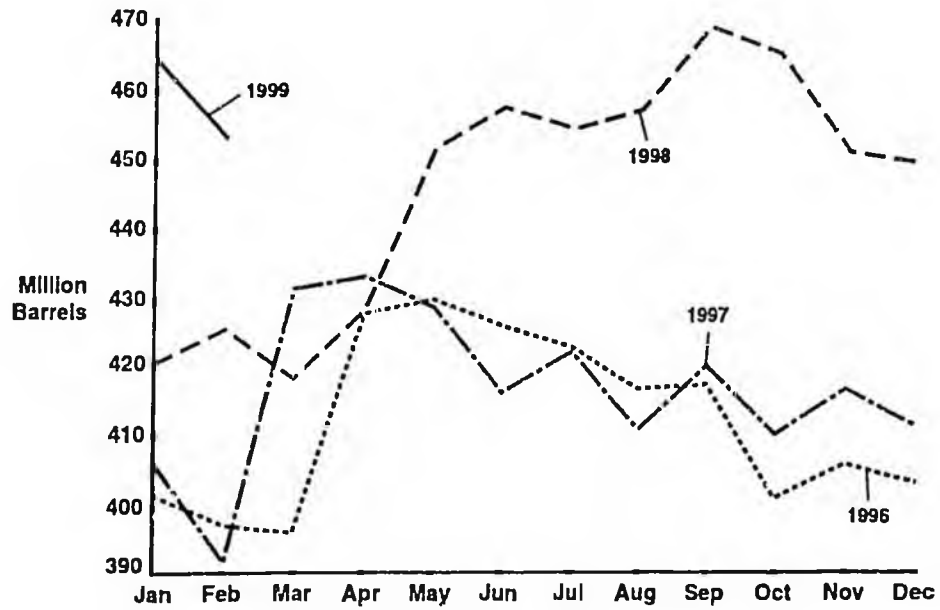


**ALASKA LEGISLATURE**

**1863**

**HOUSE and SENATE FINANCE COMMITTEE FILES, 1999 - 2000**

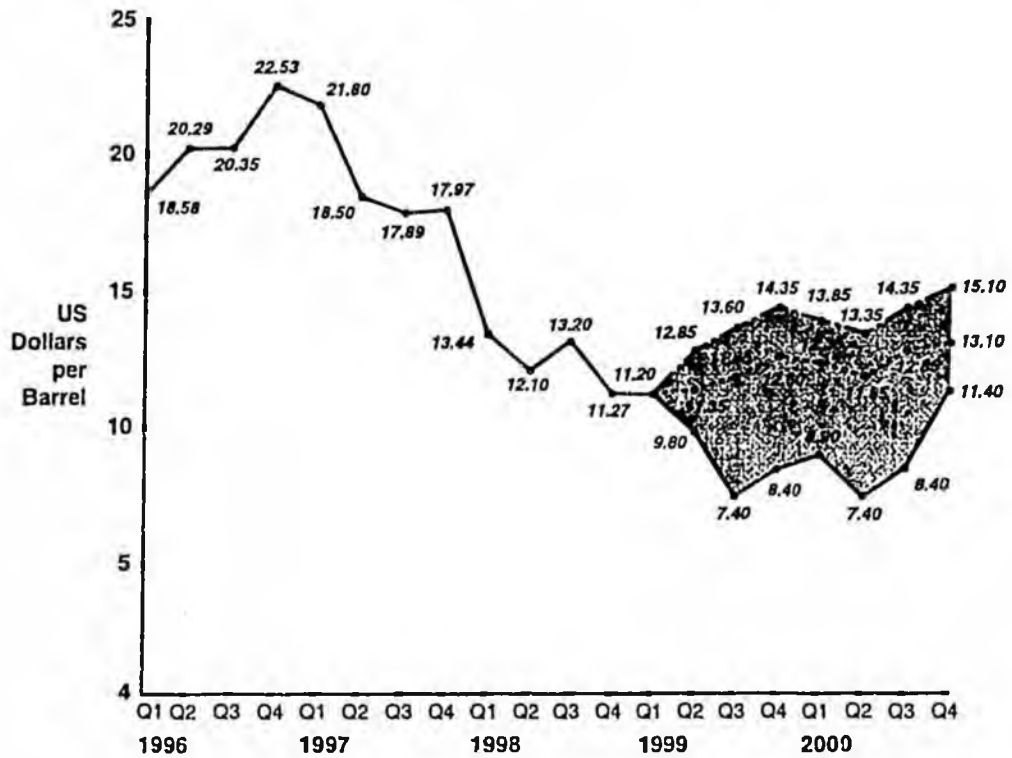
### European Crude Oil Stocks



Source: Cambridge Energy Research Associates.  
R0203-7  
0318

**Price: OPEC's Visible Hand**

### The 1996–2000 Oil Price Environment: ANS

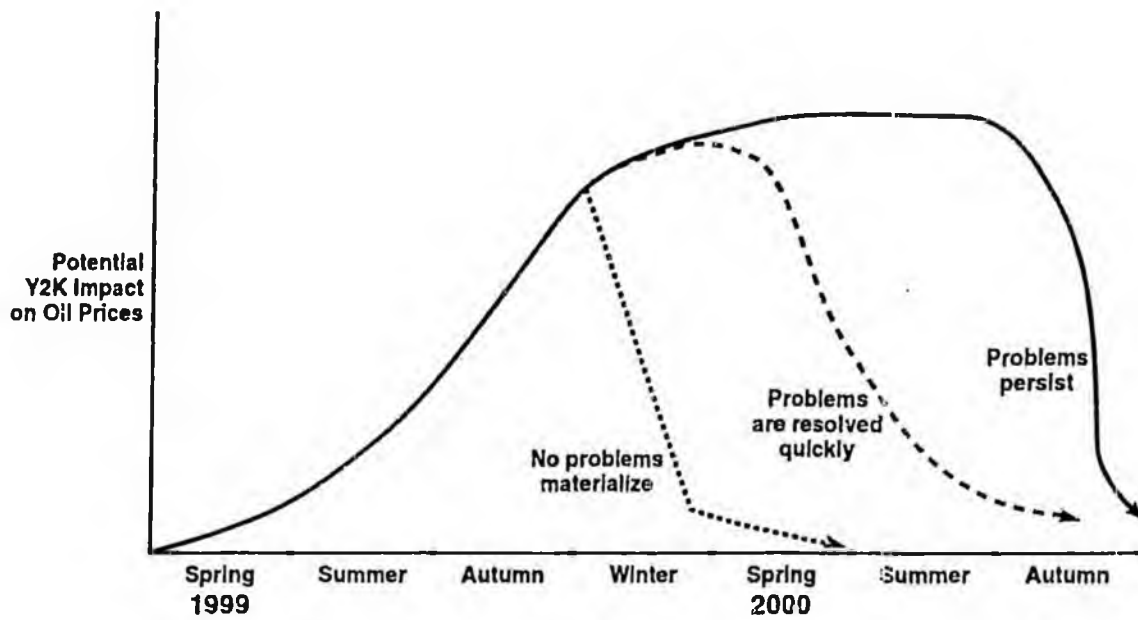


- Further Production Cuts and Strong Adherence
- ..... Production Restraint at 1998 Levels
- Production Restraint Unravels, and/or Demand Disruption

Source: Cambridge Energy Research Associates.  
90332-1

216

## Y2K: Buy the Rumor, Sell the Fact



Source: Cambridge Energy Research Associates.

The graph is schematic and is not meant to convey actual price movements.

90220-6



# Alaska State Legislature

## HOUSE OF REPRESENTATIVES

### *Committee on Finance*

Official Business

State Capitol  
Juneau, Alaska 99801-1182

### **Peter Bogin**

*Associate Director, World Oil*  
Cambridge Energy Research Associates

Peter Bogin is a Director of CERA's World Oil Team. He is also Associate Director of CERA's Forum for Information Technology Strategy (FITS). Mr. Bogin is a specialist in world oil markets, geopolitics, and . He is a coauthor of CERA's highly respected *World Oil Watch* and *World Oil Market Alerts*. Prior to joining CERA, he served at the International Energy Agency and the Organization for Economic Cooperation and Development.

Mr. Bogin is the author or coauthor of several CERA Decision Briefs, including: *Light and Sweet; Europe's Crude Oil Diet to the Year 2000; In the Driver's Seat: Fueling Europe's Passion for the Diesel Car; and OPEC Wrestles with the Quotas*. He is also the coauthor of the Private Reports: *Oil Prices, Industry Cycles, and Structural Change; The New Environmental Era: Testing the Market; OPEC's Quota Race: Demand versus Capacity; and Setting the Trend: The New Triangle of Price Determination*. He is also the editor of the FITS *Summary of Discussions* series and coeditor of the Cambridge Energy Forum *Energy and the Environment: Global Strategies*.

Mr. Bogin holds a BA from Dartmouth College and is based in CERA's office in Paris.



# Alaska State Legislature

## HOUSE OF REPRESENTATIVES

### *Committee on Finance*

Official Business

State Capitol  
Juneau, Alaska 99801-1182

## **DOUG MacINTYRE**

### **US Energy Information Administration**

Doug MacIntyre is responsible for the Energy Information Administration's (EIA) short-term international oil market forecast (<http://www.eia.doe.gov/emeu/steo/pub/contents.html>), including EIA's short-term world oil price forecast which is updated monthly. In addition, he is EIA's lead analyst for international oil supply disruption issues.

Doug also helps coordinate efforts on EIA's Country Analysis Briefs (<http://www.eia.doe.gov/emeu/cabs/contents.html>) which provide an overview of the energy situation for all countries that are members of the Organization of Petroleum Exporting Countries (OPEC), non-OPEC countries in the politically volatile Persian Gulf region, major non-OPEC oil exporters, and other countries or regions that are of current interest to energy analysts and policy makers.

Doug has supported the EIA Administrator and Secretary of Energy in many of their appearances before Congress. Doug and his colleague, Lowell Feld, published an article on OPEC oil revenues in the September 21, 1998 issue of Oil and Gas Journal, a major industry magazine.

Doug has a B.S. in Management Science/Statistics from the University of Maryland, and an M.S. in National Resource Strategy from the Industrial College of the Armed Forces, in Washington, DC.

3/25/99

Overview:

Alaska

Railroad

Corp.

**HFIN**

**FILE**

HOUSE FINANCE COMMITTEE  
LOG NOTES

March 25, 1999

GENERAL SUBJECT(S): **Overview ALASKA RAILROAD CORPORATION**

The following overview was taken in log note format. Tapes and handouts will be on file with the House Finance Committee through the 21st Legislative Session, contact 465-2156. After the 21st Legislative Session they will be available through the Legislative Library at 465-3808.

Time Meeting Convened: 1:40 p.m.

**Tape HFC 99-53, Side 1.**

**Tape HFC 99-53, Side 2.**

	<b>PRESENT:</b>	x	Representative G. Davis
x	Co-Chair Therriault	x	Representative Foster
x	Co-Chair Mulder	x	Representative Grussendorf
	Representative Austerman	x	Representative Kohring
x	Representative Bunde	x	Representative Moses
x	Representative J. Davies	X	Representative Williams

**ALSO PRESENT:**

GOVERNOR WILLIAM SHEFFIELD, CEO, ALASKA RAILROAD, ANCHORAGE; JIM KUBITZ, VICE PRESIDENT, ALASKA RAILROAD, ANCHORAGE.

LOG	SPEAKER	DISCUSSION
000	Co-Chair Therriault	Convened the HFC meeting at 1:40 P.M. for the purpose to discuss the Alaska Railroad Corporation.
	Co-Chair Therriault	Stated that HB 69 would be reported out to the Chief Clerks office and that the bill title had been tightened. Amendments will be offered on the floor.
191	Representative J. Davies	Asked about the tobacco bill. That language is ambiguous. Memo has been included in the packet clarifying HB 67.
274	Co-Chair Mulder	Took assumed the gavel. He stated that Subcommittee reports will need to be turned in before members leave for Easter break. A statewide teleconference on the operating budget will happen during the weekday following Easter; not the weekend. He suggested that it could be difficult to have that hearing on Tuesday because the LIO's might not have access to the draft.
	Co-Chair Mulder	He introduced guests from the Alaska Railroad to speak about long range plans

HOUSE FINANCE COMMITTEE  
LOG NOTES

		and intentional use of reserved monies.
433	GOVERNOR BILL SHEFFIELD, CEO, PRESIDENT, ALASKA RAILROAD, ANCHORAGE	Expressed his gratitude for being invited to testify before the Committee. He provided Committee members a handout prepared by the Railroad.
	Governor Sheffield	He provided a step by step overview of the handout.
	Governor Sheffield	Pointed out that the railroad is self supporting and self sufficient. He emphasized that the railroad is professionally run.
	Governor Sheffield	Spoke to the missions and values of that system; and that <b>Safety</b> is the most important aspect of railroad work.
615	Governor Sheffield	The railroad has worked hard at lowering the injury rate.
	Governor Sheffield	Service is critical; additionally, there are yearly audits. The LBA Committee audits the Railroad at least once a year.
698	Governor Sheffield	He noted that the state economy and the railroad follow hand in hand. There has been a downturn in the oil industry. The oil traffic has historically used the railroad extensively but with less oil, the economy goes down.
759	Governor Sheffield	The railroad is in good financial shape; they have paid down the debt and have revamped business contracts with a major restructuring since 1990.
810	Governor Sheffield	Governor Sheffield spoke to the 1998 highlights: 23% reduction in employee injuries; Replaced 100,000 more ties; Installed 350,000 tie anchors; and Increased passenger useage, freight and revenues.
900	Governor Sheffield	Estimated railroad net earnings of \$9 million dollars.
995	Governor Sheffield	Spoke to the 1999 Goals.
	Governor Sheffield	Anticipate another 25% down in injuries; Cut expenses to meet potential drop in freight volume; 600,000 tons of export coal moved.
1060	Governor Sheffield	Also, develop a real estate master plan; Better use real estate to stabilize revenues over the long-term; Increase revenue in base freight business through efficiency, to customer service; Manage capital program successful.
1303	Governor Sheffield	He stated that Governor Knowles vision plan of transportaiton is a fifth of the

HOUSE FINANCE COMMITTEE  
LOG NOTES

		national economy with more in Alaska. The Railroad revenues supply match for rail improvements.
1370	Governor Sheffield	Port of Seward: The railroad will build a freight dock and a true passenger, state ferry dock. Will be hauling crew ship passengers from Seward to Anchorage which is the key of the entire development.
1435	Governor Sheffield	Whittier Overpass: Is a safety measure being undertaken by the Ak. Railroad. This will be a safety measure. That road will be rebuilt from the port to the harbor. It will be open Spring 2000.
1496	Governor Sheffield	Denali Depot: It will be an enclosed, full-service facility at the park entrance. The railroad is working with the Park Service for completion by 2001.
1550	Governor Sheffield	Fairbanks Intermodal: This will be built soon for bus, rail, taxi facilities. It will require that a study also be done in Anchorage in order that the facilities will join safely. It will be computer dispatched, which will result in positive train control and will cost \$12.5 million dollars.
1700	Governor Sheffield	Motive power: For new locomotives for more power, and less operating cost. There are only 32 locomotives. With six engines on a coal train, that would equal 3 new. This will eventually equate to much savings down the road, however, they cost \$2 million dollars each. The railroad has been saving money and has money to place down on the purchase.
1750	Governor Sheffield	Anchorage International Airport; Is planing a \$28 million rail facility. This will happen during the airport remodel. The train will load right up at the airport and there will be a moving tunnel and sidewalk. He emphasized that this will be very handy and will help to deliver more people by rail.
1858	Governor Sheffield	Line Changes: Cut running time from Wasilla by 40 minutes which will help frieght, and passenger service; sets stage for communter rail; Girdwood will be on track as well.
2000	Governor Sheffield	Summarized how it all fits together with basic line changes improving train speed and traffic capability, safety; New depots and intermodal facilities serve growing

