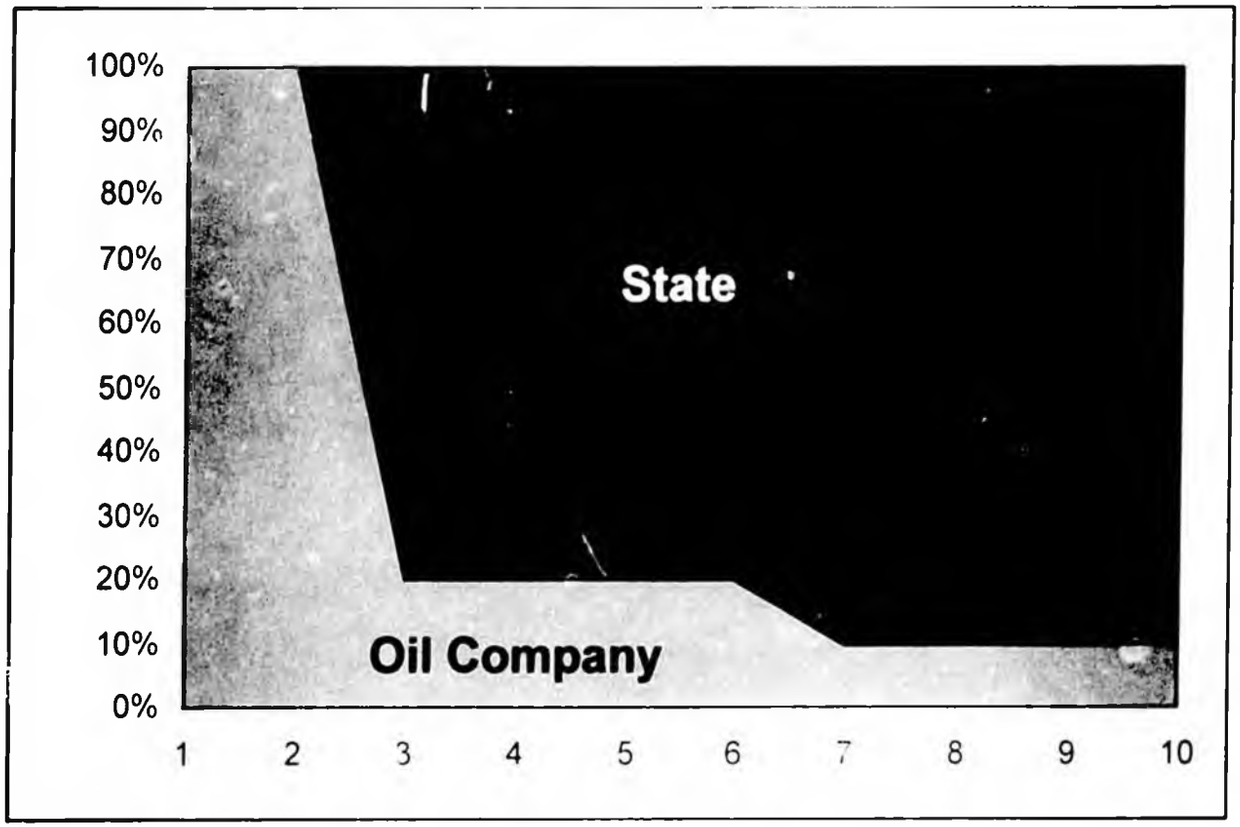
Case 2 – IRR 14%

- **IOC NPV10 = 2.2 State NPV5 = 50.7**



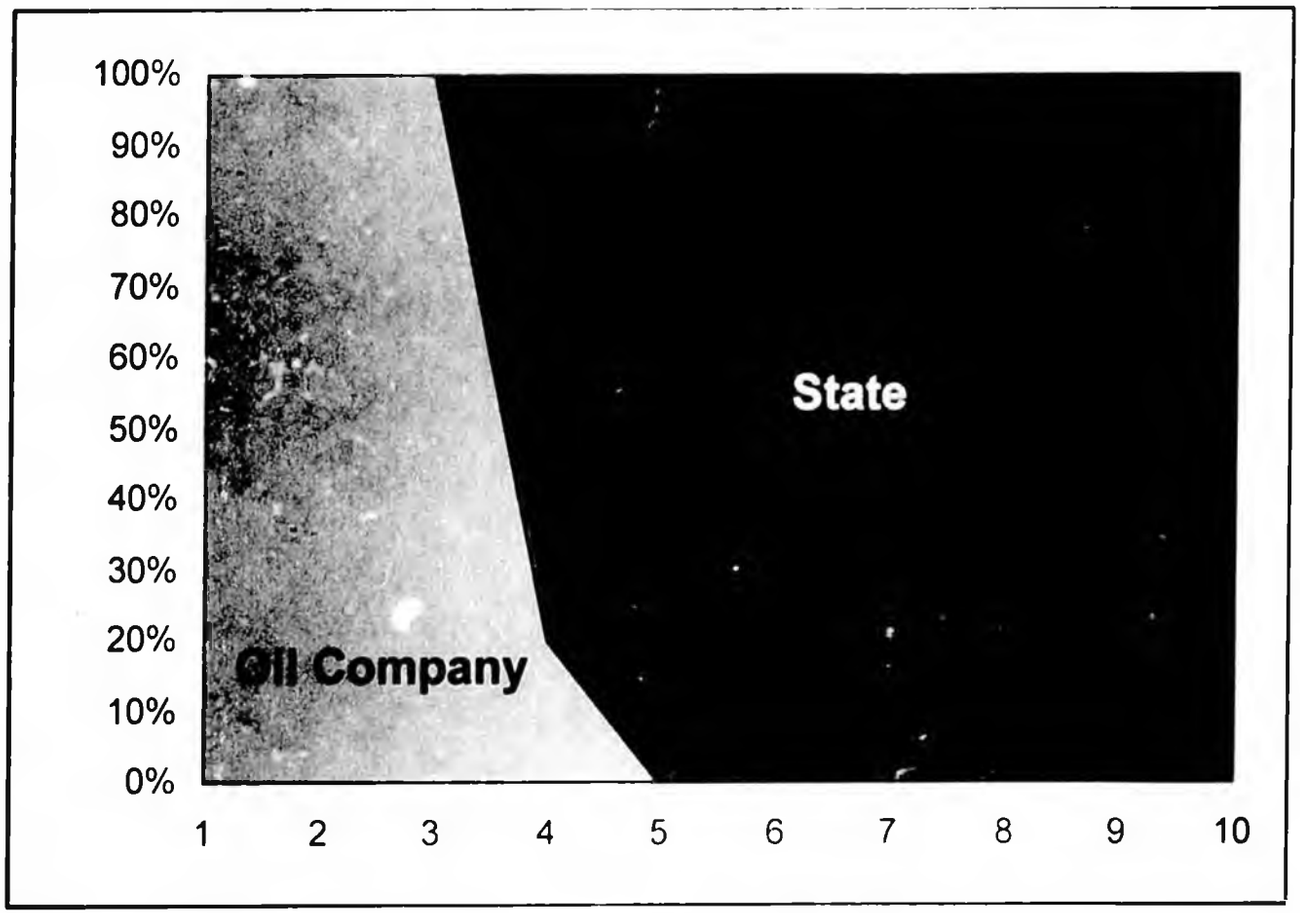
Case 3 – IRR 19%

- **IOC NPV10 = 4 State NPV5 = 49.5**



Case 4 – IRR 26%

- **IOC NPV10 = 5.7 State NPV5 = 49.3**



- Pat Galvin Comm.
Lead — Cheaie Nienhaus- petroleum economist DOR
- Michael Williams Chief Economist DOR