HOUSE FINANCE COMMITTEE  
LOG NOTES

		visitor industry; and Faster trains, good facilities make better commuter service possible.
	Governor Sheffield	There is money in the federal budget for Department of Transportation and Public Facilities to connect to the best coal in the world. The railroad wants to have a right a way and then build the line. There is also interest for the trains to go to Canada.
2075	Governor Sheffield	Mentioned that the railroad had been built to serve Interior Alaska.
2085	Co-Chair Therriault	Questioned what was meant by line changes?
2094	Governor Sheffield	Cutting out curves, straightening them which involves straightening out track.
2116	Co-Chair Therriault	Asked if the entire complex of Denali would be gone?
2141	Governor Sheffield	Did not know the entire plan and that currently, the Ak Railroad was consulting with an arcitect firm. He envisioned a depot with greater and larger facilities.
2171	JIM KUBITZ, VICE PRESIDENT, ALASKA RAILROAD, ANCHORAGE	There are many restrictions but there is cooperation between the Park Center and the Railroad. More land is being given to help the project.
2224	Co-Chair Therriault	Asked about the sewage treatment plant.
2234	Mr. Kubitz	Replied that it would not be only a hotel.
2242	Co-Chair Therriault	In Fairbanks, considering moving the rail yard so that land could be used for additional purposes.
2265	Governor Sheffield	Plan to build it on Johnanson Road and the railroad is working with Fairbanks now. Department of Transportation and Public Facilities .ould do an interchange so that cars and trucks could easily access the area and reroute traffic from Illinois Street.
2307	Co-Chair Therriault	Switching yards.
2317	Governor Sheffield	
2323	Co-Chair Therriault	How does the Railroad interact with the Department of Transportation and Public Facilities in right-of-way aquisition
2345	Mr. Kubitz	Usually is a permit.
2365	Representative J. Davies	Question about the Denali access?
2372	Mr. Kubitz	Plan to add an additional visitor center for bigger tourist functions and adding a foot path.

HOUSE FINANCE COMMITTEE  
LOG NOTES

	TAPE CHANGE	HFC 99-53, SIDE 2.
000	Mr. Kubitz	Plan to move the road for better access.
053	Representative J. Davies	How many passengers per year in Denali.
077	Governor Sheffield	700,000 passengers hauled per year on various segments of the rail carriers. Almost everyone who rides the train gets to Denali eventually.
138	Representative J. Davies	Asked if a large part of the ties were fabricated in AK.
156	Governor Sheffield	30% are coming from Alaska. Hemlock is used because it is the best of the soft woods. Across the country, hardwoods are used. Softwood can be used on the straight surfaces. The problem rests in treating them.
260	Governor Sheffield	There are people considering building a treatment plant for this purpose. Each year, the railroad is cutting down costs a little with tie rotation.
340	Co-Chair Mulder	Where are the ties coming from in AK?
356	Governor Sheffield	Coming from Wrangell.
387	Co-Chair Mulder	What is the cost comparison of having it made in Ak and shpping them out for treating.
421	Governor Sheffield	The same or a little more. \$40 per tie when finished. He pointed out that 2/3 of that cost is shipping and treatment.
470	Co-Chair Mulder	Asked if the Railroad had considered using concrete ties
480	Governor Sheffield	Replied that the concrete ties can only be used at the beginning and the end. The best tie in general cases is a wood tie. Concrete can crack. It depends on weather conditions and the difference in temperature between night and day in Alaska is dramatic.
559	Vice-Chair Bunde	60 mph mile track
593	Governor Sheffield	Track speed is mostly 45-50 mph track.
622	Vice-Chair Bunde	Plans for moose at 60 mph
636	Governor Sheffield	Replied that this was a good year for not hitting a lot of moose. A total of 80 moose were hit this year. Crews are running trails off the track, and the trains are slowing down; there is more help. Less snow the last few years has helped.
716	Vice-Chair Bunde	Pointed out that there are still some times of year that are not good.
736	Governor Sheffield	Signalization will be built into the track itself.

HOUSE FINANCE COMMITTEE  
LOG NOTES

758	Representative Williams	How far along is railroad in using Rodeo-herbicide.
787	Governor Sheffield	Have applied for a permit and put it on hold. Need more data and will reschedule public hearings in six weeks. Only applied for permit for Anchorage, Fairbanks and outside of Palmer yard for a ten mile stretch.
877	Governor Sheffield	Added that this is a safety issue, Have not used Round-up since 1983. Weeds in the road bed, are bad and dangerous for the train hauling freight & passengers. This is a process that the Alaska Railroad is trying to explain to the Alaskan people. The Railroad can not afford to spend \$2 million dollars per year to get rid of the weeds using other means.
998	Governor Sheffield	Engineers need to see where they are going. 600 employees want better control of the vegetation.
1039	Representative Williams	Spoke in support in the use of chemicals. Asked why the Railroad was waiting to use it while it was costing the State \$2 million dollars a year. He pointed out that in 1993, Governor Hickel was trying to use it along the highways. There was talk about communities adopting a piece of highway and being responsible for keeping it weed free. He understood that no one had "adopted a mile" as originally suggested. He encouraged to continue using Rodeo.
1149	Governor Sheffield	There is a lot of information available on herbicides and Round-Up. He acknowledged that he was trying to accumulate that info in order to make a determination.
1219	Representative Grussendorf	Appreciated that he is investigating the data. He asked about the \$2.2 million dollars in betting money. He questioned the amount of federal funds that are received for the railroad.
1261	Governor Sheffield	Have received \$10 million dollars per year for road bed rehab. That funding is not reliable. Senator Stevens has been influential in having that appropriated. And his term ends in 2 years.
1327	Representative Grussendorf	Asked how reliable the other funding was.
1343	Governor Sheffield	The ISTEA bill included funding and then the formula was changed and the State Railroad received \$4.8 million dollars per

HOUSE FINANCE COMMITTEE  
LOG NOTES

		year for 6 years. He stated that was a good formula and the State now receives \$30 million for over six years which is match money. \$7 million dollars will go toward the GPS system. The last of this money will be received this year. There has been money received for the line changes. Track was welded
1437	Governor Sheffield	Everything the railroad is doing is to make it safer and more efficient. That makes the railroad more reliable and to increase the earnings while serving the customer better. Then earnings shall be sufficient to maintain itself.
1510	Representative J. Davies	Questioned future possibilities such as Denali?
1531	Governor Sheffield	\$1 million dollar study of that line. He stated that he favored rail transportation into the park. It could carry masses of people. The park service has not supported that. There is money available to provide a study which will happen soon.
1611	Representative J. Davies	Emphasis is clearly on safety.
1624	Governor Sheffield	Going to have a new grade separation at "C" street in Anchorage. Encouraged the Municipality to figure out a way for separation. There were 2 derailments last year. It cost over \$1 million dollars and much time spent because of those. One had a machinery malfunction and the other was a track separation.
1725	Governor Sheffield	He added that there has been a number of derailments in Whittier because of the weather mess.
1758	Co-Chair Mulder	Asked the appraised value of railroad?
1768	Governor Sheffield	\$200 million dollars in assets on the balance sheet. The State paid \$22 million for the railroad.
1797	Co-Chair Mulder	Asked if the holdings have increased?
1809	Governor Sheffield	Tremendous asset for the State. The actual cash in the bank separating the federal funds is \$15 million dollars or more. Federal funds amount to \$20-\$30 million dollars for spending for construction projects; and there is \$28 million dollars from the sale of a railroad station. That is a federal grant.
1874	Co-Chair Mulder	He informed Committee members that "All funds" have not included AHFC, AIDEA and

HOUSE FINANCE COMMITTEE  
LOG NOTES

		the Railroad. This is an effort to show all funds in working with the Administration.
1906	Governor Sheffield	None of that money came from the State.
1918	Co-Chair Mulder	Agreed, that revenue was lost from slow down.
1925	Governor Sheffield	Will loose some from oil industry but will be picking up some by tariff adjustment, \$1 million dollars. Last year shipped 290 tons of coal. Lost money from budget, however, this year will reestablish.
1998	Co-Chair Mulder	Spoke to the real estate holdings. He asked for a listing of all holdings.
2025	Mr. Kubitz	Replied that the Railroad owns 36,000 acres of land. 1/3 is operational property; 1/3 is leased property or which 1/2 of that is leased; the remaining is tracks of land are not big money land generators. He offered to provide that info to the Committee.
2080	Co-Chair Mulder	Asked when would the master plan be finished?
2099	Mr. Kubitz	Replied that it is in the process except for the completed portion of Ship Creek.
2118	Governor Sheffield	Also, the plan in the system has been completed for Whittier; with a small plan for the Chena landing area.
2138	Co-Chair Mulder	Road bed money requires 20% match
2148	Mr. Kubitz	Explained all the work that requires the 20% match required by the feds for the railroad.
2165	Co-Chair Mulder	Asked how much debt currently?
2172	Governor Sheffield	\$2 million dollars this year. Will rise to \$20 million dollars the end of this year with the purchase of the new locomotives.
2196	Governor Sheffield	Vegetation control is done by inmates through an arrangement with Department of Corrections. This has been done in the past and the public usually does not know it.
2254	Representative G. Davis	Asked if Whittier was involved in the Master Plan.
2268	Governor Sheffield	Whittier was involved with the plan and was happy with it. After 5 years, the railraod will share revenues with the City. There is no tax base there.
2301	Representative G. Davis	Asked if there was anyone interested in buying the railroad at this time.
2323	Governor Sheffield	Has not received a letter for 2 years.
2335	Co-Chair Mulder	Voiced appreciation of the Alaska Railroad

HOUSE FINANCE COMMITTEE  
LOG NOTES

		for joining the Committee for the overview.
2354	ADJOURNED	3:15 P.M.

3/25/99  
Alaska Railroad

**The Alaska Railroad**

*Looking down the tracks*

The 21st Alaska Legislature  
March 25, 1999

Alaska Railroad Corporation

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**The Alaska Railroad**

A public corporation owned by the State of Alaska

- Self-supporting through revenues earned
- More than 600 employees
- Professionally run
- 525 miles mainline track

Alaska Railroad Corporation

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**Our mission and values**

- Safety
- Service
- Self-sufficiency
- Accountability
- Not just a carrier, but a catalyst for Alaska's growth

Alaska Railroad Corporation

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### The economy and the Railroad

- Freight is three quarters of our \$87 million gross revenues.
- We serve the Alaska economy.
- Our business mirrors what's happening with our customers
- '99 will be tougher than the last few years

Alaska Railroad Corporation



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### We're in good shape

- Positioned to deal with contingencies
- Paid down debt over last few years
- Major restructuring in '90-'93 reduced management and operating costs
- Aggressive maintenance program helping us stay safe and efficient

Alaska Railroad Corporation



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
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### 1998 highlights

- 23% reduction in employee injuries
- Replaced 100,000 more ties
- Installed 350,000 rail anchors
- Increases in passengers, freight revenues
- Estimated net earnings of \$9 million



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**Goals for 1999**

- Another 25 percent drop in injuries
- Cut expenses to meet potential drops in freight volume
- 600,000 tons of export coal moved
- Increase and diversify passenger business

Alaska Railroad Corporation

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**Goals for 1999**

- Develop real estate master plan
- Better use real estate to stabilize revenues over the long term
- Increase revenue in base freight business through efficiency, customer service
- Manage capital program successfully

Alaska Railroad Corporation

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**Gov. Knowles vision, plan**

Transportation is a fifth of national economy, probably more in Alaska

- Maximize Alaska's access to federal funds for roads, bridges, ports, airports
- Motor fuels tax supplies match for roads
- Railroad revenues supply match for rail improvements

Alaska Railroad Corporation

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### 1999-2000 capital plan

- \$75 million in Railroad revenues and federal funds (*no state funds or taxes*)
- Includes:
  - New locomotives
  - New depots
  - Track straightening
  - Airport terminal design
  - Roadbed maintenance

Alaska Railroad Corporation

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### Port of Seward



*Build true passenger, state ferry dock*

Alaska Railroad Corporation

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### Whittier overpass



*Safety measure*

Alaska Railroad Corporation

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Denali depot



*Enclosed, full-service facility at park entrance*

Alaska Railroad Corporation

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Fairbanks Intermodal



*Bus, rail, taxi facility*

Alaska Railroad Corporation

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Motive power



*New locomotives for more power, less operating cost*

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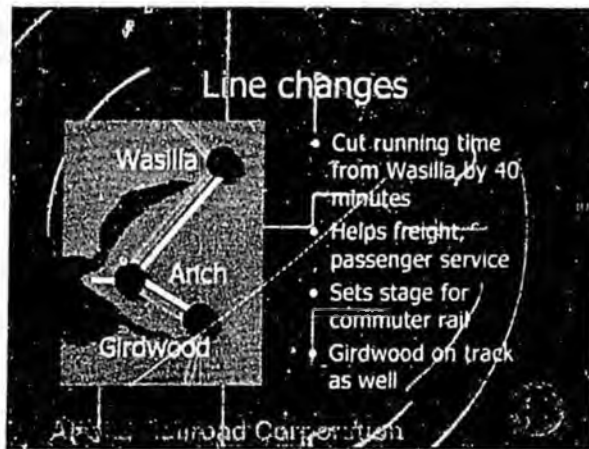
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### 1999 and beyond

- Looking east to Canada, north to Arctic, west to Nome
- Alaska's transportation system central to Gov. Knowles' plan for growth
- The Alaska Railroad is a growth center for public transportation system

Alaska Railroad Corporation



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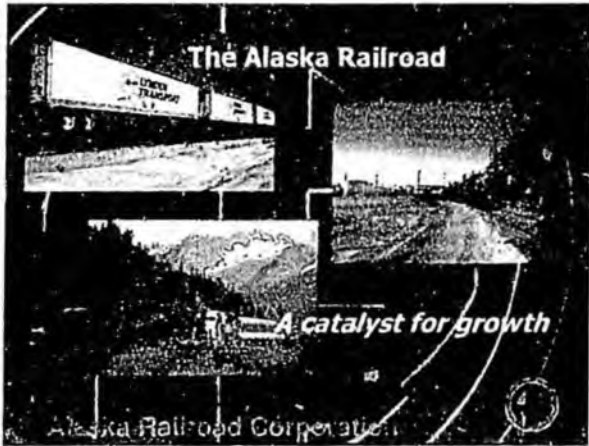

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### The Alaska Railroad

*A catalyst for growth*

Alaska Railroad Corporation



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4/19/99

Overview:

Long Term

Fiscal...

**HFIN**

**FILE**

# STATE OF ALASKA

TONY KNOWLES, GOVERNOR

4/19/99

## DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL AND GAS

550 WEST 7<sup>TH</sup> AVENUE, SUITE 800  
ANCHORAGE, ALASKA 99501-3510  
PHONE: (907) 269-8800  
FAX: (907) 269-8938

April 7, 1999

The Honorable Randy Phillips  
The Honorable John Torgerson  
The Honorable Gary Wilken  
Alaska State Legislature  
State Capitol  
Juneau, AK 99801-1182

Dear Senators Phillips, Torgerson and Wilken:

The division is responding to your request for information regarding resources estimates for the Alaska North Slope (ANS), production curves for those resources, and historical and projected rig counts. We hope that you find this information helpful.

The division conducted a literature search for assessments of oil and gas "resources" on the ANS. The division itself lacks the staff and the time to independently assess ANS resources beyond the scope of our annual "reserves" forecast. The United States Geological Survey's (USGS) most recent Arctic National Wildlife Refuge (ANWR) assessment was prepared by 40 USGS geoscientists and support staff over 3 years at a cost of \$3.8 million. A United States Department of Energy (DOE) and the USGS regional assessment of the ANS, conducted between 1991-95, cost about \$2.0 million. In preparing the attached tables and figures, the division has relied upon various federal assessments and publicly available information from the ANS producers and other sources.

The USGS and most professional oil and gas organizations distinguish "reserves" from "resources." Reserves are known oil or gas accumulations that can be recovered with reasonable certainty under current economic and operating conditions. Reserves include the remaining recoverable oil in Prudhoe Bay, but not the majority of gas there. Resources are first divided into "discovered resources" and "undiscovered resources." Discovered resources are known oil or gas accumulations that cannot be produced under current economic and operating conditions. Most of the Prudhoe Bay gas would be included in this category. Undiscovered resources are oil or gas accumulations that are believed to exist based upon geologic knowledge and theory. Undiscovered resources are further subdivided into "technically recoverable resources" and "economically recoverable resources." Technically recoverable resources are those resources which could be produced under current technology regardless of the commodity price. Economically recoverable resources are technically recoverable resources that could be recovered at a given commodity price.

*"Develop, Conserve, and Enhance Natural Resources for Present and Future Alaskans."*

Senator Phillips  
Senator Torgerson  
Senator Wilken  
April 7, 1999  
Page 2 of 4

Resource estimates are also expensed as unconditional or conditional. Unconditional estimates assume that at least some oil always will be found. Conditional estimates include a risk factor assuming a chance that oil may not be discovered.

Resource assessments for a given area often vary dramatically. Comparing assessments is difficult because definitions, methodologies, and areas studied are slightly different. Nevertheless, the following illustrate the dramatic variance:

1. The 1987 Energy Information Administration (EIA) ANWR assessment pegged the mean "unconditional (risked) economically recoverable oil" at 3.45 billion barrels of oil (bbo); the 1995 USGS assessment pegged the mean at 0.898 bbo, a 74% decline.
2. The 1987 Bureau of Land Management (BLM) reported the "undiscovered conditionally economically recoverable oil" in ANWR as 0.6137 bbo; just four years later the BLM reported it as 1.642 bbo, a 167% increase.
3. The 1987 USGS assessment estimated the oil in place for ANWR as 4.8 (bbo) at a 95% probability; ten years later, its assessment estimated the oil in place as 11.6 bbo, a 142% increase.

Although these assessments represent the best available information, they should be viewed skeptically when trying to forecast the future.

For a given area, the division has not determined which assessment is best. Rather, it uses the most recent assessment. The division reports the technically recoverable resources estimate from the various assessments.<sup>1</sup> If that estimate is not available, the division reports the conditionally risked economically recoverable resources estimate from the assessment. These estimates represent a high side scenario; that is, they could only be fully recovered at a high oil price. If available, high, medium, and low estimates are reported. Otherwise, just the best available information is reported as the medium estimate. Both discovered and undiscovered resources are reported in two subcategories: onshore and offshore. Undiscovered onshore resources are further divided into five areas: W. NPRA, NPRA, Central ANS, Foothills, and ANWR.<sup>2</sup> Undiscovered offshore resources are further divided into two areas: Beaufort and Chukchi.<sup>3</sup> Tables 1 through 4 present this information.

<sup>1</sup> The ANWR estimate reported by Senator Phillips in his March 30, 1999, memorandum is the technically recoverable resource estimate from the 1998 USGS assessment.

<sup>2</sup> Because the areas of some studies overlap, the estimates contain some duplication. According to the USGS the estimates cannot be meaningfully split. The onshore numbers generally include the state offshore resources.

<sup>3</sup> The offshore resources are in federal waters. Under current law, the state receives 27% of all lease revenues from leases between 3 and 6 miles offshore. If recent legislation proposed by Congressman Don Young passed, the state would receive the same percentage of lease revenues between 3 and 200 miles offshore. Federal offshore production could have other economic benefits to the state.

Senator Phillips  
Senator Torgerson  
Senator Wilken  
April 7, 1999  
Page 3 of 4

Next the division has assembled production rate curves for the various areas and categories. As noted above, the division has assumed that all the technically recoverable resources would be produced. The production start date for each area assumed:

1. All of the areas would be leased in 2000.<sup>4</sup>
2. A certain number of years to discover the resources (if a discovery had not been made).
3. A certain number of years between discovery and production.

To the extent such schedules were available for particular areas from public sources, the division relied upon a mid case schedule, as opposed to an accelerated or delayed schedule. Otherwise, the division itself estimated the time period between leasing and production. Likewise, if there were actual production curves in publicly available sources, the division relied on them. Otherwise, the division generated the curves from various analogues. All of these schedules are very uncertain and dependent on such factors as: oil price, lease sales and terms, competition, infrastructure proximity, technology, costs, fiscal stability, permitting, and environment. The results are presented in Figures 1 through 6.

Finally, Figure 7 presents a historical rotary-rig count for Alaska from 1960-98. The source of the count is *A.P.I. Basic Petroleum Data Book (1998)* and exploration well counts maintained by the division.<sup>5</sup>

Figure 8 presents a rig count forecast.<sup>6</sup> The forecast is based on the production curves generated in Figures 1 through 6. In addition, the forecast assumes continued development drilling in the producing fields. Forecasting drilling activity is subject to the same vagaries as forecasting production rate curves. Only five months ago, Alaska producers were forecasting that up to 16 drilling rigs would be active now. Instead, we are at 6 and will likely fall to 4 soon.

---

<sup>4</sup> Obviously, this assumption is unrealistic. Nevertheless, the curve can be shifted to reflect when one believes a lease sale for a particular area would be held.

<sup>5</sup> A few caveats apply to the A.P.I. rig count.

- The average number of rigs is the sum of the year's weekly rig-counts divided by 52. These numbers might better be considered as "rig/years."

- The A.P.I. rig-count does not differentiate between drilling activity onshore and offshore or on state native or federal lands (North Slope, Cook Inlet, Alaska Peninsula, OCS and NPRA all lumped together).

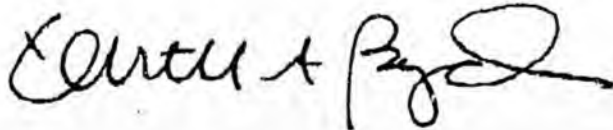
- Although a number of North Slope exploratory wells were drilled between 1944-1952 (the initial NPRA exploration program), the A.P.I. tabulation lists no rig activity in Alaska during that period. Conversely, the A.P.I. rig-count probably does include the number of drill rigs involved in the second phase of the NPRA drilling program between 1975-1982 (1-5 rigs/year).

<sup>6</sup> Recent rig counts are not comparable to past rig counts. Smaller specialized rigs and coiled tubing units are replacing many of the older traditional drill rigs on the ANS. These new drilling and workover units do not get counted in the published rig counts.

Senator Phillips  
Senator Torgerson  
Senator Wilken  
April 7, 1999  
Page 4 of 4

The information presented here represents little more than a guess about what the future may hold for ANS production. Undoubtedly, it will be wrong. Given the budget and time constraints, I hope that it is helpful to you. We will provide the information Senator Torgerson requested regarding Cook Inlet resources in the next few days. If you have any questions, give me a call.

Sincerely,



Kenneth A. Boyd, Director, Division of Oil & Gas

KAB:gsr

cc: John Shively, Commissioner, Department of Natural Resources (w/enclosures)

S:\randg\Resource Estimate.doc

**Table 1.**  
**<sup>1</sup>Discovered Onshore Resources**

<u>Field</u>	<u>Oil (MMBO)</u>			<u>Gas (BCF)</u>		
	<u>High</u>	<u>Mean</u>	<u>Low</u>	<u>High</u>	<u>Mean</u>	<u>Low</u>
<sup>2</sup> Umiat	N/A	70	N/A	N/A	5	N/A
Colville Delta	N/A	N/A	N/A	N/A	N/A	N/A
Fiord	N/A	N/A	N/A	N/A	N/A	N/A
<sup>3</sup> Prudhoe Bay	----	----	----	<sup>4</sup> 33,600	<sup>5</sup> 21,800	N/A
Pt. Thomson	N/A	<sup>6</sup> 200	N/A	<sup>7</sup> 5,000	<sup>8</sup> 3,200	N/A
<sup>9</sup> Sourdough	N/A	100	N/A	N/A	N/A	N/A

<sup>1</sup> Technically recoverable resources - estimate of hydrocarbons that can be recovered by utilizing current technology without regards to cost.

<sup>2</sup> DOE: January, 1991: Alaska Oil & Gas - Energy Wealth or Vanishing Opportunity? p. 2-19.

<sup>3</sup> The estimated technically recoverable gas is from Lockheed Martin, August, 1996, Economics of Alaska North Slope Gas Utilization Options, p. 2-8. The remaining recoverable oil from Prudhoe Bay as well as oil from the Prudhoe satellites discovered to date were already included in the production forecast, so these reserve estimates are not included here.

<sup>4</sup> Lockheed Martin, August, 1996 Economics of Alaska North Slope Gas Utilization Options, pp. 2-8 & 2-9. This number encompasses all recoverable gas, including: 3.0 TCF of CO<sub>2</sub> in the recoverable gas and 8.8 TCF of gas used for lease use, local sales, and shrinkage.

<sup>5</sup> Lockheed Martin, August, 1996 Economics of Alaska North Slope Gas Utilization Options, pp. 2-8 & 2-9. This number includes only net gas for sale.

<sup>6</sup> Lockheed Martin, August, 1996 Economics of Alaska North Slope Gas Utilization Options, pp. 2-8 & 2-9.

<sup>7</sup> Anchorage Daily News, Saturday December 13, 1997.

<sup>8</sup> Lockheed Martin, August, 1996 Economics of Alaska North Slope Gas Utilization Options, pp. 2-8 & 2-9.

<sup>9</sup> Anchorage Daily News, Thursday May 22, 1997.

**Table 2.**  
**<sup>1</sup>Discovered Offshore Resources**

<u>Field</u>	<u>Oil (MMBO)</u>			<u>Gas (BCF)</u>		
	<u>High</u>	<u>Mean</u>	<u>Low</u>	<u>High</u>	<u>Mean</u>	<u>Low</u>
<sup>2</sup> Gwydyr Bay	56	48	40	N/A	N/A	N/A
Sandpiper	<sup>3</sup> 93	<sup>4</sup> 47	N/A	N/A	N/A	N/A
<sup>5</sup> Kuvlum	N/A	400	N/A	N/A	N/A	N/A
Flaxman Island	N/A	N/A	N/A	N/A	N/A	N/A
Hammerhead	N/A	N/A	N/A	N/A	N/A	N/A

<sup>1</sup> Technically recoverable resources – estimate of hydrocarbons that can be recovered by utilizing current technology without regards to cost.

<sup>2</sup> DOE: May, 1993: Alaska North Slope National Energy Initiative Analysis of 5 Undeveloped Fields.

<sup>3</sup> DOE: May, 1993: Alaska North Slope National Energy Initiative Analysis of 5 Undeveloped Fields.

<sup>4</sup> PI V45 #1, 1/6/99

<sup>5</sup> Oil & Gas Reporter, 2/15/99, p.10.

**Table 3.**  
**<sup>1</sup>Undiscovered Onshore Resources**

<u>Field</u>	<u>Oil (MMBO)</u>			<u>Gas (BCF)</u>		
	<u>High</u>	<u>Mean</u>	<u>Low</u>	<u>High</u>	<u>Mean</u>	<u>Low</u>
<sup>2</sup> NPR-A	N/A	542	N/A	N/A	4,128	N/A
<sup>3</sup> NE NPR-A Planning Area	4,732	3,070	1,832	21,674	9,852	3,190
<sup>4</sup> Central North Slope	N/A	2,595	N/A	N/A	14,975	N/A
<sup>5</sup> Foothills	N/A	1,564	N/A	N/A	26,609	N/A
<sup>6</sup> ANWR	11,919	7,782	4,325	9,297	4,230	3,134

<sup>1</sup> Undiscovered technically recoverable oil, gas, and natural gas liquid reserves. Composite Reserve Numbers were calculated based on reserve estimates provided from USGS Open-File Report 95-751. The percentage of reserves calculated for each area was determined by the amount of each play type that was distributed in that particular geographic area. Numbers include both estimates of gas associated with oil fields along with stand-alone gas fields. NGL's are included in both oil and gas totals where associated with oil and gas. 1 barrel of NGL associated with oil = 0.667 barrels of crude oil. NGL's associated with gas was converted to gas by using the formula 6,000 cubic feet of gas = 1 bbl of crude oil.

<sup>2</sup> NPR-A includes the western coastal plain area of NPR-A. It does not include either the Northeast NPR-A planning area or the foothills.

<sup>3</sup> NE NPR-A Final EIS Vol 1, 8/98, p. III-A-25.

<sup>4</sup> Used USGS 1995 Assessment Open-File Report 95-751, Tables I and B-1. Summed 75% of the reserves calculated for the Central area; 85% of the reserves calculated for the Eastern area for the various plays; and included the USGS total for Province small fields from their report. The Anchorage Daily News reported on Saturday 2/14/98 that ARCO Alaska, Inc. believed that 1 BBO of producible oil exists in Prudhoe-Kuparuk undiscovered satellite accumulations. Because this undiscovered oil is adjacent to existing infrastructure, the Prudhoe-Kuparuk satellite plays are very economic and have a quick turnaround time from discovery to first production.

<sup>5</sup> Combined the resource numbers for the foldbelt and the thrust belt. Included only 1/2 of the eastern thrust play numbers and 85% of the fold belt numbers because the rest of the numbers are included in the ANWR totals.

<sup>6</sup> USGS, 1998 Assessment, Appendix A.