The Cost Story

Alaska Department of Revenue
October 21, 2007

SRES & HO&G

presented JE S.&H mtng
Sunday Oct 21, 2007

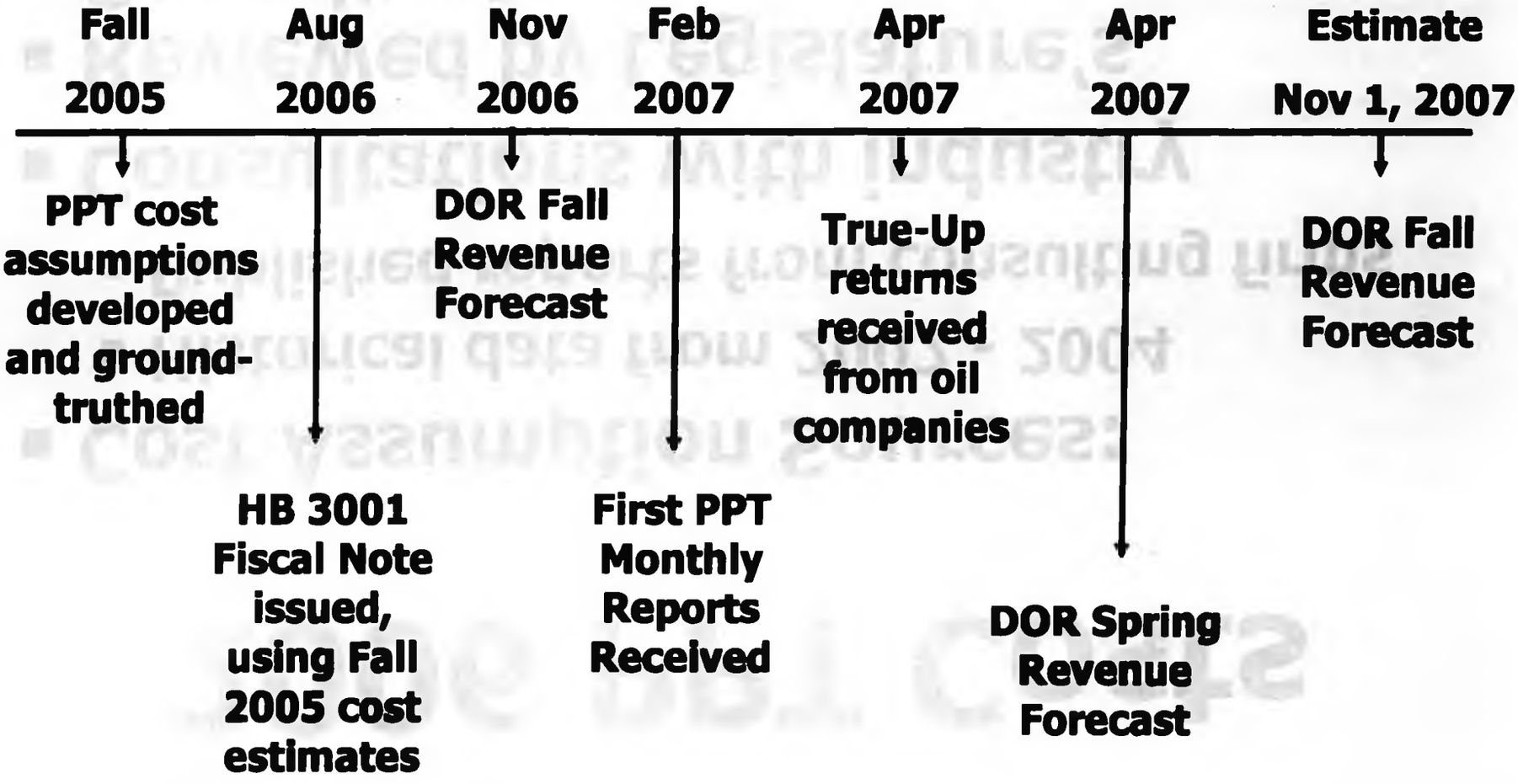
Production Tax Revenue Involves Three Unknowns

- Production
- Price
- Costs – Operating and Capital

2006 PPT Costs

- **Cost Assumption Sources:**
  - **Historical data from 2002 - 2004**
  - **Published reports from consulting firms**
- **Consultations with industry**
- **Reviewed by Legislature's Consultants** Econ 1; Daniel Johnston et