**Table 4.**  
**<sup>1</sup>Undiscovered Offshore Resources**

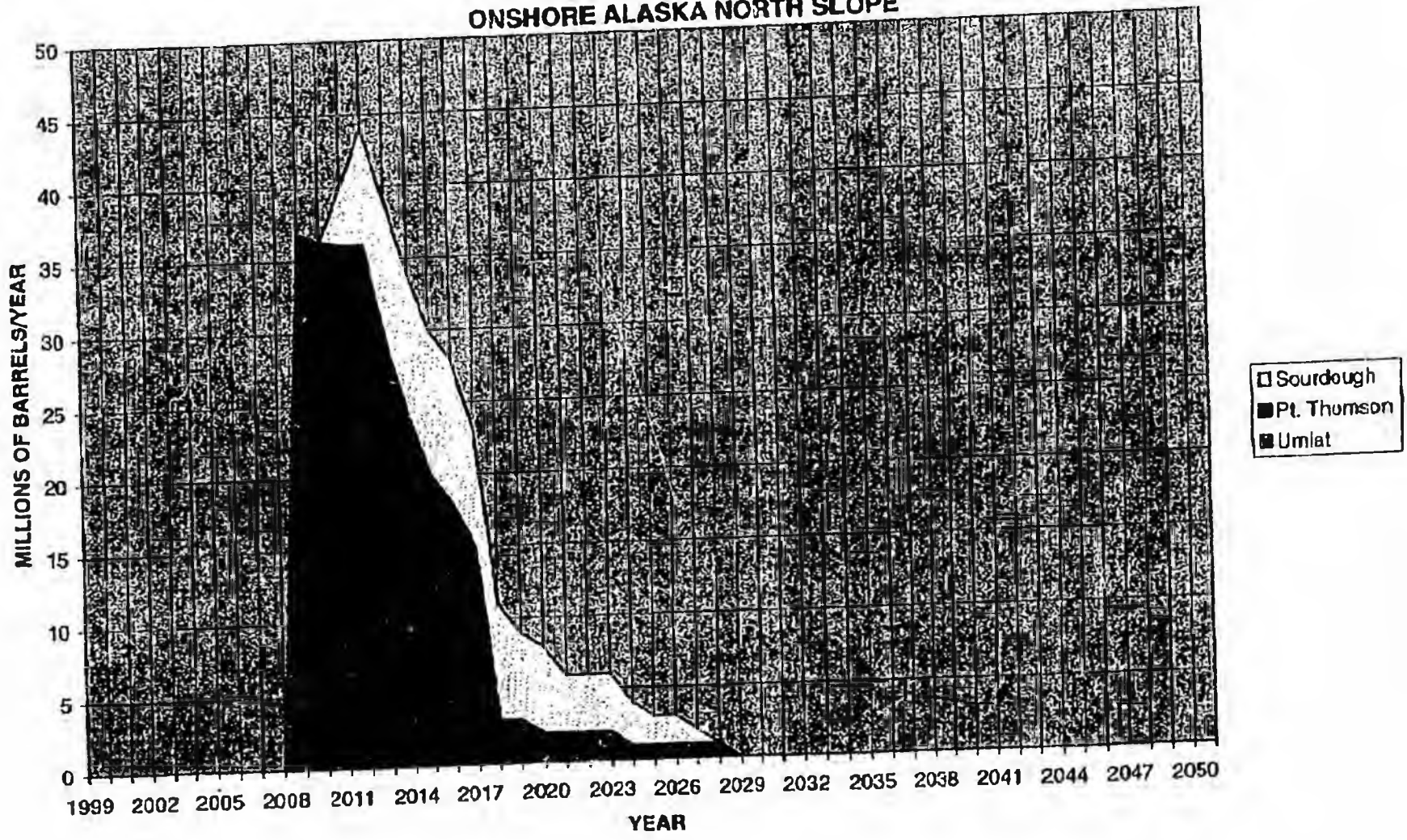
<u>Field</u>	<u>Oil (MMBO)</u>			<u>Gas (BCF)</u>		
	<u>High</u>	<u>Mean</u>	<u>Low</u>	<u>High</u>	<u>Mean</u>	<u>Low</u>
<sup>2</sup> Beaufort Sea (federal)	4,690	1,660	580	N/A	N/A	N/A
<sup>3</sup> Chukchi Sea (federal)	13,100	5,960	1,190	N/A	N/A	N/A

<sup>1</sup> Estimates are conditional (assumes that one or more undiscovered commercial accumulations of hydrocarbons exist in the area) undiscovered economically recoverable oil.

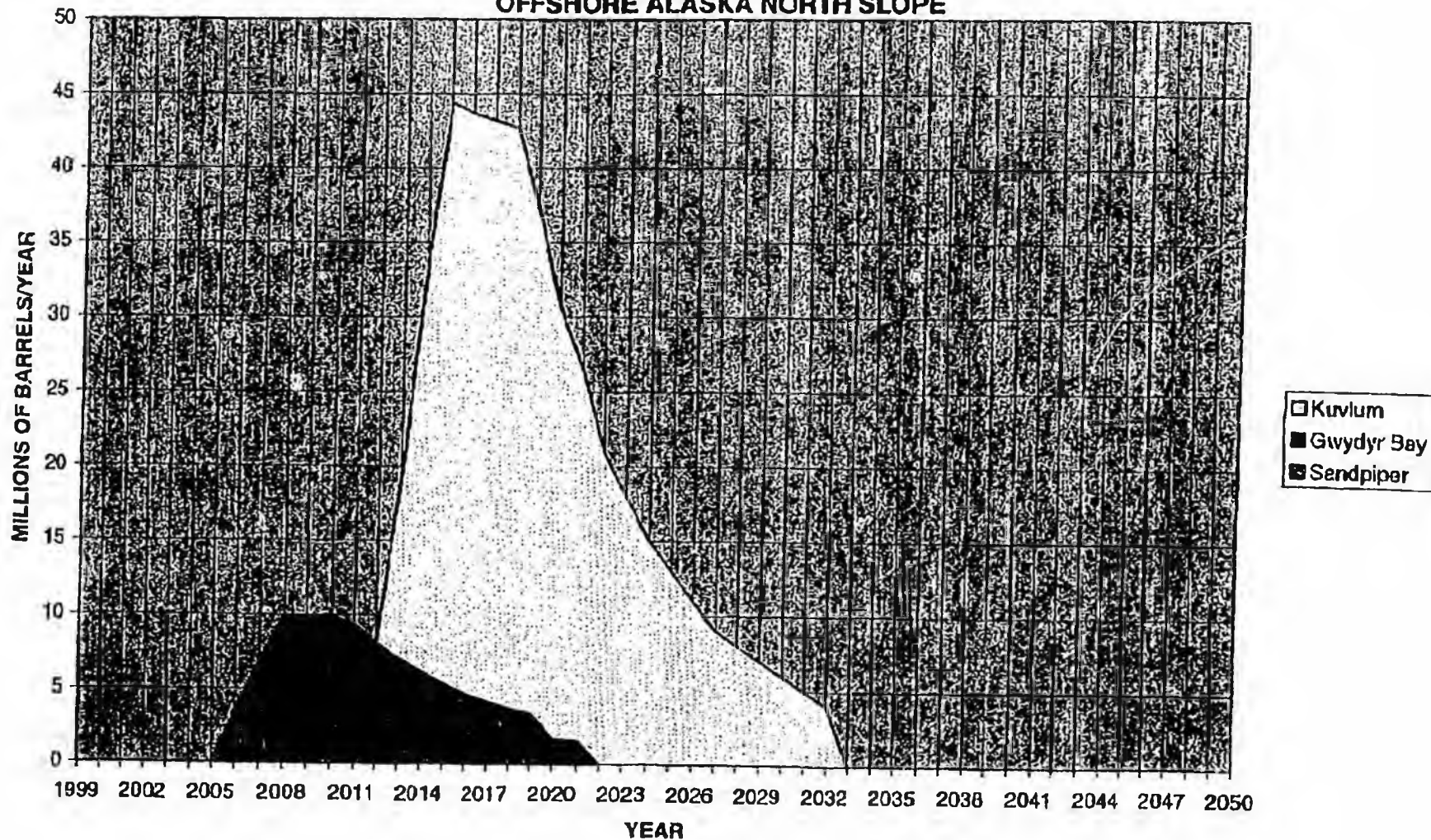
<sup>2</sup> MMS, May, 1990

<sup>3</sup> MMS, May, 1990

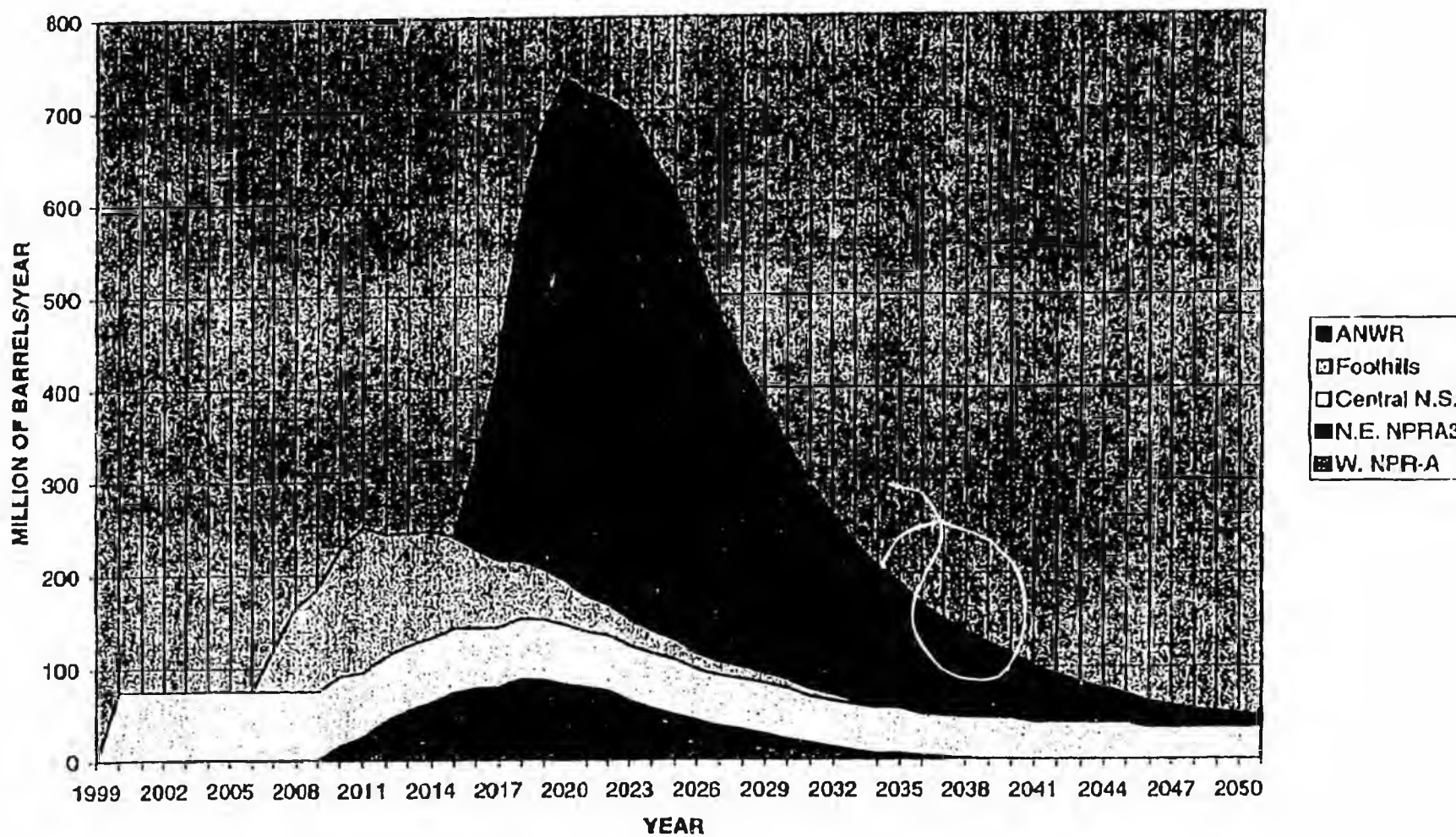
**FIGURE 1  
FUTURE PRODUCTION  
DISCOVERED OIL (MMBOPY)  
ONSHORE ALASKA NORTH SLOPE**



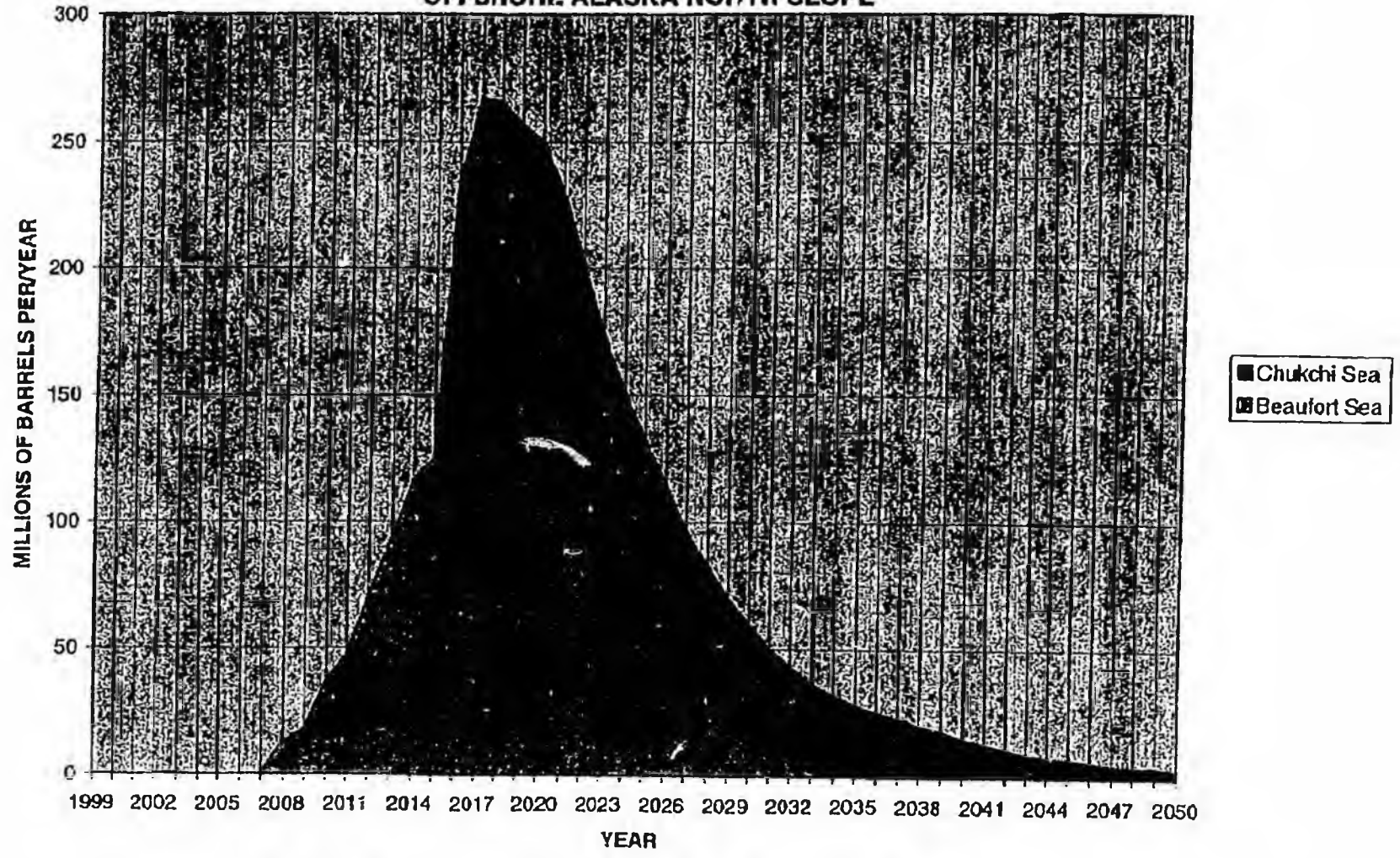
**FIGURE 2  
FUTURE PRODUCTION  
DISCOVERED OIL (MMBOPY)  
OFFSHORE ALASKA NORTH SLOPE**



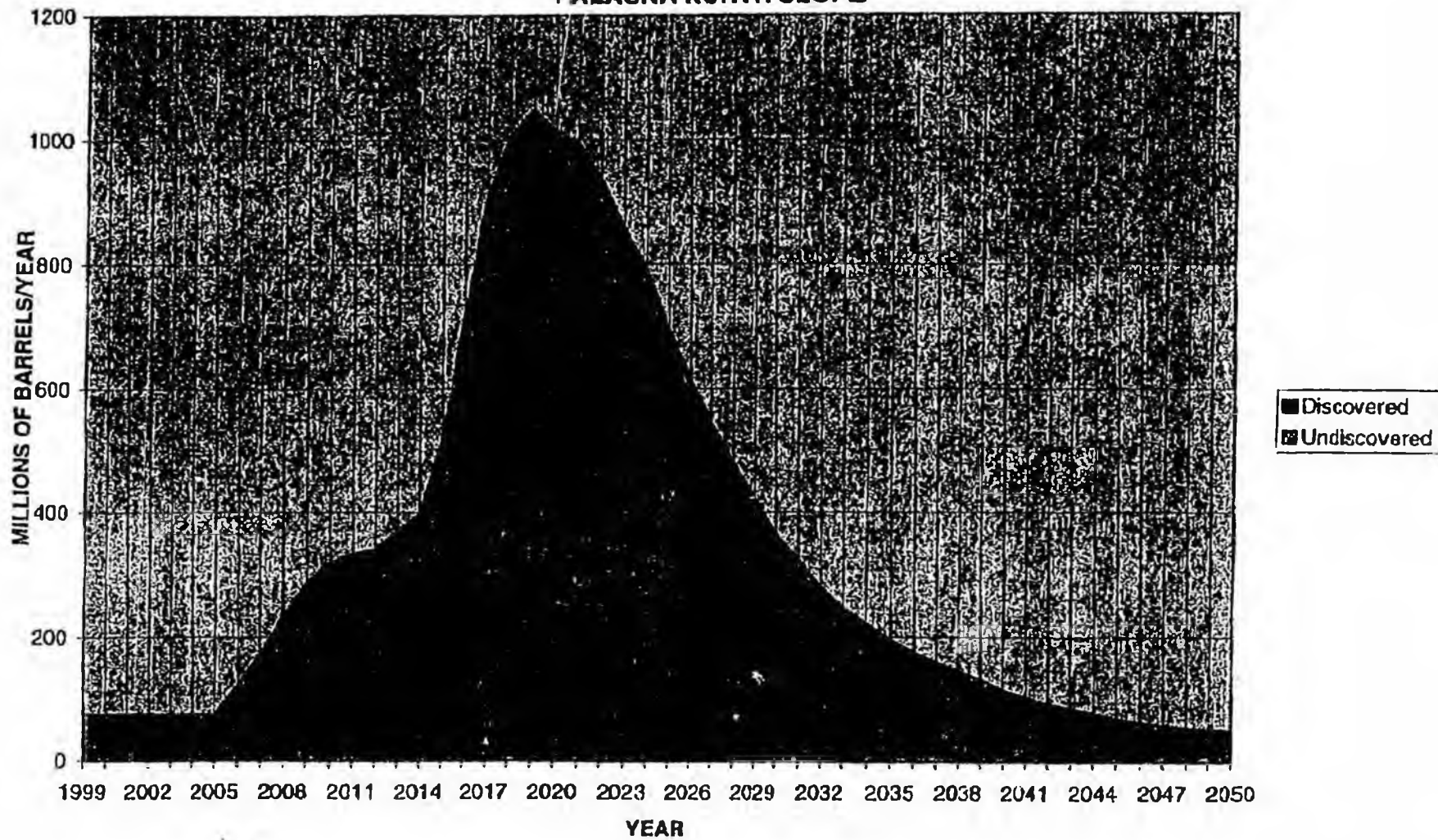
**FIGURE 3  
FUTURE PRODUCTION  
UNDISCOVERED OIL (MMBOPY)  
ONSHORE ALASKA NORTH SLOPE**



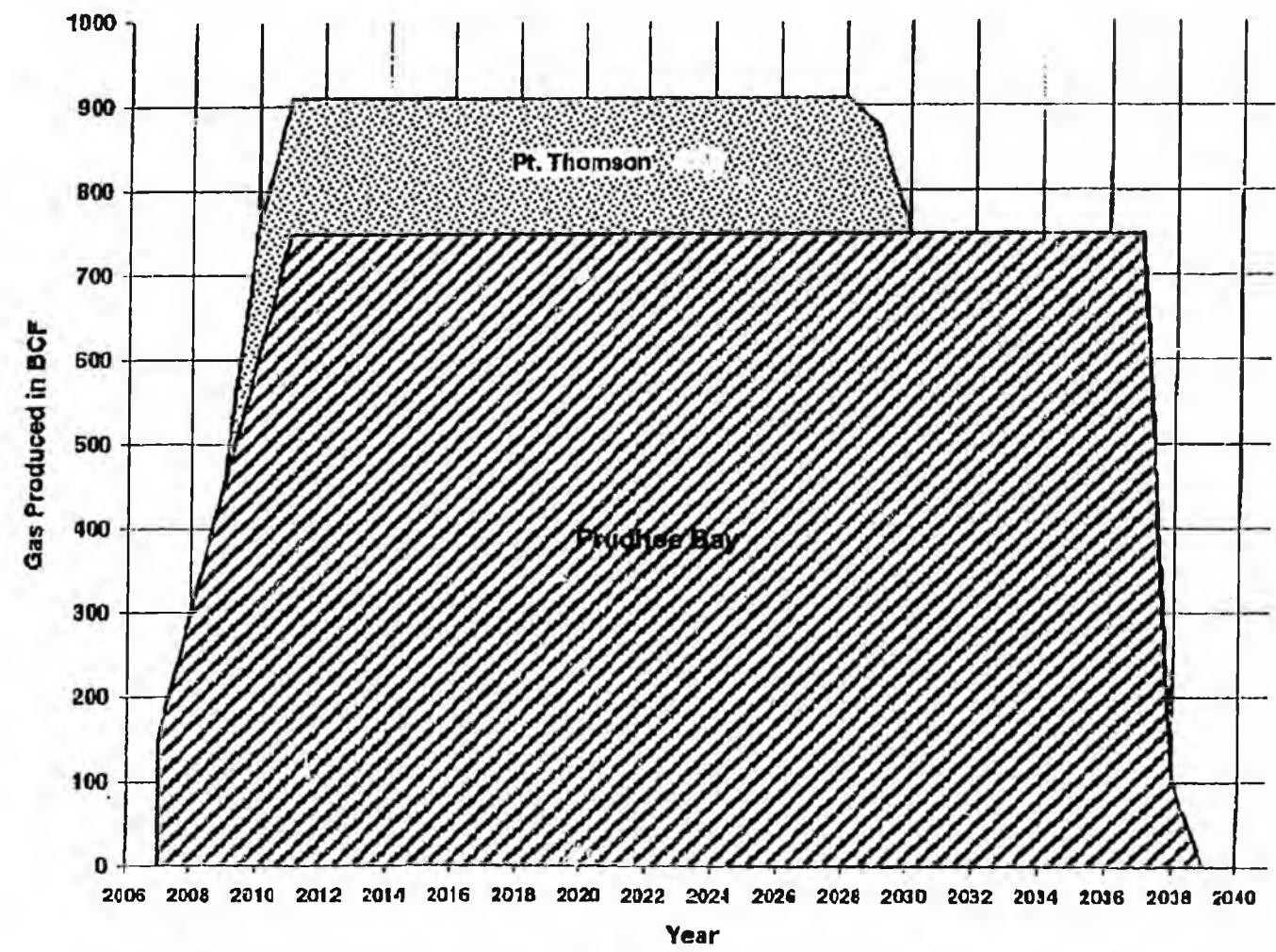
**FIGURE 4  
FUTURE PRODUCTION  
UNDISCOVERED OIL (MMBOPY)  
OFFSHORE ALASKA NORTH SLOPE**



**FIGURE 5**  
**TOTAL FUTURE PRODUCTION (1999-2050) IN MMBOPD**  
**ONSHORE & OFFSHORE, DISCOVERED & UNDISCOVERED**  
**ALASKA NORTH SLOPE**



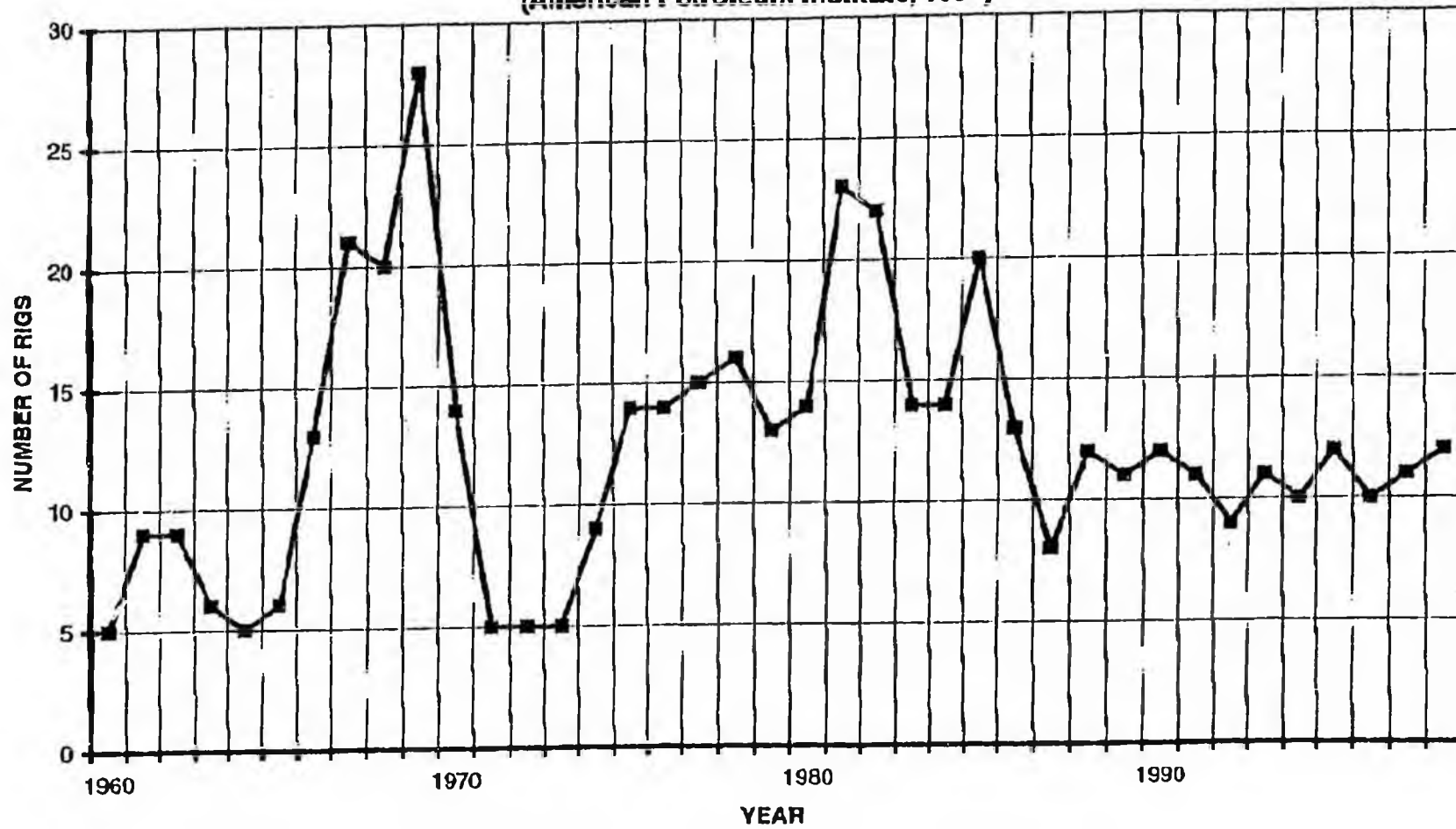
**Figure 6**  
**Gas Production Forecast for PBU & PTU**



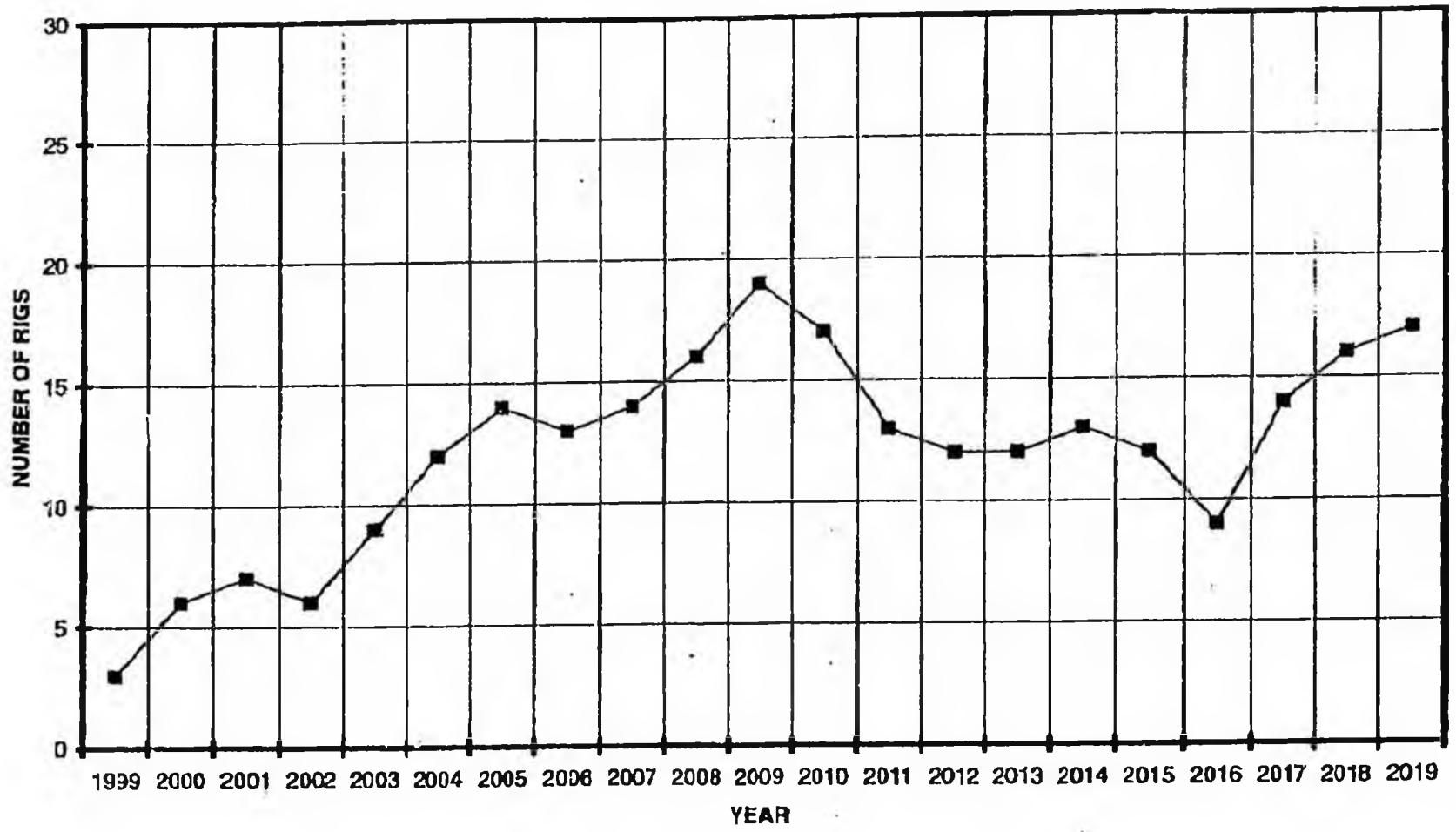
Source of Gas Production Forecast: Lockheed Martin August, 1996 Economics of Alaska North Slope Gas Utilization Options, Table B.12. The study begins production in the year 2005; we have delayed start-up until 2007.