PPT Forecast Timeline



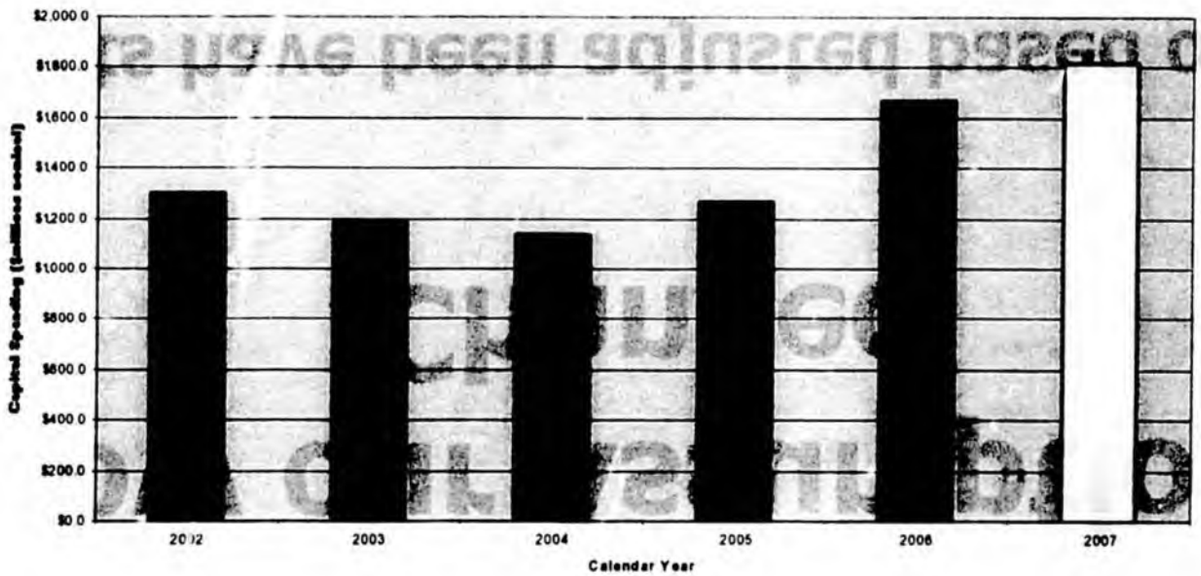
Michael Williams brought to table

How our Assumptions Changed

- Costs have been adjusted based on actual PPT tax return filings
- Costs are now expressed in nominal dollars (have inflation component)
- Additional data has become available on which to base future costs

Capital Spending as Reported in PPT Tax Returns, March 2007 and 2007 Forecast

Calendar Year	Capital Spending in Alaska in $millions nominal
2002	$1,296.7
2003	$1,186.8
2004	$1,136.9
2005	$1,268.0
2006	$1,665.3
2007	$1,817.0



Cost Forecasts

North Slope Production and Costs FY 2008, per HB 3001 Fiscal Note and Spring 2007 Forecast		
	HB 3001 (aug 2006) Fiscal Note	Spring 2007 Forecast
Production (barrels per day)	802,000	764,000
Operating costs ($millions)	$1,076	$2,160
Capital costs ($millions)	$1,052	$1,900
Total Costs	**$2,128**	**$4,060**
Total Costs per Barrel	$7.27	$14.56
Operating costs per barrel	$3.68	$7.75
Capital costs per barrel	$3.59	$6.81

Current Revenue Forecasts

Actual

Estimated Production Tax Payments (in $millions)	
July 2007	$184.5
Aug 2007	$213.5
Sep 2007	$166.7
Total Payments - Quarter	$564.7
less estimated credits & refunds	$50.0
Total Quarter	**$514.7**

Production	mmBbls/day
July 2007	0.724636
Aug 2007	0.724564
Sep 2007	0.658021
Average	0.702407

702,000 barrels/day avg

Price	$/bbl ANS WC
July 2007	$69.11
Aug 2007	$75.93
Sep 2007	$73.83
Average	$72.96

DOR Forecast

Three Month Tax Calculation	
Average Price	$72.96
Less Transport	-$6.44
Wellhead Value after treatment plant	$66.52
Times production	0.702407
Times days in Qtr	92
Total prod value	$4,298.4
Less Royalty	-$537.3
Total value at Pt. of Prod.	$3,761.1
Capex/bbl	$7.80
Opex/bbl	$8.35
Total Capex	$513.0
Total Opex	$525.0
Production Tax Value	$2,723.1
Tax Rate	22.5%
Tax b/f credits & progressivity	$612.7
Progressivity tax rate	2.0%
Progressivity Surcharge	$54.5
Tax before credits	$667.2
Capex credits + DIF accts	$153.9
Total after credits	**$513.3**
Percent Error	0.3%

$4.3B

net income

Tools for Forecasting Costs

- *Require cost reporting (current and forecast)
- *Monitor data submitted to DOR
- *Monitor data submitted to other agencies (e.g. plans of development)
- Monitor publicly available information (e.g. economic indicators, labor and material costs)

*New Enhanced Tool Under ACES

Three Cost Forecasts

- Mid, Low, and High
- All Costs in Nominal Dollars
- Forecasts reflect different assumptions about unplanned maintenance costs, spending behavior; not simply a +/- 20%
- Costs and investments reflect oil price changes

Impact of Low, Mid, and High Forecasts on Tax Revenues