Chart1-a

**FIGURE 7**  
**HISTORICAL ALASKA RIG COUNT**  
(American Petroleum Institute, 1999)



**FIGURE 8  
PREDICTED RIG COUNT**



4/19/99

# Presentation to House Finance

Department of Revenue  
*Treasury Division*  
04/19/99

## *The Model - the parts of the whole*

- General Fund - unrestricted revenue and expenditures
  - Oil forecast, price & production
  - budgeted expenditures
- Constitutional Budget Reserve Fund
- Alaska Permanent Fund

*learn how the components interact  
when factors or assumptions change*

# *Interactive Modeling*

- Keep it simple
- Make the model change as assumptions change.
- Try to answer everyone's concerns
  - One size does not fit all.
  - Results in a more complex result
- Make reasonable assumptions, and keep relationships consistent.

# *The General Fund*

- Revenue - adjust oil revenue by price and production
  - other revenue sources
    - timing for reasonable collection of new revenues
- Expenditures
  - inflation proof expenditures?
  - some expenditures grow with population growth
  - ability to change the budget with:
    - increases/decreases as a %, such as inflation
    - increase/decrease the budget by a lump sum

# *Constitutional Budget Reserve Fund*

- Evaluate cash flow needs.
- Time horizon of the fund defines the asset allocation and rate of return of the fund.
- Timing of receipts/draws are important.

# *The Alaska Permanent Fund*

- Original model operates as the Fund does today.
- Realized rates of return are important when describing the current dividend calculation.
  - Turnover rates affect realized return.
    - small changes in turnover can affect the amount of funds paid out.
    - the model can also build in alternative dividend calculations.
- Expected total return for the Fund is based on capital market assumptions and statutory equity limitation.

# *Capital Market Assumptions*

- Should be consistent across all plans.
- The same outside consultant provides the capital market assumptions to the DOR and APFC every year.
- The capital market assumptions for each asset class are evaluated every year and may change annually.
- Expected return for each asset class is predicated on expected global inflation.

# *What have we learned?*

The terms can be confusing

**Total Return** (also called nominal return)

- **realized return** - dividends, interest from bonds, rents from real estate and any profits or losses resulting from the sale of assets, **plus**
- **unrealized gains** - market appreciation (depreciation) over the purchase price of assets currently held by the fund which become realized income only when the asset is sold; also called capital gains.
- **Real Return** (nominal “*minus*” inflation) - if the total return changes, either the real rate or the inflation rate or both must change also.
- **Inflation rate** - in relation to global capital markets

## *What else have we learned?*

- Small differences in assumptions in FY99 or FY00 make big differences by FY10.
- The priority of payments out of the AK Permanent Fund matter.
- Timing of receipts/disbursements matter.

## *Two Basic Types of Plans*

**Initial lump-sum  
transfer from the  
Permanent Fund to  
a Separate Fund**

**Annual withdrawals  
of some type from  
the Alaska  
Permanent Fund**

*All proposals fit into one of these two categories. This exercise helps compare the components of any plan by asking questions.*

# Options Menu

## Investment Structure and Asset Allocation

- Use either the CBRF or a new fund as the Separate Fund.
 

<input type="checkbox"/>	CBRF
<input type="checkbox"/>	New Fund
- Invest some or all of the Separate Fund with the Permanent Fund.
- Substantial equity investments in a Separate Fund to obtain a higher long-range return.
- Increase equity investments in the Permanent Fund to obtain a higher long-range return.

Separate Fund	Annual Income Draw
<input type="checkbox"/> <input type="checkbox"/>	N/A
<input type="checkbox"/>	N/A
<input type="checkbox"/>	N/A
<input type="checkbox"/>	<input type="checkbox"/>

# Options Menu

## Transfer Mechanics

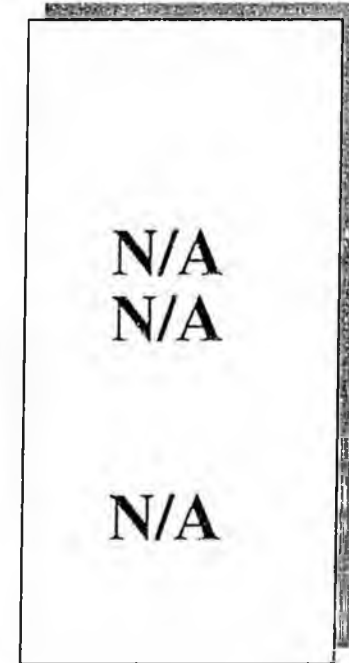
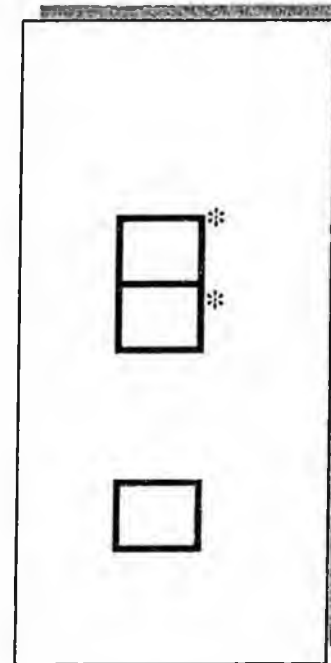
- Make transfer in cash after selling securities or transfer securities directly.

Sell and Transfer Cash  
Transfer Securities

- Regular subsequent transfers from the Permanent Fund to a Separate Fund.

Separate  
Fund

Annual Income  
Draw



\* Following retained outside counsel's opinion that the transfer could be made in-kind without realizing gains.

## *Options Menu*

### *Inflation Proofing Policy*

- Inflation proof the Separate Fund principal.
- Continue to inflation proof the Permanent Fund principal by direct appropriation.
- Inflation proof the Permanent Fund through distribution policy, and retain inflation-proofing amounts in the Earnings Reserve Account.

Separate  
Fund

Annual Income  
Draw

<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

N/A
<input type="checkbox"/>
<input type="checkbox"/>

## *Options Menu*

### *Amount distributed from Separate Fund*

- Distribute only income from Separate Fund to help balance the budget.
- Use both income and corpus of the Separate Fund to balance the budget whenever there is a deficit.

### *Amount Distributed from Permanent Fund*

- Determine distributable income from the Permanent Fund using an “income-based” formula.
- Determine distributable income from the Permanent Fund using a “percent of market value” formula.

Separate  
Fund

Annual Income  
Draw

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A rectangular box with a double-line border containing two vertically stacked empty square checkboxes.

A rectangular box with a double-line border containing two vertically stacked empty square checkboxes.

A rectangular box with a double-line border containing two vertically stacked empty square checkboxes.

# Options Menu

## Distribution Priorities

- **Prioritize Permanent Fund distribution among (1) dividends, (2) inflation proofing, and (3) public services.**
  - **If previous option selected, what are the priorities?**

Dividend  
Inflation proofing  
Public services

- **Set Permanent Fund distribution by proportional distribution between dividends (%), inflation proofing (%) and public services (%).**
  - **If previous option selected, what are the proportions?**

Dividend  
Inflation proofing  
Public services

Separate Annual Income  
Fund Draw

<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
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<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

# Options Menu

## Additional Revenue

- Broad-based general tax
  - If previous option selected, what are the priorities?
- Motor fuel tax increase
- Per capita school tax
- Rental car tax
- Increase business license tax
- Other
- Miracle

Separate  
Fund

Annual Income  
Draw

Income tax

Sales tax

<input type="checkbox"/>
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*The model we have developed does:*

- allow interactive decision making.
- shows inflection points where additional action must be taken.
- linear forecasting tool, the future is not linear.

*The model we have developed does not:*

- Address changes in the law that may be required.
- Address the economic impact to the state's economy of different decisions.

4-16-99

# Analysis of Alaska's Budget Deficit

April 16, 1999

House Finance

1



# Presentation Objectives

- Identify potential goals and guidelines to be used to assess any long term financial plan

# How To Begin The Analysis?

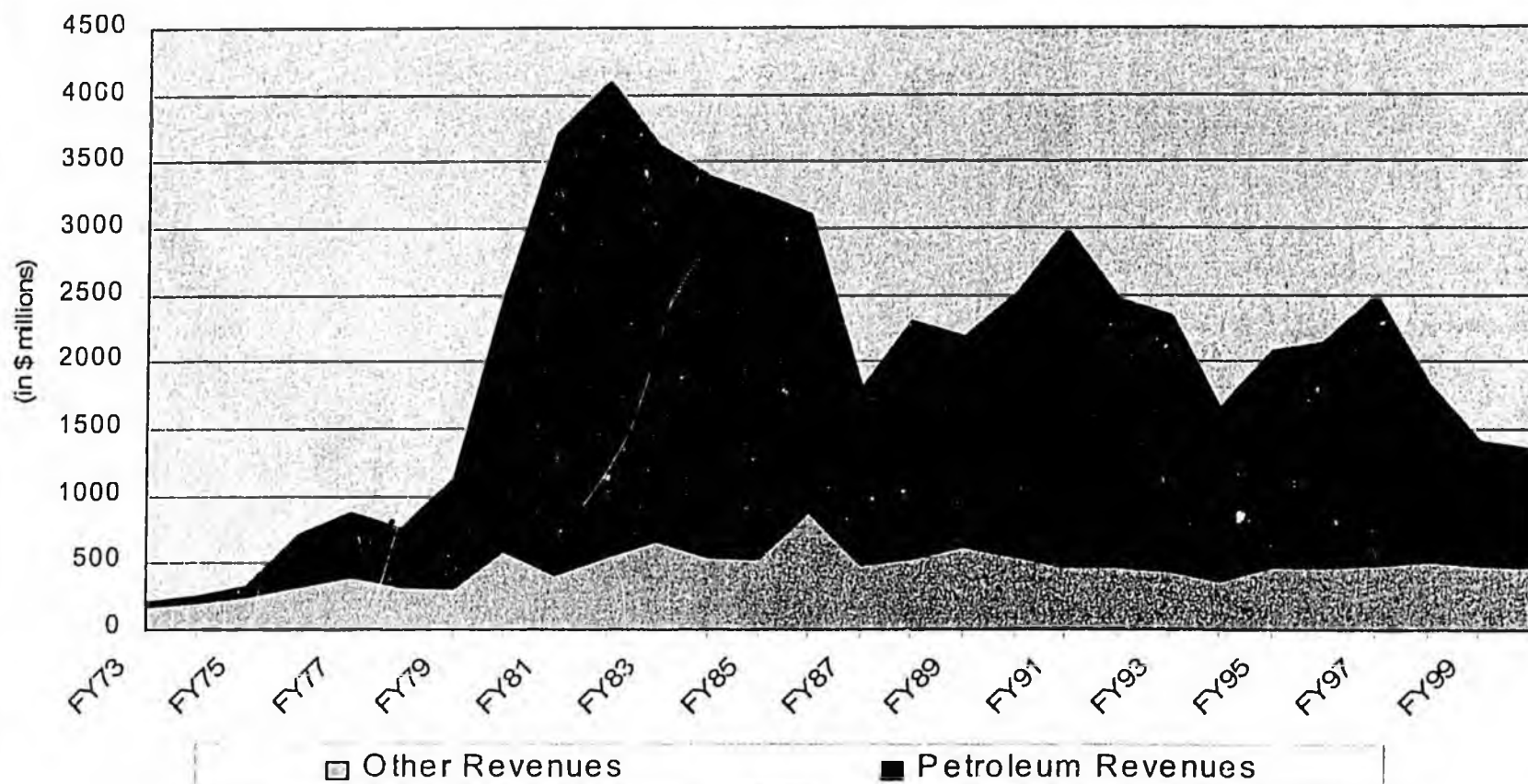
## ■ Current Situation

- ◆ Understand the magnitude of the problem
- ◆ Understand the model

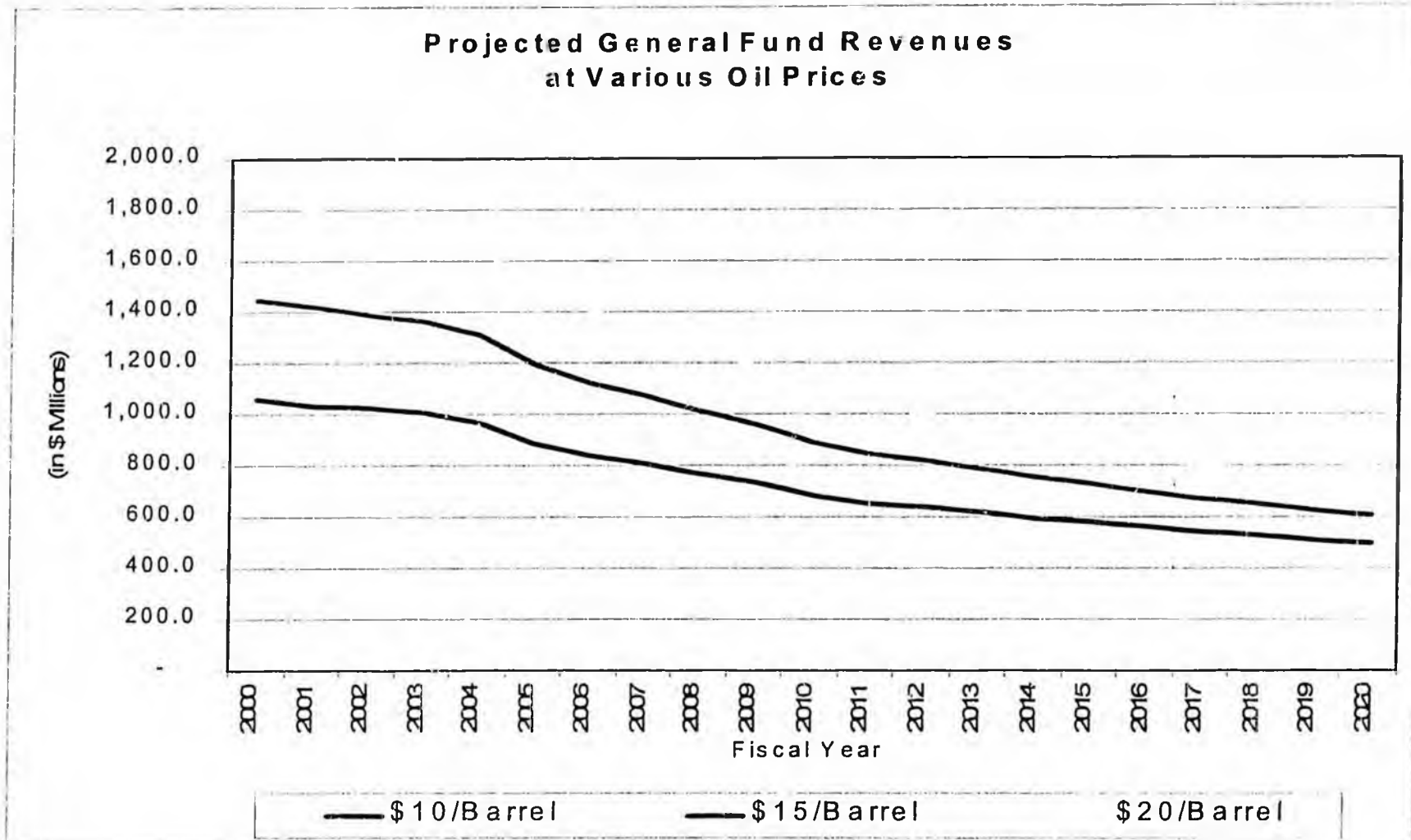
## ■ Current Situation with High Oil Prices

# Historical State Revenues

**Total General Fund Revenues  
Petroleum + All Other Revenues**



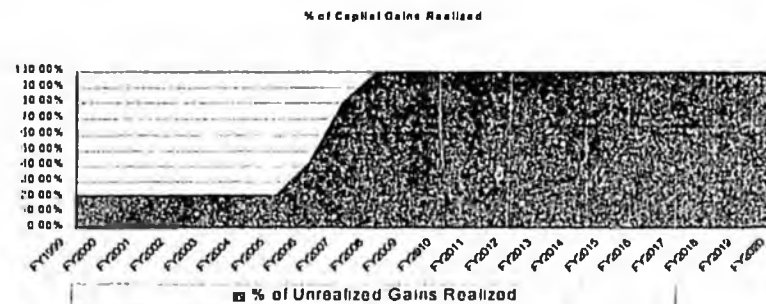
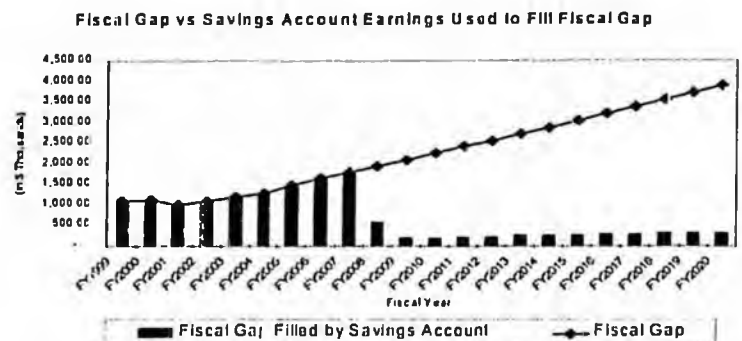
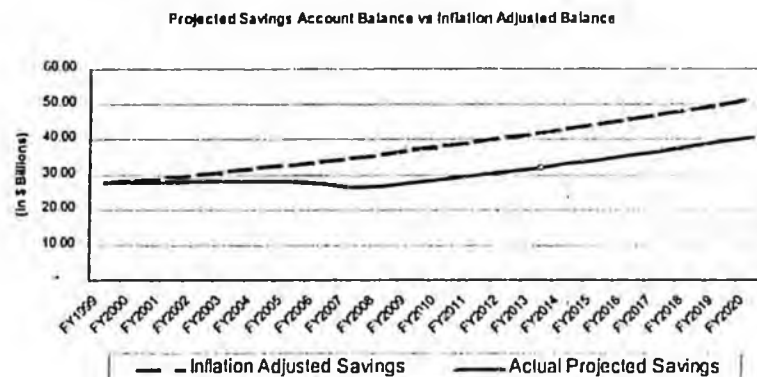
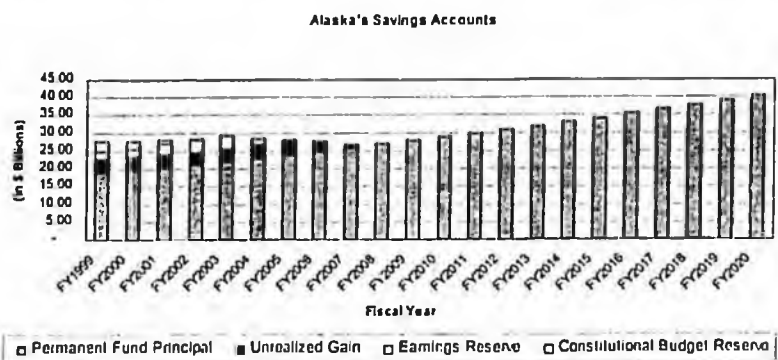
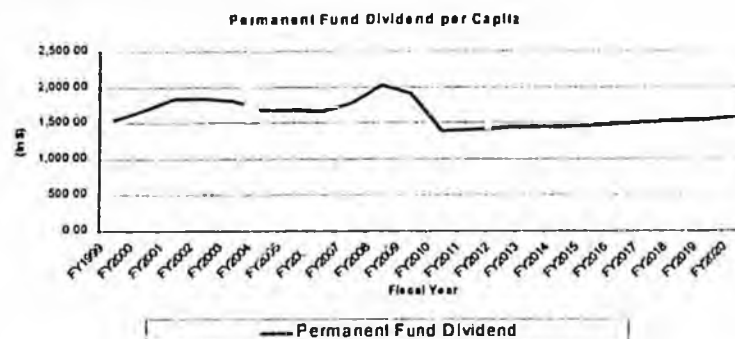
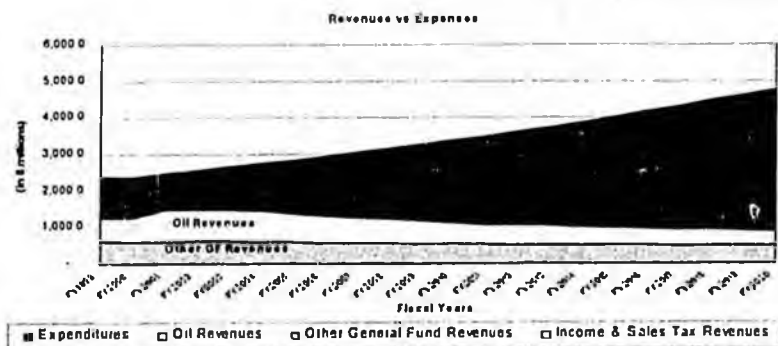
# Projected Revenues



# Current Situation - Assumptions

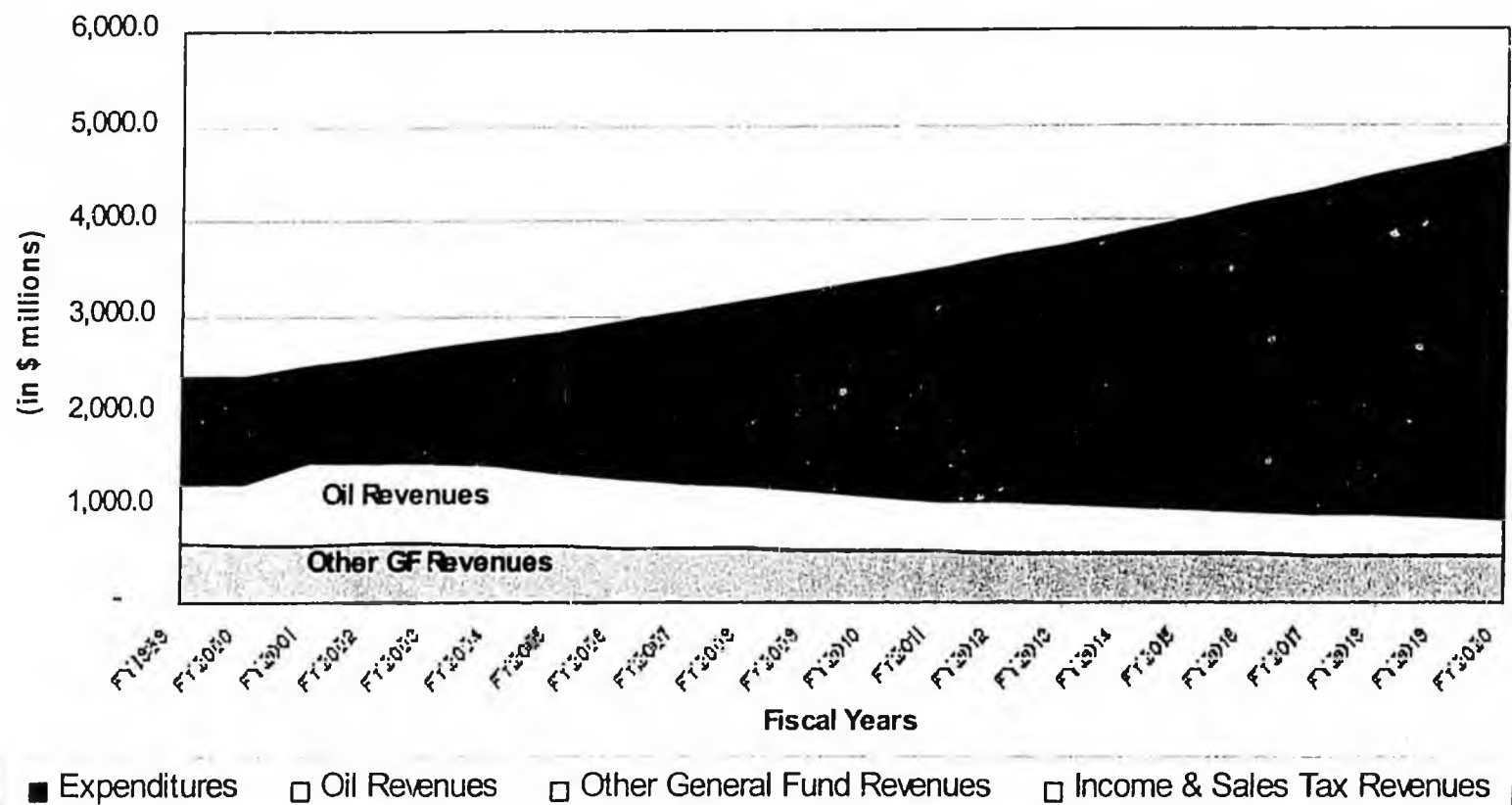
- 3.0% Inflation
- 1.5% Population Growth in K-12 Education  
Formula Population
- 2% Population Growth for Dividend ONLY!
- No Growth in Population for all other Formula or  
Agency Expenditures
- Permanent Fund Total Return of 7.75%
- CBR Total Return of 5.5% if less than \$3B and  
8.1% if greater than \$3B

# Current Situation



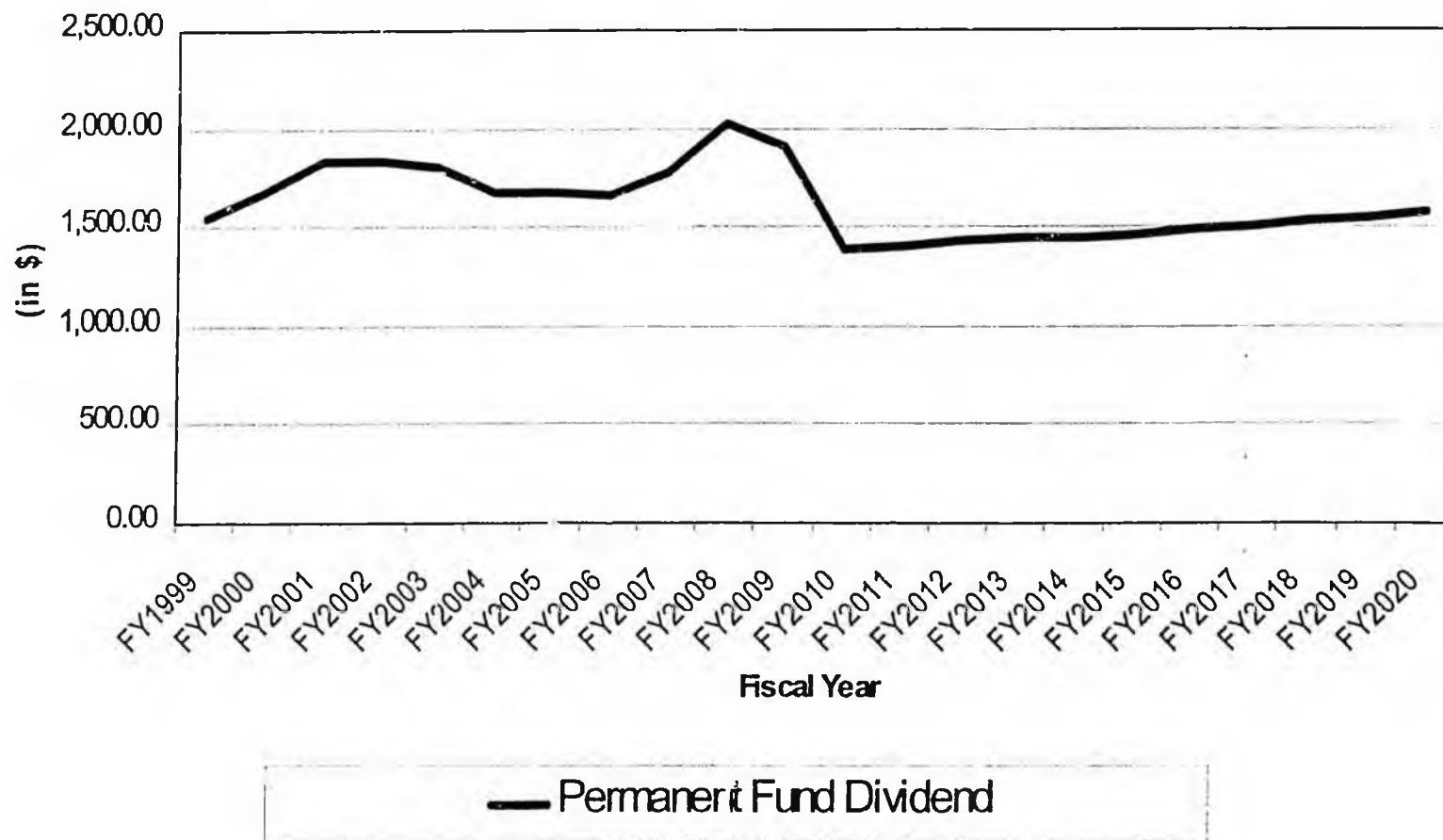
# Current Situation - Revenues & Expenditures

Revenues vs Expenses



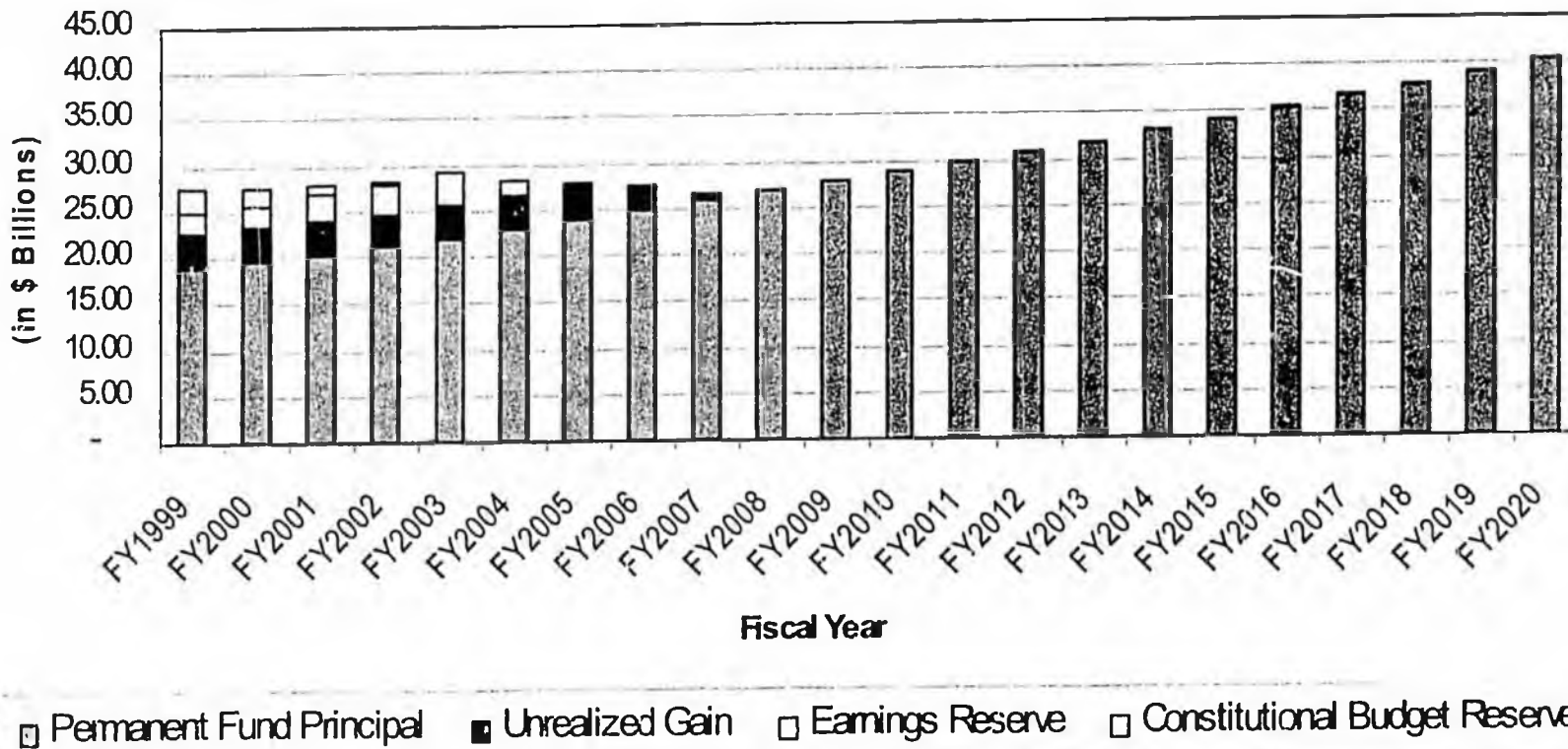
# Current Situation - Permanent Fund Dividends

## Permanent Fund Dividend per Capita



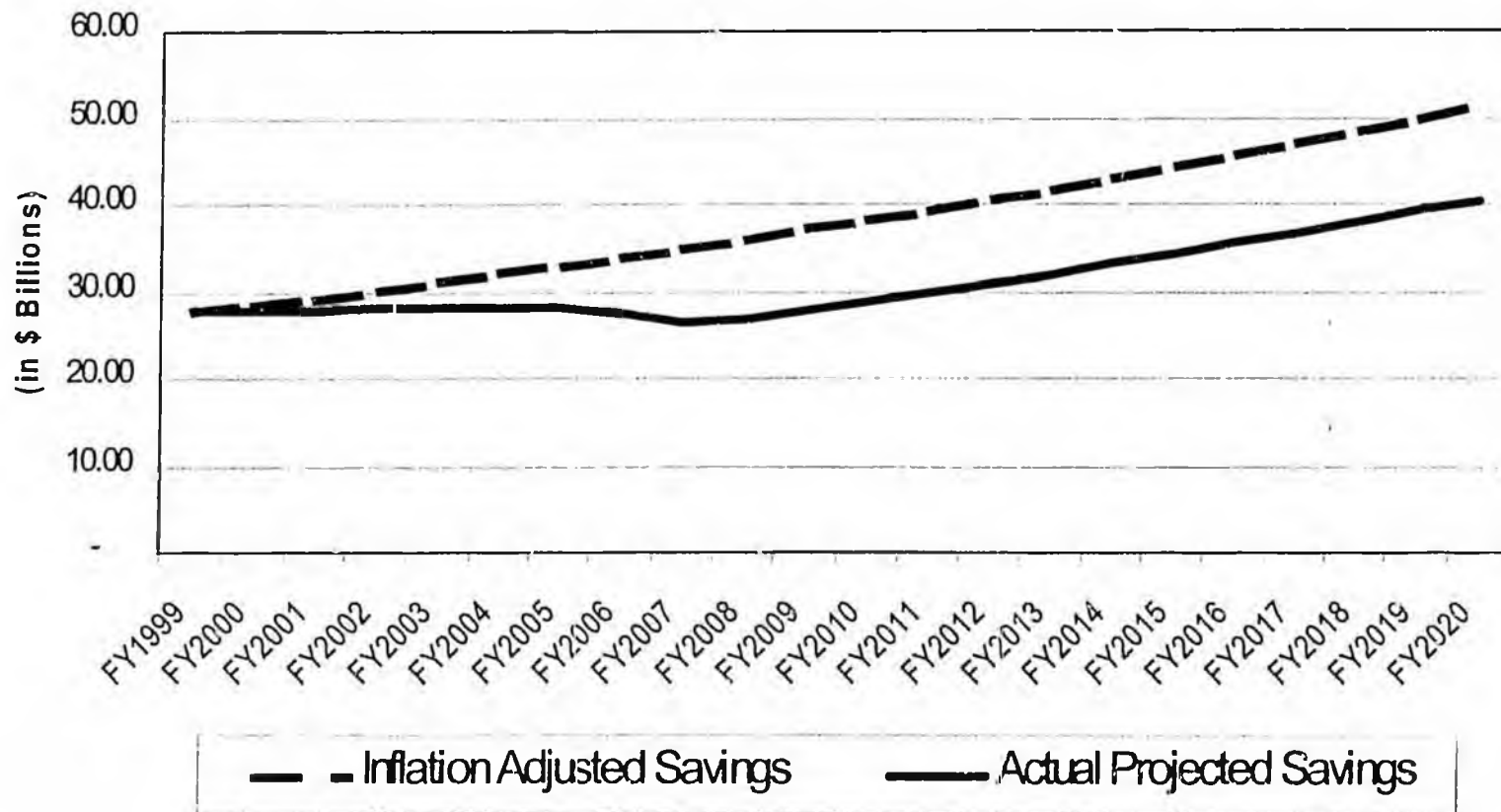
# Current Situation - Alaska's Savings Accounts

Alaska's Savings Accounts



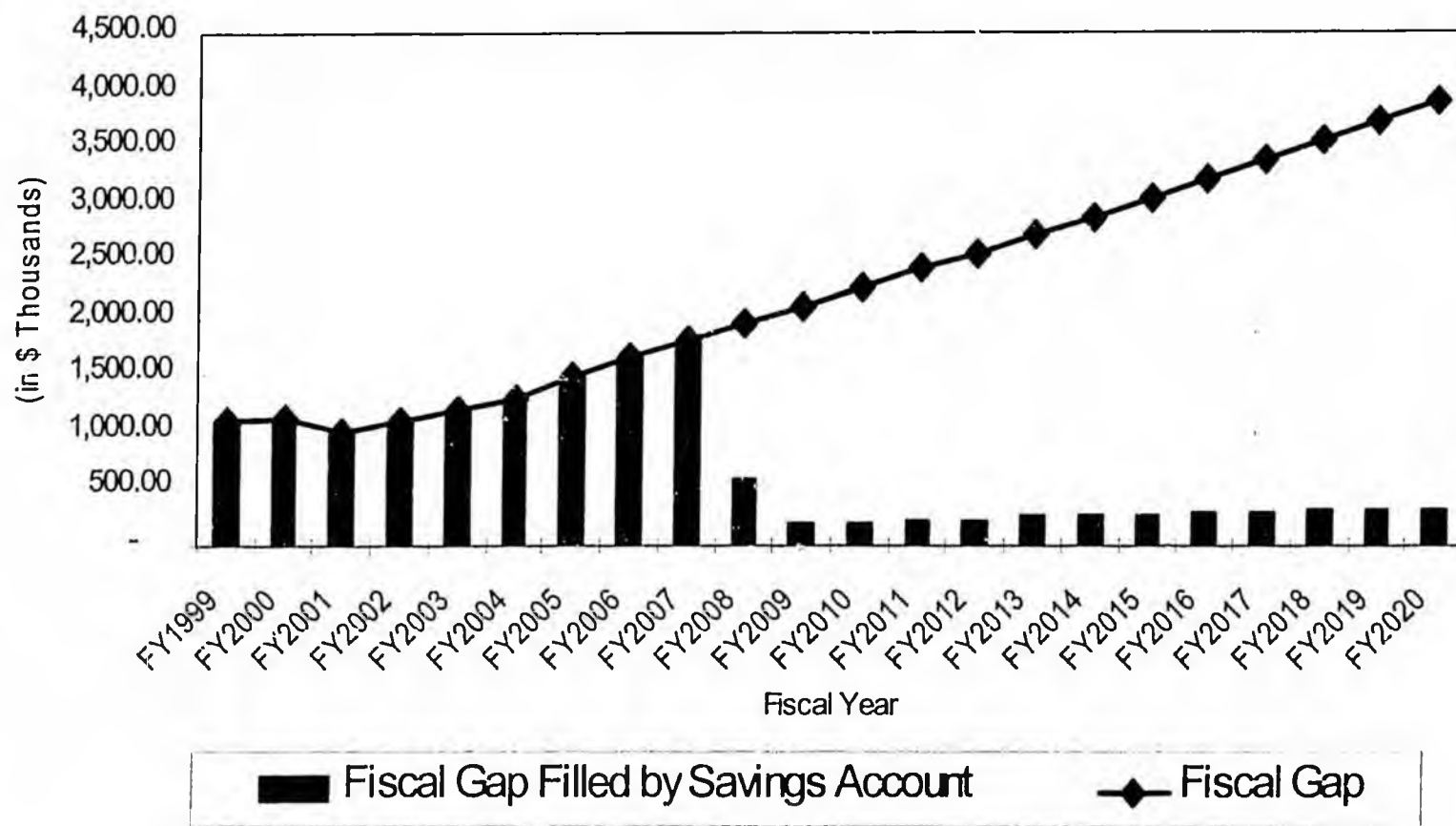
# Current Situation - Savings Account Analysis

Projected Savings Account Balance vs Inflation Adjusted Balance



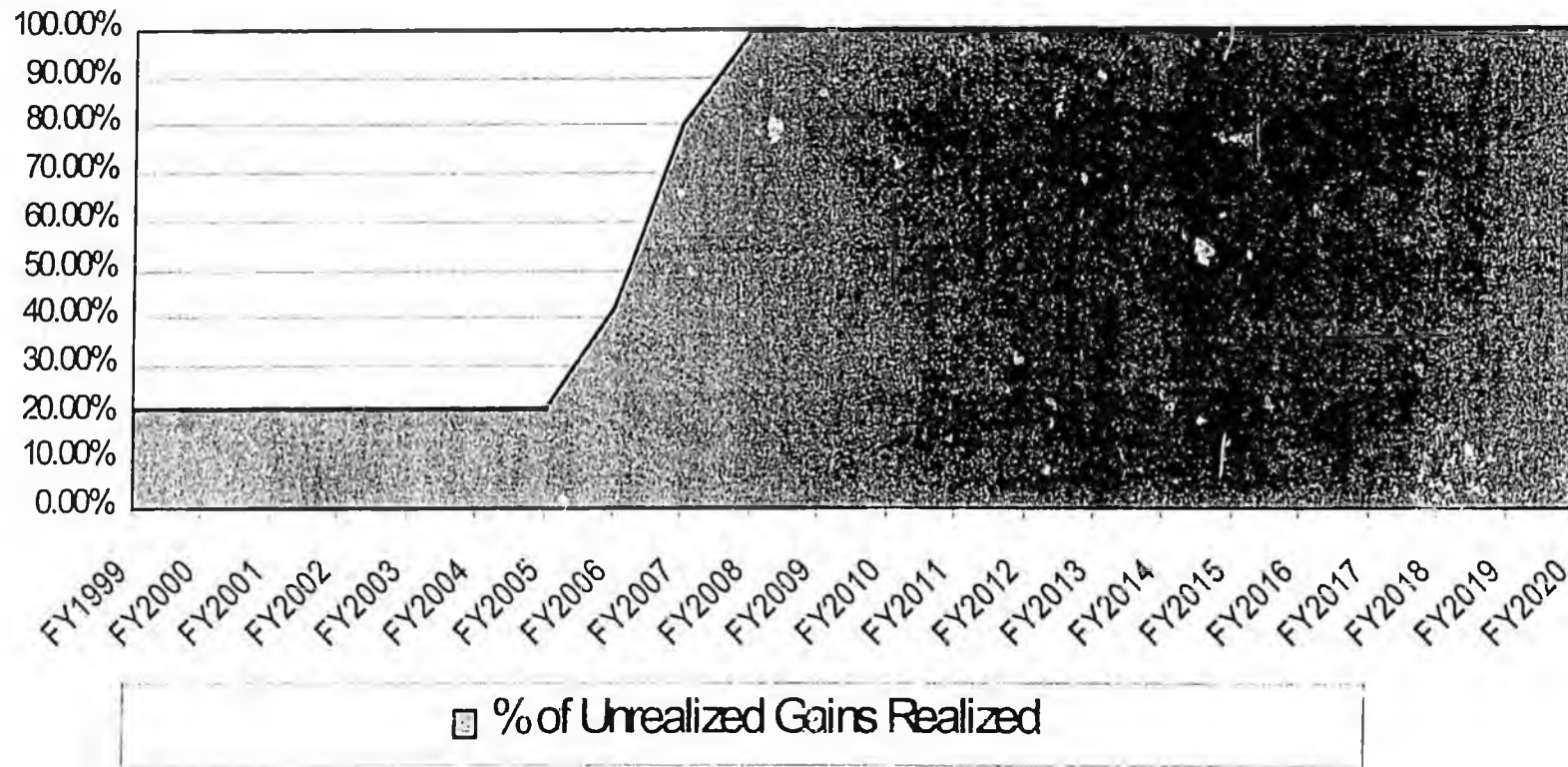
# Current Situation - Budget Deficit

## Fiscal Gap vs Savings Account Earnings Used to Fill Fiscal Gap



# Current Situation - % of Capital Gains Realized

% of Capital Gains Realized



# \$34/bbl Oil Assumptions

- Same as Current Scenario
- Except:
  - ◆ Oil goes to \$34/bbl in FY2000
  - ◆ Oil never goes down from \$34/bbl
  - ◆ In fact it rises every year at the inflation rate of 3% (In FY2020 Oil = \$61.41/bbl)
- Why \$34/bbl?
  - ◆ That is what it would take to create a sustainable budget until 2020 with no cuts and no taxes...But there are concerns.